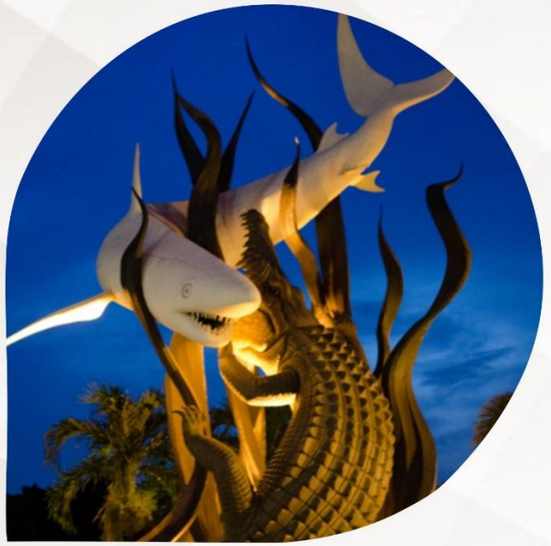

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THE PROCEEDING OF
THE 9th INTERNATIONAL NURSING CONFERENCE

The 9th INC 2018

"Nurses at The Forefront
Transforming care, Science, and Research"

Surabaya, April 7th - 8th 2018

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THE 9TH INTERNATIONAL NURSING CONFERENCE 2018
"NURSES AT THE FOREFRONT IN TRANSFORMING CARE, SCIENCE, AND RESEARCH"

FACULTY OF NURSING
UNIVERSITAS AIRLANGGA
2018

The Proceeding of 9th International Nursing Conference:
Nurses at The Forefront in Transforming Care, Science, and research

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CONTENT

GREETING FROM STEERING COMMITTEE

Assalamualaikum Warahmatullahi Wabarakatuh

Honorable Rector of Universitas Airlangga
Honorable Dean of Faculty of Nursing, Universitas Airlangga
Honorable Head of Co-Host Institutions
Distinguished Speakers and all Participants

Praise the presence of God Almighty, for his mercy so that Faculty of Nursing Airlangga University can organized The 9th International Nursing Conference 2018 "Nurses at The Forefront in Transforming Care, Science, and research". Welcome in Surabaya, City of Heroes Indonesia.

This international nursing conference is conducted by The Faculty of Nursing Universitas Airlangga with cooperation of two nursing schools throughout the nation. These institutions including, Poltekkes Kementerian Kesehatan Surakarta, and STIKES Hang Tuah Surabaya. Once more aims to elaborate with the aforementioned institutions and international universities through holding an international nursing conference. The international universities include: La trobe University (Australia), University of Collegue Cork (Irlandia), University of Malaya (Malaysia), and Naresuan University (Thailand).

Proceeding of this International Nursing Conference will be submitted to SCOPUS. The selected papers will be submit at Journal Ners and online ISSN proceeding.

Participants of this conference are lecturers, nurses, students both from clinical and educational setting, regional and overseas area.

Finally, I would like to thanks to all speakers, participants, and sponsors so that this conference can be held successfully.

Please enjoy the international conference, I hope we all have a wonderful time at the conference.

Wassalamualaikum Warahmatullahi Wabarakatuh

Steering Committee

OPENING REMARK
FROM THE DEAN OF FACULTY OF NURSING

Assalamualaikum Warahmatullahi Wabarakatuh

Honorable Rector of Universitas Airlangga
Distinguished speakers and all Participants

First of all, I would like to praises and thanks to God for the blessing and giving us the grace to be here in a good health and can hold this conference together. Secondly, it is a great privilege and honor for us to welcome every one and thank you very much for your participation and support for The 9th International Nursing Conference 2018 "Nurses at The Forefront in Transforming Care, Science, and research".

Research and education into practice is very important to enhance nursing competencies with nurse colleagues in the international sphere. Indonesia face problems such low frequency of nursing conference, number of researches, also international publications. This problem can hinder quality improvement of nursing services.

The demand of health care services including nursing care will increase continously not only the quality but also the affordability and the service coverage. Facing this society's demands, particularly in the field of nursing, we should make a change in various aspects such as in nursing education, nursing practice and nursing research. The science of nursing has philosophy and nursing paradigm that underlying the various aspects to improve professional in education, practice, and nursing research. As a science, nursing can grow continously through research and education.

The interaction among education, practice, and nursing research are interrelated and affect the development of science in nursing. Nursing practice has interactions with nursing education and research. Practice can be used as a source of nursing phenomena that occurs, so it can become a nursing model in accordance with the theory developed in education and has been proven through nursing research. In addition, nursing research become a substance of the development of nursing science, because of through nursing research may prove the theory which developed in education so it is useful and can be practiced in the health service. So, it can be concluded that education, nursing practice and research have interaction each other that cannot be separated.

Along with Universitas Airlangga vision to become a world class university and enter top World University Ranking, Faculty of Nursing, participates actively in reaching the vision. To achieve World Class University ranking, faculty needs to meet the standards of World's top Universities such as Academic reputation, employer reputation, publication, faculty standard ratio, international students and exchange. International Nursing Conference is one of the few strategies that have been implemented by the faculty to increase Publication standard.

Finally, I would like to thanks to all speakers, participants, and sponsorships that helped the success of this event. I hope that this conference having good contribution in increasing the quality of nursing and nursing care.

Please enjoy the international conference. I hope, we all have a wonderful time at the conference.

Wassalamualaikum Warahmatullahi Wabarakatuh

Prof. Dr. Nursalam, M.Nurs (Hons)
Dean, Faculty of Nursing
Universitas Airlangga

OPENING SPEECH
FROM THE RECTOR OF UNIVERSITAS AIRLANGGA

Assalamu'alaikum wa-rahmatullahi wa-barakatuh.
May the peace, mercy and blessings of Allah be upon you.

Alhamdulillah! Praise be to Allah, The Almighty for giving us the opportunity to gather here in The 9th International Nursing Conference 2018 "Nurses at The Forefront in Transforming Care, Science, and research". Let us also send *shalawat* and *salam* to our Prophet Muhammad SAW (Praise Be Upon Him): *Allaahumma shalli 'alaa Muhammad wa 'alaa aali Muhammad*. May Allah give mercy and blessings upon Him.

Ladies and gentlemen,

Nursing is a dynamic science and profession. It can be seen from the relentless efforts made to optimize either the scientific or practical aspects of Nursing. These efforts towards excellence are absolutely needed.

Innovations in providing nursing care are possible to be introduced through education, practice and research. In this regard, we believe that those innovations are from "new concepts" formulated in the field of Nursing to provide the best service. If we can do this, there will be more benefits we can get such as gaining reputation for nursing profession and the education institution.

Ladies and gentlemen,

Higher education of Nursing has a strategic role towards excellent healthcare service. Therefore, the education format should be ready anticipating any developments. This readiness is needed to accelerate the realization of "Healthy Global Citizen".

So, let us exploit these changes around us, and consider this improving healthcare service as our success towards welfare. Let us always be consistent to improve quality in the field of Nursing. This field of science is expected to respond and voice concern about all aspects of healthcare service development in any communities.

At this point, the organization of The 9th International Nursing Conference 2018 "Nurses at The Forefront in Transforming Care, Science, and Research" as the theme is important. We cannot deny that through the upgrade and transformation of Care Science by Research we will get valuable findings for Nursing science development.

In education, students' questions can start new discourses towards Nursing science development. In its practice, various problems and solutions found in the field will broaden the scientific scope of Nursing. In research, through this activity we are developing the science in a well-planned and scientific manner.

Therefore, let us use this wonderful occasion to present research findings, either from the education, practice and research. We believe that this event will take on the challenges in providing quality healthcare service in the society.

Ladies and gentlemen,

Finally, I would like to express my gratitude to the committee, all nursing education institutions, either domestic or overseas, for participating in this event, and other people contributing to make this event a success. May everything run well and every objective achieved. Have a great conference and workshop. Good luck!

Wassalamu'alaikum wa-rahmatullahi wa-barakatuh.

Rector of Universitas Airlangga,
Prof. Dr. Moh. Nasih, SE., MT., Ak., CMA.
NIP. 196508061992031002

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FACULTY OF NURSING UNAIR TAHUN 2018

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TIME SCHEDULE
9TH INTERNATIONAL NURSING CONFERENCE
"Nurses at the Forefront Transforming Care, Science, and research"
Surabaya, 7 – 8 April 2018

DAY 1, SATURDAY 7th April 2018

TIME	ACTIVITY	VENUE
07.00 – 08.30	Open Registration	Ballroom Isyaana Hotel Bumi
08.30 – 08.45	**Opening Remarks** • Indonesia Raya: National Anthem • Hymne Airlangga	
08.45 – 09.15	- Welcoming Show (Traditional Dance): Sparkling Surabaya - Speech from Dean of The Faculty of Nursing, Universitas Airlangga - Speech from Rector Universitas Airlangga - Opening ceremony: Hit the Gong - Pray	
09.15 – 09.45	**Keynote Speaker** Vice Rector I Universitas Airlangga (Development of Nursing Faculty to Word Class University)	
09.45 – 09.50	- Certificate Conferment & Giving Souvenir	
09.50 – 10.00	**Coffee Break and Opening Poster Presentation**	
10.00 - 10.20	**Speaker 1** Dr. Muhammad *Hadi*, SKM., M.Kep (Universitas Muhammadiyah Jakarta, Indonesia) *"The Role of AINEC to Improve Quality of Nursing Through Education, Clinical Practice and Research"*	Ballroom Isyaana Hotel Bumi
10.20–10.40	**Speaker 2** Professor Lisa McKenna (La Trobe University, Australia) *"Challenges in research publication in nursing"*	
10.40 – 10.55	**Speaker 3** Elsi Dwi Hapsari, B.N., M.S., D.S (Universitas Gajah Mada, Indonesia) *"Improving Image of Nurses in Indonesia: Role of INNA"*	
10.55 – 11.15	**Speaker 4** Dr. Aileen Burton (University College Cork, Ireland) "*Diabetes and psychological wellbeing: a neglected aspect of care*"	
11.15 – 11. 45	Plenary Discussion	
	Conferment of certificates	
11.45 – 12.45	Poster Presentation 1	
	Pray Time & Lunch Break	
12.45 – 13.05	**Speaker 5** Professor Eileen Savage (University College Cork, Ireland) "*Online versus paper based screening for anxiety and depression in adults with cysticfibrosis in Ireland*"	Ballroom Isyaana Hotel Bumi
13.05 – 13.25	**Speaker 6** Dr. Bill McGuiness (La Trobe University, Australia) *"Evidenced based update on wound management"*	
13.25 – 13.40	**Speaker 7**	

TIME	ACTIVITY	VENUE
	Yuni Sufyanti A, S.Kp., M.Kes (Universitas Airlangga, Indonesia) *"Family Centered Empowerment Model as a Effort to Increase Family's Ability to Caring Children with Leukemia"*	
13.40 – 13.55	**Speaker 8** Addi Mardi Harnanto, M.Nurs (Poltekes Kemenkes Surakarta, Indonesia) *"The Effort to Improve the Competency and Softskill of Disaster Preparedness Management for Graduates of Nursing colleges in Indonesia"*	
13.55 – 14.25	Plenary Discussion	
	Conferment of certificates	
14.25 – 14.45	**Speaker 9** Assist. Prof. Dr. Supaporn naewbood *(Naresuan University, Thailand)* *"The Role of Nurses in Palliative Care Program and Development"*	Ballroom Isyaana Hotel Bumi
14.45 – 15.05	**Speaker 11** Dr. Vimala A/P Ramoo *(University Malaya, Malaysia)* *"Palliative Care in Intensive Care: Malaysian Perspective"*	
15.05 – 15.20	**Speaker 12** Dr. Retno Indarwati, S.Kep., Ns., M.Kep (Universitas Airlangga, Indonesia) *"Peer Group Support Toward Stress Relocation Among Elderly in Nursing Home"*	
15.20 – 15.35	**Speaker 13** Dya Sustrami, S.Kep., Ns., M.Kes. (STIKES Hang Tuah Surabaya, Indonesia) *"The Comparation of Elderly life Quality index of Urban and Coastal Societies in Surabaya"*	
15.35 – 16.00	Plenary Discussion	
	Certificate Conferment	
16.00 – 16.30	**Coffee Break and Opening Poster Presentation**	
16.30 – 16.50	**Speaker 14** Dr. Sonia Reisenhofer (La Trobe University, Australia) *"Using the World Health Organisation (WHO) guidelines to support women exposed to violence"*	
16.50 – 17.05	**Speaker 15** Dr. Abu Bakar, S.Kep., Ns., M.Kep., Sp. KMB (Universitas Airlangga, Indonesia) *"Decreased Cortisol Coronary Heart Patient Who Received Islamic Nursing Care: A pilot Study"*	
17.05 - 17.20	Speaker 16 Dr. Mundakir, S.Kep., Ns., M.Kep (Universitas Muhamaddiyah Surabaya, Indonesia) *"Strategy Model Faster Learning Organization (FLO) as Improvement Effort a Holistic Nursing Services Based on Modelling-Role Modelling Therapy (MRM)"*	
17.20—17.50	Plenary Discussion	
	Certificate Conferment & Closing Day 1	

Different of Asthma Control Level in Suburban and Urban Areas

Julvainda Eka P.U [1], Muhammad Amin [2], Laily Hidayati [2]
[1] *Master of Nursing Student, Faculty of Nursing Universitas Airlangga*
[2]*Faculty of Medicine Universitas Airlangga*

Keyword: Asthma control level, Suburban and urban area

Abstract: **Background:** Asthma is a reversible and temporary respiratory disorder. The level of asthma control can be influenced by many factors, such as the environmental factor. This research aims to depict the differences asthma control level in suurban and urban communities. This research conducted in Kendalsari and Kedungkandang, Malang, East Java. **Method:** This research use observational analytic with crossectional approach.. Sample were taken by simple random technique as many as 50 respondents. Patient asthma 18-60 years with 20 women and 5 men in each areas The Asthma control levels were measured using Asthma Control Test (ACT), Data were analyzed using the Mann Whitney Test. **Result:** Asthma control level data, In suburban areas uncontrolled patients 60% and 40% partially controlled. In urban areas there are 28% of patients uncontrolled and 72% partially controlled. Distribution age of asthma patients predominantly 26-45 years (66%). Distribution education level predominantly in senior high school 18 patients (36%). The result of analysis showed a difference of asthma control level in suburban and urban areas (p 0,024). **Conclusion:** There are different asthma control level in suburban and urban areas in Malang, East Java (Î±0,05).

1 INTRODUCTION

Asthma is health problem in the world, that is not only infected in progress countries but also in developing countries. According from the Global Initiative for Asthma (GINA) it stated estimated number of asthma in the world until 300 million people and number of deaths continuing to increased for 180,000 people/year (GINA, 2017). Asthma is can't be cured but it can be controlled. Asthma can attack a children, adults, oldster, men and women (Prasetya, 2011). Asthma management focused in how to reduce symptoms, restrain recurrence and decrease used corticosteroids or can be controlled asthma (GINA, 2017).

Asthma symtoms can be monitored by measuring instrument, it's Asthma Control Test (ACT). Asthma Control Test is a evaluation method by assessing the final score obtained from answers questions in asthma patients. The results of these scores, are classified into 3 categories: fully controlled, partially controlled and uncontrolled (PDPI, 2007)

East Java is one of province with a high prevalence of asthma, this prevalence is 5.7%. Malang is one of district in East Java with a high prevalence of asthma, this prevalence is 4%, highest asthma patient (18.3%) present at 15-44 years of productive age (RISKESDAS, 2013).

Kendalsari area's is the middle of the city with a population of 99,359 people (BPS, 2014). Kendalsari located in the middle of town. The area is border to various office areas, health facilities, and educational facilities (BPS, 2014). Puskesmas Kendalsari (Community Health Center) is one of Puskesmas at located in sub district lowokwaru with high asthma prevalence. The number patient of asthma get treatment at Kendalsari community health care in June - September was 92 patients.

Kedungkandang located at suburban area in district of malang with a population of 94,663 people (BPS, 2014). Kedungkandang located in the suburban of city. The area is border to industrial, tradisional market and trading area. Puskesmas Kedungkandang (Community Health Center) is one of Puskesmas at located in sub district with high asthma prevalence. The number patient of asthma get treatment at Kendalsari community health care in June - September was 106 patients. This research was to explain the difference of asthma control level in urban and suburban areas of Malang East java.

2 METHOD

This research use observational analytic with crossectional approach. A population in this study is asthma patients with treatment in Kendalsari and Kedungkandang community health care at April-September 2017.

This research was conducted in patients asthma with 18-60 years. This sample was a 20 women and 5 men in each area. Technique sampling use simple random sampling with a total 50 respondents. The research was started in January-February 2018. The collection data use analysis quesioner ACT (Asthma Control Test) questionnaire to measure the level of asthma control. Analysis data use *Mann Whitney test (Î±0,05)*.

3 RESULTS

Based on data with the number of samples of 50 respondents, in the Urban and Suburban areas

Table 1: Distribution of age in Urban Area represent in urban areas average asthma patient at 39 years. The youngest is 24 years old and the oldest at the age of 57 years.

	Mean	Mode	Min-Max
Age	39	37	24-57

Distribution of Age Urban Area

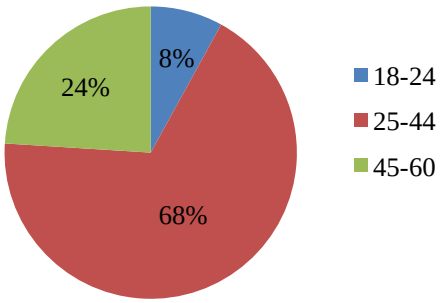

Figure 1: Represent in urban area the majority of respondents at the age of 45-60 (68%)

Table 2: Distribution of age in Urban Area represent in suburban areas average asthma patient at 40 years. The youngest is 24 years old and the oldest at the age of 57 years.

	Mean	Modus	Min-Maks
Age	40	35	24-57

Distribution of Age Suburban Area

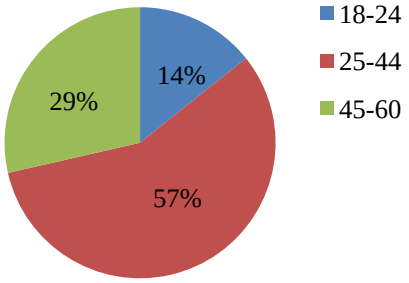

Figure 2. Represent in suburban area the majority of respondents at the age of 45-60 (57%)

Education Level Urban Area

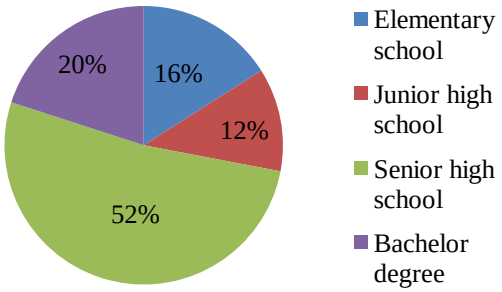

Figure 3 represent majority of respondents' education in urban areas is SMA (52%)

Education Level Suburban Area

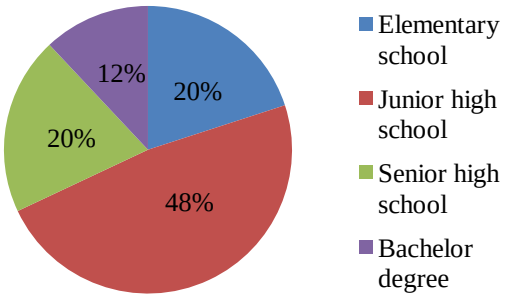

Figure 4 represent majority of respondents' education in urban areas is SMP (48%)

Asthma Control Level
Urban Area

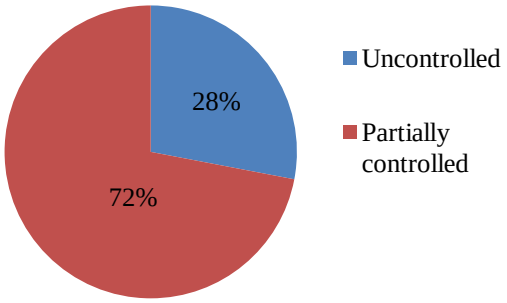

Figure 5 represent asthma control level in urban areas is majority partially controlled level (72%)

Asthma Control Level
Suburban Area

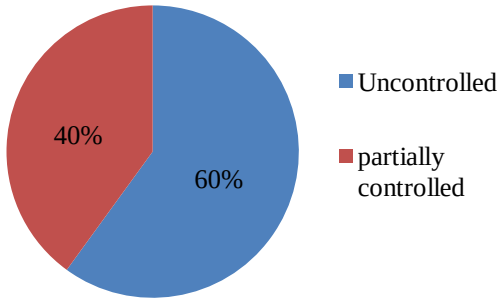

Figure 6 represent asthma control level in Suburban areas is majority uncontrolled level of asthma (60%)

Table 3: Correllated age with asthma control level

Asthma Control	Age		Total		p Value
	18-44	45-60			
	n	n	n	%	
Partially	24	4	28	56%	0.015
Uncontrolled	12	10	22	44%	
Total	36	14	50	100%	

Table 3 represent about majority asthma control level is partially controlled. Partially control asthma are at 18-44 years. The result of straticistic test with Chi Square obtained p 0.015 (α 0.05), it means there is a correlated between age with level of control asthma

Table 4. Correlated education level with asthma control level

Asthma Control	Education		Total		p Value
	ES-JHS	SHS-BD			
	n	n	n	%	
Partially	8	20	28	56%	0.002
Uncontrolled	16	6	22	44%	
Total	24	26	50	100%	

Table 4 represent about majority patients are partially controlled. Most Education level respondent at senior high school – Bachelor degree. The result of straticistic test with Chi Square obtained p 0.002 (α 0.05), it means there is a correlated between education level with level of control asthma

Table 5. Different asthma control level in urban and suburban area

	Group	n	Mean Rank	p
Asthma Control Level	Urban	25	21,5	0.024
	Suburban	25	29,5	

Table 5 represent about results of statistical tests with Mann Whitney, obtained results p 0.024 (α 0.05), it's means there are differences asthma control level in urban and suburban areas.

4 DISCUSSION

This research indicate in urban area and suburban areas, average of age represent is 39-40 years. These results be accordance to Mergani (2017), Majority of asthma suffered in elderly patients. Age of majority respondents are in the productive period, so that possible increased pollution exposure, high activity and increased of strees. This point may trigger effect of asthma symptoms or asthma recurrent (Merghani & Alawad, 2017).

Based on age category, there is was an increase incidence of asthma in line with increasing of age. incidence of asthma aged 18-24 years in urban areas 8% and 14% in suburban areas. It is related to the

pattern of adolescent life that can be effect asthma symptoms (Talreja, 2011).

Based on age category in urban area, the majority of asthma sufferers are 25-44 years with a percentage of 68%. In the suburban area, majority of respondents are 25-44 years with a percentage of 57%. These results are consistent with statistical data of asthma patients from the Center for Disease Control and Prevention (CDC) and the National Center for Health Statistics (NCHS), it say in productive patients have the greatest asthma prevalence (Talreja, 2011).

The difference precentage age category between urban and suburban, represent in urban areas have a higher percentage of age at 25-44, it's related to productivity level, this trigger a potential respondents are often pollution exposure, high activity, and increased stress levels. A person in productive age will be more frequently exposed to pollution that can cause asthma symptoms (Atmoko, 2011). These people are often confronted with work problems, which can trigger stress, stress factors can also trigger asthma symptoms (Dorevitc 2008). Asthma in adolescents can still survive to adulthood and there is also asthma can disappear for years but can reappear in related a getting older. These older people had a decrease a lung function and more risk for inflammation airway (Barnes, 2015).

Analysis with *Chi square* (α 0,05), age correlation with level of control of asthma, *p* value 0,015. This result represent there is a correlated between age and asthma control level. This research in line with Talreja's (2011), Age may be affect asthma control rates. Levels of asthma control are decrease with older age (Talreja, 2011). Age may be affect to control asthma because in older people, system decreases to T lymphocyte dysfunction (Barnes, 2015).

Limphocyte T are increases susceptibility of virus or bacterial infection and causes damage to remodeling airways. Decreased lung function in elderly people affect to decreased respiratory muscle strength and decreased elastic pulmonary recoil with increased stiffness a chest expansion (Barnes, 2015). Based on education level, in urban area represented the majority of respondents have senior high school of level education (52%) and in suburban area majority have junior high school of level education (48%). The distribution of asthma control level based on educational level confident to most uncontrolled asthma is affect by respondents with junior high school as many as 16 respondents. A partially asthma control level more higher on Senior High School-Bachelor Degree as many as 20 respondents, there are different are elementary high school – junior high school education with 8 respondent with partially asthma control level.

Result of statistical test with *Chi square* (α 0,05), Educational level with level of control asthma, p value 0,002. There is a relationship between education level and asthma control levels. This research in line with Atmoko (2011) this research represented of the higher level education can improve control of asthma. Education affects to people for the attitudes, actions, thoughts of a person. There are different affect for normally has primary, middle or upper education, each has different characteristics for controling asthma (Lara, 2012).

Education can be affect the mindset, higher education should be the better the consideration and health behaviour. Behaviour can be influence from science and education, it will impact in actions, attitudes, and making decision. Education will be influence to this, influencing factors such as the environment (Adam, 2008). Higher education indicate that people with to be more concerned about health, so efforts to improve health status are pursued by treatment to health facilities (Adam, 2008).

People with higher education level correlated more asthma controlled level. It's possible the level of education consistent with the ability to receive health information from mass media or health workers. Someone had a higher level of education, it mostly has a good perception. Higher education as to more easily receive information, and can participate actively in solve health problems (Skloot et al., 2016)

Asthma control level in urban area indicate partially controlled (72%) and Uncontrolled (28%). Suburban area had the partially controlled respondents (60%) and Uncontrolled (40%). This result be accordance to Atmoko (2011) the majority of respondents have partially controlled asthma control levels. The level of asthma control is influenced by various factors including age, sex, genetics, smoking, etc (Atmoko, 2011).

Analsis statistic data test with *Mann Whitney* (α 0,05), difference of asthma control level urban area and suburban area got *p* value 0,024. There is a difference in asthma control level in urban areas and suburban areas. This study differs from othe research [9] that in urban areas, asthma control levels to decrease trend. Differences in asthma control level in urban and suburban areas are due to many factors, such as regional characteristics,

education level, pollution, socioeconomic and health services (Lara, 2012)

The characteristics of the suburban areas an industrial area, near traditional market and trading areas. Environmental factors are very influential with the occurrence of asthma symptoms. industrial area could be a trigger an increase in pollution. Pollution is instrumental in triggering asthma symptoms. In the Urban area, areas tend to be in the office area and health facilities and educational facilities (Dorevitc, 2008).

In Urban area, majority of respondent's education level is senior high school and Suburban area majority of respondents have junior high school. It's indicates a different level of education, that is related to consideration and behavior. The mindset generated from science gained from education will have an impact on actions, attitudes, actions in solving health problems (Skloot et al., 2016)

5 CONCLUSION

There is a different of asthma control level in urban areas and suburban areas. The level of education affects the level of asthma control, futhermore Age is related with asthma control levels, older people has high risk to decrease asthma control level. .

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An Overview of Compassion Satisfaction, Compassion Fatigue, and Burnout of Nurses

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Abstract: Nurses are the largest component of health care. On the one hand, the nurse Emergency Installation must provide excellent service and quality so that the achievement of compassion satisfaction but on one side of the nurse Emergency Installation must deal with the circumstances that cause a stressor for him that appears compassion fatigue. Claims imposed on nurses cause a distinctive stressor that can cause burnout. The aim of this study was to know the description of compassion satisfaction, burnout and compassion fatigue of nurses Emergency Installation General Hospital Regional Sidoarjo. The design of this study was descriptive observational with the cross-sectional approach. Sampling approach used total sampling with the sample of 41 nurses Emergency Installation General Hospital Regional Sidoarjo. The results showed that all respondents (100%) had high compassion satisfaction, 33 respondents (80.5%) experienced average burnout and respondents (30.6%) experienced compassion fatigue on average. Professionalism is a reality that is expected by all parties who work in the world of health care. Many of the impediments to realizing the ideal conditions in a bid to realize the work climate

1 INTRODUCTION

Nursing service is an integral part of the health services in hospitals, the quality of health services is highly determined by the nursing service quality so that the need for attention to quality nursing services in hospitals. The quality of nursing services can be a comprehensive nursing services includes bio-psycho-socio-spiritual given by professional nurses to patients (individuals, families, and communities) are both sick or healthy, where the treatment that is given in accordance with the needs of the patient and the standard of service. But basically, the definition of the quality of nursing services can vary depending on the point of view where the quality of the views (Wentzel & Brysiewicz, 2014).

For consumers who come first through the Emergency Installations, the services provided by nurses Emergency Installations will become the first predictor service user satisfaction to the overall process of care at the hospital. Research conducted in Jamaica states that of 142 respondents, 59.9% of them expressed satisfaction on health services provided by nurses Emergency Installations. They are satisfied because the nurses Emergency Installations are able to show empathy, so they are not reluctant to visit the hospital if they need health assistance (Buchanan, Dawkins, & Lindo, 2015). Empathy is very important to be shown, but fatal if it involves too many emotions and empathy. Involving emotion and empathy in excess will cause excessive stressor for nurses, especially nurses Emergency Installations (Hoskins, 2011; Wentzel & Brysiewicz, 2014; Wolf et al.)

A research shows that the Professional Quality of Life (ProQOL) has a positive relationship with the clinical competence of a nurse. The higher the compassion satisfaction score and the lower the compassion fatigue score, the better the clinical competence of the nurse (K. Kim, Han, Kwak, & Kim, 2015). But unfortunately, another study says 82% of emergency nurses have burnout (Hooper et al., 2010). Another meta-analysis research stated that burnout has a positive relationship with the role confusion, fatigue emotions, workload, turn over employees, and commitment to the organization

(Alarcon, 2011). As a result of the above conditions, the nurse cannot provide satisfactory service to the patient being treated (Wentzel & Brysiewicz, 2014).

The problems experienced by nurses Emergency Installations very diverse. Emergency Installations nurses must provide excellent service and quality to achieve the compassion satisfaction but on the one hand, Emergency Installations nurses must deal with the circumstances that cause a stressor for him such as the routine activities, high workload, and role confusion, so appears compassion fatigue. The charges charged to the nurse create a stressor by themselves with the coping mechanisms happens in it so that it can lead to burnout. The aim of this research is to know the description of Compassion Satisfaction, Compassion Fatigue, and Burnout of Nurses Emergency Installations General Hospital Regional Sidoarjo.

2 METHODS

This research was a descriptive observational research. The sample in this research was nurses Emergency Installations General Hospital Regional Sidoarjo. Sample size in this study was calculated from the total population of nurses Emergency Installations General Hospital Regional Sidoarjo is a number of 41 people. This research was conducted in July 2017 at Emergency Installations General Hospital Regional Sidoarjo. The variables in this research are Compassion Satisfaction, Compassion Fatigue, and Burnout. All three were examined by using the Professional Quality of Life (ProQoL) questionnaire.

3 RESULTS AND DISCUSSION

Table 1: Characteristics Of The Respondents Based On Age

Characteristics	Mean
Age	34,85

Source: Primary Research Data, 2017

Based on table 1, it is known that the average age of respondents was 34.85 years. This age was included in the middle adult age category.

Table 2: Characteristics of the Respondents

Characteristics	Percentage (%)
Gender	
Female	36,6
Male	63,4
Working Time at Emergency Installations	
< 5 years	43,9
≥ 5 years	56,1
Employment Status	
PNS	46,3
BLUD	53,7
Last Education	
SPK	2,4
DIII	73,2
S1	24,4%
Marital Status	
Married	82,9
Single	17,1
Number of Children	
None	24,4
1	17,1
2	34,1
> 2	24,4
Ownership Certificate Training	
BLS	
Owner	100
Not the owner	0
ALS	
Owner	7,3
Not the owner	92,7
BTLS	
Owner	36,6
Not the owner	63,4
ATLS	
Owner	4,9%
Not the owner	95,1%
PPGD	
Owner	70,7%
Not the owner	29,3%

Source: Primary Research Data, 2017

Based on the above table, obtained the data that the majority of respondents are male. Of the total 41 respondents, 26 (63.4%) of respondents were male. A total of 23 respondents (56.1%) have experience working as nurses at Emergency Installations General Hospital Regional Sidoarjo for more than or equal to five years. 19 respondents (46.3%) have status as the civil servant while 22 respondents (53,7%) status as employees of non-civil servant. As many as 30 respondents (73.2%) who work in Emergency Installations General Hospital Regional Sidoarjo last education Nursing Diploma. Of the 41 nurses, 34 people (82.9%) of them have married status. Of the 34 married respondents, 14 respondents (45.1%) had two children, 10 respondents (32.2%) had more than 2 children and 7 respondents (22.5%) had one child. While from 10 respondents who do not have children, there are 3 respondents whose status is married.

Based on the Decree of the Minister of Health of the Republic of Indonesia No.856/Menkes/ SK/IX/2009, states that an Emergency Installations

nurse should possess basic certificate Emergency Installations emergency, i.e. BCLS, BTLS, certificate, and certificate of other emergencies. In this study, researchers used standards established by the Ministry of Health of the Republic of Indonesia. The table above shows that of 41 respondents, all of them already have Basic Life Support (BLS) certificate. Another certificate that an Emergency Installations nurse must have is a BTLS certificate. Of the 41 respondents, 15 respondents (36.6%) of them already have a BTLS certificate. The table above also shows that of 41 respondents, 29 respondents (70.7%) have First Emergency Aid (PPGD) certificate. Other supporting certificates include ALS already owned by 3 respondents (7.3%) and ATLS already owned by with respondents (4.9%).

Table 3: Characteristics of Respondents Based on Compassion Satisfaction, Burnout, and Compassion Fatigue

Characteristics	Percentage (%)
Compassion Satisfaction	
High Compassion Satisfaction	100
Burnout	
Low Burnout	12,2
Average Burnout	80,5
High Burnout	7,3
Compassion Fatigue	
Low Compassion Fatigue	82,9
Average Compassion Fatigue	17,1

Source: Primary Research Data, 2017

Table 3 describes the condition of the Professional Quality of Life of nurses at Emergency Installations General Hospital Regional Sidoarjo. All respondents (100%) have high compassion satisfaction. Three respondents (7.3%) experienced high burnout and 33 respondents (80.5%) experienced average burnout. No respondents experienced high compassion fatigue. 7 respondents (17.1%) experienced compassion fatigue on average, whereas almost all respondents had low compassion fatigue that was 34 respondents (82.9%).

A similar study in Latvia with the title "Measuring the professional quality of life among Latvian Nurse" shows that of 500 nurses from several hospitals in Latvia showed that the ProQOL R-V instrument has good reliability. Cronbach alpha value for compassion satisfaction is 0,880, Cronbach alpha value for burnout is 0,711, while Cronbach alpha value for compassion satisfaction is 0,740 (Circenis, Millere, & Deklava, 2013).

While in Indonesia, the measurement of professional quality of life performed by Debora (2016) with the heading "Stressor Influence Analysis on Professional Quality of Life Nurse in Emergency Installation Regional General Hospital Dr. Iskak Tulung Agung". From the research, it was found that 87.8% nurses of Emergency Installation Regional General Hospital Dr. Iskak Tulung Agung has an average Compassion Satisfaction (CS) and 12.2% nurses have a high compassion satisfaction. 65.3% of nurses had low Burnout (BO), and 69.4% had low Compassion Fatigue (CF). The two studies describe that the relevant ProQoL questionnaire is used as a measurement tool that describes the professional quality of life.

The selection of the Emergency Installation as the place of research because Emergency Installation is considered as a unit with the higher stressor. So the potential for changing the professional quality of life is also higher. But research from Hooper et al., (2010), said of 114 nurses from different units, including emergency unit, oncology, ICU, and nephrology showed no differences existed between emergency units with three other units.

The results showed that 7 respondents (17.1%) experienced compassion fatigue on average, while there were 3 respondents (7.3%) experienced high burnout. The most dominant contributing factors of compassion fatigue and burnout are the unpleasant nurse-patient relationship, less supportive work situations (workload and management decision), and individual problems (limited ability and experience) (Yoder, 2010).

In the life cycle, women are more likely to experience stress than men. More stressors come from individual environments other than the work environment. Stressors can come from multiple roles as mothers, wives, children, and nurses working at Emergency Installation. Women's hormonal cycles also influential in the experience of stress.Because it has the same hormonal trigger every month, a woman will be easier to adapt to the multiple roles and stressors are piling up. In doing the work, women rely more on the instinct of motherhood, so also many emotions involved at the time of the job. Therefore, the stress experienced by nursing women is more likely to cause compassion fatigue. In

contrast to women, men are more potentially experiencing burnout. Men tend to calculate any act committed to work and associate it with a role as a source of voters living in the family. As far as possible men will complete the task as much as possible with good and achievement. Every decision taken by men is based more on rational and thought-provoking results. This condition causes overwhelming and triggers the emergence of burnout.

A study says that the number of children also have an effect on burnout of nurses Emergency Installation. Nurses who already have children regardless of the number of children will potentially experience a higher burnout than nurses who are unmarried or have no children (Cañadas- De la Fuente, 2015). Every nurse who was already married and had children certainly has multiple roles in his life. Unequal division of tasks can lead to the conflict of interest between work and family. Not rarely the existence family also became a source of spirit in the work, but in some cases, there are limitations in individuals who are already married in doing her job as a nurse. The positive coping mechanism in the face of the stress, of course, is expected by nurses. Coping response to stress is a combination of cognitive abilities and attitudes displayed by nurses. Nurses who worked more than five years at Emergency Installation certainly has more experience in terms of facing the problems that arise. This results in a positive job satisfaction of nurse Emergency Installation. But Potter et al., (2010) describe the existence of a correlation between long working with compassion fatigue. Nurses who work for 11-20 years are at high risk of compassion fatigue compared with nurses who work the young age. So the positive coping mechanisms used by senior nurses need to be studied further and serve as role models for inexperienced nurses. Opening up to science and constantly developing oneself is also an alternative way to lower stress levels and improve individual performance and job satisfaction. As long as the nurse does not want to develop the knowledge it has, the nurse will also not be able to keep up with the increasingly varied consumer needs. This disability will certainly increase the nurses work stress.

In addition, the high number of compassion satisfaction of nurses Emergency Installation is also influenced by financial factors. As stated in Zareifar's research, Haghpanah, Beigipour.et.al (2017) that one that affects the level of stress and job dissatisfaction are financial income, job security, the environment and infrastructure and the impact of work on personal life. It is similar to the research of Circenis & Millere, (2011) shows that 46% of nurses are depersonalized. The factors that influence are unsatisfactory income, psychological pressure while working with the patient, and self-actualization of the underrated nurse.

For analysis of Professional Quality of Life, score results can use the interpretation of individual or group. In this interpretation, the researchers use interpretation in a group. By looking at the scores obtained, it generally indicates that nurses experience high average compassion satisfaction, low average burnout and compassion satisfaction. These results indicate a good Professional Quality of Life condition of the Emergency Installation nurses (Stamm, 2010).

4 CONCLUSION

Professionalism and good work ethic is a reality that is expected by all parties who work in the world of health care. Many obstacles are found to be able to realize the ideal conditions in an effort to realize the working climate. Stressors and job stress are some of the obstacles to achieving a good professional quality of life that will ultimately affect performance and performance.

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The Influence of Age And Coping Mechanism on The Resilience of Cancer Patients Undergo Chemotherapy

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Abstract: **Background :** Resilience is the dynamic capacity of individuals to successfully retain their mental health in the face of life difficulties. Chemotherapy makes patients who have been diagnosed with cancer have a sense of worry, anxiety and fear of facing death threats. Resilience may depend on positive emotions, flexible thinking, age and spirituality. This study aims to determine the effect of age and coping mechanism on the resilience of cancer patients undergo chemotherapy. **Method:** The study was conducted on 60 respondents. The coping mechanism was measured using 21 items of The Cancer Coping Questionnaire, and the resilience was measured by The 14 item Resilience Scale. Multivariate multiple linear regression analysis was used to predict the effect of age factor and coping mechanism on the resilience of cancer patients undergo chemotherapy. **Results :** The result showed that 60% of respondents had maladaptiv coping mechanism 83,33% had low enough resilience and only 5% had high resilience. Pearson corelation shows an association between age and resilience, as well as coping mechanisms with resilience. The effect size of age and coping mechanism on resilience is 44, 9%. **Conclusion :** Age, coping mechanism and resilience are interrelated factors in cancer patient. Adaptive coping mechanism in cancer patients can increase their resilience undergo chemotherapy.

1 INTRODUCTION

Cancer is still a major health problem in the world and the second leading cause of death after heart and blood vessel disease. A total of 8.2 million people died from cancer each year (Komiya et al. 2017). According to data from GLOBOCAN, the International Agency for Research on Cancer (IARC) found that in 2012 there were 14,090,100 new cases of cancer and 8,201,600 deaths from cancer worldwide. A total of 5.3 million deaths occurred in developing countries and 2.9 million occurs in developed countries (American Cancer Society 2015). This number increased to 8.8 million deaths by 2015. Globally, almost 1 in 6 deaths are caused by cancer and approximately 70% of deaths caused by cancer occur in poor and developing countries.

The number of cancer cases has been increased in Indonesia, slowly began to replace the position of heart attack as the main caused of death. Basic Health Research Reported (2003) the prevalence of cancer was 1.4 per 1,000 residents or approximately (347,000) people and the cause of death number 7 (5.7%) from all death in Indonesia (KEMENKES RI 2013).

The current efforts undertake to manage cancer, carried out in various way including surgery followed by radiotherapy, treatment with three combinations of surgery, radiation and chemotherapy. Chemotherapy is the treatment of antineoplastic preparation for an attempt to kill tumor cells by interfering with cellular function and the reproduction (Yusof et al. 2016). According to Jacobson (2009), the problem of chemotherapy is a very harmful and adverse side effects. The side effect of chemotherapy on physical problems has been clearly illustrated by Chan & Ismail (2014);Lorusso et al. (2016), the most common signs and symptoms are nausea and vomit, decreased appetite, hair loss, bone marrow damage, neuropathy, gastrointestinal disorders and skin damage. Chemotherapy also greatly affects the sexual life, daily activities and work.

According to Sana et al. (2016) cancer treatment can cause many health problems and treatment-related symptoms may last longer and can add great pressure on patients to cope with demands and treatment of disease. In addition, the accompanying consequences on chemotherapy make the majority of patients that have been diagnosed with cancer filled with worry, anxiety and fear of facing the threat of death and pain while undergo therapy. They also experience problems of interpersonal relationship so that cancer patients need individual psychological adjustment. Another opinion by Partridge et al (2007) depression and stressors that appear during treatment, length of therapy, poor communication between health worker and patient, high medical costs and poor side effects are the contribution for patients to not comply chemotherapy.

Beside that, at the time patient being diagnosed with cancer these circumstances was very difficult to accept. The long-term effects of cancer among adolescents and young adults have been known to disrupt normal developmental processes, poor mental health, impaired quality of life, social isolation, and impaired education (Rosenberg et al. 2017). In a large-scale survey 73% of cancer patients who undergo treatment two years after diagnosed with cancer, Wolff (2007) found that over 70% of respondents reported being depressed due to the disease, 60% reported relationship problems, and 83% reported declines on income. More than a quarter indicates that they have insufficient resources to fulfil the emotional needs.

According to Loprinzi et.al (2011) one of the possible ways for newly diagnosed cancer patients to control emotional stress are through good coping mechanism. Krohne (2002) says coping strategy is an individual adaptation mechanism that is done consciously and directed towards overcoming pain or facing stressor. According Yunitasari (2016) adaptive coping in cancer patients can be achieved by minimizing and even eliminating the cause of stressor. A good coping mechanism in cancer patients undergo chemotherapy will improve resilience.

According to Hodges et al (2010) resilience is a transformation, a deliberate desire to withstand environmental complexity and unfavorable uncertainty. Resilience is a dynamic process that includes positive adaptation in the context of significant difficulties, hazardous, and may change with time and in different environments (Fletcher & Sarkar 2013).Resilience may depends on several factors including positive emotions, flexible thinking such as acceptance, active copping and spirituality. (Portzky et al. 2010). Wagnild (2003) identify five characteristics of resilience that become the main component of a person in responding to the difficulties they might experiences. The five components are meaningfulness, Equanimity, Self Reliance, Perseverance and Existential Aloneness ((Boyle et al. 2015)

Some studies related to resilience in cancer patients showed that most cancer patients have less resilience to the diagnosis of cancer and chemotherapy they undergo undergo (Pertiwi et al. 2011; Dubey et al. 2015; Proyogi & Agung 2016).

Individuals diagnosed with cancer in younger ages (before 45) has been found to be at high risk of psychological problems, which can survive in the development of life (Hoffman et al. 2013). Research Gaffey et al (2016) on stress and resilience in the elderly showed that resilience sources could modulate cortisol in elderly health. This study aimed to determine the effect of age factor and coping mechanism on the resilience of cancer patients undergo chemotherapy.

2 METHODS

2.1 Study Design

This research is an analytic descriptive research, with cross sectional design. In this design, researchers wanted to know the effect of age and coping mechanisms on the resilience of cancer patients who undergo chemotherapy at the General Hospital of East Nusa Tenggara province Indonesia in patients with cancer diagnosis from 2016 to January 2018.

2.2 Sampling

A total of 60 respondents that were undergo chemotherapy were taken as a research sample of 93 cancer patients treated in oncology ward and outpatient department of general hospital area with purposive sampling technique.

Purposive sampling is a technique of determining samples by selecting the population sample in accordance with the researcher desired so that the sample can represent the characteristics of the previously known population (Nursalam 2017)

Samples were selected with the following inclusion criteria: (1) Patients with cancer

diagnose, who undergo chemotherapy aged 21-70 years, (2) able to read and written in Indonesian, (3) level awareness is composmentis, (4) cancer patients who undergo maximum 5 sessions of chemotherapy, (6) wanted to be respondents by signing the informed consent. While the exclusion criteria of this study were: (1) pediatric patients, (2) cancer patients undergo chemotherapy who had comorbidities more than 2, (3) cancer patients with psychiatric disorders.

2.3 Procedure

The study protocol was approved by the research ethics commission of the University of Airlangga Surabaya Indonesia. Prior to the data collection the researcher gave the respondent information conducted by 3 enumerators with the qualification professional of nursing. Data were collected in the beginning of February 2018 on respondents who were undergo chemotherapy.

Patient demographic data were collected through questionnaires while clinical data were collected from patient medical records, Patient completed coping questionnaire and resilience in the outpatient department and chemotherapy ward prior to scheduled chemotherapy sessions or after chemotherapy. Questionnaire filling takes about 10 minutes for each respondent and accompanied by an enumerator.

2.4 Research Instrument

The measuring tool used in this study was questionnaire with aim to measure coping mechanism and resilience. While age is the basic data obtained directly from the patient through the demographic data questionnaire.

2.4.1 Resilience Measurement

Resilience was measured using the Resilience Scale Resource Kit developed by Wagnild & Young (1993). The selection of this measuring instrument because this tool is the widest use until now. This measuring tool has also been used in adolescents, adults, and elderly for assessed according to the characteristics of respondents. Initially this measuring instrument consist of 50 items, after the analysis, the item was reduced to 25 items and repaired into 14 items reflecting the five components of Resilience: Equanimity, Meaningfulness, Perseverance, Self-reliance and Existential aloneness.

This measuring instrument has a high reliability coefficient of 0.84 until 0.94. (Pinheiro et al . 2015;Ntountoulaki et al. 2017). According to Kaplan and Sacuzzo (2005), one of the requirements of a good measuring instrument is to have a reliability coefficient of 0.7 until 0.8.

2.4.2 Coping Measurement

The respondents coping mechanism were measured using *The Cancer Coping Questionnaire* developed by Moorey et al. (2003). This *Self Rating Scale* measuring instrument consists of 21 items is a special measuring tool used to measure coping mechanism in cancer patients that have been tested in 201 cancer patients. This questionnaire has 2 general questions related to stress and anxiety about cancer, the next items question 1-14 about the individual scales consisting of sub-copping scale (items 2, 6, 7, 11, 12), positive focus (Items 1, 9, 14), Transfer (item 3, 4, 8), and Planning (Item 5, 10, 13). For items 15-21 is an assessment for interpersonal scale. This instrument has an internal consistency of 0.87 for individual scale and 0.82 for interpersonal scale. Patients copping mechanism then divided into adaptive and maladaptive based on the mean and standard deviation of the respondents.

2.5 Data Analysis

The categorical data is presented as the sum and percentage. The age data of coping mechanism and resilience are presented in the form of mean calculation. The Pearson product moment coefficient correlation was determined to evaluate the linear relationship between age and resilience, as well as coping mechanism and resilience. Multiple linear regression analysis was conducted to determine the factors independently affect the resilience factor of value $P<0.25$ on Pearson correlation test will be incorporated into multiple linear regression model. Statistical analysis was performed using IBM software statistics 21. $P<0.05$ on a two-tailed test was statistically significant.

3. RESULT

3.1 Demographic and Clinical Characteristics

Table 1. Summary of demographic and clinical characteristics of 60 cancer patients that undergo chemotherapy

Charactheristics		N= 60
Age	Mean ± SD	49,12 ± 10.37
	Adolescent	2 (3,3 %)
	Young Adult	4(6.7 %)
	Adult	13 (21.7 %)
	Young Elderly	26 (43,3 %)
	Elderly	15 (25 %)
Gender	Male	26 (43,3 %)
	Female	34 (56,7 %)
Education level	Primary School	13 (21,7 %)
	Junior High School	23 ((38,3 %)
	Senior High School	17 (28,3 %)
	College/ above	7 (11,7 %)
Marital status	Married	52 (86,7 %)
	Single	5 (8,3 %)
	Widow /Widower	3 (5 %)
Occupation	Civil Servant	7 (11,7 %)
	Housewife	25 (41,7 %)
	Private sector	5 (8,3 %)
	Farmer	23 (38,3 %)
Income	High sallary	19 (31,7 %)
	Low sallary	41 (68,3 %)
Type of cancer	SC/PC/OsC/TC /PaC/PrC/ EC/CoC/CR/N C/GSCC/OvC/ LNH/CeC/BC	1(1,7%)/1(1,7%)/1 (1,7)/1(1,7%)/1(1, 7)/1(1,7%)/2(3,3%)/2(3,3%)/2(3,3%) /3(5%)/4(6.7%)/4(6.7%)/6(10%)/7(1 1,7%) 24 (40%)
Stadium of cancer	Stadium II	24 (40 %)
	Stadium III	36 (60 %)
Chemotherapy sessions	1 Session	2 (3,3 %)
	2 Sessions	16 (26,7 %)
	3 Sessions	14(23,3 %)
	More than 3 sessions	28 (46,7 %)
Body mass index	<18,5	37 (61,7 %)
	18,5-25	18 (30 %)
	>25	5 (8,3%)
Comorbidity	Yes	14 (26,3 %)
	No	46 (76,7 %)

SC=scapula cancer, PC=Penis Cancer, OsC=Osteosarcoma Cancer, TC=Tongue Cancer, PaC =Parotid Cancer, PrC= peritoneal cancer, EC= Endometrium Cancer, CoC= Colon cancer, CR= Carcinoma Rectum, NC=Nasofaring Cancer,GSCC= Gingival Squamous Cell Carcinoma, OvC= Ovarian Cancer,LNH= Limfoma Non Hodgkin,CeC= Cervical Cancer,BC= Breast Cancer

A total of 60 cancer patients who undergo chemotherapy had an average age of 49.12 years (SD = 10.37 years), and 43% were young elderly, 25% of elderly, 21.7% adult, 6.7% young adult, and 3.3% are teenagers.

Patients diagnosed with cancer on stage III were 60%, the remaining 20% were stage II, with the most common type of breast cancer being 24 (40%) patients. Other details of the patient's demographic and clinical characteristics are listed in Table 1. Coping and resilience mechanism in Table 2.

Table 2. Measuring instrument scores from 60 cancer patients undergo chemotherapy

Resilience	Mean ± SD	68,62 ± 5,415
	High Resilience	3 (5%)
	Average Resilience	50 (83,3%)
	Low Resilience	7 (11,7%)
Coping Mechanism	Mean ± SD	56,33± 5,332
	Adaptive	30 (50%)
	Maladaptive	30 (50%)
Individual Scale of Coping Mechanism		
Positive focus	Mean ± SD	8.100± 1.03
	High	44 (73,3%)
	Low	16 (26,7%)
Coping	Mean ± SD	12.87± 1.96
	High	32 (53,3%)
	Low	28 (46,7%)
Diversion	Mean ± SD	7.53± 1.112
	High	28 (46,70%)
	Low	32 (53,3%)
Planning	Mean ± SD	7.43± 1.14
	High	29 (48,3%)
	Low	31 (51,7%)
Interpersonal Scale of Coping Mechanism		
	Mean ± SD	20.48± 2.05
	High	31 (51,7 %)
	Low	29 (48,3%)

Adaptive coping mechanism = score > 56,33, maladaptive coping mechanism = score < 56,33. Total score resilience >90 = very high resilience, 82-90 high resilience, 65-81 moderate resilience, 57-64 low resilience and score resilience <57 = very low resilience.

3.2 Relationship between age and coping mechanism with resilience

Table 3. Summary of Pearson correlation coefficients of age and coping mechanism with the resilience of cancer patients undergo chemotherapy

	Resilience
Age	0.274*
Coping mechanisme All score	0.654**
Positive focus score	0.481**
Coping score	0,586**
Diversion score	0,524**
Planning score	0,513**
Interpersonal scale of Coping mechanisme	0,457**

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

The result showed a positive correlation between age and resilience ρ = 0.34, meanwhile for coping mechanism showed a positive correlation between coping mechanism and resilience ρ = 0,000. Furthermore, for individual scale the coping mechanism of 60 respondents indicates a positive correlation for each sub item positive focus ρ = 0,000, coping ρ = 0,000, diverse ρ = 0,000, and planning ρ = 0,000. On the interpersonal scale also shows a positive correlation between resilience ρ = 0.000 (table 3).

3.3 The Effect of age and coping mechanism on resilience

Multiple multivariate linear regression showed a large contribution of age influence and coping mechanism to the resilience of cancer patients undergo chemotherapy in this model was 44.9% (ρ = 0,000), while the remaining 55.1% was influenced by other variables than age and coping mechanism. Partially, the contribution of age to resilience is 2.19% (correlation part = 0.148, ρ = 0.139) while for coping mechanism is 37.45% (correlation part = 0.612, ρ = 0,000) (table 4). From this analysis it is known that age has no significant effect on resilience whereas opposite coping mechanism significantly affect the resilience of cancer patients undergo chemotherapy. The large prediction of age variable with coping mechanism to resilience can be seen from the following regression equation.

Resilience = 29.052 + 0.079 **(age)** + 0,634 (**coping mechanism**).

The following equation can be explained as:

- The constant value about 29,052 means that the magnitude of resilience when the age value, and the coping mechanism is 0.
- An increase in 1 unit age score can increase the resilience value by 0.079 with age constant.
- An increase of 1 unit of coping mechanism score may increase resilience by 0.634 with a constant age.

Table 4. Summary of regression model, resilience on cancer patients undergo chemotherapy

Model	Coefficient	Classic assumption
R = 0,670	Constant = 29.052	Existency: mean residual= 0,000
R square = 0,449	β age = 0.079	Independency : Durbin-Watson=1,230
Adjusted R square = 0,430	β coping=0,634	Linearity: anova: p=0,000
Anova (p=0,000)	Correlations Parrt age : 0,148 Part coping mechanism :0,612	Multikolinearity : variance inflation factor : VIF age =1,041 VIF coping mechanism =1,041

Normality: age (p=0,232), coping mechanism (p=0,602), resilience (p=0,472).

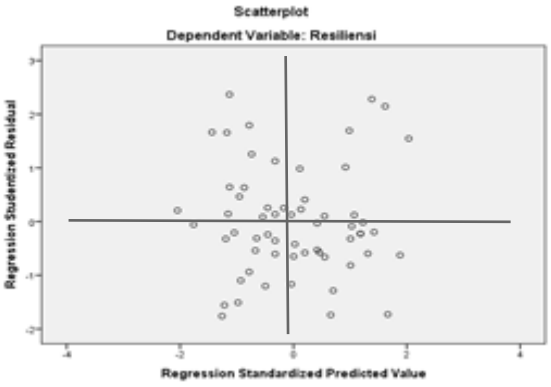

Figure1. Clasic assumption : Homocedasticity

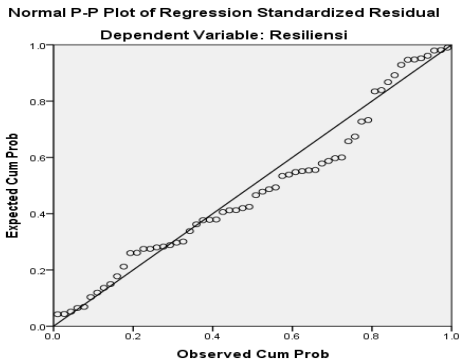

Figure2. Classic Assumption: Multivariat Normality

4. DISCUSSION

Cancer and chemotherapy are very distressing life events, and this is the real case for cancer patients undergo chemotherapy at the General Hospital Prof. Dr. W.Z. Johannes Kupang, East Nusa Tenggara Province, Indonesia. Cancer patients mostly experience stress and anxiety because of nature of the disease and the treatment. Patients said anxious and think about the disease for several times 29 (48,3%), almost whole time 27 (45%) and the rest 4 (6,7%) patients said worried and thinking about the disease everytime. Regard to question what stress felt in the last week, the patient said less stress as much as 30 (50%) patients, quite stressful 26 (43.3%) and very stressful 4 (6.7%) patients. The impact of cancer and chemotherapy on these psychological problems lead to a worse disease progression for the individual (Zhang et al. 015). One effort that can be done is by build a good coping mechanism. According to Baqutayan (2015) there are two main ways in which people cope with stress. The first approach, one can decide to follow or reject the stress experienced. This is a passive approach. Alternatively, the other one can decide to face the reality of the stress experienced and to clarify the problem through negotiation. The second approach is an active approach.

The result showed 50% of patients still have maladaptive coping mechanism against cancer and chemotherapy. This can be seen from the score of coping mechanism on individual and interpersonal scale. The findings of this study are also known that patients use several actions to overcome the problems faced in the form of diversion efforts, coping, positive focus and planning that all of them is a kind of emotional focus coping. The result of this study is accordance with Ahadi et al. (2014) in 80 cancer patients has found that the average value of coping in cancer patients lower than non-cancer. This study also known the cancer patients used more emotional focus coping to overcome problems related to cancer.

Dunkel et la. (1992) is known in general, cancer patients make a variety of coping choices. In the face of cancer-causing symptoms that cause pain, they usually choose to use problem focused on coping strategies, such as seeking alternative medicine or taking drugs, while facing future uncertainty they tend to use emotional focused on coping strategies such as dodge or denial. Furthermore, Faye et al. (2006) found that emotional focused coping is more commonly used by cancer patients to address existential problems, while problem focused on coping is more commonly used to overcome physical problems.

Researchers see the tendency of selecting coping problem in cancer patients to overcome the existing problems due to disease conditions that have entered the advanced stage and the success rate of low disease healing, where the patient has no other efforts to recover, in addition to continue to survive and fight with the disease cancer. Despite being in a stressful situation, cancer patients actually still have an inner strength that can help them to adapt to the conditions and make sense of life.

A good coping mechanism in cancer patients is needed so the patient can undergo the disease and can survive despite the downturn. This condition is called resilience. The result showed that as many as 83.3% of patients had average resilience scores. The result of the analysis revealed the effect of coping mechanism on the resilience of cancer patients undergo chemotherapy. The result of this study is accordance to Haase (2004) study that resilience in cancer patients and chronic diseases is the result of an interaction between three protective factors and two risk factors. The three protective factors in question are individual protective factors (coping courageous in the face of stressful situations and meaningful situations), family protective factors (family atmosphere and family support or resources), and social protective factors (health care and social integration resources). The two risk factors faced by the study subjects include individual risk factors (defensive coping) and disease-related risk factors.

Furthermore, Peterson & Bredow (2013) describes risk factors as a factor that directly magnifies the potential risk for individuals which

can increase the likelihood of developing maladaptive behaviors and lifestyles while the protective factor is a healthy skill and ability possessed by individuals, which promotes resilience. The low resilience scores in cancer patients in this study may be influenced by low cognitive capacity, stage of cancer, chemotherapy series treatment, body mass index, comorbidities and other demographic characteristics. This condition results in low of confidence to recover, lack of confidence and lack of optimism. This assumption accordance to the opinion of Portzky et al, (2010) explained the high level of resilience in a person is usually positively correlated with high self esteem, self confidence, and discipline, courage and optimism in the face of failure, above average cognitive capacity, and greater possibilities for free from disease.

A study of 60 women with ovarian cancer, it is known that those who have a greater tendency to attribute negative meanings to illness are more likely to show poor adjustment. Some patients may withdraw socially in response to diagnosis or treatment and treatment measures (Deshields et al. 2016)

The study also found that age had no significant effect on resilience ($\rho = 0.139$). Resilience is not a static trait that a person possesses from birth or automatically persists in a person once he or she achieves it. Resilience is a dynamic process that includes positive adaptation in the context of significant difficulties, hazardous, and may change with time and in different environment environments (Fletcher & Sarkar 2013). This view is in line with Galli & Vealey (2008) research on resilience among the top athletes and concludes that an important aspect of resilience is the agitation process, in which the individual uses multiple coping strategies to deal with unpleasant emotional combinations and struggles mentally. Many athletes report that positive adaptation occurs gradually, often requiring a lot of shifting thoughts. These findings support that the resilience is a capacity that develops over time in the context of people's interactions with the environment, regardless of age.

The greater effect of age and coping mechanism both in the resilience of cancer patients undergo chemotherapy in this study about 44.9% while the remaining 55.1% is influenced by other variables than age and coping mechanism out of this model. Pentz research (2005) on resilience in elderly patients with cancer is known that the aspects that contribute to resilience are social support and spirituality aspect (ie belief in God and their hope). Another study was conducted by Duan porter et al. (2016) on factors that contribute to physical resilience in the elderly with cancer is known the majority of older cancer sufferer show physical resilience. This is related to basic health, physical function, self efficacy, and high social support.

Some of the research findings above in line with the opinions of (Vanderbilt-Adriance & Shaw 2009). There are several protective factors that make up resilience such as: (1) individual characteristics, such as gender, level of intelligence, personal characteristics, (2) family characteristics, such as warmth and family structure (3) availability of social support system outside the individual and family environment eg peers. Furthermore, according to Woodgate (1999) there are five categories of specific stressors that exist in cancer patients as risk factors affecting the resilience of cancer patients that is loss, disruption of relationships, events that change family status, events that require social adaptation, and acute negative event such as physical trauma. This stress may be direct or indirect result of major developmental changes occurring in the individual, or the consequences of the disease itself.

From the various opinion and result above it can be conclude that in principle resilience is influenced by internal and external factors of individuals, both protectives and risks. Age and coping mechanism are some of the factors that contribute to patient resilience. Both are mutually related internal protective factors in which the existing research evidence suggests that age maturity making individual coping mechanism more adaptive.

5. CONCLUSION

Age and coping mechanism are some of the protective factors that can affect the resilience of cancer patients. Increased age does not necessarily increase patient resilience or coping mechanism. A positive adaptation of cancer patients undergo chemotherapy is a key requirement for cancer patients to remain resilient in their lives.

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Effectiveness of Mirror Therapy Against Upper Limb Muscle Strength in Ischemic Stroke Patients With Hemiparesis: systematic review

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Keywords: muscle strength, mirror therapy, ischemic stroke, hemiparesis

Abstract: **Background:** Stroke is clinical symptoms which disturbances in blood circulation to the brain caused either local or global malfunctioning that occurs suddenly and rapidly progressive that usually caused hemiparesis in stroke patients. Late and inappropriate exercises management may cause permanent disability. The range of motion exercises and early mobilization in stroke patients may reduce the risk of disability. The one of rehabilitation and intervention is muscle strength exercise by stimulating the nerves and improve the functional status of the motor/muscle strength by using mirror therapy. **Method:** These research based on the literature review (systematic review) of international journals, which is use quasi-experiment, one group pre-post test design. These research using purposive sampling with 10 respondents, while the research instruments using observation sheet those are muscle strength scale and visual imagery scale, the exercise guide sheets and mirror as media. The research analysis using univariate and bivariate analysis. A bivariate analysis using Wilcoxon test. **Results:** The results of these studies indicate that there is increasing in average muscle strength after mirror therapy exercises five times a day for 7 days evidenced by prior intervention the muscles strength mean of upper extremities is 2:12 (0.45. After the intervention, the muscle strength mean of upper extremities became 3.83 (0.56). Based on the results of bivariate analysis obtained the calculated value (4369) and significance levels (p) <0.05. **Conclusion:** The results of the journal's review can be concluded that there is significant differences are muscle strength before and after mirror therapy exercise in ischemic stroke patients with hemiparesis.

1 INTRODUCTION

Stroke is clinical symptoms by interruption of blood circulation to the brain, causing local or global malfunctioning that occurs suddenly, and rapidly progressive (Kasab *et al.*, 2017). According to the data of WHO (2010) stated that every year there were 15 million people worldwide suffered by stroke, which is 6 million people suffered deaths and 6 million people suffered permanent disability. The death rates will continue increased from 6 million in 2010 to 8 million in 2030.

According to (Association, 2010) stroke accounts for 1 in 18 deaths in the United States. In 2009 the prevalence of stroke was 6.4 million. Approximately 795,000 people experience a new stroke, 610,000 of them experiencing first attacks and 185,000 recurrent attacks and the cost of the treatment in 2009 is about 68.9 billion US dollar for health and rehabilitation of stroke(Badan Penelitian dan Pengembangan Kesehatan, 2013). Generally stroke divided into two types: ischemic stroke and hemorrhagic stroke. The incidence of ischemic stroke approximately 85% of all stroke cases (NSA, 2009; Lewis, 2007). In Indonesia Government Hospital, stroke is the leading cause of death, the third cause of death and main cause of disability in hospital (pdpersi, 2010). Based on the Basic Health Research (Riskesdas) in 2013, the prevalence of stroke in Indonesia was 7 of 1,000 populations, and who have been diagnosed by health workers was 12.1 of 1,000 populations. In addition, it had been estimated that stroke is cause of death in hospital 15%, with impairment reached 65%(Badan Penelitian dan Pengembangan Kesehatan, 2013).

In stroke patients, 70%-80% experienced hemiparesis (muscle weakness on the one side of

the body) by 20% could improve the motor function while about 50% had residual symptoms such as motor function disorders/muscle weakness in the extremities. If they do not get a good therapy choices in post stroke intervention and rehabilitation (Sengkey, 2014). When hemiparesis patients did not get optimal management about 30% - 60% they will experienced an extremities full function loss within 6 months of post-stroke(Warlow, 2007).

Interventions for healing that could be performed in addition to medication or drugs is physiotherapy/ exercises such as; weightlifting, balance and resistance training, hydroteraphy, and Range Of Motion (ROM) excercise. Among those, ROM are often performed in the rehabilitation process of stroke patients either active or passive and can be performed in hospital(Millis, Lewelling and Hamilton, 2004).

In addition to rehabilitation therapy ROM, either unilateral or bilateral, the mirror therapy is alternative that can be applied and combined in stroke patients to improve the functional status of sensory motor. Mirror therapy is non-invasive intervention, directly related to the motor system by train/stimulate the sensory ipsilateral or contralateral sensory motor cortex lesions. This therapy relies on the interaction of visual-motor perception to improve the movement of the muscle weakness on one side of the body or hemiparesis(Lin *et al.*, 2012).

Mirror therapy excercise is a rehabilitation or exercise that train the imagery or patient's motor imagination. The mirror will provide visual stimulation to the brain (cerebral motor nerves i.e. ipsilateral or contralateral for hemiparesis movement) and the hemiparesis will observed and imitated like the one in the mirror(Kang *et al.*, 2012).Several studies had conducted by scanning the brain and found that during mirror therapy, the active area of this trial is the prefrontal cortex area pramotor cortex, parietal cortex and cerebellum which is the area of motor movements. Therefore repetitive stimulation increased muscle strength and prevent more damage of the neuromuscular and prevent it spread to other areas (Kang *et al.*, 2012)

Those can be explained in research of (Koyama *et al.*, 2014)that there is cortex area of human brain which called F5 with respect to its role in motor movements and visuomotor that send signals when observing, imitating or copying the certain action of what is observed so that the person imagination activated the movement area same as the actual movement.

2 METHODS

The method in this study using literature review-journalssistematic review. These study determined whether there were differences in muscle strength before and after mirror therapy in patients with ischemic stroke. The result of one journal research study, there were 24 patients with criteria diagnosed with ischemic stroke who had passed the critical phase and experience hemiparesis or weakness of one side of the body. The patients got muscle strength measurements, aged adults (18-65 years), compos menthis consciousness (GCS = E4V5M6), got the first attack, muscle strength range is 1-3, were not impaired in hearing and sight (VIS scale: 4), fluids and electrolytes within the normal range. After the desired patients criteria was obtained, patients will be given a range of motion exercises to train the muscle strength five times a day for 7 days in the part of healthy body, then patient was advised to look in the mirror and imagine as if the sick body part moves like healthy body.

The independent variable in this study is muscle strength exercises whereby mirror and the dependent variable is muscle strength of upper-lower extremity which had hemiparesis, while confounding variables were age, sex and time of treatment in hospital (admission time). From journal review, one of the sampling method is using non-probability sampling that is purposive sampling-sample selection technique which is based on the specified purpose of the researcher (Dharma K, 2011).

3 RESEARCH RESULT

The result of journal review had done is as follows: based on journals reviewed, the characteristics of ischemic stroke respondents with hemiparesis is n=10, age of the respondents that the most experienced ischemic stroke is in 56-65 years old with 45.8%. Based on gender can be seen more women than men with a percentage of 54.2%. Duration of respondents get first aid in hospital should be less than 6 hours. From journals reviewed, the average strength of upper muscles after mirror therapy exercise is 2:12 (0:45), while the average of lower muscle strength after mirror therapy exercises was 4.00 (0.66).

4 DISCUSSION

Characteristics of Respondents

Based on the journals reviewed can be concluded that stroke occured most in 56-65 years old (45.8%). In older people the risk of stroke is increased(Sengkey, 2014). Results of Sacco's research (1997) stated that every 10 years after age 55, the risk of stroke increased is twice. Dugdale (2010) revealed that in elderly the main artery out of blood vessels is more harder, thicker and less elastic as a result of changes in connective tissue in blood vessels which can increased blood pressure. Those condition was said as atherosclerosis, which is one risk factor for ischemic stroke. Characteristics of respondents by sex showed that women more suffer from stroke than men (54.2%). The incidence of stroke were different between men and women, which is women more than men in suffering a stroke(Konin and Jessee, 2012). However, based on these studies there were no significant differences between men and women in terms of: the type of stroke, severity and case fatality rate. Furthermore, also found there was similarities numbers in mortality in male and female leading by stroke(Noorizadeh *et al.*, 2008).

Study of(Michielsen *et al.*, 2011) suggest that the risk factors of stroke in older women associated with body fat distribution in which the condition caused after women in menopause. The duration between after attacked and admitted to the hospital and then hospitalized (admission time) also affect the risk of stroke and stroke recovery. Those results showed that all respondents obtained aid treatment at the hospital less than 6 hours. The sooner get help precisely, the risk of cerebral infarction is smaller. Thus, neurological deficit/neurologic damage is less.

The recovery of stroke patients with minimum infarction will faster than the more severe cerebral infarction. The results of stroke treatment will be maximum for cerebral reperfusion if less than 6 hours of admission time(Altschuler *et al.*, 1999). The available time when a person got attacked is 3-6 hours and should get help immediately in hospital called the golden period. If more than 6 hours the patient will experience severe disability, because the severity of disability caused by stroke is determined by the appropriate first treatment and the type of stroke(Mohammad Fathurrohman, 2011).

Duration between first attack and hospitalization (admission time) also affect the risk of stroke and stroke recovery. In the results above, showed that all respondents obtain treatment aid at the hospital less than 6 hours.The sooner get help precisely, the risk of cerebral infarction getting smaller thus neurological deficit/neurologic damage is less(Mohan *et al.*, 2013).

5 CONCLUSION

These systematic review aimed to determine the effectiveness of mirror therapy to muscular strength in ischemic stroke patients with hemiparesis. These interventions can be recommended by room nurses for the management of mobilization and exercises to prevent permanent disability in stroke patients with hemiparesis. These mirror therapy may apply to families who have family strokes and try the exercises at home for the recovery process for the purpose to increase motor functional status of post stroke(Mohammad Fathurrohman, 2011).

6 SUGGESTION

Based on literature review had been done, it can be concluded that mirror therapy intervention can be used as alternative or combination therapies method for stroke patients for the purpose to reduce permanent disability in ischemic stroke with hemiparesis either hospitalized or homecare.

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Nurse Performance Analysis Based on Gibson Performance Theory on Voluntary Nurse in Sampang Regency Community Health Center

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Keywords: Gibson, organization

Abstract: I: The comparison of human resources between health workers with civil servant status, temporary status, and voluntary is imbalance. The amount of voluntary workers in all community health center of Sampang Regency is bigger than civil servant and temporary health workers. One of the professions that contribute to the big number of health workers with voluntary status is nurse. **M:** This research uses survey explorative research design. Determination of the sample size in this research using a priori power analysis with application free family = X^2 test, statistic test = goodness-of-fit test contingency tables, and type of power analysis using "A priori: compute required sample size given a, power and effect size" so, the sample size is 158 voluntary nurses in Sampang Regency community health center. The analysis that is used in this research is SEM PLS. **R**: the most effected variable on performance variable, from table above, the biggest number lies on organizational variable. (Individual = 0.735, organization = 6.257, physiology = 0.739). **D**: The factors based on Gibson Performance which takes effect on Voluntary Nurses Performance in Sampang Regency community health center are 3 things of organization factor, namely workload, salary and services.

1 INTRODUCTION

Public service is an activity or series of activities in order to fulfill the need of services in accordance with the laws and regulations for every citizen and resident to the goods, services and or administrative services provided by public service providers (Budianto, 2015). Community Health Center is one of the first levels of health service in one sub-district or a part of it which functioned as Gate Keeper in health service.

Sampang Regency is one of the regency that lies in Madura Island, has 21 community health centers spread in all regency, with ratio one sub-district, one community health center. But the performance assessment which has done by official public healthofSampang Regency in 2016 that shows lack of performance in many community health center.

One of the problems is human resources. The comparison of human resources between health workers with civil servant status, temporary status, and voluntary is imbalance. The amount of voluntary workers in all community health center of Sampang Regency is bigger than civil servant and temporary health workers. One of the professions that contribute to the big number of health workers with voluntary status is nurse.

Based on previous study in October 2017 indicate that public health office through community health center's technical implementers do not have the budget to hire voluntary nurse. The voluntary nurses do not have fixed salary every month; they only receive services ± Rp 500.000 per month for community health center with in-patient care (depend on the patient), ± Rp 100.00 – Rp 200.000 per month for the community health center that non-in-patient care. Some of the community health service gives bigger responsibility to voluntary nurse than to civil servant nurse and temporary nurse, for example being responsible for the community health care program (P2M, Diarrhea, DBD, HIV, etc). Volunteer nurses are burdened with recording, reporting and also involving in community health center management activities. Furthermore, community health center impose same rules and sanctions to all staff regardless of their employment status (Primary Data, 2017).

The treatments of the organization (community health center) from one to another are different toward their voluntary nurses. These actions depend on their administration and management level of

community health center to manage their voluntary nurses. These are caused by the absence of standard system that manages and organizing their volunteers, especially for nurses at either community health center or public health office levels. From the salary system, compensation, performance appraisal, reward for an outstanding volunteer workers, etc. these problem will have an impact on the performance showed by voluntary nurses, moreover will impact on the quality of health services provided to the community, so it is reasonable that community looks and assumes that health service in community health service are what they are.

Performance is an affective or emotional response to various aspects or aspects of a person's work so performance is not a single concept. According to Gibson, performance is effected by 3 variables i.e. individual variables which grouped into ability and skill sub-variable, background and demographic. Sub-variable of ability and skill are the main factors that affect to individual behavior and performance. Demographic variables have an indirect effect on individual and performance.

Psychological variables consist of sub-variable of perceptions, attitudes, personalities, learning and motivation. According to Gibson (1987), these variables are much influenced by family, social level, previous work experience and demographic variables. Psychological variables such as perceptions, attitudes, personalities and learning are complex and difficult to quantify, also states that is difficult to reach agreement on the notion of this variable, because an individual might enters and join in the work organization at an age, ethnicity, cultural background and skills which different from one to another.

Organizational variables, according to Gibson (1987) have an indirect effect on individual behavior and performance. Organizational variables are grouped into sub-variables of resources, leadership, rewards, structure and job design.

2 METHOD

This research uses survey explorative research design which is used to find an event or symptoms that occurred. The final result of this study is to describe the causal relation of independent and dependent variables (Sugiono, 2013).

Determination of the sample size in this research using a priori power analysis with application free family = X^2 test, statistic test = goodness-of-fit test contingency tables, and type of power analysis using "A priori: compute required sample size given a, power and effect size" so, the sample size is 158 voluntary nurses in Sampang Regency community health center with cluster sampling technique and stratified random sampling. As the independent variables include individual factors, psychological factors and organizational factors, whereas the dependent variable is nurse's performance. Analysis that is used in this research is SEM PLS.

The variables used in this research are divided into latent variables and manifest/indicator variables, which could be seen in Table 1.1

Table 1.1 Variables Identification

Independent Variables (X)	
Psychological (X1)	Individual (X2)
1. Progress 2. The work itself 3. Recognition 4. The relations with supervisors	1. Skill 2. Age 3. Education 4. Leght of Working
Organizational (X3)	
1. Workload 2. Salary 3. Services	
Independen Varibles (Y)	
Performance Nurse	

3 RESULT

The results of this research are divided into 2 models, inner model and outer model. Inner model is an evaluation on the measurement model while the outer model is an evaluation of the structural model.

A. Outer Model

1) Discriminant Validity

This value is crossing loading factor value that is beneficial to determine whether the construct has an adequate discriminant by comparing the loading value on the intended construct that has to be greater than another construct loading value.

Discriminant value of validity compares the value of the surrounding construct, then the invalid data obtained some item questions *i1, i3,i5, o7,o8, p10, p11, p12, p14, p15, p5,p6, p8, p9* (read: I=Individual, O=Organizational, and P=Psychological).

2) *Composite Reliability, Average Variance Extracted* (AVE) and *Cronbach Alpha*

Table 1.2 *Reliability, Average Variance Extracted* (AVE) and *Cronbach Alpha*

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Individual	0.405	0.308	0.075	0.233
Performance	0.930	0.935	0.939	0.511
Organizational	0.516	0.718	0.639	0.275
Psychological	0.849	0.585	0.019	0.147

Table 1.2 shows that the value of the Composite Reliability Performance variable is 0.939 (0.6), the value of AVE is 0,511(>0, 5), Cronbach's Alpha Value is 0.930 (>0/7), which means that the reliability of organization variable is high. As for the individual, organizational and psychological variables have not reliability. But on the psychological factors, the value of Cronbach's Alpha is 0.849 (>0.06) which means that psychological variables have high reliability.

B. Inner Model

1) R Square

Table 1.4 Path Coefficients

	Sample Origin(O)	*Sample Mean (M)*	*T Statistic (I0/STDEVI)*	*P Value*
Individual → Performance	*-0,128*	*-0,017*	*0,735*	*0,463*
Organizational → Performance	*0,406*	*0,422*	*6,257*	*0,000*
Psychological → Performance	*0,145*	*0,004*	*0,739*	*0,460*

The value or R Square is the coefficient of determination in endogenous constructs.

Tabel 1.3 R Square

	R Square	R Square Adjusted
Individual	0,072	0,006
Organizational	0,215	0,210
Psychological	0,066	0,060

Table 1.3 indicates that organizational variables contribute higher value than the variable of individual and psychological as high as 0.215 which means only contribute 21.5% to nurse's performance variable.

2) Estimate for Path Coefficients

It is the value of path coefficients or the amount of relations/influence of latent construct. It is performed by bootrapping procedure.

Table 1.4 shows that T Statistics Test is performed to see the value of the most influential variable on the performance variable. From the table above, the greates value is in the organizational variables. (Individual = 0.735, organizational = 6.257, psychological = 0.739).

3) Effect Size (F Square)

F test is used to determine whether the independent variables simultaneously have significant effect on dependent variable.

Table 1.5 Effect Size

	Individual	Performance	Organizational	Psychological
Individual				
Performance	0,078		0,274	0,071
Organizational				
Psychological				

Table 1.5 shows that organizational variables simultaneously have the most effect on nurse performance, 0.274.

4 DISCUSSION

This research shows that organizational factors are very influential factor on the performance of voluntary nurses in Sampang Regency.

At this point of discussion, this research is in line with the research of Njie, Fon and Awomodu (2008: 24) and Gholambreza, Borghei, Matin and Dastani(2010) that there is a strong and robust connection between organizational commitment and satisfaction, as increased performance will lead to higher level of commitment. Furthermore, higher level of commitment could increase work productivity. In recent years, the long-term survival of many organizations is considered to be closely related to the organization's ability to produce services that meet with costumer's quality expectations. The organizational factors in this research consist of workload, salary and services.

Organizational factors in this research consist of 3 things, workload, salary and services. Workload is an activity undertaken by voluntary nurses in providing nursing care and fulfillment the Basic Human Needs (KDM) of patient. Salary is money received by voluntary nurses every month with a fixed amount of money, while the services are money that is received by voluntary nurses every month and the amount could be varied depend on the number of patients.

Managers need to eliminate the dissatisfaction that is determined by the co-worker's hygiene factors' relationship, salary and job security. Increases the effect of satisfactions which relate to motivational factor of promotion, knowledge and work itself. It also confirms previous findings about performance as a dynamic multi-dimensional phenomenon (Nabila S. Ben Slimane, 2017).

Factors such as employee empowerment, ethical climate, organizational support, and top management and performance commitments play an important role in stimulating. Moreover, top management commitment has a strong impact on performance compared to employee empowerment, ethical climate, organizational support (Elizabeth Chinomona, Babatunde A Popoola, Vaal University of Technology, South Africa Emmanuel Imuezerua, 2017).

Voluntary nurses throughout Sampang Regency are not receiving salarybecause there is no budget either in District Government, Health Office and Community Health Center does not have budget allocation to hire voluntary nurse. They only receive services from the number of general patients who later become the money (services) received by the voluntary nurses every month. But workload of voluntary nurses is also not different with civil servants and temporary nurses.

In accordance with the results of this research shows that the organizational factors, especially those 3 items were really influential factors to the performance of nurses in providing health services to the community at Sampang Regency Community Health Center. It is necessary to be considered by the stakeholder of the regency, provincial and central government to appreciate the nurses better in providing health services to the community, so that the voluntary nurses are no longer considered trouble maker in their work institutions and the national health status could be achieved.

5 CONCLUSION

This research revealed that among the factors in Gibson Performance Theory that influence the performance of voluntary nurses in Community Health Center of Sampang Regency was organizational factor which consisted of 3 items, those were workload, salary and service. However, the organizational factors in this research (workload, salary, and service) have not shown significant value yet, so it is necessary to add other items in organizational factors.

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MODEL OF *REWARD SYSTEM* DEVELOPMENT BASED ON PERFORMANCE OF NURSE WORKING SATISFACTION

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Keyword: Reward System, Job Satisfaction, Nurse

Abstract: The growing era of globalization demands quality improvement in all sectors including the healthcare sector. Nurses are professionals who have an important role in determining the quality of health services. Nursing job sa tisfaction is believed to be the determinant of quality of health service. One source of motivation for nurse s which is often ignored by the health service provider manager is a *reward system*. This study aims to determine the effect of reward system on nurse job satisfaction. This research uses systematic review research design. The literature used in this study is published in ProQuest, and EBSCO in2013- 2018 with selected keywords. The Quality of the literatures are analyzed by using the *Critical Appraisal Skills Program* (CASP). Based on the literature, the reward system includes giving incentives, praise and appreciation can increase job satisfaction (p value: 0,011). Opportunities for promotion (p value: 0,041), and self-development opportunities (p value: 0,041) also improve job satisfaction. Working relationship is the most dominant factor in determining nurse job satisfaction than other factors. A good working relationship provides a comfortable climate and a sense of togetherness in working. Reward system proved to have an effect on nurse job satisfaction in health service.

1 INTRODUCTION

In the developing of globalization era require a high quality in every sectors, including in the health care sector. Hospital as an institutions that provide health services to the community as well are required to improve services (Gibson, 2005). Improving the quality of healthcare services cannot be separated from various roles discipline of health personnel in the hospital including nurses roles.

Nurses are professionals who have an important role in the providing health services to patients because nurses have a 24-hour time with patient. (Kusnanto, et.al., 2009). Nursing job satisfaction is believed to be a factor that determines the quality of nursing service that affects patient satisfaction, but not all hospitals are able to create an atmosphere that motivates and improves the productivity of the nurse (Bustami, 2011). Some of problems faced by nurses are less condusive environment, lack of feedback or supervision, lack of *reward system* or rewards and lack of promotion to be placed in higher position (Rosemary, 1999 in Widiastuti, 2005).

From the results of nursing residency activity conducted by Reni (2012) in the inpatient room of RSI Ibnu Sina Yarsi Bukittinggi November 2011, data obtained 57% of nurses expressed not satisfied with the provision of incentives from hospitals, other than that incentives not yet based on the assessment of nurse performance. Another data that is 74.9% of nurses say less rewards appropriate to their work, as much as 68.5% stated hospitals has not been considered welfare to nurse. The results of collecting data by interview show that there are no focused regulation in the developing of nursing skill personnel such as continuing education, placement after completion of education, career trajectory system and selection of nurses who attend the training.

One source of motivation that managers can use to create motivation and improve productivity, but often neglected or underused is *reward system* (Wibowo, 2012). According to Hasibuan (2007), *reward* is a service reward given by the

agency to the workforce, *reward is* not just a right and a duty but the most important is the thrust and spirit to work. *Reward system* is important for achieving job satisfaction, although the views on individual job satisfaction is different depending on individual circumstances and characteristics (Salazer et al., 2006). By giving *rewards* , employees feel getting attention and appreciation so the *self of belonging* to the company or institution where the employee is working higher. (Hoffman and Woehr, 2006)

Many research results have proven that the reward system has an effect on job satisfaction. This is held as an effort to improve the quality of nursing service to patients. Based on that background , the author try to make a study compare on some research journals to know more deeply about the influence of *reward system* on job satisfaction and relationship between education position, education, work experience, workplace and performancee with *reward system* . This study aims to synthesize research journals empirically so that they can identify the effect of *reward system* on job satisfaction .

This study aims to synthesize research journals empirically so that they can identify the effect of reward system on job satisfaction .

2 METHOD

This research uses *systematic review* research design. The literature for this research is to search journal and scientific research articles published by ProQuest, and EBSCO with selected keywords. Articles that match the keywords are then analyzed for quality. The literature search is limited to the 2009-2018 publications that are full text accessible in pdf format.

Method of study of research article quality using *Critical Appraisal Skills Program* (CASP). The data of the analyzed findings were extracted and synthesized to reach the research objectives. Based on the review of the article obtained 15 articles that match the research objectives and desired quality.

3 RESULTS AND DISCUSSION

Of the 15 articles selected, the study was conducted in Portugal, China, Indonesia, South Africa, and Ghana. Most of the articles use quantitative research method with cross sectional research approach (n = 13), and others use systematic review method (n = 1) and qualitative design (n = 1) . Articles reviewed are articles published in the 2009-2018 range. All samples used were nurses and health staff working in health care providers such as public hospitals, private hospitals and health clinics.

All articles in this study stated that reward system has a close relationship with nurse satisfaction level. Although some other factors also affect the nurse's satisfaction such as demographic factor (age, education, etc.) but reward system is an important factor that significantly affect the nurse's job satisfaction in providing nursing service.

Research conducted by Isesreni (2012) show that job satisfaction is strongly influenced by the financial system. A good financial system can include adequate salaries, praise and appreciation of superiors can improve nurse satisfaction (p value: 0,011). Zheng (2017) expressed job satisfaction of staff in getting bigger at work place which have strong economic system which can give bigger reward by salary, and a good administration of job. Job satisfaction also increases in staff who feel their work is valuable due to rewards being awarded for their achievements after reaching one targets.

Israreni also explained that the opportunity for promotion (p value: 0,041) and the opportunity to get training or education to improve the skill and knowledge of the staff (p value: 0,041) also has contribution in determining the nurse's job satisfaction. Dhurup (2014) in his research show that the nurse's satisfaction level is strongly influenced by opportunities to develop careers within the institution .

According to Israreni a conducive working environment and a good working relationship among health staff is the most important in achieving work pleasant that impact on job satisfaction. Nurses whose job satisfaction is low is strongly influenced by unfavorable work environment, excessive workload and execution of tasks that are not his responsibility.

Research conducted by Boafo (2018) in Ghana states that nurses are health workers who often get verbal abuse and sexual abuse. This is a significant statistical predictor in determining the level of nurse satisfaction. The nurse's satisfaction level is low because nurses are not given a protection. Award which form in safe working environment against verbal violence and sexual harassment is a non-financial reward that is needed

by the nurse who impact on the nurse job satisfaction.

Lin (2014) in a study conducted in China on residency nurses stated other variables that influence the nurse's satisfaction is the holiday, job scheduling system, and interaction between health workers. Rationing in accordance with work load and holiday with fair job scheduling will increase the nurse's satisfaction to work. In addition, well-established interactions between health staff also helped improve the quality of the nurse's work.

Ozden (2013), in his study describes nurses who have received training ethical and handled fewer patients with higher levels of satisfaction. In addition, nurses who have achievements also have a higher level of satisfaction.

Another interesting finding was described by Ferreira (2017) in his research in Portugal show that young nurses with little work experience despite having a lower remuneration appeared to have a higher job satisfaction. This is because of the national context that the nurse is still young, the work experience is low, and the pleasure of having a contract work, considering the professional difficulties in Portugal.

4 CONCLUSION

Job satisfaction is closely related to the reward system received by the nurse. The rewards system can be form by adequate salary or wages, opportunities for promotion or career path, training and education opportunities to develop skills and knowledge, and rewards for achievement after achieving a specific target. In addition to other rewards in the form of good administrative systems for staff, a good work environment and conducive, protection and security, interaction and good relationships among staff is also an influential factor although demographic factors are also inseparable in determining the level of satisfaction. In addition, fair job scheduling and adequate nurse holiday planning, as well as appropriate workload and job responsibilities also determine the nurse's job satisfaction in providing nursing services at health institutions.

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Nursing Discharge Planning for Patient with Diabetes Mellitus

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Keywords: discharge planning, health education, diabetes mellitus, descriptive study, qualitative study

Abstract: Introduction: Implementation of discharge planning is an important element to optimize the provision of nursing services that begin immediately after admission in order to prepare the patient to obtain continuity of care. The purpose of this study to explore the implementation of discharge planning on patients with diabetes mellitus in the inpatient room. Methods: This study used descriptive exploratory design with qualitative approach and using purposive sampling. Data were collected through interviews and observations of 20 primary nurses, study documents, and focus group discussions. Result: The findings are (1) implementation of discharge planning in patient with diabetes mellitus is not immediately performed on admission, and discharge planning was given several hours after the doctor discharged decision (2) there is incomplete health education planning format that contribute to patient discharge (3) the recommendations from participants are to improve the health education planning format that contributes to discharge planning. Discussion: Importance to prepare a patient in discharge planning. Patients, doctors and nurses have to agree that health education in patients with diabetes mellitus should be started immediately on admission

1 BACKGROUND

Discharge planning is a dynamic process to assess the current needs and the need for advanced treatment aimed at establishing patient. Problem that occur in hospital that health education in patients was given a few hours of patient discharge, without any health education planning which formulated previously. This can raise anxiety to patient about the care and activities performed after discharge. Patient and family with low knowledge about home care will impact on health problem or unpreparedness of patient to discharge, resulting in frequent readmission

Patient readiness to discharge is an indicator of the success implementation of discharge planning. Howard-Anderson et al. (2016) reported that 20% of patients who feeling unready to discharge, and this was because the problem had been resolved, such as having poor pain control, and concerns about self care. Patient who are not ready for discharge tend to readmission, deaths, and return to the emergency room within 30 days after discharge. Risk Factor for being unready at discharge were the low of knowledge, low satisfaction with service quality, depression, lower education, and persistent symptoms or disability (Lau et al., 2016). According Harrison et al. (2016) barriers on discharge facing by patient are due to pain, lack of understanding about recovery plan, and daily activities that to be performed at home. The patient's unpreparedness in facing discharge requires further intervention (Mabire et al., 2015).

The high rate of readmission is the impact of patient unready to discharge. Studies in Europe reported the incidence of acute readmission within 30 days of discharge in elderly medical patients ranged 11% to 20% (Rasmussen et al., 2017). The rate of readmission in the case of diabetes mellitus Jemursari Islamic hospital in 2016 amounted to 12.18% and by 14% in 2017. To reduce the risk of readmission, it is necessary to increase discharge planning implementation and policy-makers charged on healthcare organizations to reduce readmission rates (Drincic et al., 2017). Alliance (2010) showed that as a result of improper discharge planning, as many as 40% of patients experienced more than 65 treatment errors after hospital discharge, and 18% of patients returned from the hospital were re-hospitalized within 30 days. This shows the great impact of poor discharge planning

implementation. The Nurses need to know what will be delivered and a good way to carry out discharge planning. Discharge planning need to be formulated immediately after the admission. Coordination in providing health education is an important aspect to preparing patient and families to successfully manage themselves after discharged from hospital (Lerret et al., 2015).

The implementation of discharge planning can increase the satisfaction of patients and professionals, it also decrease the length of stay in hospital and readmission (Goncalves-Bradley et al., 2016). Morris (2011) stated that need for regulation to improve discharge planning process, and hospital requires discharge planning systems that effectively and efficiently. The better quality of discharge planning provided the better understanding for patient. The purpose of this study is to explore the implementation of discharge planning in patients with diabetes mellitus. The results of this research will provide information to give a complete picture in the development of discharge planning systems.

2 METHODS

This study uses descriptive exploratory with qualitative approach. The purpose is to explore the implementation of discharge planning in patients with diabetes mellitus in the inpatient unit. By purposive sampling, participants were selected based on inclusion criteria: primary nurse, 2 years of working experience, and working in the inpatient unit for adult patients. Data were collected through interviews, observation, documentation studies and focus group discussions.

2.1 DISCUSSION GUIDE

TO ENSURE THE DEPTH OF DISCUSSION OF THE ISSUES, GUIDED BY OPEN-ENDED QUESTIONS DEVELOPED BASED ON THE LITERATURE AND EXPERT OPINION. TOPICS COVERED ARE DISCHARGE PLANNING IN PATIENTS WITH DIABETES MELLITUS, OBSTACLES AND RECOMMENDATIONS. PARTICIPANTS ARE ENCOURAGED TO DISCUSS AND EXPRESS THEIR POINT OF VIEW.

2.2 DATA COLLECTION PROCEDURE

The Focus Group Discussion was conducted in hospital. The discussion process took approximately 90-120 minutes, and the discussion process is recorded by audio with the consent of the participants. Participants are allowed to freely explore their feeling on the topic of discussion. In this discussion collected demographics of participants, including age, gender, work experience, education level and staffing satus.

2.3 Ethical Approval

Ethical approval was obtained from the hospital's ethical research committee with serial number : 0003/KEPK-RSI JS/II/2018. Approval is obtained at the present time. Information writing consent was obtained from all participants before the focus group discussion. The purpose of study and the right to withdraw from the study were explained. All the participants were recorded as anonymous and confidential.

3 RESULTS

Participants in this study were 20 primary nurses with work experience average of 7.5 years, consist of 17 nurses diploma (85%) and 3 nurses professional (15%). The results found in this study are: first, the implementation of discharge planning in patients with diabetes mellitus is not done immediately when the patient admission. Participants said they could not decide the length of patient care at the hospital though the process of patient selection and assessment has been conducted from the beginning of the patient admission with the aim to determine the needs and problems faced by patients.

The implementation of discharge planning is given several hours before the patient discharge and after the doctor decided to discharge. Explanations regarding activity, medication, diet and control are described to the patient's family at the nurse station. The results of observation showed that not many patients who ask again related to the information about continuity of care at home, because the patient felt did not get the information, whereas the nurse has explained it to one family's member. Evaluation of the patient's level of understanding in receiving health education is rarely done, the nurse assumes that the patient is aware if the patient does not inquire about the information given.

Second, education planning format is incomplete and less contributing to patient discharge. Participants said that during this time the health education given to patients during hospitalization was not planned and documented because the planning was only oral. When the treatment such as

wound care and insulin injection care, nurses usually involves the patient and family to see, but very rarely demonstrated related to it, and health education related to such treatment is only given in patient discharge. Participant said the challenging aspect of health education is on the dietary aspects of patients with diabetes mellitus, dietary changes that include the number, type, and schedule greatly affect their lives during hospitalization, because diabetic patients always have difficulty in diet settings.

Many patient with diabetes mellitus are not ready to discharge because of anxiety for continuity of care, patients are unable to do self-care, so that extends the length of stay. The treatments require special skill such as insulin injection care, wound care or others often replaced by other alternative, but it occurs in patients who have low levels of understanding.

Third, the recommendations from participants are to improve health education planning format that contribute to discharge planning, improve collaboration with patients and multidisciplinary about discharge planning.

4 DISCUSSION

Discharge planning is not only important for patients with diabetes mellitus but for every patient treated with any disease. Ideally discharge planning was immediately provided on admission after patient selection and assessment. Participants said that during this time the nurses just provide discharge planning when patients are discharge though nurses have an important role in improving discharge planning, because nurses are directly involved with the patient during the treatment at the hospital. The result of this study is line with Graham et al. (2013) which says that maintaining effective discharge planning is not often performed by nurses. Discharge planning is provided at the beginning helps to prepare patients and families psychologically, socially, improve the independence of patients and increase continuity of care. Implementation of discharge planning can increase the satisfaction of patients and professionals as well as decrease the length of stay and readmission (Goncalves-Bradley et al., 2016).

Health education planning helps nurses focus on providing health education about the needs and information needed by patients. Education about diabetes self-management that includes insulin injections, wound care, diet settings can be given at the beginning, so that patients can manage themselves well. Health education provided requires good tools and discussion methods so that the information provided can be received well and easily by the patient. Patients who receive verbal information, with irregular sound tempo, are often unaware of the care. Patient experience is associated with patient attitudes and levels of involvement in preparation. Attitudes and levels of involvement were seen as related to one other, and patients are better prepared when involved in care (Keller et al., 2017).

The level of patient understanding of the information obtained, it should be evaluated to prevent anxiety. According Dutton et al. (2014) that patients with diabetes want to be involved in the discharge planning process, the participation of patients can improve treatment adherence and self-management, thereby contributing to more clinical outcomes. Increased knowledge in diabetic patients can cause patients to have a positive assessment of the cure of illness suffered (AF et al., 2017).

Patient involvement to generate a joint decision making between caregivers with family and patients in discharge planning is important, with the aim to assess patients' knowledge and past experience to be relevant educational choices to determine patient preferences (Sefcik et al., 2017). Improving the quality of discharge planning can be done with a multidisciplinary approach with clear roles among health care professionals, hospital discharge policies and performance review (Wong et al., 2011).

5 CONCLUSION

THE IMPLEMENTATION OF DISCHARGE PLANNING SHOULD BE STARTED IMMEDIATELY AT ADMISSION, AND IT MAY GIVE CONTRIBUTION TO PATIENT'S READINESS TO DISCHARGE. A SUGGESTIONS FROM THIS STUDY IS IMPORTANT TO CREATE HEALTH EDUCATION PLANNING FORM THAT HAS CONTRIBUTED TO DISCHARGE PLANNING

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EFFECT OF DIAPHRAGM BREATHING EXERCISE AND ELECTRIC FAN TO DYSPNEA, AND PULMONARY FUNCTION IN CLIENTS COPD; A Systematic Review

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Keywords: Keywords: chronic obstructive pulmonary disease, diaphragm breathing exercise, electric fan, dyspnea, pulmonary function

Abstract: Introduction: Dyspnea and decrease of lung function in COPD are a major problem. These things need intervention that aims to relieve these problems. This systematic review has the purpose to know some interventions included diaphragm breathing exercise and electric fan to improve of dyspnea and pulmonary function. **Methodology:** Information related to this research was found on some journal databases such as MEDLINE, PubMed, Ebsco, CINAHL, Elsevier, Science Direct, which is a respiratory journals and a collection of abstract research that was identified from 2010 until 2017. **Results:** diaphragm breathing exercise and electric fan was an effective therapy against a decrease in dyspnea and improvement of lung function. **Conclusion:** diaphragm breathing exercise and electric fan that in which will be applied in daily life activities of patients of COPD to resolve dyspnea and lung function.

1 INTRODUCTION

COPD became the 3rd leading cause of death in 2020, about 3 million deaths assigned by to COPD in 2012, an estimated 6% of all deaths worldwide in the year (GOLD 2017). Chronic obstructive pulmonary disease (COPD) is a respiratory disorder characterized by airflow limitation is progressive due to blockage of the airways, due to the blockage in the peripheral, then the volume of air can be trapped in the lungs called hyperinflation (Borge et al. 2014). This case is usually caused by client with COPD, including dyspnea and pulmonary function decline illustrated by a decrease in vital force expiration 1 (FEV1)..Worsening COPD is a major cause of morbidity and mortality globally (Morrow et al. 2012).

Dyspnea, or breathlessness is a subjective sensation of difficulty breathing and it can change the quality life of patients (Wong et al. 2016). Dyspnea is overcame in daily simple task such as walking in the road home, so paralyzing activity in COPD patients. Various non-pharmacological strategies can be used to treat shortness of breath, such as breathing exercises and the use of an electric fan (Luckett et al. 2017).

There are a number of published studies describing the use of diaphragmatic breathing exercises, including research Morrow et al. 2012 describes diaphragmatic breathing exercises can improve respiratory muscle activity but is not associated with dyspnea, while research Yamaguti et al. 2012 describes diaphragmatic breathing exercises can increase abdominal movement and improve

functional capacity. In addition to diaphragmatic breathing exercises, the authors propose is a non-pharmacological exercise that can be used patients of COPD to reduce shortness of breath by cold stimulation using an electric fan. The use of the electric fan to the patient with breathlessness supported by research Wong et al. 2016, describes an eclectic fan effective in reducing dyspnea. These findings are not replicated in a population of patients with COPD, although it seems reasonable to consider treatment of shortness of breath and reduced lung function of patients with COPD.

Diaphragm breathing exercise is one breathing technique, which aims to reduce dypsnea with increasing excursion diaphragm regulator process and it can improve muscle strength of the diaphragm that is the main muscle of breathing (Cahalin et al 2002 in Morrow et al., 2012). Electric fan can stimulate the trigeminal nerve for reducing the perception of dyspnea (Luh et al. 2017).

The aim of this paper is to systematically review the current empirical evidence for the use of the diaphragm breathing exercise and electric fan as management approach for COPD Patients.

2 METHODS

2.1 RESOURCES

Rresearch-related information is found on some journal databases such as MEDLINE, PubMed, Ebsco, CINAHL, Elsevier, Science Direct, which is a respiratory journals and a collection of abstract research that identified from 2010 until 2017. All reference list consists of original articles which also conducted a review to identify other relevant studies. All publications and abstracts of the english language which is also taken into consideration.

2.2 DATA EXTRACTION

The inclusion criteria were used as standard samples are:

Participants - study population included healthy adults, adults with known history of chronic obstructive airways disease or breathlessness, including patients described as having COPD, terminal cancer with breathlessness, emphysema, chronic bronchitis. There were no age restrictions.

Intervention-the study population received from of therapy non-pharmacology included diaphragm breathing exercise, fan electric to improve of dyspnea and pulmonary function.

Comparison-where there was a comparator, the diaphragm breathing exercise and fan electric intervention was compared against a control period, a sham technique or alternative interventions.

Outcome-measures e studies were included if they measured any lung function parameter, however the primary outcomes sought were performance based measures such as FEV1, FVC, and FEV1/FVC. Patient reported measures, such as breathlessness were also recorded. Short and long term follow up periods were considered in light of the scoping search.

Study designs-the ideal study design would have been the randomised controlled trial (RCT), but a scoping review of the literature suggested limited data available therefore we also included quasi experimental studies; non-randomised controlled trials, study qualitative, and before-and-after studies.

3 RESULT

3.1 EFFECT OF DIAPHRAGM BREATHING ON DYSPNEA OR BREATHLESSNESS

DIAPHRAGM BREATHING CAN REDUCE DYSPNEA AFTER 4 WEEKS WAS OBSERVED BY A 10-POINT REDUCTION IN TOTAL ST. GEORGE'S RESPIRATORY QUESTIONNAIRE SCORE ($F = 9.7$; $P<0.001$) AND TOTAL MMRC DYSPNEA SCALE ($F = 5.1$; $P<0.03$) (YAMAGUTI ET AL. 2012). HOWEVER, NO SIGNIFICANT CHANGES TO THE PARAMETER IN THE BORG DYSPNEA SCALE OF PERCEIVED DYSPNEA ($P= 0.1$) (MORROW ET AL. 2012). THIS DIFFERENCE SHOWED, MAYBE BECAUSE OF THE SUBJECTIVE OF DYSPNEA PARAMETERS, POTENTIAL PROBLEMS IN UNDERSTANDING THE SCALE OF THE ELEMENTS, DIFFERENCES IN IMPLEMENTATION AND TRAINING OF DIAPHRAGMATIC BREATHING (CAHALIN ET AL 2002; MORROW ET AL. 2012).

3.2 EFFECT OF DIAPHRAGM BREATHING ON PULMONARY FUNCTION

DIAPHRAGMATIC BREATHING WAS AN EFFECTIVE THERAPY TO IMPROVE PULMONARY FUNCTION, THERE ARE SOME STUDIES THAT SUPPORT THESE RESULTS, AMONG OTHER RESEARCH THAT WAS DONE IN COPD PATIENTS THERE ARE A DIFFERENCE IN VALUE BETWEEN THE INTERVENTION GROUP THAN THE CONTROL GROUP (FEV1 WITH F= 0:28; P= 0.60, FVC WITH F= 0:21; P= 0.65, AND FEV1/ FVC WITH F= 1.86; P =0.18) (YAMAGUTI ET AL. 2012). ANOTHER STUDY CONDUCTED IN HEALTHY ADULTS ALSO SHOWED INCREASES IN PULMONARY FUNCTION THAT DIAPHRAGMATIC STRETCHING SHOWED A SIGNIFICANT IMPROVEMENT IN FVC (P = 0.006) AND FEV (P= 0.042) (VALENZA ET AL. 2015). RESEARCH CONDUCTED ON SHOWED SIGNIFICANT STUDENT INCREASES IN BOTH FVC AND FEV1. IN THE COMPARISON OF FVC AND FEV1 BEFORE AND AFTER. DIFFERENCE BETWEEN PRE-TEST AND POST-TEST IN THE EXPERIMENTAL GROUP, THE MEAN FEV1= 0.15 AND THE MEAN FVC = 0.18. (KIM & LEE 2013). THE SAME THING, STUDIES IN NORMAL ADULTS SHOWED SIGNIFICANT DIFFERENCE IN FEV1 AND FVC REVIEWS THOSE OF BEFORE AND AFTER THE DIAPHRAGM BREATHING EXERCISE (LEE ET AL. 2017). MEASURING INSTRUMENT USED TO MEASURE PULMONARY FUNCTION IN THESE STUDIES IS SPIROMETRY. THE CONCLUSION THAT THE DIAPHRAGM BREATHING EXERCISE IN COPD PATIENTS, NORMAL HEALTHY ADULTS OR ADULTS AND STUDENTS CAN IMPROVE PULMONARY FUNCTION.

3.3 EFFECT OF ELECTRIC FAN ON DYSPNEA OR BREATHLESSNESS

ELECTRIC FAN OR HAND-HELD FAN COULD REDUCE DYSPNEA OR BREATHLESSNESS ON RESPONDENTS. THERE ARE DIFFERENT CHARACTERISTICS OF RESPONDENTS, THE RESEARCH IN CHINESE PATIENTS WITH TERMINAL CANCER, THEY WERE USE OF ELECTRIC FAN COULD BE EFFECTIVE IN ALLEVIATING DYSPNEA. THIS RESEARCH SHOWED SIGNIFICANT DIFFERENCE IN THE NRS SCORES OF THE EXPERIMENTAL GROUP (P <0.01), INDICATING A SIGNIFICANT REDUCTION IN THE PATIENTS' SENSATION OF BREATHLESSNESS AFTER FAN THERAPY (WONG ET AL. 2016). ANOTHER STUDY CONDUCTED IN CHRONIC REFRACTORY BREATHLESSNESS PATIENTS USE ELECTRIC FAN COULD REDUCTION IN BREATHLESSNESS RELATIVE TO THE MEAN BASELINE SCORES FOR THE SAMPLE WAS 27% FOR THE VISUAL ANALOG SCALE (VAS) AND 19% FOR THE NUMERICAL RATING SCALE (NRS) (BOOTH ET AL. 2016). THE STUDY SUPPORTS THE HYPOTHESIS THAT A HANDHELD FAN DIRECTED TO THE FACE REDUCES THE SENSATION OF BREATHLESSNESS. THERE WAS A SIGNIFICANT DIFFERENCE IN THE VAS SCORES BETWEEN BEFORE AND AFTER THERAPY, WITH A REDUCTION IN BREATHLESSNESS WHEN THE FAN WAS DIRECTED TO THE FACE (P= 0.003) (GALBRAITH ET AL. 2010). FINDINGS SUGGEST THAT A HAND-HELD FAN IS A PORTABLE INTERVENTION WITH FEW DISADVANTAGES FROM THE WHICH MOST PATIENTS WITH CHRONIC BREATHLESSNESS WILL DERIVE BENEFIT ALONGSIDE OTHER NON-PHARMACOLOGICAL AND PHARMACOLOGICAL STRATEGIES (LUCKETT ET AL. 2017).

4 DISCUSSION

DIAPHRAGM BREATHING EXERCISE CAN INCREASE ABDOMINAL MOVEMENT WHEN NATURAL BREATHING, SO AS TO IMPROVE THE FUNCTIONAL CAPACITY (YAMAGUTI ET AL., 2012). DIAPHRAGM BREATHING EXERCISE CAN INCREASE MUSCLE STRENGTH OF THE DIAPHRAGM IS THE MAIN MUSCLE OF BREATHING AND THORACIC SERVES AS THE BOTTOM EDGE. CONTRACTION OF THE DIAPHRAGM MUSCLE PULL DOWN, INCREASING THE SPACE ON THORACIC AND ACTIVELY DEVELOP LUNG (BLACK & HAWKS 2014). WHEN THE MUSCLE WORK DIAPHRAGM CAN BE MAXIMIZED THEN THE CLIENT CAN TAKE DEEPER BREATHS AND MORE EFFECTIVE SO THAT IT CAN MAINTAIN LUNG EXPANSION (LUH ET AL. 2017).

OTHER THERAPIES THAT ARE EFFECTIVE AGAINST FOR DYSPNEA OR BREATHLESSNESS IS ELECTRIC FAN OR HAND-HELD FAN. RESULTS RESEARCH IN

WONG ET AL., (2016) ABOUT THE EFFECT OF FLECTRIC FAN ON DYSPNEA IN CHINESE ON THE CLIENT TERMINAL CANCER SHOWS THAT THE COLD AIR FROM THE FAN CAN REDUCE DYSPNEA AND IT IS FOR THERAPY NON-PHARMACOLOGICAL. COLD STIMULUS IS THEN RELAYED TO FOLLOW THE PATH OF THE TRIGEMINAL NERVE TO THE BRAINSTEM AND THALAMUS TO PROCEED TO THE SOMATOSENSORY CORTEX. SOMATOSENSORY CORTEX IS ONE PART OF THE CORTEX THAT FEEL THE SENSATION OF DYSPNEA. THE STIMULATION IS CHANGING THE FEEDBACK FROM RE-AFFERENT IMPULSES TO THE SOMATOSENSORY CORTEX AND MODIFY THE PERCEPTION OF DYSPNEA (LUH ET AL. 2017).

THE TECHNIQUE BREATHING EXERCISES IS KNOWN THAT ARE MOST EFFECTIVE WHEN IMPLEMENTED FOR 4 TO 12 WEEKS, 2 TO 5 TIMES PER WEEK, WITH EACH SESSION LASTING NO MORE THAN 20 TO 30 MINUTES. CONSIDERING THIS, THE SELECTED DURATION TIME IS 30 MINUTES 3 TIMES A WEEK FOR 4 WEEKS (SEO ET AL. 2015)

5 CONCLUSION

DIAPHRAGM BREATHING EXERCISE AND ELECTRIC FAN WAS AN EFFECTIVE THERAPY AGAINST A DECREASE IN DYSPNEA AND IMPROVEMENT OF LUNG FUNCTION. DIAPHRAGM BREATHING EXERCISE AND ELECTRIC FAN THAT IN WHICH WILL BE APPLIED IN DAILY LIFE ACTIVITIES, THIS THERAPY IS RECOMMENDED AS THE PRIMARY NON-PHARMACOLOGICAL TREATMENT FOR COPD PATIENTS WHO EXPERIENCE DYSPNEA ON EXERTION.

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Factors that Affect the Cognitive Function in Elderly at Jetak Public Health Center of Tuban Regency

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Keywords: Cognitive Function, Elderly, MMSE

Abstract: **Background:** The aging process causes various health problems due to elderly physiological changes, one of which is the decline in cognitive function. This problem can disrupt the lives and social activities of the elderly. In general, the decline in cognitive function is influenced by several factors, such as sex, age, education level, family, occupation, sleep patterns, reading habits, smoking, coffee and alcohol consumption. **Method:** type of research using quantitative research with cross sectional descriptive design. Sampling with probability sampling simple random sampling. The sample of this study was 175 elderly in Jetak Public Health Center, Tuban Regency. This study uses a mini mental state examination questionnaire (MMSE) for cognitive function. This research was conducted in November 2017. **Results:** This study showed that 53.9% of respondents experienced a decrease in cognitive function, 60.4% of them aged between 75-90 years, and 68.4% low education level, 32.4% less attention from family, 23.7% elderly do not have work at home. **Conclusion:** Most of elderly Jetak Public Health Center of Tuban Regency have decreased cognitive function. The highest age of the elderly who suffers from cognitive impairment is 75-90 years of age, and lacks attention from the family, low education and no home work

1 INTRODUCTION

Aging process is a process of losing the ability of tissues to repair themselves and maintain the normal functioning of organs that result in changes in humans. Changes in the function of organs and systems of the body is a change that occurs in a person, thus affecting the decline in physical ability, mental, social, spiritual, intellectual and memory (memory). One of the effects of decreased organ function is the decrease in brain function caused by brain atrophy, which can lead to interference with cognitive function (Nugroho, 2008).

According to The National Old People's Welfare Council in England, diseases or common disorders in the elderly one is the decline in cognitive function. Decreased cognitive function is a cognitive decline that can interfere with daily living activities and social activities. Decreased cognitive function usually begins with a setback of memory or memory or commonly often referred to as forgetful (Beard, 2012).

Data from the World Health Organization and the Alzheimer's Disease International Organization report the total number of people with cognitive decline worldwide by 2015 is estimated at 47.5 million and 22 million of whom are in Asia. The total number of new cognitive impairment cases each year worldwide is nearly 7.7 million, meaning that every 4 seconds there is a new case of cognitive decline. The number of people with cognitive impairment is estimated to increase to 75.6 million by 2030 and 135.5 million by 2050 (Grispenjas, 2008).

Based on data from Ministry of Health RI (2013), prevalence of incidence of cognitive function decline in Indonesia until now there is no official data, but estimated from 220 million or 100% of the population found about 2.2 million or 1% of cognitive function decline in 2005 and to 165 million or 75% of patients in 2050. In general, the prevalence of cognitive decline in Alzheimer's function by 3-10% at age 60 and above, and around 25-50% at age 85 and above. the biggest health problems of elderly are degenerative diseases. Degenerative diseases in the elderly one of them is the decline in cognitive function. Cognitive function is a mental process in acquiring knowledge or ability and intelligence, which includes thinking, memory,

understanding, planning, and execution (Depkes RI, 2013).

According to the Tuban Health Office (2017), people with cognitive impairment in Tuban accounted for 20% of the elderly population of 139,815 and in Jetak - Tuban Public Health Center by 175 elderly. Preliminary data obtained from Elderly Posyandu Puskesmas Jetak on 10 randomly assigned elderly people, decreased cognitive function, with the result of 2 elderly having severe cognitive decline with score between 0-16 which marked by not able to spell the word "WORLD" from behind and remembering by recalling the names of the three objects mentioned by the researcher ", while the 5 elderly have a moderate memory decline with a score between 17-23 marked by not being able to" take one paper with the right hand, then fold it 2 and place it on the floor " , and 3 elderly have mild cognitive impairment with scores between 24-29 marked by not being able to repeat the word "none if, and, or but". This decrease in cognitive ability that makes elderly tend to withdraw, because often forget the other elderly name, so that elderly experience change in fulfill socialization requirement with environment and others.

Impaired cognitive functioning involves at least two of the following five domains: (a) Disruption of the ability to acquire and recall new information. Emerging symptoms include repeated questions or conversations, errors in admitting ownership of goods, forgetting a celebration or a promise, and getting lost in places that were previously passed. (b) Disorders in understanding and performing complex tasks, making mistakes in making decisions. Symptoms that arise include difficulties in understanding a risk, difficulty in managing finances, poor ability to make decisions, and difficulty in planning complex and sustainable activities. (c) Impairments in visual-spatial ability. Symptoms that appear such as the inability to recognize a common face or object or difficulty in using clothes. (d) Disorders in language functions, such as speaking, reading, writing. Symptoms that follow, among others, difficulty in thinking common words while talking, mistakes in speaking, spelling and writing. (e) Personality changes, emerging symptoms such as reduced motivation and initiative, increased apathy, desire to withdraw from social life, decreased interest in previously favored activities, diminished empathy, and compulsive obsessions (Chertkow et al., 2013).

Age is the most important risk factor in the course of dementia. An epidemiological study showed that 1 in 12 people over the age of 65 and 1 in 3 people over the age of 90 had dementia. In addition to age, other factors also affect the incidence and prevalence of dementia. These factors include: age, education level, family, occupation.

Mini-Mental State Examination (MMSE) is widely used as a standard gauge. MMSE has been widely used in many countries and has been translated into various languages including Indonesian. MMSE is used to assess cognitive function in clinical practice or research. MMSE assesses orientation, attention and calculation, short and medium term memory, language and ability to complete simple verbal and written instructions and visual constructions. MMSE has a maximum score of 30 with normal interpretation, severe cognitive decline with a score between 0-16, a moderate memory decline with a score between 17-23, and mild cognitive impairment with a score between 24-29 (Kushariyadi, 2010).

Based on the description above, the authors feel the need to do a study on the image of elderly cognitive status in the work area of Public Health Center Jetak Tuban Regency. It is expected that the results of this study can be beneficial to the Health Office and related agencies in for the improvement, planning and implementation of elderly health programs.

2 METHODS

This research uses descriptive research design that is a way to describe the event as it is without manipulation that is more emphasis on data factual not conclusion, so this research does not require hypothesis. The approach in this research is survey which is a research design to provide information related to prevalence, distribution, and relationship between variables in a population with the advantage is able to capture the respondents with large scale (Nursalam, 2014).

The population in this study were elderly who decreased cognitive function in Public Health Center Jetak of Tuban Regency of 175 elderly. Sampling in this research is done by probability sampling method through Simple random sampling technique. The variables in this study consisted of age, education, occupation, family.

This instrument is used to measure the characteristics of respondents such as age, gender, education, knowledge, occupation, relationship with patient, marital status, length of stay, previous experience, residence, family income, family type.

The questionnaire is prepared with open and closed questions.

Mini Mental State Exam or MMSE is a simple assessment instrument used to determine a person's ability to think or test aspects of cognitive. Assessment of MMSE results if a score of 30 points of elderly is considered normal, values 24-29 elderly have decreased mild cognitive function, the value of 17-23 decreased moderate cognitive function and the value of 16 points or below, then the elderly decreased severe cognitive function. Examination of cognitive function using MMSE has 80% sensitivity and 90% specificity to diagnose decreased cognitive function. (Nugroho, 2008).

This research will be conducted at Public Health Center Jetak, Tuban Regency. The research time starts from the preparation of the proposal in September and the research plan in November - December 2017.

3 RESULTS

Based on the characteristics or frequency of respondents taken by researchers through inclusion criteria at Jetak Public Health Center, Tuban Regency.

Table 1 Distributed frequency of respondents by age

Age (th)	Frequency	Percentage (%)
60-74	99	56.6 %
75-90	65	37.1 %
> 90	11	6.3 %
Total	175	100 %

Obtained table 1 based on the frequency of respondents by age 60-74 years of 56.6%. Age 60-74 years of 56.6% and age above 90 years, amounting to 6.3%.

Table 2 Distributed frequency of respondents by sex

Sex	Frequency	Percentage (%)
Man	72	40.1 %
Woman	103	59.9 %
Total	175	100 %

Table 2 is based on the frequency of respondents by sex Male of 40.1% and Women of 59.9%.

Table 3 Distributed frequency of respondents by level of education

Education	Frequency	Percentage (%)
TS	38	21.7 %
SD	79	45.2 %
SMP	30	17.1 %
SMA	26	14.9 %
PT	2	1.1 %
Total	175	100 %

Table 3 is based on the frequency of respondents by non-school education level 21.7%, primary school 45.2%, junior 17.1%, high school 14.9% and college of 1.1%.

Table 4 Distributed frequency of cognitive function decline

Cognitive function	Frequency	Percentage (%)
Normal	45	25.6 %
Light	60	34.1 %
Medium	56	32.2 %
Weight	14	8.1 %
Total	175	100 %

Table 4 is decreased cognitive function in the elderly is caused by various risk factors, such as age, education level, family factor, and occupation or activity at home which is lived by the respondent. Based on the frequency distribution of cognitive function decline as much as 175 respondents, obtained 45 respondents with normal cognitive function, 60 respondents with mild cognitive function decline, 56 respondents with decreased moderate cognitive function, and 14 respondents with severe cognitive function decline.

Table 5 Results cross tabulation of age variables with MMSE

Age (th)	Normal	Light	Medium	Weight	Total
60-74	58,5	20.3	17.3	3.9	100
75-90	39.6	9.3	42.5	8.6	100
> 90	0	0	0	2,5	100

Total	45	60	56	14	100

Table 5 is the result of cross tabulation between age variable and MMSE result, it was found that respondents aged 60-74 years, showed normal result on MMSE 58,5%, while age 75-90 years as much as 42.5% showed the decrease of moderate cognitive function with MMSE score between 17-23. At the age of 90 and over, the MMSE results showed 2.5% had a score of 0-16 is severe cognitive function decline.

Table 6 Results cross-tabulation of education level variables with MMSE

Education	Normal	Light	Medium	Weight	Total
TS	15.4	19,1	35,5	30,0	100
SD	17.9	23.3	32.9	25,9	100
SMP	47.4	22.6	19.9	10.1	100
SMA	69,7	20.9	6.95	2.5	100
PT	0	0	0	0	0
Total	45	60	56	14	100

Table 6 is based on cross tabulation result between education level variable and MMSE result, it showed that respondent who did not attended elementary school or not attended school as much as 84.6% showed total accumulation result of mild, moderate and severe cognitive impairment, whereas respondent with high school education level have normal cognitive function level reached 69.7%.

Table 7 Results cross-tabulation of family variables with MMSE

Family	Normal	Light	Medium	Weight	Total
Care	70.9	13.8	10.5	4,8	100
Not Care	52.4	16.7	18,4	12.5	100
Total	45	60	56	14	100

Table 7 is respondent receiving care from the family showed a MMSE score of 30 with normal cognitive function of 70.9%, and poorly maintained respondents by the family getting 47% results in decreased cognitive function.

Table 8 Results cross-tabulation of work variables with MMSE

Pekerjaan	Normal	Light	Medium	Weight	Total
TB	10.9	26.4	44.8	17,9	100
Employee	0	0	0	0	0
Private	34.5	36.4	17.3	11.8	100
Farmers	32.2	37.9	17.8	12.1	100
Total	45	60	56	14	100

Table 8 is respondent who had activities or work at home showed 66.7% results with normal cognitive function in MMSE, whereas respondents who did not have work or home activities obtained 89.1% result showed mild, moderate and severe cognitive function decline.

4 DISCUSSION

The study showed that 53.9% of the total respondents experienced cognitive decline, with 60.4% of them aged between 75-90 years, 68.4% low education level, 32.4% family factors lacking attention to the elderly, and 23 , 7% of elderly factors that do not have work at home. The population in this study amounted to 175 elderly, all of whom entered into inclusion criteria so that all samples can be respondents. In this study, most elderly people who come to Public Health Center Jetak Tuban Regency are female, that is 59,9%, while elderly with male gender is 40,1%, this is supported in research conducted by Fadhia (2012) , where the characteristics of female respondents more than men, during the study of cognitive function decline.

The age grouping of the elderly in this study was divided into 3, aged 60-74 years old, old age 75-90 years old and very old age above 90 years, where most age group is 60-74 as many as 99 people or 56.6%, it is emphasized by Gripenjas (2008), that the prevalence of cognitive impairment including dementia increases with age, less than 3% occur in the 65-75 age group and more than 25% occur in the age group of 85 and above (WHO, 1998). The results of a study conducted in 1998 suggest that approximately 5% of the elderly aged 65-70 years will suffer from dementia and doubled every 5 years to over 45% at age over 85 years.

The various studies that have been carried out previously by (Hsieh et al., 2017), (Mkenda et al., 2016) and (Nakamae et al., 2014) suggest several factors that influence cognitive status decline in the elderly, one of which is age. This study showed that elderly people aged over 90 years all experienced severe cognitive impairment. While aged 75-90 years, about 60.4% experienced mild, moderate or

severe cognitive impairment. This result is in accordance with research (Wang, Yen and OuYang, 2009) which shows the increasing age of the elderly cognitive function is reduced. Research conducted in the United States, showed respondents aged over 65 years have a tendency to decrease cognitive function, especially in memory domain. Increasing age will be followed by changes and decreased anatomical functions, such as increasingly shrinking the brain, and biochemical changes in the system central nervous system, which in itself can lead to decreased cognitive function (Beard, R. L, 2012).

Based on the level of education, this study grouped them into non-school, graduated from elementary, junior high, and senior high school and universities with the highest number are elderly who graduated elementary school as much as 79 or 45.2%. The results of this study are similar to the research conducted in New Delhi in 2014 by Kaur J et al., namely the decrease in cognitive function related to the level of education with p <= 0.005.13 The results of this study prove that respondents with education level more than nine years, have MMSE results classified as normal. According to Fadhia (2012), with a higher level of education then a person is more likely to perform better health maintenance, so that will be able to maintain his life longer.

Based on support from the family showing a MMSE score of 30 with a normal cognitive function of 70.9%, and respondents who were not well supported by the family getting 47% results in decreased cognitive function. This has been proven by several studies that social or family support is very important in the life of the elderly living in a community and several studies have provided evidence of a relationship of social support and cognitive function.

A study conducted by Yeh, Liu and Jimmy (2003) on 4,993 elderly people in Kaohsiung, China mentioned that social support had a significant effect on elderly cognitive function. Another study conducted by Zhu, Hu, and Efird (2012) in China in 120 elderly people mentioned that received social support can prevent the decline in cognitive function. Support can be provided by family members, places of worship, friends, neighbors, and others. Someone needs someone else to look away, vent, and always have during healthy and sick (Meiner, 2011). Social support has been shown to be an important protective factor in maintaining elderly cognitive function.

Result of analysis of relationship between level of physical activity with elderly cognitive function obtained that respondent with high level of physical activity have normal cognitive function. Statistical test results obtained p value = 0.000 then it can be concluded there is relationship between level of physical activity with cognitive function. Other studies supporting this research were conducted by Clouston, et al., (2013) which states that there is a relationship between the level of physical activity and cognitive function in the elderly. In addition, Auyeung, et al., (2008) states that a person who lacks physical activity and muscle strength will usually experience impaired cognitive function.

According to Jones and Rose (2005) by conducting short-term physical activity programs such as physical exercise can bring meaningful improvement in the performance of elderly cognitive function. In addition, by doing physical activity on a regular basis and periodically including walking will make the cognitive function better. This is because physical activity can maintain optimal blood flow and deliver nutrients to the brain. If the elderly does not perform physical activity on a regular basis then the blood flow to the brain decreases, and will cause the brain lack of oxygen. (Weuve, et al., 2004)

5 CONCLUSION

Most of the elderly in Public Health Center Jetak of Tuban Regency have decreased cognitive function. Where the highest age of the elderly who experienced a decline in cognitive function is age 75-90 years and elderly women, and who have low levels of education.

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PATIENT BETWEEN SATISFACTION RELATED WITH PATIENT LOYALTY

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Keywords: Satisfaction, Loyalty, Patient.

Abstract: **Introduction:** The rapid development of world business makes hospitals as health service providers are required to improve their quality. Assessment of patient to hospital quality is a reference to improve service so make patient satisfaction grow and make patient become loyal. Patient loyalty is one of the key to the hospital can continue to compete in the era which business competition is getting tougher. This study aims to determine the relationship between patient satisfaction and patient loyalty in the hospital. **Method:** This research uses systematic review research design . The literature used in this research is the journal and scientific articles published by ProQuest, Scopus, Science Direct, Google Scholar , Airlangga University Journal 2010-2018 publication with selected keywords and analyzed using Critical Appraisal Skills Program (CASP). There are fifteen journals and scientific articles reviewed in this systematic review. **Result:** Most of the literature in this study show that the patient's satisfaction is significantly related to patient loyalty (87%). The episodes of these patients are seen from several aspects medical clinic environment, medical supervision, nursing staff, doctors, treatment effectiveness , service quality . A small literature (13%) states satisfaction does not determine patient loyalty to the hospital. **Conclusion:** Most of the literature in this study shows there is a relationship between satisfaction with patient loyalty.

1 INTRODUCTION

Hospitals are the largest and most complex provider of health care providers among other healthcare providers. The hospital with all the services and facilities is a warm discussion nowadays, where everything that the hospital provides to its patients will create its own impression on each patient, all services and facilities provided by the hospital will gather into a unity that can lead to patient satisfaction. Seeing the increasingly competitive market developments in hospitals makes management or hospital managers have to think extra and work hard so that hospitals can exist and superior in the competition these days. The memorable and unforgettable experience that hospitals provide to their patients, both directly and indirectly will have a positive impact, therefore a service must satisfy patients to keep patients loyal to use the services.

Patient satisfaction according to (Kotler & Keller 2009) is the level of one's feelings after comparing the performance (or results) that he felt compared with expectations. According to (Azrul Azwar 2010) the criteria of quality health services refers to the application of standards and professional codes of good proficiency, which basically includes assessments of patient satisfaction regarding: physician-patients (doctor patient relationship), comfortable health service (amenities), freedom to choice, knowledge and technical skills (scientific knowledge and technical skill), effectiveness of service, security actions (safety).

Consumer reaction to bad service can be seen from two things, it is loyal or moving to another service provider (Atmaja 2008) various studies are mentioned Hospital as a health care provider has characteristics as a service organization with a low level of trust that generally the quality of service difficult to prove until patients visit and get the service of the hospital. Moreover, the quality of service delivery to customers may be different every time they return to a particular hospital,

affecting satisfaction and loyalty. One possible cause of the decline in loyalty is that patients who have been treated feel less satisfied then decided not to use the services again for both themselves and their families or they also complained dissatisfaction to others who ultimately build perception of others to the service (Laksono 2008). Customers who are satisfied with the goods or the quality of services provided, it will lead to customer loyalty so that increased customer buying interest and make customers loyal to the company. The decrease in the number of customer occurred due to move to competitor company (Akbar & Parvez 2009). Customer loyalty largely determines whether a customer will return or not and whether they will recommend to others to use it or not.

Based on the description above, the quality of service is the most important factor to form customer or patient trust to health service so as to create their loyalty (Azrul Azwar 2010). Mentioned in a journal entitled " *Towards an understanding of the patient satisfaction in the Military Health System* " by (Alan 2015) mentions that There is a positive and significant about relationship between patient experience and patient satisfaction, patient satisfaction and patient confidence, and patient confidence with patient loyalty. In other journals it is also mentioned that patient satisfaction is directly related to patient loyalty (*Appalaya Meesala* 2016). So in this systematic review the author will explain relationship between satisfaction with patient loyalty.

2 METHOD

This research uses *systematic review* research design. The literature search for this research is to search journal and scientific research articles published by *ProQuest, Scopus, Science Direct, Google Scholar*, Airlangga University Journal with selected keywords. Articles that match the keywords are analyzed for quality. The literature search is limited to the 2009 issue -2018 which can be accessed fulltext in pdf format.

Method of study of research article quality using *Critical Appraisal Skills Program* (CASP). The data of the analyzed findings were extracted and synthesized to achieve the research objectives. Based on the assessment, the articles that can be extracted are 15 articles that appropriate to the research objectives and meet the desired quality.

3 RESULTS

From 15 articles were selected, research conducted in the United Kingdom, Portugal, Iran, Indonesia, South Korea, India, USA, Taiwan, and Yemen. Most of the articles use quantitative research methods with cross- sectional research approach (n = 13), and others use qualitative methods (n = 2). Articles reviewed are articles published in 2010 - 2018. All samples used are patient users of health services such as public hospitals, private hospitals and health clinics.

Most of the results show that patient satisfaction has a relationship with patient loyalty to a health care provider. Research conducted by (Kondasani & Rajeev 2015) at a private hospital in India. This research tries to find the relationship of several variables such as loyalty with health staff communication, loyalty with hospital physical environment, and patient loyalty with hospital staff responsiveness and patient satisfaction with patient loyalty. Among these variables, the positive and most significant relationship is between patient satisfaction and patient loyalty.

Research conducted by Kim (Kim et al. 2017) in South Korea explains that patient satisfaction is strongly influenced by the effectiveness of therapy obtained by patients, and it will greatly affect the patient's desire to return to a health service. Research conducted by (Minseong et al 2017) in the same country also shows that patient's satisfaction level in medical clinic have positive effect on patient's loyalty (t value: 7,527, p <0,1).

Research in the United States conducted by (Meesala & Justin (2017) shows that patient satisfaction directly affect patient loyalty. Reliability and responsiveness of health care providers to be factors that affect patient satisfaction. Furthermore this study also explained that female patients provide satisfaction higher than male patients and contribute greater loyalty.

In other studies (Akbar & Noorjahan 2009); (A nbori et al. 2010); (Astuti & Keisuke 2014); (Zarei et, al 2013); (Moreira & Pedro 2015) explains that patient satisfaction relates to patient loyalty. Patient satisfaction is a variable that mediates the quality of health services with patient loyalty. Patients who assessed the positive quality of service received will have a positive impact on patient satisfaction and loyalty.

Also according to (Juhana et al. 2015) brand image of health care providers is also a positive impact on patient satisfaction. According to (Chang 2013) in research exposes except patient satisfaction, patient experience in participation in decision making for the treatment and diagnosis of patients also affect patient loyalty to a health care provider. According to (Zarei 2013) patient loyalty is strongly influenced also by the trust of patients, and the trust can be obtained if patients get satisfaction on the service their received.

A small number of articles in this study (n = 3) showed different results where patient satisfaction did not affect patient loyalty to health care providers. Research conducted by (Sumaedi et al. 2014) in Bekasi shows that patient satisfaction does not affect patient loyalty. Only patient confidence can improve patient loyalty. Research conducted by (Patawayati et, al. 2013) also shows the same thing, patient loyalty is not determined by patient satisfaction. Patient loyalty is strongly influenced by patient trust and patient commitment to health care. Both of these factors (patient trust and commitment) can be a mediator that linked to patient satisfaction and patient loyalty.

The results of the study (Hu et, al. 2011) conducted in Taiwan found that patient loyalty was strongly influenced by hospital barriers in preventing patients from moving to other hospitals. The barrier can be a comfort or a certain factor. Patients in Taiwan tend to choose hospitals based on locations close to their homes as well as the presence of increasingly difficult parking locations in Taiwan. Patient satisfaction has no significant effect in shaping patient loyalty. Furthermore, Hu explained that loyal customers are not necessarily satisfied customers, but satisfied customers tend to be loyal customers.

4 DISCUSSION

Most articles and journals five of fifteen indicating that there is a relationship of satisfaction with patient loyalty. Five of the fifteen articles and journals show that other factors related to patient loyalty in addition to satisfaction include trust, patient commitment, patient participation in the diagnostic process, and patient participation in decision making in the treatment and positive emotions of the patient. Five of the fifteen articles and other journals show the result that satisfaction is statistically unrelated to patient loyalty.

5 CONCLUSION

Strasser in (Supriyanto & Ernawaty 2010) defines that patient satisfaction as the patient's assessment and subsequent reactions to stimuli obtained in the health care environment before, during, and after outpatients and inpatient services. It is influenced by the character of the patient's disposition and the patient's experience of health exposure. According to (Gesperz 2013) measurement of satisfaction is to use items or multiple indicators (more than one item) so that the cause of dissatisfaction or satisfaction can be used as information. There is a significant relationship between satisfaction with loyalty, patients who are satisfied with the goods or the quality of services provided, it will lead to patient loyalty so that the patient's back interest increases and makes the patient loyal to the hospital. The loyalty of patients according to Parasuraman in (Etta Mamang Sangadji & Sopiah 2013) is a response that is closely related to a pledge to build the commitment underlying the continuity of the relationship and is usually reflected in the continuing buyer of the same service provider on the basis of dedication and pragmatic constraints. Patient loyality is something that is formed from various stages of learning gained by patients in the exchange that occurs between the patient and providers of products or services (Tjiptono & Chandra 2011). The statement is also supported by the statement (Hernie Justiana & Keisuke Justiana 2010) in Patient satisfaction and loyalty to the private hospitals in Sana'a, Yemen which mentions that there is a relationship between patient satisfaction and patient loyalty .

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Effect of Health Education Methods Against sorogan Intention In the Theory of Planned Behavior In Santri Nurul Jadid

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Keywords: Sorogan method, Intentions, Theory of Planned bahavior, Pupils, Nurul Jadid

Abstract: **Introduction:** Handwashing is the first indicator in the fulfillment of a clean and healthy living behavior in educational institutions. Nurul Jadid are educational institutions that require students to stay in the lodge. Many health problems suffered by Nurul Jadid boarding school students peyakit transmitted mainly caused by hand hygiene were not as good as diarrhea, respiratory tract infections, typhoid and recorded in 2015, there were 85 students Nurul Jadid suffering from hepatitis A. This study will examine the effect health promotion using the classic learning method pesantren (sorogan) about handwashing with soap on the intention in the theory of planned behavior on jadid nurul boarding school students to wash their hands with soap. **Methods and analysis:** Research conducted on adolescent boarding students Nurul jadid 8th grade junior high school living in a dorm. Obtained 54 students and was taken by total sampling. Health education be carried out using manual methods sorogan. The results of the research will be processed using the t test. **Discussion:** After doing research, obtained the degree of significance is 0.00 or less than 0.05, then there is the effect of health promotion sorogan method of hand washing with soap to the intentions in the theory of planned behavior in students Nurul Jadid.

1 BACKGROUND

The first indicator in the successful implementation of PHBs in educational institutions are able to practice the behavior of washing hands with soap for early prevention of entry of the disease (MOH, 2011), Handwashing with soap would encourage someone to do the healthy lifestyle behaviors other to make PHBs.

Wash hands with soap (CTPS) can reduce the incidence of disease cause of death, such as diarrhea (45%), ISPA and Avian Influenza (50%)(MoH RI, 2011),

Boarding is identical to the simple life and the limited access to the outside world (Hidayat, 2012), This makes the knowledge about health and hygiene behaviors are difficult to access by students. Pupils acquire knowledge of clerics, religious teacher / administrators and fellow students which resulted in acceptance of knowledge about the health of outsiders they perceive not part of students difficult to accept. One of the methods to increase knowledge of students of clerics and religious teacher / caretaker is sorogan method. This method is used to study the book individually to come to clerics or religious scholars maid in turns to read, explain and memorize the previous lesson(Aly, 2011),

The visit report students with infectious diseases in the clinic Az-Zainiyah Nurul Jadid during 2017 was 655 cases of acute respiratory infection, diarrhea thypus 325 cases and 95 cases. PKM Paiton report any extraordinary events (KLB) in 2015, namely 82 students contracted the Hepatitis A virus that penularnnya through the fecal oral route. This happens because the students have a clean and healthy living behavior are poor due to lack of knowledge.

To increase knowledge and change intention (intention) of students towards handwashing with soap positive, in this study used information delivery method which has been used by schools. Sorogan method is classical teaching methods schools used to study the book individually to come to clerics or religious scholars maid in turns to read, explain and memorize the previous lesson(Aly, 2011),

2 METHOD

This study uses a quantitative approach to the design of pre and post. Nurul pesanten population cottage jadid students is 8657 students. The sample in this study using total sampling of students who study in 8th grade formal basic education. Pupils respondents were also in the same dorm, so we get 54 students as respondents.

Data from this study obtained from the initial data entry and questionnaire intention of TPB. After that, the provision of health education about Handwashing with Soap (CTPS) with sorogan delivery methods. Submission of material is done for three meetings and a meeting of 20 minutes. Recently conducted post test to determine the intention of students after health education.

Comparison of data beginning and end of the study using t-test.

3 RESULT

From this study:

Table 1: Distribution Mean, Median and Mode

	pre	Post
Mean	14.9	28.2
Median	15.0	28
Modus	15	27

Intention by Ajzen (1985) is a component within the individual that refers to the desire unutuk perform a certain behavior. Intention is the sincerity of one's intention to perform the act or to bring up certain behaviors, intentions connects the deliberation, which is believed to be and and wanted by someone.

Intention (intention) in this study were divided into two categories, namely the weak and strong. Distribution of respondents by the intention to do handwashing with soap at Nurul Jadid boarding school students can be seen in Table 2.

Table 2: Distribution of respondents by intention at boarding school students Nurul Jadid

	pre		**Post**	
intention	**N**	**%**	**N**	**%**
Weak	46	85	0	0
Strong	8	15	54	100
Total	54	100	54	100

According to the table 2 can be seen that before health education showed a weak intention is very high, from 54 respondents obtained 46 (85%) had a weak intention. After health education with the methods sorogan about Handwashing with Soap (CTPS) intention (intention) 100% (54 respondents) become stronger.

From the results obtained t test p value is 0.00 or less than 0.05 with a 95% significance level. Thus, there is a significant influence on the health education methods sorogan intention Nurul Jadid boarding school students.

4 CONCLUSION

Respondents in this study were boarding school students Nurul jadid the formal education 8th grade basic education.

*intention*students to wash their hands with soap still weak. But after being given health education students to be strong intention to do handwashing with soap.

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Description of adherence of diabetes mellitus type 2 patient at universitas airlangga hospital

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Keywords: Diet adherence, Physical activity adherence, Medication adherence, diabetes mellitus type 2 patient

Abstract: Diabetes mellitus is metabolic desease with hiperglicemia chracteristic because insulin secretion disorder, insulin mechanism or both. The study aims to describe adherence in diabetes mellitus type 2 patient in Universitas Airlangga hospital. This study was a descriptive research. 100 respondents was taken with simple random sampling. The variable was adherence of type 2 diabetes mellitus patient. Data collection used questionnaires. Data analysis used frequency distribution and percentage. This study showed that 53 % respondent was female, age respondent between 56-65 years old was 56% and education level of patient was 33% senior high school. Adherence of patient at universitas Airlangga hospital was moderate adherence. Diet adherence was 74% respondent with moderate level, physical activity adherence was 44% respondent with moderate level and medication adherence was 40% respondent with moderate level. This study can give hospital input to make innovative and interesting health education to increase adherence level in type 2 diabetes mellitus patient at Universitas Airlangga hospital.

1 INTRODUCTION

World Health Organization (WHO) predicts an increase in the number of patients with DM (Diabetes Mellitus) which became one of the global health threats. The condition of DM that is not managed well in the long term will cause various chronic complications. Adherence is not simply defined by taking medication but can be interpreted more broadly and is a joint activity in which people not only follow medical advice but must understand, agree with and apply the regimen described (Boas, Lima and Pace, 2014). Diabetes mellitus is metabolic desease with hiperglicemia chracteristic because insulin secretion disorder, insulin mechanism or both (PERKENI, 2015)

Preliminary study results conducted by researchers 3 of 10 patients with type II DM lack of medication according to medical advice and late came the control to take the drug. DM patients choose to avoid side effects of drug use by not taking it without reporting to a doctor. 7 out of 10 patients who said they were not too restrictive on the dietary on the grounds that they were taking drugs and meals that did not fit the DM patient's dietary while attending the wedding so they could consume the food they liked without regard to the amount and type of food. Phisical activity adherence has not been studied at Universitas Airlangga Hospital.

2 METHOD

The design of this research is descriptive quantitative with cross sectional approach which aims to know description of adherence of dm type 2 patient. The research population is patient of type 2 DM in universitas airlangga hospital. The sample in this study is 100 people. The sampling technique used simple random sampling. The inclusion criteria in this study, ie Patient DM type 2 in Outpatient Hospital Airlangga University, patients aged 31-59 years, can communicate verbally well, able to read, write and speak Indonesian, not experiencing deaf

Exclusion criteria in this study, ie Patient DM type 2 with complications and suffering from interference that inhibits communication. Research variables were patient adherence. Research instrument using adherence questionnaire (dietaryary adherence, physical activity adherence

and medication adherence). Dietaryary questionnaire using modified PDAQ (perceived dietary adherence questionnaire) (Asaad et al., 2015), physical activity and medication adherence using physical activity and medication adherence questionnaires. These questionnaires have been tested for validity and reliability with corrected total correlation > r table. (0.632), alpha cronbach dietaryary adherence = 0.976, alpha cronbach physical activity adhrence = 0.924, and alpha cronbach medication adherence = 0.911). Questionnaire Data is analyzed descriptively. Data is presented in the form of frequency distribution and proportion / percentage.

3 RESULT

The result of the research showed that the number of respondents with age 56-65 years is 56 people (56%), with a minimum age of 33 years and a maximum age of 59 years. The respondents' gender consisted of 53 women (53%) and 47 (47%) male. While for the education level of respondents consists of elementary school (primary school) 25 people (25%), junior high school (16%), high 33 people (33%) and 26 colleges (26%). (Table 1)

The result showed that average of adherence of type 2 diabetes mellitus at universitas airlangga hospital is moderate. Dietary adherence consists of low adherence of 1 person (1%), moderate adherence 74 people (74%) and high adherence 25 people (25%). Physical activity adherence of low adherence 30 people (30%), moderate adherence 44 people (44%) and 26 high adherence (26%). Medcation adherence consists of low adherence of 32 people (32%), moderate adherence 40 people (40%) and high adherence 28 people (28%). (Table 2)

Table 1: Description of age of respondent, gender and level of education of respondent.

Characteristics of Respondents	Frequency (people)	Percentage (%)
Gender		
Man	47	47
Woman	53	53
Age of respondent		
≤ 35	3	3
36-45	6	6
46-55	35	35
56-65	56	56
Level of education		
SD	25	25
SMP	16	16
SMA	33	33
Perguruan Tinggi	26	26
Total	100	100

Table 2: Description of patient adherence level of diabetes mellitus (DM) type 2 at the university hospital of airlangga.

patient adherence level	Frequency (people)	Percentage (%)
Dietary adherence		
Low	1	1
Moderate	74	74
High	25	25
Physical activity adherence		
Low	30	30
Moderate	44	44
High	26	26
Medication Adherence		
Low	32	32
Moderate	40	40
High	28	28
Total	100	100

4 DISCUSSION

The results obtained data that the age of respondents are in the age range 56-65 years as many as 56 people (56%). This indicates that the respondent entered the final elderly. Age ≥ 45 years is a risk factor for the occurrence of diabetes mellitus (Association, 2017). Age is an uncontrollable risk factor for diabetes. (Stanhope, M & Lancaster (2004) suggests that age is one of the risk factors for health problems such as DM disease. The incidence of DM disease increases with age (Suyono, 2009). This is in line with data from the 2010 United Nations National Health and Nutrition Examination Survey (NHANES), showing that DM patients are more likely to be aged 60 and above. In addition, at the age of 45-65 years will experience anatomical, physiological and biochemical changes of the body, according to WHO after age 30 years of blood glucose levels will rise 1-2 mg / dl / year at the time of fasting and will rise 5.6-13mg / dl at 2 hours after meals (Sudoyo, 2006), so that the body's susceptibility to that age against chronic disease will increase.

The result of the research shows that the proportion data is based on gender more women, 53

respondents (53%), and 47 respondents. The prevalence of diabetes mellitus in women tends to be higher than for men. This is in line with the results of (RISKESDAS (2013) which states the prevalence of diabetes based on doctor's diagnosis and more symptoms in women and increases with age, but from age 65 years tends to decline. This is in accordance with (Adi Pratama, 2013) study that gender is a risk factor for type 2 DM although it can not be modified. In women this factor is greater because of the increase in estrogen hormone that can affect and trigger the occurrence of elevated blood sugar levels The results of this study is different from the results of the 2005 Amercan Diabetes Association survey found that male DM patients more than women is 10.9% for men and 9.7% for women (Allender J.A, Rector C, 2010).

The results obtained data that is the level of high school education as much as 33 people (33%). (Irawan, 2010) states the level of education affects the physical activity of a person because it is related to work. People with a high level of education usually work more in the office with little physical activity, whereas people with low levels of education usually have more physical activity at work. The results of this study did not match with other studies suggesting that patients with higher education levels had better conditions for learning, self-care, blood glucose monitoring, and other medical care (Kakhki AD, Saeedi ZHA, Yaghmaie F, Majd HA, 2004). When individuals get an education, then the education will be a means to develop the cognitive abilities and knowledge that became the basis in the formation of self-belief in behavior (Bandura A, 2008). People who have a high level of education will usually have a lot of knowledge about health, so that people will better maintain their health by living a healthy lifestyle.

The results obtained data that is the adherence of respondents 74 respondents (74%) have moderate adherence. 40 respondents are women. Smelzer and bare (2002) suggest that early adult males have a disobedient tendency because of their productive activity, whereas in the elderly shows a low level of compliance due to decreased memory function or degenerative disease. men are more likely to ignore adherence than women. (Adisa R, Fakeye TO, Fasanmade A, 2009). Adherence is an assessment of the patients used to determine whether a patient has followed the rules of therapy. The adherence rate of dietaryary was measured using a PDAQ questionnaire tool consisting of 9 question items. One of the factors that play a role in the failure of blood glucose control in patients with diabetes mellitus is non-adherence to the dietaryary. Based on the results of the study, the majority of respondents are in the medium compliance category.

The result of this research is data of 44 respondents (44%) adherence of physical activity of respondent had moderate category while 25 of them were female. Gender consistently affect sports activities, where men have higher levels of sports activity than women (Dominic, 2006), but the results of this study show that males are more disobedient than women. Possible Factors The cause is that men do not have a lot of time to do sports. Time spent on work, doing community activities. According Raj et al. (2017) that men strongly uphold togetherness in living a good life family environment, relatives and the wider environment. This condition causes men rarely do sports activities. Possible other factors are the type of sports that tend to lead to many types of sports fitness such as gymnastics, cycling and the road relax, where this type of physical activity much liked by women. This is in accordance with research conducted by Shenoy, S, Guglay, R, Shandhu (2010) on the effectiveness of sports programs, showing the result that aerobic and road programs can lower blood glucose by 37%.

The results obtained data that medication adherence of respondents as much as 40 people (40%) have moderate adherence. 40 people were divided into 28 women (28%) and 22 men (22%). This is in contrast to research by Adisa et al. (2009) that gender differences have an effect on patient compliance where men tend to forget to take medication. The results of the low compliance study were 32 people (32%) divided into 22 men (22%) and 10 women (10%). This is in accordance with research by Adisa et al. (2009) that gender differences have an effect on patient compliance where men tend to forget to take medication.

5 CONCLUSIONS

Adherence is important in the management of type 2 diabetes mellitus. The results of this study indicate that the average patient dm type 2 at the universitas airlangga hospital has moderate adherence level of dietary, activity and medication. Patient adherence data dm type 2 is expected to be used as input for universitas airlangga hospital to make interesting and innovative health education so that patient adherence can increase. High level of adherence required To be able to carry out the management of type 2 diabetes mellitus well so that complications can be avoided

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Foot Massage To Treat Pain In Patients Post Laparatomy Surgery

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Keywords: Foot massage, pain, laparatomy

Abstract: **Introduction:** Foot massage is a published modulation of pain modulation mechanisms to inhibit pain and to block the transmission of pain impulses resulting in analgesics and pain perceived after surgery is expected to decrease. **Methods:** This pretest–posttest design study, thirty eligible participants (57% male and 43% female) aged 17 to 50 were randomly divided into 2 groups (group intervention: n = 15; group control: n = 15) to participate in foot massages during 30 minutes. Immediately before and after each intervention/controlsession, participants had their pain measured. An Intention To Treat framework wasapplied to the analyses. Individual qualitative interviews were also undertaken to explore participants' perceptions of the intervention. **Results:** The results of the study were primary education (19), junior high (31), high school (44), Colleges (6), 69% percent had never undergone surgery and 31% had undergone surgery. The results obtained before and after the foot massage the value of VAS decreased significantly in the intervention group. **Conclusion:** The evaluated study showed that foot massage intervention was effective in reducing pain both in post-surgical patients in laparatomi.

1 INTRODUCTION

Everyone can experience pain during his life. The degree of pain and pain response varies from person to person (Bagheri-nesami et al. 2014).

Pain according to The International Association for the Study of Pain (IASP) is an unpleasant sensory and emotional experience, related to actual or potential tissue damage (Price & Wilson, 2006). Severe pain is a residual symptom caused by intra-abdominal region surgery.

Pain experienced by most (86%) who underwent hospital treatment, of which 40% experienced severe pain. Patients post-surgery 99% experience pain (Moyle et al. 2014). Treatment of pain in laparatomy patients is a very important measure for doctors and nurses, WHO has recommended the use of analgesics to control pain. Administration of analgesic drugs can reduce pain because analgesics can block the pain of the periphery and the central nervous system (Boitor et al. 2017). However, analgesic administration may irritate the stomach and cause nausea.

Patients who experience post-laparatomy surgery will experience mild pain to severe pain. Severe pain can cause life-threatening shock conditions. Pain inhibits the vasomotor center thus increasing vascular flexibility and then vasodilation of the vein. Pain management is usually given to patients with severe pain by providing deep breathing relaxation, music therapy or murrotal therapy. The provision of foot massage has been given to patients with cesarean section surgery in Turkey. According to Degirmen (2008) the provision of foot massage in postoperative patients sectiocaesarea may reduce pain intensity in the first 24 hours. Pain experienced by most (86%) who underwent hospital treatment, of which 40% experienced severe pain. Patients post-surgery 99% experience pain (Eguchi et al. 2016). Administration of analgesic drugs can reduce pain because analgesics can block the pain of the periphery and the central nervous system (Boitor et al. 2017). However, analgesic administration may irritate the stomach and cause nausea.

According to (Trihartini & Hadisuyatmana 2004) today complementary therapies have increased interest and usage, one of which is foot massage. Foot massage is a combination of four massage techniques namely effleurage (rubbed), petrissage (massage), Friction (scrubbing) and tapotement (tapping). Legs represent from all the organs that

exist in the body. Foot massage is a modulated pain modulation mechanism for inhibiting pain and for blocking the transmission of pain impulses resulting in analgesics and pain perceived after surgery is expected to decrease (Ucuzal & Kanan 2014).

2 METHOD

In this study using pretest-posttest design, the population in this study was postoperative patient laparatomi. Given foot massage interventions in 30 respondents who met the inclusion criteria and were selected using consecutive sampling technique (57% male and 43% female) aged 17 to 50 divided randomly into 2 groups (intervention group: n = 15 : control group n = 15) to participate in foot massage for 30 minutes. Immediately before and after each intervention or control session, the researcher measures the level of pain in the respondent. Instrument in this research use observation sheet.

3 RESULTS

Table 1. Characteristics of respondents by age

age	frequency	Percentage
17-27	2	7%
28-38	11	37%
39-50	17	56%

In the table it can be seen that there are 2 respondents (7%) aged 17-27 years, 11 respondents (37%) aged 28-38 years, and 17 respondents (56%) aged 39-50 years.

Table 2. Characteristics of respondents by sex

Sex	frequency	Percentage
Male	17	57%
Female	13	43%

In the table it can be seen that there are 17 respondents (57%) male and 13 respondents (43%) female.

Table 3. Characteristics of respondents by Education

education	frequency	Percentage
SD	6	19%
SMP	9	31%
SMA	13	44%
College	2	6%

In the table it can be seen that there are 13 respondents (44%) high school education, 9 respondents (31%) junior high school education, 6 respondents (19%) primary education and 2 respondents (6%) college education.

Table 4. Characteristics of respondents based on operating experience

Operating experience	frequency	Percentage
Has never been	21	69%
Never surgery	9	31%

In the table it can be seen that there are 21 respondents (69%) had never undergone surgery and 9 respondents (31%) had undergone surgery**.**

Table 5. Characteristics of Intensity Pain before foot massage (intervention group)

Pretest	frequency	Percentage
slight	0	0%
Medium	11	73%
Severe	4	27%

In the table it can be seen that there are 11 respondents (69%) experienced moderate pain and 5 respondents (31%) experienced severe pain.

Table 6. Characteristics of Intensity Pain after foot massage (intervention group)

Posttest	frequency	Percentage
slight	5	33%
Medium	8	53%
Severe	2	14%

In the table can be seen that there are 8 respondents (50%) suffered moderate pain, 5 respondents experienced mild pain and 3 respondents (19%) experienced severe pain.

Table 7. Characteristics Intensity of pain before standard therapy in the control group

Pretest	frequency	Percentage
slight	0	0%
Medium	6	40%
Severe	9	60%

In the table it can be seen that there are mostly 9 respondents (60%) suffered post operation heavy pain in the control group.

Table 8. Characteristics Intensity of pain after standard therapy in the control group

Postest	frequency	Percentage
slight	0	0%
Medium	7	47%
Severe	8	53%

In the table it can be seen that there are mostly 8 respondents (53%) most still experience severe painin the control group.

4 DISCUSSION

Based on table 5 it shows that of 15 patients studied mostly experienced moderate pain rate of 73%. In accordance with the opinion of potter & perry (2006) the level of pain can be influenced by several factors including, age, gender, culture, meaning of pain, patient attention, anxiety levels and previous experience. Such conditions can be understood, that most clients do not yet have the ability to overcome any pain caused on the sideanother. In the client does not have the ability to manage the pain, because it is the ability to manage the taste pain requires personal experience that is worth a try and try so as to gain a unique personal experience in overcoming pain. According to (Kobza et al. 2017) who says Pain is a body feeling or body part of a person that causes unpleasant response and pain can provide an experience of natural taste.

Based on the opinion Nursalam (2008) age is the age of individuals who are counted from birth to birthday. Age can also influence the knowledge of patients more mature in thinking in work, sex is related to the behavior of the model, that the individual will be modeling according to gender. Social culture, cultural systems that exist in society affect the attitude in receiving information. In this case the pain is felt by the middle category, and most of the disease is found in middle age that is not young age or old age, because patient attention to other thing not yet maximal, most of client have not ability to overcome the pain because attention of patient to thing others have not been maximal, so the pain is felt strong enough.

In table 2 it can be seen that most of the respondents male sex of 17 respondents (57%). The presence of sex relationships with pain responses because men and women differ in response to pain. This is because men are more prepared to accept surgery due to the physical and mental abilities of men stronger and better equipped to perform, receive impact, effects, and complications of surgery, while women prefer to complain of pain and cry.

While (Moyle et al. 2013) suggest men have lower sensitivity (less expressing pain perceived excessive) than women or less feel pain.Characteristics by sex. Pain has a different response between male and female respondents. Often the most severe pain response experienced by women than in men. This is as in the study of Hurley and Adams (2008), which states that women tend to feel a higher pain response than men. (Sevgi & Balci 2016) states that there is a difference between men and women in the perception and experience of pain.Aghajani, Mahdavi, Najafabadi, Ghazanfari (2012), also said women experience more severe pain than men.

Based on table 3, it can be seen that most of education respondents junior high education as many as 13 respondents (44%). The results of the study showed that the level of education did not have an effect on the intensity of pain, in accordance with research conducted by (Anon n.d.) which aims to see the intensity of post-surgical pain in 543 samples. The results showed that there was no significant correlation between VAS intensity of pain level and education level. While the theory states that the level of education is one of the factors that determine the change in behavior, where the higher level of education someone, then someone has experienced the learning process more often, in other words the level of education reflects the intensity of the learning process (Notoatmodjo, 2012) .

Experience is also another factor of pain (Smeltzer& Bare, 2010). Individuals with previous pain experience may not necessarily feel less painful later, but with that experience he will be ready with further pain, be able to overcome them, interpret pain easily, even worried when the pain returns as the same procedure will be in live (Potter & Perry, 2011). In table 4 it can be seen that there are 21 respondents (69%) had never experienced previous surgery while 9 respondents in both groups reported having undergone previous surgery. The more a person has the experience of pain, the more fearful people will be for the next painful procedure. This makes a person less able to tolerate pain (Abbaspoor et al. 2014). Table 6 shows that of the 15 patients in the intervention group studied, some patients

experienced moderate postillarylapoptensive pain rates of 8 patients (53%) and nearly half of patients (33%) had mild pain. this is visible fromthe response experienced by the patient is therecomplaints of pain, insomnia, began moaning,holding a painful part, activitylimited. In addition, the pain experiencedpatients arise almost after each typeoperation, due to incision, pull,manipulation of tissues and organs. Can be toooccurs due to stimulation of nerve endings bychemicals released at the timesurgery or due to iskhemi network dueblood supply disorder to onepart, such as due to muscle spasms, oredema. After another factor operationadd pain such as infection,distension, muscle spasms around the regionnicks, tight pads or plaster. And from the table shows that there is a significant change in post op lparatomi pain level before and after given the foot massage. This indicates that after foot massage, there was a change in frequency, ie post-lapastomy pain rate, which was initially moderate for as many as 11 patients (73%), decreased to 8 patients (53%) had moderate pain and almost half the level of postoperative lap op pain experienced mild pain as many as 5 patients (33%) after being given foot massage technique.

According to Wang Massage also referred to as reflexology Foot hand massage is a form of foot or hand massage based on the premise that discomfort or pain in specific areas of the foot or hand is related to body parts or disorders (Wang 2004)

In the results of this study, the reduction of pain intensity was significantly significant in the intervention group when compared with the control group. Foot massage proved useful as an effective nursing intervention in controlling postoperative pain.Foot massage becomes an effective, inexpensive, low-risk, flexible, and easy-to-apply strategy for pain management postoperatively.

In table 7 it can be seen that the respondents in the control group mostly experienced severe pain intensity as many as 9 respondents (60%). In table 8, respondents re-measured the level of pain after the standard therapy available in the hospital, but no decrease in pain intensity significantly.

5 CONCLUSIONS

In the intervention group before being given a foot massage technique most showed a moderate level of pain as much as 73%. Whereas after being given foot massage technique to reduce the level of moderate pain to 53% and experience mild pain as much as 33%. In contrast to the control group given standard therapy in the hospital when the measurement of pain intensity before and after therapy did not show a significant change in the intensity of perceived pain. The use of foot massage interventions is very effective for reducing postoperative pain in patients.

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A Systematic Review of The Predictors of Perceived Autonomy by Patient With Chronic Kidney Disease

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Keyword: Predictors, Perceived Autonomy, Chronic Kidney Disease

Abstract**:** **Background:** Restriction of the number of activities or the quality of activities can have serious drawbacks for a person's feelings of autonomy. The aim of this review to identify variables that predict perceived autonomy. **Method**: We identified articles through databases searching: EbscoHost, CINAHL and PubMed published between 2008-2018. **Result**: eight articles were analysed and selected from 601 journal articles found for this systematic review identified a range of variables with good preliminary evidence supporting their ability to predict perceived autonomy. Of these variables, comorbidity, age (heterogeneous age ranges), symptoms, female gender, a marital status of divorced, separated or widowed, non-white ethnicity, were associated with increased perceived autonomy. **Conclusion:** The findings can inform decisions about which variables might be used to derive self-reliance, a sense of well-being, and comfort or satisfaction with retaining control and directing one's own life in the physical and psychological health. However, many of these studied still lacked of method, sample size and heterogeneous. So we suggest to do further examination.

1. BACKGROUND

People with end-stage renal disease require dialysis to sustain life. Dialysis in particular is burdensome and intrusive. Compared with general population, patients with ESRD on dialysis experience, besides impaired physical functioning, impaired mental and social functioning. Results of a Swedish study demonstrated that more than 50% of dialysis patients reported stressors with respect to work and leisure time (Andersson 2007).

Restrictions on the quantity and quality of daily activities might impede people's feelings of autonomy. A Dutch study showed that patients on dialysis, on average, have moderate feelings of autonomy, which indicates that they do not often feel that they can do the things they wish to do in everyday life, because of their health condition or otherwise (Jansen et al. 2010). According to Deci and Ryan's Self-Determination Theory (SDT; (Jansen et al. 2014) autonomy is one of the basic psychological needs for optimal functioning. When the fulfilment of the need for autonomy is hindered, one's experience of self worth is also damaged, leading to either insecure or low self-esteem (Ryan & Brown 2003).

In the context of the on-going development perceived autonomy to medication adherence, it is important to provide evidence that can inform decisions about which variables might be used to derive self-reliance, a sense of well-being, and comfort or satisfaction with retaining control and directing one's own life in the physical and psychological health. Therefore, the general objective of this systematic review to identify variables examined in relation to the prediction perceived autonomy.

2. METHOD

We identified articles only the following types of studies were included in the review are observational and intervention studies that predicted perceived autonomy by adults with mental disorders through databases searching: EbscoHost, CINAHL and PubMed published between 2008-2018, search terms include various combination of the terms "autonomy or perceived autonomy". We found eight articles that suitable with our inclusion criteria. All articles using the English language.

3. RESULT

The literature search flow in total, 601 records was identified. Database-searching yielded 601 records. After duplicates were removed, 503 studies were screened at 'abstract' level. After abstract screening, 106 studies were assessed for eligibility at 'full-text' level. Eight studies were included in the final review.

Eight journals that have been collected, analyzed and scored, obtained the following results. This paper review the evidence for identified predictors that are categorized by 'demographics', 'perception', 'symptoms', 'social support' and 'behaviour'. The predictor variable was assessed in relation to perceived autonomy. For simplicity, a study was arbitrarily deemed to be of 'perceived autonomy' quality on the autonomy questionnaire.

As an overview, the review identified 12 predictor variables that were examined in relation to the prediction of perceived autonomy. By category, these were: seven demographic variables, two perception variable, social support variables, one symptom variable, and one behavioural variable.

The seven demographic variables significantly predicted perceived autonomy. Demographic variables increased perceived autonomy in Jayanti et al. (2015) and Jansen et al. (2010) at the 15% significance level. These variables, in order of frequency of increased global autonomy prediction, were: comorbidity (both mental and physical), age (heterogeneous age ranges), male gender, marital status of divorce, non-white ethnicity, high education, first choice of dialysis modality and perceived ability. Regarding the age variable, age mean 59,84 were associated with increased perceived autonomy. As study quality was satisfactory in the vast majority of these assessment, it can be concluded that good preliminary evidence exist for these seven demographic variables in relation to the prediction of increased perceived autonomy.

The two perception variables significantly predicted lower perceived autonomy (Jansen et al. 2010). Two perception variables predicted lower perceived autonomy in two or more assessments. These variables, in order frequency of lower perceive autonomy prediction, were accessing stronger beliefs in the seriousness of the illness. A stronger belief that the treatment disrupts daily life was also associated with low perceived autonomy. As study quality was it can be concluded that good preliminary evidence exist for illness and treatment perception in relation to the prediction of lower perceived autonomy.

The social support variables significantly predicted high perceived autonomy (Jansen et al. 2014; Matsui & Capezuti 2014). This variable predicted increased perceived autonomy in two assessments. The variable, in order of frequency of increased perceived autonomy prediction was general emotional support. The social support being related with illness perception to influence perceived autonomy.

The symptom variable significantly predicted increased perceived autonomy in Wulff et al. (2013). One symptom variable-absence of pain- predicted increased perceived autonomy. It can be concluded that score in HPEAS (Hertz Perceived Enactment of Autonomy Scale) exist for absence of pain symptoms in relation to the prediction of increased perceived autonomy.

The behaviour significantly predicted perceived autonomy. Self-efficacy variable predicted increased perceived autonomy in an assessment (Wulff et al. 2013), it can only be concluded that self-efficacy was associated with personal enactment of autonomy.

In the final variable category above, a behavioural variable-self-efficacy significantly predicted increased perceived autonomy once, of the onetime assessed. However, as just one assessment was undertaken, it cannot be concluded that good preliminary evidence exists for self-harm in relation to the prediction of increased perceived autonomy.

In summary, several predictor variables have good preliminary evidence supporting their ability to predict perceive autonomy. Of these variables, comorbidity, age (heterogeneous age ranges), symptoms, female gender, a marital status of divorced, separated or widowed, non-white ethnicity, were associated with increased perceived autonomy.

4. DISCUSSION

This review eight studies identified variable with good preliminary evidence to predict perceived autonomy. Of these variables, comorbidity, age (heterogeneous age ranges), symptoms, female gender, a marital status of divorced, separated or widowed, non-white ethnicity, were associated with increased perceived autonomy.

Few existing review of the predictors of perceived autonomy were available for comparison

of results. Nevertheless, self efficacy-the most evidenced predictor of increased perceived autonomy in the present review-was also shown in a research (Clark & JA 1999) to explore the self-efficacy as a predictor of disease management. In line the present review, found that self efficacy predicted increased perceived autonomy.

Overall, the findings from previous research add robustness to our finding of good preliminary evidence for the variables of –behaviour-self efficacy in relation to the prediction of increased perceived autonomy.

5. CONCLUSION

This review provides evidence that can inform decisions about which variables might be used to derive self-reliance, a sense of well-being, and comfort or satisfaction with retaining control and directing one's own life in the physical and psychological health. Several variables-in particular, comorbidity, female gender, age (heterogeneous age ranges) high previous autonomy and a marital status of divorced-have good preliminary evidence supporting their ability to predict autonomy and thus are relevant for clustering purposes. The findings support the need to determine the association of the predictor with autonomy, the need to investigate whether combining broad diagnoses with care pathways is an effective alternative method for further research. Overall this review has highlighted important unresolved issues related to perceived autonomy. Addressing these issues could improve perceived autonomy, helping to ensure that people have perceived autonomy can feel self-reliance, a sense of well-being, and comfort or satisfaction with retaining control.

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Emotional Freedom Technique (EFT) for Physiological Symptoms, Pain, Anxiety Disorders and Depression: a Systematic Review

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Keywords: emotional freedom technique, physiological symptoms, pain, anxiety, depression

Abstract: **Introduction:** All the emotions and mind is a form of energy, both positive and negative energy, has an influence on body functions. While the human body has the potential of natural healing, stress and other emotional problems can impede the healing process. Emotional Freedom Technique (EFT) is a form of psychological acupressure, based on the same energy meridians in traditional acupuncture to treat physical and emotional illness. Through this systematic review, researchers will discuss about the effectiveness of EFT as a therapy that can affect the improvement of the physiological and psychological. **Methods:** Search of journal articles was used PECOT framework in the database; Ebscho, Science Direct, Elseiver, Sage Journals, Scopus, ProQuest, and Pub Med with limitations of publication time is in the last 5 years (2013-2017). There was 17 International journals and researchers conducted review to all of those journals. **Results:** The overall stated that the Emotional Freedom Technique (EFT) as a therapy that may influence physiological symptoms, pain, anxiety disorders and depression. **Conclusion:** This systematic review strongly recommends the application of EFT as a method of cleansing the mind, focusing (such as meditation) and improving attitudes so as to have a better chance of coping with emotional problems.

1 INTRODUCTION

Various problems that interfere with physical and emotional health can be suffered by everyone. The occurrence of prolonged physical and emotional problems without treatment can create an imbalance of serotonin, an important chemical substance in the brain that is responsible for making someone happy and sociable (Rokade, 2011). Physical and emotional problems such as anxiety, depression, mood problems and confidence related to chronic diseases can be solved by non-pharmacological treatment.

Nonpharmacological treatment has many advantages, besides having no side effects, its use is relatively easy, even can be without cost or minimal cost. One is the therapy Emotional Freedom Technique (EFT). EFT was introduced by Gary Craig in the 90s, a brief exposure therapy that combines cognitive and somatic elements, based on the discovery that emotional trauma contributes greatly to physical illness. It is based on a developing revolution in conventional psychological convictions that explains that " all the negative emotions that arise can damage the energy systems in the body" (Bougea et al., 2013).

EFT is one of the therapies "energy psychology" safer (without the use of needles), using only beat lightly with a fingertip (tapping) on certain body areas (Bougea et al., 2013). EFT can be done everybody, in the right way EFT effectively overcomes physical and emotional complaints. EFT works addressing individual complaints, freeing users from the pain both physical and emotional (Church, 2013). Through this systematic review the researchers wanted to know the effectiveness of EFT as a therapy that can affect the improvement of physiological symptoms, pain, anxiety disorders and depression.

2 METHODS

Search article using PECOT framework in database; Ebscho, Science Direct, Elseiver, Sage Journals, Scopus, ProQuest, Pub Med, in the last 5 years; (2013-2017). obtained 38 journals and after further selected 17 International Journal for the review.

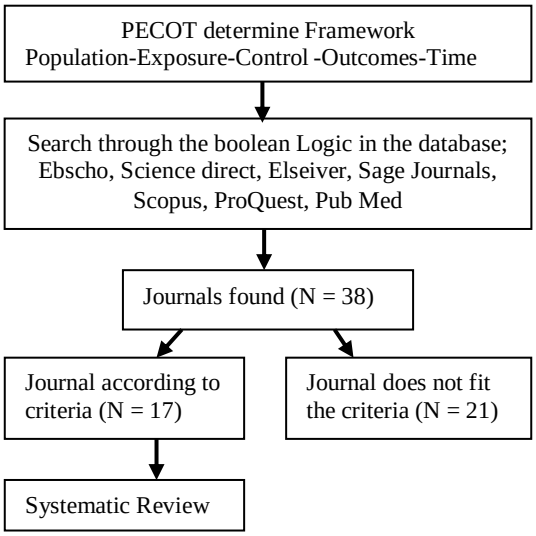

Figure 1: Algorithm search journal

3 RESULTS

Study Design

Systematic review of the journal is reviewing 17 selected, the whole coming from international journals. The designs are used include: 4 journals using pre-test control group design, 2 journals using randomized controlled study, 4 journals using pilot study, 5 journals using randomized controlled trial, 2 journals using feasibility study.

Charateristic of Participant

Of the 17 Journal conducted a review sample of respondents varied between 20-238.

Sensitivity and Specificity

EFT for physiological symptoms

Emotional Freedom Technique (EFT) as a new therapeutic technique in energy psychology has a positive effect on psychological and physiological symptoms, and quality of life. Research conducted by Babamahmoodi et al. (2015) studied the effect of EFT on immunological and psychological factors on male veterans with pulmonary injury. The results showed that EFT improved mental health ($F = 79.24$, $p = 0$) and health-related quality of life ($F = 13.89$, $p = 0.001$), decreased somatic symptoms ($F = 5.81$, $p = 0.02$), anxiety / insomnia ($F = 24.03$, $p < 0.001$), social dysfunction ($F = 21.59$, $p < 0.001$), frequency and severity of respiratory symptoms ($F = 20.38$, $p < 0.001$), and increased proliferation lymphocytes with specific nonspecific mythologies concanavalin A ($F = 14{,}32$, $p = 0.001$) and Phytohemagglutinin (PHA) ($F = 12{,}35$, $p = 0.002$), and peripheral blood IL-17 ($F = 9.11$, $p = 0.006$).

The study gives results that EFT can improve immune function and individual health. It can also improve psychological function and decrease the severity and frequency of symptoms of chronic disease (respiratory symptoms), and overall quality of life (Babamahmoodi et al., 2015).

Research Baker and Hoffman (2015) EFT showed potential as an independent tool for managing the side effects associated with hormonal therapy, especially mood swings, hot flushes / nightsweats and fatigue, in women with breast cancer. EFT is also effective in controlling blood glucose levels in diabetic patients (Hajloo et al., 2014).

Kalla's research (2016) EFT is accepted by patients with chronic diseases for self-care, maintaining a positive mood, and for general health. Additionally, EFT is offered to the elderly in group form, as an independent tool. They can effectiveely learn to overcome insomnia and improve their mental health and quality of life. EFT is more effective than Sleep Hygiene Education (Lee, Chung and Kim, 2015).

EFT for pain

Research (Church and Brooks, 2014) pain decreased significantly during the intervention period (-41%, $p < .0001$). Subjects were evaluated three and six months later, the results showed a significant association between PTSD, depression, and anxiety at some assessment points. At follow-up, the pain remaind much lower than in the pretest. The results of this study are consistent with other reports indicating that, due to reduced PTSD symptoms, mental health generally improved, and the pain level down.

Ortner et al. (2014) pain was measured using Pain Catastrophizing Scale (PCS) and Multidimensional Pain Inventory (MPI) instruments before and after treatment followed by 1 month and

6 months. Significant decreases were found in each PCS item score (rumination, magnification, and helplessness) and the total score of PCS (-43%, p <.001). In MPI, significant improvements were observed in the severity of pain, disturbance, life control, affective disorder, and dysfunctional composites. At 6 months follow up, the reduction was maintained at PCS (-42%, p <.001) but only on live control items for MPI. The findings indicate that EFT helps reduce the severity of pain immediately and also improve participants' ability to live with pain.

Stapleton et al. (2016) paired sample test showed a significant reduction in the severity (-12.04%, p = 0.044) and impact (-17.62%, p = 0.008) of participants pretest to posttest pain.

EFT for anxiety disorders

Research Aremu and Taiwo (2014) to the reducing mathematics anxiety among students with pseudo-dyscalculia there are significant main effects; F (1, 109 = 21.00, p <.01); interactive effects of F (2, 109 = 6.116, p <.01 on mathematical effectiveness and mathematical anxiety treatment to participants. Both packages are effective in reducing mathematical anxiety among participants.

Research Boath et al. (2012) were assessed using Subyective Units of Distress (SUDs) and Hospital Anxiety and Depression Scale (HADS) before and after EFT. Twenty-one of the total sample of 25 students (84%) participated in the study. There was a significant decrease in SUDS (p = 0.002), HAD (p = 0.048) and HAD Anxiety Subscale (p = 0.037). There is no difference in HAD Depression Subscale (p = 0.719).

According to Irgens et al. (2017) Cognitive Behavioral Therapy (CBT) and Thought Field Therapy (TFT) showed better results than Wait-list Condition (WLC) (p <0.001) during the treatment. Post-treatment and at follow-up of 12 months, there was no significant difference between CBT and TFT.

Research Patterson (2016) shows that nurse students experience a decrease in stress and anxiety feelings including somatic symptom degradation. Overall, the findings suggest that EFT can be an effective tool for stress management and anxiety in nursing students.

Research Gaesser and Karan (2017) states EFT participants (n = 20; M = 52.16, SD = 9:23) showed a significant decrease in anxiety levels compared with the control group with a medium to large effect sizes. Participants CBT (n = 21; M = 54.82, SD = 5.81) showed a decrease in anxiety but did not differ significantly from the EFT or control.

EFT for depression

Chatwin et al. (2016) suggest that the CBT and EFT treatment approach resulted in significant reduction of depressive symptoms. CBT group reported a significant reduction post intervention, which does not depend on time. The EFT group reported a delayed effect involving significantly reducing the symptoms at follow-up was only 3 and 6 months. Individual case examinations showed clinically significant improvement in anxiety in both interventions.

Stapleton et al. (2014) suggest an overall improvement for the treatment group in the reduction of depressive symptoms. Stapleton et al. (2013) reported significant reductions found in depression measures, interpersonal sensitivity, obsessive compulsive, paranoid, and somatization (p <0.05). A significant decrease in pre-treatment for up to 12 months of follow-up was found for depression, interpersonal sensitivity, psychotism, and hostility. Overall the results indicate the role of depression, and other health conditions play a role in the successful maintenance of weight loss.

Church et al. (2012) EFT group experienced significantly less depression than in the control group on posttest, with mean score in "not depressed" range (P = .001; EFT BDI mean = 6.08, SE = 1.8 versus BDI control mean = 18.04, SE = 1.8). Cohen's d is 2.28, showing a very strong effect size. These results are consistent with those noted in other EFT studies that include assessment of depression and demonstrate the clinical usefulness of EFT as a short, cost-effective, and potent treatment.

4 DISCUSSION

The Energy Psychology theory assumes that every human being has an energy system that governs all physical and psychical systems of man. The energy system consists of life force or commonly called acupoint as a center of energy generation and energy supply to human body cells. The basic principle of EFT is that all emotions and thoughts are forms of energy (Banerjee, Puri and Luqman, 2015). Positive and negative energy, has a very real physical manifestations that can affect all the body functions.

EFT is an energy meridian therapy as well as acupuncture, principally working directly on the body's meridian system. Analogy, meridian like a river. In emotional or physical problems as well as to impede the course of the river. Tapping on the meridian points sends kinetic energy to the system and liberate energy barriers that cover the energy flow thus restoring the balance of mind and body(Church, 2013).

Tapping made will stimulate the "electrically active cells" as the active centers consisting of a collection of active cells that exist on the surface of the body. Tapping in the EFT will cause the excitement of the transduction signals occurring in the biological process due to the stimulation at the main point of EFT. Signal transduction will then be stimulates the pituitary gland to secrete hormones endorphine (Rokade, 2011), these hormones would provide a calming effect and cause feelings of happiness. It is very influential in reducing the level of anxiety. Many clinical trials have proven that EFT reduces the emotional impact of memory and incidents that trigger emotional distress that leads to balancing the body quickly and speeds up healing (Banerjee, Puri and Luqman, 2015).

All studies show that EFT can affect psychological and physiological functions, making them cost-effective interventions. EFT can simultaneously overcome general physical and psychological symptoms, such as pain, anxiety, depression, and mood. EFT research to date is often done with a limited sample size. Fortunately, an increasing number of studies are now conducted using randomized group designs in some samples and problems, so that it can be seen published research results with generalizable data.

5 CONCLUSION

Emotional Freedom Technique (EFT) is a therapy that can affect the psychological and physiological conditions, through this method of physical and emotional problems can be prevented and handled appropriately.

The data presented here illustrates how EFT can relieve these symptoms in individuals and groups. The more research results available, EFT shows as a tool that can be used to overcome anxiety, depression, and post-traumatic stress, as well as pain.

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Effect Of Pursed Lips Breathing for Peak Expiratory Flow Rate, Oxygen Saturation, Dynamic Hyperinflation : Systematic Review

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Keywords : Pursed Lip Breathing, Peak Expiratory Flow Rate, Oxygen Saturation,Dynamic Hiperinflation

Abstract : Background : Pursed Lips Breathing is a pulmonary rehabilitation therapy that can reduce peak expiratory flow rate, mean expiratory flow rate, decrease airway resistance and improve lung elasticity. This systematic review aims to determine the effect of pursed lip breathing on peak expiratory flow rate, oxygen saturation, dynamic hyperinflation Methods : Information relating to this study was found in several journal databases such as MEDLINE, PubMed, Ebsco, CINAHL, Elsevier ScienceDirect, which are respiratory journals and a collection of research abstracts identified from 2000 to 2017.Results : Pursed lip breathing is an effective therapy against an increase in PEFR prediction by an average of, oxygen saturation and a decrease in dynamic hyperinflation. Conclusion : Pursed lip breathing is an easy and inexpensive therapy, which may be applicable in solving gas exchange problems and breathing patterns disorders

1 BACKGROUND

Patients with chronic lung disease have abnormal lung function and have dyspnea, productive cough and general fatigue. Dyspnea is a major problem in these patients and is strongly associated with decreased physical ability. Dynamic hyperinflation leads to the occurrence of dyspnea and has consequences of limited functional capacity in patients with chronic lung disease (Maind, Nagarwala and Retharekar, 2015). In addition, patients with chronic lung disease, also experience impaired oxygen saturation and decreased PEFR.

Pursed lips breathing is a pulmonary rehabilitation program that has content about education and breathing exercises for patients with chronic respiratory lung disorders such as chronic obstructive pulmonary disease and asthma. Pursed lips breathing is beneficial for increasing gas exchange, reducing respiratory rate and end expiratory volume, as well as decreasing dynamic hyperinflation (Visser, Dekhuijzen and Heijdra, 2011)

.In addition, this non-pharmacological therapy has the benefit of increasing peak expiratory flow rate and mean expiratory flow rate, reducing airway resistance, improving pulmonary elasticity (Maind, Nagarwala and Retharekar, 2015), increase tidal volume, increase ventilation per minute, oxygen saturation, reduce respiratory rate (Ugalde *et al.*, 2000)

This study aims to conduct a systematic review to answer question

1 Does PLB affect oxygen saturation?
2 Does PLB affect PEFR?
3 Does PLB affect dynamic hyperinflation?

2 METHODS

2.1 Types of Studies

In order to understand the interventions that demonstrate success in past research is expected to be used effectively in clinical practice, the research design used in this systematic review in addition to RCT is also considered quasi-experimental, controlled clinical trials. It is estimated that this type of research design may provide information about patient populations that are more typical than those encountered in the primary care setting. In this review, experimental studies are classified as RCTs, when groups of interventions are randomly allocated compared, different control groups may receive other treatment modalities or without treatment.

Study designs without control group but with pursed lips breathing protocol, alone or with other adjuvant therapy were also included. Studies that do not use the pursed lips breathing protocol are not included in this naration. Only studies published in English in 2000-2017 are included in this review. Information relating to this research was found in several journal databases such as MEDLINE, PubMed, Ebsco, CINAHL, ScienceDirect.

2.2 Types of Participants

The study populations considered in this review include subjects who are adults of all ages, male and female, who have chronic lung disease (asthma, emphysema, chronic bonkhitis).

2.3 Types of Interventions

2.3.1 Inclusions

Research using pursed lips breathing protocol, either used alone or in combination.

2.3.2 Exclusions

Interventions that include any of the above listed treatments as adjunctive, either alone or in combination, without the protocol of pursed lips breathing.

2.4 Types of Outcome Measures

Only relevant outcome measures for clinical practice are reported in this review. Some of the outcome measured in this research are arterial oxygen saturation and oxygen saturation pulse, peak expiratory flow rate and dynamic hyperinflation represented from spirometry result that is inspiratory capacity and Functional Residual Capacity.

3 RESULTS

Table.1 Table of intervention, comparison and outcome

Study	Intervention	Comparison	Outcome
G Faager (2008)	ESWT + PLB	ESWT+MT	SpO_2,PEF
Vijayakumar (2017)	PLB	-	SaO_2,PEFR, Rr
Spahija (2010)	PLBrest,PLBrec,PLBex	PLBno	VO2 peak,Wpeak , SaO_2
Garrord (2005)	ISWT + PLB	ISWT + Non PLB	Rr,Dyspnea, SaO_2
Shine (2016)	PLB	DB	Chest Expasion,PEFR
Spahija (2005)	PLBrest	PLBexercise	Dyspnea,TV
Araujo (2015)	6MWT+PLB and TGlittre+PLB	6MWT+Non PLB and TGlittre+Non PLB	DH
Cabral (2015)	Constant work rate exercise+PLB	Constant work rate exercise+CB	IC,SaO_2,PEF
Visser,2011	PLB	-	IC, SaO_2
Bianci (2007)	PLB	-	TV
Ramos (2009)	PLB	Non-PLB	SpO_2

Tabel.2 PLB for Oxygen saturation

Author,Year	Experimental	Control
	Mean±SD	Mean±SD
Faager,2008	85.7±5	86.9±5
Spahija,2010	95.2±3.7	97.4±1.2
Cabral,2015	94±4.1	93.1±4.6
Garrord,2005	90.5±4.4	90.4±4.3
Vijayakumar,2017	d = 1,67	
Visser,2011	d = 0.97	
Ramos,2009	98±1	96±2

Tabel.3 PLB for PEFR

Author,Year	Experimental	Control
	Mean±SD	Mean±SD
Shine,2016	108.2±53.45	113±36.34
Faager,2008	240±86	238±85
Cabral,2015	53.3±17.8	40.2±8.6
Vijayakumar,2017	d = 54,67 L/m	

Tabel.4 PLB for dynamic hyperinflation

Author,Year	Criteria Measure	Experimental	Control
		Mean±SD	Mean±SD
Cabral,2015	IC (%)	1.35±0.39	1.19±0.33
Bianci,2007	TLC(%)	118±19	100±16
Spahija,2005	VT (L)	1.27±0.39	0.83±0.29
Araujo,2015	DH(L)	0.24±0.2	0.22±0.24
Visser,2011	IC(L)	d= 0.089	

IC: inspiratory capacity, TLC : Total Lung Capacity, VT : Volume tidal
DH: dynamic hyperinflation

4 DISCUSSION

Pursed lips breathing is a breathing technique used in pulmonary rehabilitation. This technique has a positive impact on oxygen saturation, peak expiratory flow rate, dynamic hyperinflation.

4.1 Effect of PLB for oxygen saturation

The increase in SpO2 during PLB is due to an increase in expiratory duration and an increase in tidal volume that causes lung discharges homogeneously, thus maintaining intrabronkial pressure and supporting gas exchange and ventilation. In addition, it should also be mentioned that patients who experience a decrease in dyspnea while using PLB may also decrease the final expiratory lung volume and larger reserves. This will lead to an increase in end-inspiratory lung volume (Ramos, Vanderlei and Texeira, 2009)

In a study conducted by Faager, the 2008 group that did not use PLB showed a decrease in average saturation of oxygen by 1.2% compared with those doing PLB, while research conducted by Vijayakumar, 2017 showed an increase of 1.67% oxygen saturation.

According to research conducted by Faager 2008 pursed lips breathing showed the treatment group performed pursed lips breathing therapy there is an increase in oxygen saturation of 85.7 ± 5, while on a research conducted by Spahija, 2010 showed an increase of 95.2 ± 3.7 oxygen. Results of research conducted by Cabral, 2015menunjukkkan increase oxygen saturation was 94 ± 4.1, and research conducted by Garrord, 2005 using pursed lip breathing showed an increase in oxygen saturation of 90.5 ± 4.4. Ramos dilakukakn research results 2009 showed the use of pursed lips breathing the oxygen saturation level of 98 ± 1. Meanwhile, in a study conducted Visser, 2011menunjukkan increase of 0.97. This indicates that the effective pursed lips breathing to increase oxygen saturation.

4.2 Effect of PLB for peak expiratory flow rate

In a study comparing pursed lips breathing with breathing diaphragms, PEFR measurements after PLB therapy showed an increase of 2.72%. Research conducted by Vijayakumar, 2017 PEFR has improved 54.67 L / min. On the breathing of PLB showed more effective in reducing dyspnoea, increasing gas exchange in people with chronic obstructive pulmonary disease with moderate to severe degree. This positive effect appears to be related to the ability of the technique to reduce airway constriction during expiration, an effect associated with a decrease in resistive pressure down in the airway wall. Therefore, PLB breathing is expected to benefit people with more severe airway narrowing at expiration. Based on these evidence indicates that PLB can be a valuable rehabilitation therapy in certain cases and there is no reason to teach diaphragmatic breathing to a population of patients with chronic lung disease. To date, no research has been found that investigates that diaphragmatic breathing techniques are used for patients with chronic lung disease during the course of action, which may require the use of breathing techniques over a long period of time. (Ramos, Vanderlei and Texeira, 2009)

This should be the focus of future research. According to research conducted by Shine, 2016 pursed lips breathing showed the treatment group performed pursed lips breathing therapy there is an increase in PEFR by 108.2 ± 53.45, while in the research conducted by Faager 2008 showed an increase in oxygen at 240 ± 86. Results of research conducted by Cabral, 2015 53.3 ± 17.8. This indicates that the pursed lips breathing effectively to improve PEFR which will reduce the severity of lung disease in patients.

4.3 Effect of PLB for dynamic hyperinflation

With the increased Functional Residual Capacity, sport-induced dynamic hyperinflation will cause Volume Tidal to disrupt its inspiration volume, and in some patients, to near Total Lung Capacity limits, causing a build up of Tidal Volume responses. In addition, dynamic hyperinflation has a mechanical advantage performed by the inspiratory muscles, and forces inspiratory muscles to work at a higher fraction of their capacity, and has been associated with an increase in excessive breathlessness. According to research conducted by Cabral, 2015 pursed lips breathing showed the treatment group performed pursed lips breathing therapy there is an increase in inspiratory capacity of 1:35 ± 0:39, while on research conducted by Bianci, 2007 showed an increase in total lung capacity by 118 ± 19. Results of research conducted by Spahija, 2005 showed an increase in tidal volume 1:27 ± 0:39, and research conducted by Araujo, 2015 using the pursed lips breathing showed an increase in dynamic hyperinflation at 0:24 ± 0.2. Visser dilakukakn research results, in 2011 the use of pursed lips breathing showed an increase in inspiratory capacity by 0089. This indicates that the pursed lips breathing effectively to increase the dynamic hyperinflation.

5 CONCLUSIONS

PLB is a very simple and easy-to-use breathing technique to reduce obstruction of expiratory flow through the mouth, which produces pressure along the airway and causes stenting effects that help open the airway and assist in the exhale, thus allowing optimal lung discharge(Maind, Nagarwala and Retharekar, 2015). This therapy is very effective for oxygen saturation improvement, peak expiratory flow rate, dynamic hyperinflation. Prevention and control of symptoms is an important element in the management of patients with chronic lung disease, because the therapy performed for patients with chronic lung disease aims to optimize the control of symptoms and reduce the risk of exacerbation. (Ramos, Vanderlei and Texeira, 2009).

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Description Of Coping On Tuberculosis Patient In Community Health Center (Puskesmas) In Jember

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Keywords: coping, tuberculosis patients.

Abstract: Introduction: Coping is a direct effort in stress management. This coping is an important point in the main prevention of stress. The purpose of this research is describe coping of Tuberculosis patients at Puskesmas Jember. Method: the sample in this research is selected 100 respondents from 250 population by simple random sampling. Results: the age range are 21-26 (16%), 27-32 (9%), 33-38 (15%), 39-44 (12%), 45-50 (15%), 51-56 (7 %), 57-60 (26%), gender women (45%), men (55%), education of respondents are no education (3%), elementary school (28%), middle school (35%), high school (29%), university (5%). Coping of Tuberculosis patients In Puskesmas Jember that obtained the result are low coping mechanism (31%), moderate (69%). Conclusion: Coping in patients Tuberculosis is one effort in the success of treatment from the psychological aspect.

1 INTRODUCTION

Tuberculosis is a contagious infectious disease that can attack various organs, especially the lungs. TB disease is the biggest health problem in the world, after HIV so it should be taken seriously. Based on World Health Organization (WHO) data in 2016 new cases of TB dindonesia 156. 723 cases and januari 2017 in all TB cases of 298,128. According to data from the Ministry of Health (2017) the incidence of TB in Indonesia has begun to shift to children aged 0-14 years as much (0.96%), 15-24 years as much (16.33%), and highest in the age range 25 to 60 year with average reaching value (70%). Jember Regency is a city in East Java that contributed the second highest TB case after Surabaya City. Jember District in 2017 has 22,765 TB cases of clients (Dinas Kesehatan Jawa Timur, 2016)

The treatment of pulmonary tuberculosis in Jember district, one of them that provides respiratory system case service is puskesmas Jember working area. Jember District Health report annual report in 2017 shows the number of cases of pulmonary tuberculosis (BTA positive) in PKM Jember working area as much as the case. Number of incidence of pulmonary tuberculosis during the year 2016 on average reached 1637 people (Dinas Kesehatan Jawa Timur, 2016).

Puskesmas Rambipuji and Puskesmas Sumbersari are puskesmas with TB cases almost doubled from the previous year. Data on 2017 cases of TB in Puskesmas Sumbersari as many as 991 cases and Rambipuji Health Center as many as 845 cases of pulmonary tuberculosis. In 2017 puskesmas rambipuji and puskesmas sumbersari have implemented contact investigations so that TB cases can be detected more quickly. Based on a preliminary study of TB clients who experienced emotional disturbances as much as 87.5%, such as feeling sad, anxious because they can not recover, and afraid to leave their friends

Pulmonary TB disease has an enormous impact on the life of the sufferer, whether physical, mental, or social life. Physically, untreated pulmonary TB disease will lead to complications (Smeltzer & Bare, 2001). Pulmonary Tuberculosis is a chronic lung disease that affects physically and psychosocially for the sufferer. To date, existing government programs still focus on the treatment and prevention of disease transmission. The existing program has not led to the psychosocial problem solving of the patient, whereas

the impact of psychological problems (such as, anxiety, stress and fear) is very big effect on the prognosis of TB disease.

Coping plays an important role in health conditions. Coping in female HIV and parenting patients. In the previous study obtained After receiving the diagnosis, 2 of the women had been considered suicide, but the emotional information and support they received from the group and from the health workers encouraged them to choose life instead of death. Coupling on a constructive individual level can promote safe disclosure, encourage positive living and empowerment of family care. Community-level coping, intervening to encourage a beneficial tackle can reduce fear and inform the community's role (Dageid and Duckert, 2008). This cohort according to Lazarus, R. S., & Folkman (1984) is how to address the apparent behavior and psychological problems in managing, mastering, minimizing, or tolerating stress and demands. This Lazarus and Folkman model distinguishes coping strategies into two types: focusing problems (active / facing) and emotional (passive / denying). Based on previous research, the researcher wanted to know the picture of koping on the TB patient who was undergoing the treatment of dipuskesmas in jember working area.

2. METHOD

The design of this research is quantitative descriptive that aims to know the description of coping mechanism in tuberculosis patients. The population of this research is Jember District Health Clinic which covers 2 districts of 300 respondents. The inclusion criteria of this study were patients who were treated at Puskesmas Jember Working Area, Tuberculosis patients who had less than 1 month treatment (<28 dose) and tuberculosis patients who had already undergone minimal initial treatment (28 doses). Tuberculosis patients within the age range (21-60 years), clients without complications of other diseases. Exclusion criteria of Tuberculosis clients who seek treatment at Puskesmas Jember Working Area, Tuberculosis client of pregnant mother. The sample of this study amounted to 100 people. Sampling technique using simple random sampling.

3. RESULTS

3.1 Characteristics of Respondents

3.1.1 Age

The following table describes the respondent's age description:

Table 1: Description of age of Tuberculosis patients at Puskesmas Jember working area

Characteristics of Respondents	Frequency (person)	Percentase (%)
Usia		
21-26	16	16%
27-32	9	9%
33-38	15	15%
39-44	12	2%
45-50	15	15%
51-56	7	7%
57-60	26	26%
Total	100	100

The results of the study were 21-26 (16%), 27-32 (9%), 33-38 (15%), 39-44 (12%), 45-50 (15%), 51-56 (7 %), 57-60 (26%).

3.1.2 Gender

Table 2: Description of the sex of Tuberculosis patients at Puskesmas Jember working area

Characteristics of Respondents	Frequency (person)	Percentase (%)
Gender		
Female	45	45%
Male	55	55%
Total	100	100

The results of the study were gender, female (45%), male (55%).

3.1.3 Education

Table 3: Description of Tuberculosis patient education at Puskesmas Jember working area

Characteristics of Respondents	Frequency (person)	Percentase (%)
Education		
No education	3	3%
Elementary school	28	28%
Middle school	35	35%
High school	29	29%
University	5	5%
Total	100	100

The results of the study were respondents' education education, not school (3%), elementary (28%), junior high (35%), high school / vocational (29%), university (5%).

3.2 Research Variables

The following table describes the description of coping of Tuberculosis patients at Puskesmas Jember Working Area

Table 4: Description of age of Tuberculosis patients at Puskesmas Jember working area

Characteristics of Respondents	Frequency (person)	Percentase (%)
Coping		
Low	31	31%
Moderate	69	69%
Total	100	100

The result of the research showed that the coping mechanism of Tuberculosis patients at Puskesmas in Jember Working Area was obtained by low coping mechanism (31%), moderate (69%).

4. DISCUSSION

The result of this research is the age of respondent age 21-26 (16%), 27-32 (9%), 33-38 (15%), 39-44 (12%), 45-50 (15%), 51- 56 (7%), 57-60 (26%). Results of the highest TB age were obtained in the 57 to 60 years of age. The results of this study in accordance with the results of research conducted by Ramadhan (2013) Characteristics of respondents by age shows almost all patients are in the productive age group that is mostly aged over 40 years. According to WHO that TB cases in developing countries are vulnerable to productive age groups (Soejadi, 2007).

The results obtained data of the sex of respondents, women (45%), men (55%). The results of this study are in accordance with the results of research conducted by Ramadhan, (2013) most of the pulmonary TB patients in the work area of Puskesmas Guntung Payung and Banjarbaru are men (60.0%) while women (40, 0%). The results of Soejadi (2007) also showed that most of the TB patients were male (60.4%) while the rest were female. Based on other studies also obtained pulmonary TB disease tends to be higher in male gender than female.

The result of the research is the respondent education data, not the school (3%), elementary school (28%), junior high (35%), SMA / SMK (29%), university (5%). The results of this study are in accordance with the results of research conducted by Ramadhan, (2013) pulmonary tuberculosis patients in the work area of Puskesmas Guntung Payung and Puskesmas Banjarbaru have high school education background (46.7%). The smallest percentage of patients with pulmonary TB have completed primary school and Diploma / Bachelor degree (10.0%).

The result showed that low copies (31%) and kopimg were (69%). As low as 31% of the results of this study, Tuberculosis has a major impact on living patients, which is often extended to the caring family. Patients mostly face difficulties in accessing and completing treatment programs especially those most vulnerable to diseases and economic factors due to their poverty and social support (Yellappa *et al.*, 2016). Koping for chronic disease is a stressor directed at one person rather than a relationship with family members. Chronic illness is also a stressor that many literature exists. Disease management is the biggest problem in case of chronic disease one of them is Tuberculosis. There are various ways in which some family members can collaborate with health workers, including discussing how to manage the disease; combine efforts, skills and knowledge to engage in joint problem solving; and negotiation responsibilities . All of these strategies ultimately reflect a concerted effort to address the problem. One person has a disease in one family, they become partners working together to overcome and adapt to the demands of the disease. Collaboration involves pooling resources, with both members contributing to coping. Of course, some members may not contribute equally to coping efforts or may not share all the coping responsibilities, depending on the nature of the disease and its demands (Helgeson *et al.*, 2018)

Previous research has argued that in the face of illness suffered by coping strategies focused on issues such as assertiveness, behavior, and action planning in a more favorable or adaptive treatment of an emotional coping strategy aimed at reducing distress. Generally, the wider range of coping strategies a person will be more useful. Active coping strategies focused issues and some cognitive and behavioral coping efforts have been linked to better health in a person that can be generally assessed include psychological resilience, self-esteem, reduced mood disorders, confusion, fatigue, or anxiety (Dageid and Duckert, 2008). Passive

coping strategies such as rejection, avoidance, self-blame, fatalism, withdrawal, mental disorders, and helplessness have been associated with increased low psychological and adaptation pressure (Dageid and Duckert, 2008).

Similar studies have been conducted focusing on patients with cancer chemotherapy have done. The study shows that one of the key factors of family coping during episodes of self controlled chemotherapy. It is from a convincing member family self to maintain support and mentoring to the patient and encourage the patient's confidence to recover. Another factor is adherence from family members to advise from medical and health professionals such as adhering to a treatment schedule and accompanying patients when visiting a doctor(Kharisma, 2012; Haprilianingtyas, 2017)

Koping results in this study tend to patients with moderate koping category sebnyak 69%. This, in line with the Dageid and Duckert (2008) study, all 10 women reported in addressing a problem they have sought social support for emotional, informational, and instrumental reasons. Greater engagement in spiritual activities is associated with better psychological adaptation (Dageid and Duckert, 2008). Most of the women in the study sought spiritual guidance and support, family members, tribal leaders, or shamans. Six of the ladies choose to deepen the science of religion, and find support and comfort in prayer. Prayer is a way to get closer to God is a way to maintain hope. A woman expresses her belief in a miracle that can cure the illness (Dageid and Duckert, 2008). Seeking social support. effective social support of effective coping (Pakenham and Rinaldis, 2001; (Dageid and Duckert, 2008). There are three types of functional social support: emotional support for example, through affection, entertaining, and motivation, so that the sense of belonging and personal worth, information support that increases one's knowledge base and instrumental support which is a practical aid with daily life (Dageid and Duckert, 2008)

4 CONCLUSIONS.

Pulmonary TB disease has an enormous impact on the life of the sufferer, whether physical, mental, or social life. Physically, untreated Lung TB disease will lead to complications, such as the spread of infection to other organs, malnutrition, severe blood cough, drug resistance, and so on. Koping sources are something that helps facilitate coping strategies or coping mechanisms. Selection of the right coping resources can help to resolve the stress effectively. Köping sources include economic assets, abilities and skills, defense techniques, social support, and motivation. The disease of tuberculosis can develop with poor progressiveness and have long-lasting physical, mental, social, and spiritual effects. Ongoing support is needed to prevent disease progression.

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Effect of Pursed Lips Breathing and Distract Auditory Stimuli Against Dyspnea

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Keywords: Pursed Lip Breathing, Distract Auditory Stimuli, Dyspnea

Abstract: Dyspnea in patients with Chronic Obstructive Pulmonary Disease (COPD) is often interpreted as an uncomfortable condition due to breathing difficulties, not only the sensation of subjectivity, but also as a serious respiratory symptom. Pursed lips Breathing (PLB) is a widely used therapy in lung rehabilitation during daily activity in COPD patients, besides this therapy technique has benefits by reducing symptoms and improving quality of life. To reduce the uncomfortable condition due to difficulty breathing and sensation of subjectivity in COPD patients can be done with auditory stimuli using Distractive Auditory Stimuli (DAS), DAS is a non-pharmacological therapy that can be used. to reduce the sensation of dyspnea in patients with COPD. Methods: This research uses quasi experiment type research with pretest approach - posttest with control group design. Patients of COPD who become respondents are divided into 2 groups, group 1 is given PLB and DAS, group 2 is given PLB. Result: The result of this study shows the comparison of pre test for PLB and DAS group has mean and SD (3,19 and 0,75), whereas in PLB group have mean and SD (2,81 and 0,83) with significance level 0,01 (p> 0,05). Comparison of Post test for PLB and DAS group has mean and SD (2,44 and 0,89) meanwhile SD and PLB (2,31 and 0,94) with significance level 0,03 (p> 0.05). Conclusion: It can be concluded that between PLB and DAS therapy compared to PLB alone have a significant difference.

1 BACKGROUND

Dyspnea is a condition that describes the sensation of shortness of breath, which is characterized by inhibition of airflow, or difficulty breathing and chest tightness that is often associated with heart or respiratory illness (Gold, 2017). Dyspnea in patients with Chronic Obstructive Pulmonary Disease (COPD) is often interpreted as an uncomfortable condition due to breathing difficulties, not only the sensation of subjectivity, but also as a serious respiratory symptom. This excessive perception of dyspnea during COPD exacerbations generally leads to a limitation of daily activity, whereas in dyspnea caused by holding the breath has an inhibitory effect on muscle strength, therefore the reduction of unpleasant respiratory sensations can play an important role in preventing physical inactivity patients with COPD (Shingai et al 2015). Pursed lips Breathing (PLB) is a widely used therapy in lung rehabilitation during daily activity in COPD patients, besides this therapy technique has benefits by reducing symptoms and improving quality of life. To reduce uncomfortable conditions due to difficult breathing and subjective sensation in COPD patients can be done with auditory stimuli using Distractive Auditory Stimuli (DAS), DAS is a non-pharmacological therapy that can be used. to reduce the sensation of dyspnea in COPD patients

2 METHODS

This research is Quasi Experiment with pretest - posttest with control group design. This research attempts to express causal relationships by involving the control group in addition to the experimental group. But the selection of these two groups used a random technique. This design typically uses fairly established subject groups (clumping techniques), so that from the outset both groups of subjects may have different characteristics.

3 RESULTS

The result of this study shows the comparison of pre test for PLB and DAS group has mean and SD (3,19 and 0,75), whereas in PLB group have mean and SD (2,81 and 0,83) with significance level 0,01 (p> 0,05). Comparison of Post test for PLB and DAS group has mean and SD (2,44 and 0,89) meanwhile SD and PLB (2,31 and 0,94) with significance level 0,03 (p> 0.05).

4 DISCUSSION

Dyspnea in patients with Chronic Obstructive Pulmonary Disease (COPD) is often defined as an uncomfortable condition due to breathing difficulties, not just subjectivity sensation, but also as a serious respiratory symptom. This excessive perception of dyspnea during COPD exacerbations generally leads to a limitation of daily activity, whereas in dyspnea caused by holding the breath has an inhibitory effect on muscle strength, therefore the reduction of unpleasant respiratory sensations may play an important role in preventing physical inactivity patients with COPD (Shingai et al 2015).

Dyspnea is a common and often debilitating symptom that affects up to 50% of patients admitted to acute and tertiary hospitals and a quarter of patients seeking outpatient care. The presence of Dyspnea is a potent predictor of mortality, which surpasses general physiological estimates in predicting patient clinical pathways. Respiratory breathing arises from a variety of clinical conditions, but can also improve poor cardiovascular conditions in our increasingly irregular population. The underlying diagnosis and treatment of underlying Dyspnea is the most preferred and most direct approach to correcting this. Symptoms, but there are many patients whose cause is unclear or for whom Dyspnea persists despite optimal care (Parshall et al., 2012).

The nonpharmacological approach may also be used to improve drug therapy, since a pharmacological approach alone may not be sufficient to relieve Dyspnea in some patients. The most prominent of these approaches is pulmonary rehabilitation, which has shown a role in reducing Dyspnea (including Dyspnea perception) by improving cardiovascular fitness and / or reducing the sensitivity of patients by reducing fear or anxiety. Increasing the duration of exercise as part of a pulmonary rehabilitation program has been shown to lead to decreased Dyspnea. Muscle exposure exercises have also proven to be a useful addition to the whole body workout for those who have weaknesses in their inspiratory muscles (GOLD, 2017). In addition to lung exercises, other types of nonpharmacologic interventions are proven effective for treating Dyspnea. breathing exercises to treat Dyspnea, such as tightening lips breathing, which has been shown to improve the rate of Dyspnea recovery in COPD patients, are an additional option to consider in removing dyspnea (Rossi et al., 2014).

Pursed Lips Breathing (PLB) is a ventilation strategy that is often spontaneously adopted by patients with chronic obstructive pulmonary disease (COPD) to relieve Dyspnea, and its practice is widely taught as a breathing strategy to improve exercise tolerance (Mayer et al., 2017).

PLB is used by the proportion of patients with chronic obstructive pulmonary disease (COPD) to relieve Dyspnea. It is also commonly used in pulmonary rehabilitation (Bhatt et al., 2013). Pursed Lip Breathing Exercise is an exercise aimed at improving the ability of respiratory muscles to improve ventilation of lung function and improve oxygenation. Pursed Lip Breathing exercise techniques include: Adjusting the patient's position by sitting in the bed or chair, Putting one patient's hands on the abdomen (just below the proc. Sipoideus) and the other hand in the middle of the chest to feel the movement of the chest and abdomen while breathing, Take a deep breath through the nose for 4 seconds until the chest and abdomen feel lifted up and keep the mouth closed during inspiration and hold the breath for 2 seconds, exhale through the lips are closed and slightly open while contracting the abdominal muscles for 4 seconds (Gauravmaind,)

Program implementing pursed lips breathing that can be done that is with a routine exercise for 4 weeks, where in 1 week can be exercised for 3 times the practice of pursed lips breathing. Duration that can be done in each pursed lips breathing is the first week done pursed lips breathing for 10 minutes for 3 times of practice, the second week of pursed lips breathing for 15 minutes for 3 times of practice, the third Sunday pursed lips breathing for 20 minutes for 3 four weeks of practice, pursed lips breathing for 25 minutes for 3 times

PLB can improve ventilation efficiency, and reduce respiratory rate (RR). PLB can reduce intrinsic final expiratory pressure (PEEP) by generating positive pressure on the mouth and functioning as a physiological extrinsic PEEP. By slowing the expiration, this decreases the tendency of the airways to collapse by reducing the Bernoulli effect created by airflow. Dyspnea in activity is associated with levels and levels of respiratory muscle contrast. Exercise also causes dynamic hyperinflation in patients with COPD. It is said that PLB, by reducing RR and dynamic hyperinflation (Bhatt et al., 2013).

DAS is a distractive auditory stimulus (DAS) in the form of music can decrease the perception of dyspnea caused by exercise in subjects with COPD. In addition, watersheds have improved adherence to exercise in groups with COPD.3 Therefore, to maintain a suitable level of physical activity, the watershed during physical exercise seems to be a useful tool in stable COPD patients, the music used is a classical instrument, selected alone, classical non-lyrics, 60-80 beats per minute (slow music) (Shingai et al., 2015).

The watershed appears to increase dyspnea tolerance and can improve the effect of better exercise. To evaluate the effectiveness of watershed incorporation with training program can be done after 4 weeks (Lee et al., 2015).

5 CONCLUSION

It can be concluded that between PLB and DAS therapy compared to PLB alone does not have a significant difference Pursed lip breathing and distractive auditory is a non-pharmacological therapy that can be used as a therapy in patients with chronic obstructive pulmonary disease in reducing the sensation of tightness. Therapy is an easy therapy performed by patients as well as cheap and affordable. This therapy can also be applied to patients with COPD criteria GOLD II and III.

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Evaluation of Discharge Planning Implementation in Pamekasan Hospital

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Keywords: Implementation, Discharge planning, Nursing

Abstract: Background: Discharge planning is a systematic planning process begun from patient admission until discharge from hospital. Nowadays, discharge planning done by nurses has been very limited in check up information and was given in predischarge only. The objective of this study was to identify the implementation of discharge planning. Method: An explanative descriptive with cross sectional was employed in this study. Population was all nurses in Mohammad Noer hospital and As Syifa hospital Pamekasan, sample comprised of 102 respondents, determined using purposive sampling. Result: The result showed that 62 respondents (60,78%) was less in discharge planning when the patients is hospitalized, 65 respondents (63,73%) was less in discharge planning during the patients in caring and 54 respondents (52,94%) was enough in implementing discharge planning. Conclusion: The findings indicate a recomendation for nursing staff to arrange the manual procedure for implementation of discharge planning and held a training about professional nursing care model.

1 BACKGROUND

Discharge planning considered as one of the most important thing in medical service recently. Discharge planning is a planning process that systematically started from admission until patient discharged from hospital. It must be concentrated in patient's problem which are preventive, rehabilitative, and nursing care that aim to prepare client and family understanding the disease and it's post discharge treatment at home, furthermore it can describe the patient's need and reassure future reference if it's needed. Nowadays, discharge planning done by nurses has been very limited in check up information and was given in predischarge only. The most happening phenomena is discharge planning was only done when patients admitted to discharge from hospital and it's not fitting professional nursing care model. It's found in Mohammad Noer and As Syifa Pamekasan hospital.

Discharge planning model there was not fitting professional nursing care standard, nurses gave checkup sheet only in discharge day, they didn't do any discharge planning program when patients admit to hospital and when patient's hospitalized. Health education given to patient was not fully well implemented due to patient want to go home as soon as possible, it can make a miscommunication between patient and family. An easier standard in discharge planning implementation is needed in order to make a better discharge planning implementation in Pamekasan hospitals.

Public Hospital Mohammad Noer and As Syifa Pamekasan hospital as health service stakeholder should run MAKP which one of its component is discharge planning. Effective discharge planning can be done with education and training efforts for nurses and system changes. Nurse education and training aims to improve the nurse's attitude towards discharge planning and will impact on all units (Suzuki et al., 2012).

Research on discharge planning by (Hariyati, Afifah, & Handiyani, 2008) in Indonesia has been done and the result is 36% of nurses have not implementing discharge planning; 56% of those implementing discharge planning not based on structured planning and client needs assessment; 84% of nurses have no SAP in carrying out the

discharge planning and 24% of nurses said the learning media is inadequate for the implementation of discharge planning, thus causing obstacles in carrying out a good discharge planning. The most common barriers to discharge planning identified are lack of time from nurses and client factors. Clients are most dissatisfied with the information provided by the nurses about what is allowed to be done or should be avoided after being discharged (Ubbink et al., 2014). Discharge planning systematically conducted according to standard can make it easier for clients to follow directions and self-care guidance after discharge (Holland & Bowles, 2012). From the data it can be concluded that nurses have an important role in improving the behavior of clients with discharge planning implementation.

Data collection on discharge planning at Mohammad Noer Pamekasan Hospital was conducted by researcher in September 2017 at Mohammad Noer Pamekasan Hospital by observation and interview. The results of interviews with the coordinator of the nursing service department was the ineffectiveness of discharge planning is a long-standing problem. Discharge planning manual procedures were not yet available starting from client's admission, as long as the client is admitted and on the day of discharge. Nurses who have attended MAKP training (model of professional nursing care) are only 5 nurses (6.7%). The result of the interview with the head of inpatient unit 2 was that the nurse actually knew that the discharge planning is not only during the day of discharge. The results of interviews with 6 of the 20 nurses (30%) of 6 nurses stated that sometimes they do not have time to provide health education because of many activities must be done on the client and the factors of the clients themselves who rushed to go home. Implementation of discharged planning was not optimal which only 3 nurses (15%) gave discharge planning when client enters and 4 nurses (20%) gave discharge planning during care. The result of the observation of the discharge planning format in the Inpatient Unit of Mohammad Noer Hospital was that there was only the client control sheet and none of the rooms have manual procedure of discharge planning, and the leaflet for the client control.

Discharge planning can reduce the client's length of stay, prevent recurrence, improve client health conditions, lower client family burden, and reduce mortality and morbidity. Nurses have a major role in providing discharge planning, so nurses need to have knowledge of the purpose and benefits of discharge planning.

The purpose of this study was to identify the implementation of discharge planning. Implementation of this discharge planning will be identified both in general and sub-variables of discharge planning.

2 METHODS

This research is a descriptive explanative research with the design of this research is cross sectional. The sample of controlled study using inclusion and exclusion criteria was 102 respondents. The inclusion criteria in this study were nurses who worked at Mohammad Noer and As Syifa Pamekasan hospital and were willing to be respondents. The exclusion criteria in this study were the head of room and the deputy head of the room, the nurse who was on leave, the study and the sick. Mohammad Noer and As Syifa hospital were chosen because the public hospital is both class D.

Researchers modify and develop research instruments in the form of questionnaires by testing content and construct validity to experts in the field of nursing management. The next stage, researchers tested the instrument to 20 respondents in the hospital who have similar characteristics of respondents and criteria outside the respondents who will be examined. The validity test results obtained that the questionnaire has a correlation coefficient of 0.536-1 and reliability coefficient of 0.761 with 35 items statement.

Data collection began with researchers submitting research licensing letters to the Director of Mohammad Noer Hospital and As Syifa Hospital. The data collection stage can be carried out, after the research permit letter from Mohammad Noer and As Syifa Pamekasan hospital has been released. The next step is the researcher to meet the head of the nursing department to explain the informed consent and the research procedure to be performed, then the researcher meets the chief of the room to explain the informed consent. Researchers distributed questionnaires to each head of space in accordance with the number of samples taken and the researchers took the questionnaire that has been filled by respondents 1 week after the questionnaire to the respondent.

The researchers conducted a univariate analysis after the data were collected. This analysis aims to see the frequency distribution and proportion of data. Univariate analysis used by researcher to see distribution frequency of discharge planning in general and sub variable.

3 RESULT

The univariate analyzed data is the distribution of frequency of discharge planning implementation when the client is admitted to hospital, during treatment and on the day of client return. The results of this study are as follows:

Figure 1 shows that as many as 39 people (38.24%) of respondents sufficient in implementing discharge planning in RSU Pamekasan but it was not optimally implemented.

Table 1 shows that as many as 40 people (39.22%) of respondents are sufficient in implementing discharge planning stage when the client is in hospital, as many as 37 people (36.27%) sufficient respondents in carrying out the stages during client in care and as many as 54 people 52.95%) sufficient respondents in implementing the discharge planning stage that is on the day of patient discharge in RSU Pamekasan.

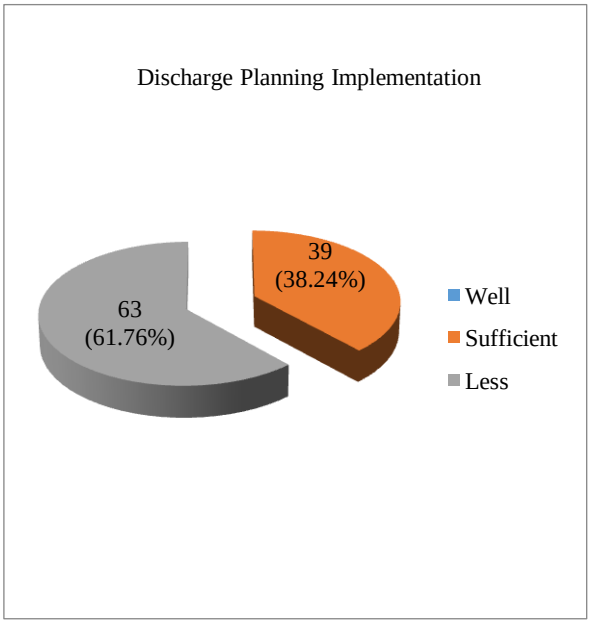

Figure 1: Frequency Distribution of Discharge Planning Implementation. Respondent (n=102)

Tabel 1: Frequency Distribution of Discharge Planning Implementation in Pamekasan Hospitals on February 2018 (n=102)

	Discharge Planning Implementation		Amount	Percentage (%)
1.	In Patient Admission			
	a.	Well	0	0
	b.	Sufficient	40	39,22
	c.	Less	62	60,78
	Total		102	100
2.	During treatment			
	a.	Well	0	0
	b.	Sufficient	37	36,27
	c.	Less	65	63,73
	Total		102	100
3.	On the day of discharge			
	a.	Well	0	0
	b.	Sufficient	54	52,94
	c.	Less	48	47,06
	Total		102	100

4 DISCUSSION

Most of the nurses at Mohammad Noer and As Syifa Pamekasan hospital less in implementing discharge planning. The results of research on the implementation of discharge planning shows that most nurses in conducting discharge planning only perform stages on the day of discharge only.

The results of research conducted (Graham, Gallagher, & Bothe, 2013) states that the nurse's adherence to the policy of discharge planning is still low for about 23%. Other studies have also pointed out the major obstacles in discharging planning centered on poor planning and communication between medical officers and clients, as well as inadequate human resources (Morris, 2012). The nursing staff considered the discharge planning session to be stressful, time consuming and marked lack of respect between nursing staff (Hofflander, Nilsson, Eriksén, & Borg, 2013). Implementation of discharge planning needs improvement in the communication aspect between the client / family and the care team, as well as through the nurse's knowledge of the doctor handling the client and

anticipating the client's return date (New, Mcdougall, & Scroggie, 2016).

This study shows the results where most of the nurses are less than optimal in discharge planning. The discharge planning stage at the time the client enters the hospital includes nursing care and assessment of each client's needs. As many as 62 nurses less performing stages when the client entered the hospital and as many as 65 nurses less in performing the stages as long as the client was treated as well as 54 nurses quite well in implementing discharge planning.

Implementation of discharge planning includes information on follow-up care at home, physical activities at home, and health care facilities around the house, help prepare for returning clients, and note the return of clients. Minor discharge planning details such as informing of control schedules, medications to be taken, permissible activities, and nutrition that is not good to consume for clients at home should be kept in place. It will also affect the increasing number of risk of recurrence and return of clients to the hospital (Pellett, 2016).

Implementation of discharge planning in Mohammad Noer and As Syifa Pamekasan hospital 2018 in general is still less than optimal in its implementation. This is because part of the discharge planning phase is sometimes ignored by the nurse. Based on this, then the risk of the number of clients returning to the hospital with the same complaint or recurrence will increase.

5 CONCLUSIONS

This research concluded that in general as many as 63 respondents (61.76%) less in conducting discharge planning. The results of this study indicate that the discharge planning is not optimally implemented.

Suggestions for the hospital to conduct training and facilitate to attend workshop on discharge planning for nursing profession and also need to monitor discharge planning implementation in order to be implemented properly. For the next researcher to do research on the analysis of factors that affect the implementation of discharge planning.

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Systematic Review
Knowledge, Attitude and Smoking Practice on Adolescent

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Keywords: knowledge of smoking, attitude of smoking, practice of smoking, adolescence.

Abstract: **Background:** Cigarettes are a threat to today's adolescence. There are many types of cigarettes ranging from conventional cigarettes to electrical cigarettes. All that can interfere with adolescence health. The purpose of this systematic review is to know the results of previous research related to knowledge, attitude and practice of smoking in adolescents. **Methods:** The source of the article used is obtained from search through Proquest and EBSCO databases. Search articles are limited from 2012 until 2018. After the article was obtained, it reviewed until the stage of making systematic review. **Results:** Systematic review of 15 articles from the review of articles was illustrating the knowledge, attitude and action of smoking in adolescents in various countries. **Conclusion:** Based on the study it can be concluded that the majority of adolescent knowledge about smoking is good, the majority of smoking attitude is positive, and the majority of smoking action ia daily smokers.

1 BACKGROUND

Adolescence is a period of transition from childhood to adulthood. This period of many changes that will occur in a person. The change can be either positive or negative. One of the negative changes that occur in adolescents is the emergence of smoking (Nuradita & Mariyam, 2013). Smoking activity among youth, especially teenagers is not a new thing. Ancient smoking was only done by men only, but at this time women also participate in smoking. Behind the pleasure of smoking, cigarettes have a negative impact that can affect health. The chemical contained in a cigarette can be a source of disease for everyone who consumes it. It is therefore necessary to take preventive measures both in the home, school, and community environment (Christy et al., 2013).

According to the World Health Organization (WHO), tobacco kills more than 5 million people per year and is projected to kill 10 million people by 2020, of which 70% of victims come from malevolent predominantly males, Asia. WHO estimates 1.1 billion world smokers aged 15 years and over that is one third of the total world population. Indonesia ranks 5th in cigarette consumption in the world after China, the United States, Japan and Russia (Herawati, Arief, Haryono, & Mulyani, 2017). Among adolescents aged 15-19, about 38.4% of men and 0.9% of women are smokers. Those aged are those who are in third grade junior high school, high school, and early college. Generally the group are teenagers who start smoking to show that they are adults (Saputra & Sary, 2013).

Smoking behavior is related to knowledge, one's attitude toward smoking and education. Knowledge of a person will affect his lifestyle to behave healthily. A person who is full of information (knowledge) will perceive the information in accordance with the nature of psychology. A broad and adequate insight into the health hazards of a cigarette is expected to be a person's principle to keep people who have not fallen into disrepute and addicts can stop this dangerous habit (Nik Farid et al., 2016). This review aims to determine the knowledge, attitude and practice of smoking in the adolescence.

2 METHODS

Search Strategy

Studies that examine the knowledge, attitude and practice of smoking were identified through online literature using the following database: EBSCO and PROQUEST database. The search term used were adolescents, smoking knowledge, smoking attitude, and smoking practice with probable combinations of conjunction names ‘‘and/or’’. Restrictions were made by language or year of publication. English was choosen to be the language, and year was choosen from 2012 until 2017. This search was conduct in Februari 2018. Reference list of included studies was evaluated to increase sensitivity and to select more studies.

Inclusion and Exclusion Criteria

We included studies that met three criteria: (1) focus on the smoking knowledge of adolescent, (2) focus on the smoking attitude of adolescent, (3) focus on the smoking practice and (4) studies published in English. We included studies that carried out different methods of analysis. Studies whose not use adolescenct age as the respondent were excluded from the study.

Data Extraction

The authors independently seek and assess each database for inclusion and exclusion criteria. Titles and abstracts are screened by the authors to obtain significant and for possible duplication In this case authors find 50 articles that match with this review. After initial screening, the authors' details, the sample and the location of the study and the main findings of the included study were extracted in matrix table form. Based on the table the author choose 15 articles and compiled this systematic review.

Quality Appraisal

After the extraction of all included articles, all studies were reviewed and appraised for relevance, methodological rigor, and credibility using the quality assessment tool for quantitative studies in effective public health practice project (EPHPP). Each of the studies was given a quality score ranging from 1 to 3 (3 is the highest score) based on whether the article answered each of the following questions: (1) selection bias?, (2) study design?, (3) confounders?, (4) blinding?, (5) data collection method?, (6) Withdrawals and dropout. Score are discribe as strong, moderate, and weak.

3 RESULTS

Description of Included Studies

The fiveteen articles is a research from some country in the world. There are country in Asia, Amerika, and Afrika. The articles have responden whose average age between 12 until 24 year, and mostly the gender is male. Most of them use school student to be responden. Most of study use cross sectional methode and some of them use pre and post test design. All of the article use random sampling as the sampling methode. The articles was published between 2012 until 2018. All of them was published in journal that indexed by scopus.

Smoking Knowledge

The smoking knowledge in this study mostly was conduct as good and bad knowledge. They usually use kuesioner to measure the knowledge. The kuesioner had been use is close ended kuesioner and the amount of the question is vary each other. Most of the articles report that the knowledge of the adolescent about smoking is good. In the Aslam resarch about *Prevalence and determinants of susceptibility* to *cigarette smoking among school students in Pakistan:secondary analysis of Global Youth Tobacco Survey* showed that Student who had good knowledge about harmful effects of smoking with the value OR = 0.54, 95% CI [0.43-0.69] (K., S., & S., 2014). Another research who conducted with an intervention held by Simansalam about *Training Malaysian Pharmacy Undergraduates with Knowledge and Skills on Smoking Cessation* showed that the number of students who scored above 50% for the knowledge component improved significantly from 13 at preintervention to 66 at post intervention: x2 (1, N5130)532, p50.003. From the results of the 2-way ANOVA, the main effect of the module intervention was significant with higher knowledge scores at post intervention (M552.5%, SD511.9) than at pre intervention (M539.4%, SD510.8). The interaction effect was significant, F (1,128)=5.81, p=0.017, indicating the impact of the module intervention was slightly greater among studentswho also had exposure to the role-play intervention. However, the main effect of the role-play intervention was not significant in terms of knowledge score improvement: F (1, 128)51.59,

p50.112 (Simansalam, Brewster, & Nikmohamed, 2015). The shockly result was happen in Herawati research. The research is about Jayapura teenager smoking behavior, and the shockly one is the result show us that the smoking respondents had higher knowledge than non smoking group although it was statistically not significant, p = 0.079. Its mean they are still smoking although they are knows about the harmfull of smoking (Herawati et al., 2017).

Smoking Attitude

All of the articles was define the attitude as positive and negative attitude. Possitive attitude is some one that doesn't like of smoking, they think that smoking is not good for their health and they try to avoid smoking. Negative attitude is describe as some one that think smoking is good for them and think they are free to use it. In this study, all of the study showe that the smoking attitude mostly positive. To measure smoking attitude usually the author of each article use kuesioner, and the amount of question is different each other. Abdollahi research about *Emotional Intelligence, Hardiness, and Smoking: Protective Factors Among Adolescents* showed that 12% of students reported a positive attitude toward smoking, 20% of students reported a neutral attitude toward smoking, and 68% of students reported a negative attitude toward smoking. Among the sample, 72% were identified as nonsmokers, 20% as occasional smokers, and 8% as daily smokers (Abdollahi, Talib, Yaacob, & Ismail, 2016). Another result by Nazarzadeh about *Smoking status in Iranian male adolescents: A cross-sectional study and a meta-analysis* showed that almost one-third of adolescents (34.2%, n =354) have experienced smoking either experimentally (23.4%, n=242), or regularly (10.8%, n=112). Multivariate analysis showed that older age (OR = 1.20; 95% CI: 1.05-1.37), risky behaviors (OR=1.83; 1.25-2.68), positive attitude toward smoking (OR= 1.15; 1.09-1.21), positive thinking about smoking (OR= 1.07; 1.01-1.14) (Nazarzadeh et al., 2013). The research of Abidin about *knowledge, attitude and perception of second-hand smoke and factors promoting smoking in Malaysian adolescents* that use Environmental Tobacco Smoke (ETS) intervention and defined the group as exposed to ETS >5 h/day and exposed to ETS <1 h/day showed that Negative attitudes and perceptions towards smoking and ETS exposure were linked to lower smoking attempts in states with complete SFL. Adolescents with limited ETS exposure who lived in a state with complete SFL were less likely to attempt smoking compared to those exposed more regularly to ETS and living in a state with partial SFL (Zainol Abidin et al., 2014).

Smoking Practice

Smoking practice was define in many ways in this study. But most of them use daily smoker, accidental smoker, and non smoker term to distinguish it. Almost all of the articles use questionnaire to measure smoking practice. They usually use close ended questionnaire to know what is their smoking practice status. Most of the respondent in this study was indicated as daily smoker who can smoke one until a package of smoke each day. Chen research about the majority of students (61.2%) attended a public school. Of the participating students, 8.8% (95% confidence interval [CI], 7.9%-9.7%) declared that they smoked daily, 3.6% (95% CI, 3.0%-4.2%) smoked weekly, and 5.7% (95% CI, 4.9%-6.4%) smoked occasionally (a few times per month). In addition, 11.8% (95% CI, 10.7%-12.8%) said they were former smokers and 70.1% (95% CI, 68.6%-71.6%) had never smoked (Chen & Chen, 2011). Another research conducted by K showed that most adolescent smokers are males between the ages of 16 and 18. Curiously, female smokers between the ages of 12 and 15 who live in the central and southern regions of Taiwan have a higher percentage of smoking illicit cigarettes than any other category. Eighty percent consume less than half a pack a day. Fifty-five percent of those who have never smoked illicit cigarettes are willing to quit smoking, and 41.6% of those who have smoked illicit cigarettes at some time in the past are willing to quit smoking. However, only 19.7% of those who often smoke illicit cigarettes are willing to quit (K. et al., 2014). The research of Ling et al about *Social Branding to Decrease Smoking Among Young Adults in Bars* that use social branding intervention showed that during the intervention, current (past 30 day) smoking decreased from 57% (baseline) to 48% (at follow-up 3; P = .002), and daily smoking decreased from 22% to 15% (P < .001). There were significant interactions between hipster affiliation and alcohol use on smoking. Among hipster binge drinkers, the odds of daily smoking (odds ratio [OR] = 0.44; 95% confidence interval [CI] = 0.30, 0.63) and nondaily smoking (OR = 0.57; 95% CI = 0.42, 0.77) decreased significantly at follow-up (Ling et al., 2014).

4 DISCUSSION

This systematic review provides evidence-based picture of smoking knowledge, attitutude and practice in adolescents. The results of the reviews explain that there are so many adolescent that have good knowledge, positive attitude but do a smoking.This phenomena is alarm to us that there are so many factor who make some one to be smoker. Preventing is a best way to make adolescent free from smoking.

The results of this review are certainly useful for nurses, both clinical and community nurses. Nurses can be know about the condition of adolescent right now. With knowing their condition nurse can make any plan to overcome it. Good plan can make the intervention better and more effective.

These studies could not be fully generalized. Bias might occur. It could be due to measurement parameter was not homogeneous and the condition of the study sample were also less homogeneous (there are a few samples with a lot of kind culture, socio economics, and environtment).

5 CONCLUSSION

This study emphasizes the importance to recognize the uprising rate of smoking particularly among adolescents. The awareness of parents on the smoking behavior of adolescents' should be tailored, in which the presence of a smoking member of the household influenced adolescent in smoking habit and early age of smoking. The study shows that at the time when adolescents start to socialize with their friends, the smoking behavior of peers had a considerable effect. Therefore, we recommend appropriate smoking control programs, especially in adolescent should be initiated. A strict smoking policy should be implemented and early counseling among adolescents and awareness campaigns to the health effects of smoking and the prevailing beliefs that smoking habit can easily quit. As they become the future professionals of the society. Smoking control programs should be considered in this group.

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Effects Of Electrical Stimulation On Swallowing Function In Stroke Patients With Dysphagia: A Systematic Review

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Keywords: Stroke, dysphagia, electrical stimulation

Abstract: **Background**: The most common cause of chronic dysphagia is stroke. Dysphagia can lead to malnutrition, feeding-tube dependence, aspiration pneumonia, social isolation and even death. Administration of swallowing therapy may improve swallowing and thereby reduce the risk of dysphagia but effect of electrical stimulation is still unclear. The objective of this study is to asses the efficacy and safety of electrical stimulation on swallowing function in stroke patients with dysphagia by systematic review and followed the PRISMA statement guidelines.**Method**: Scopus, PubMed, Proquest, and Science Direct database with limited year 2012 – 2018 were search for the relevant keyword. All included studies were access base on (1) randomized controled trial, (2) experimental study. **Results:** Nine article reported that electrical stimulation include neuromuscular electrical stimulation (NMES) using VitalStim or AMPCARE effective swallowing programme), pharyngeal electrical stimulation (Phagenyx) increase significantly swallowing function in stroke with chronic or acute dysphagia **Conclusion:** Interventions electrical stimulation can be used as safety treatment method in stroke patient with acute or chronic dysphagi

1 INTRODUCTION

The most common cause of chronic dysphagia is stroke (Beavan, 2015). Stroke survivors are estimated to be 50% dysphagia and 11-13% to chronic dysphagia (Nam *et al.*, 2015). The ingestion process involves some sensory elements of the peripheral nerves, central nervous system coordination, and motor responses. Sensory processes of the peripheral nerves are cranial nerves V, VII, IX, X, and XII. In the central nervous system, the cortical and subcortical areas regulate the swallowing threshold and the brainstem acts as the center of swallowing, accepting input, arranging it into a programmed response and sending the response to the swallowing muscles (Lin, Hsieh and Wang, 2013). Stroke resulted neuron cells becomes tissue death resulting in malfunction. In acute stroke, patients may develop dysphagia due to cerebral edema, conscious level disorder or diaschisis and are usually reversible. But if lesions of the brainstem area will occur permanent dysphagia (Lam et al., 2013). The disorders that can occur in stroke are as follows: Oral phase: lobe coordination disorder, tongue and mandibular, weakness in the base of the tongue, decreased level of consciousness, noble dysfunction. Pharyngeal phase: superior mole and pharyngeal palatum dysfunction, muscle weakness of the pharyngeal contractor, musculary muscle disorder. Esophageal phase: abnormal wall defect, peristaltic weakness of the esophagus. The incidence of dysphagia (difficulty swallowing) reported in stroke is 30-78% (Martino et al, 2005). Based on the videofluoroscopic studies of swallowing (VFSS) the incidence of dysphagia in the acute phase is 71-78% (Daniels etal, 1998; Hamdy et al, 1998). Dysphagia can lead to malnutrition, feeding-tube dependence, aspiration pneumonia, social isolation and even death (Archer *et al.*, 2013). Early detection in the form of screening may reduce the risk of lung complications and death (Kushner et al, 2013), early detection and management of dysphagia is expected to benefit patients not only shortening stroke recovery times but also to reduce overall rehabilitation and recovery costs (Martino, Pron, & Diamant, 2000). Good management of dysphagia proper swallowing difficulties can improve patient wellbeing through improved nutrition and hydration, ensuring they receive their medication and prevent adverse events such as choking and aspiration pneumonia (Wright & Howseman, 2013). As time goes by, intervention or therapy to improve swallowing function in dysphagia patients is increasingly variable. So research is needed as evidence based practice. One of swallowing therapy is electric stimulation. Electrical stimulation included neuromuscular electrical stimulation (NMES) using Vital-stim and AMPCARE effective swallowing programme, pharyngeal electrical stimulation (Phagenyx) (Beavan, 2015). Until now, study efficacy and safety of electrical stimulation is still unclear. The objective of this study is to asses

the efficacy and safety of electrical stimulation on swallowing function in stroke patients with dysphagia.

2 METHODS

This systematic review followed the Preferred Reporting Item for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Liberati *et al*., 2009).

2.1 Search strategy

Using electronic databases, including Scopus, Pubmed, Proquest and ScienceDirect, the search was carried out with "stroke", "dysphagia", "electrical stimulation" as the main keywords. From this search, only papers in English language were considered. In a second step, "neuromuscular electrical stimulation (NMES)", "Vital-stim", "AMPCARE effective swallowing programme", "pharyngeal electrical stimulation (Phagenyx)".

2.2 Eligibility Criteria

2.2.1 Types of studies

(1) randomized controlled trial, (2) experimental study

2.3 Types of participants

The main inclusion criteria : 20-80 years old with acute or chronic dysphagia after stroke

2.4 Type of interventions

Neuromuscular electrical stimulation (NMES) using VitalStim or AMPCARE effective swallowing programme), pharyngeal electrical stimulation (Phagenyx)

2.4.1 Type of outcomes measures

Primary outcomes of interest were any measure of swallowing function. The timing of outcome measures was variable.

2.5 Study selection

The protocol standard for selecting research studies is suggested in the PRISMA method for systematic review followed by screening by removing duplicates, then three reviewers selecting titles, abstracts, and keywords, then deleting irrelevant quotes according to the selection criteria. Reviewers noted the reasons for choosing such research studies including selection of inclusion inclusion data. Selection of research studies that have been recorded by three reviewers and then compared to one another to be adjusted feasibility with the criteria set. Secondly, to minimize the risk of incorrect study entry in selection there are several research studies that have been applicable or can be applied in a review by one or two reviewers to be included in the next review stage. Full text of the articles is obtained if the title and abstract meet the inclusion criteria or if the feasibility study is clearly resolved by a joint discussion between the reviewers.

3 RESULTS

3.1 Literature search and study selection

A total of 9 studies were identified for inclusion in the review. The search of Scopus,Proquest, PubMed and Science Direct databases provided a total of 1.004 citations. After adjusting for duplicates 857 remained. Of these, 595 studies were discarded because after reviewing the abstract it appeared that these papers clearly did not meet the criteria. The full text of the remaining 286 citations was examined in more detail. It appeared that 250 studies did not meet the inclusion criteria as described. See flow diagram Figure 1.

3.2 Study Characteristic

3.2.1 Methods

9 studies finally selected for review were eight randomized controlled trial, one experimental study

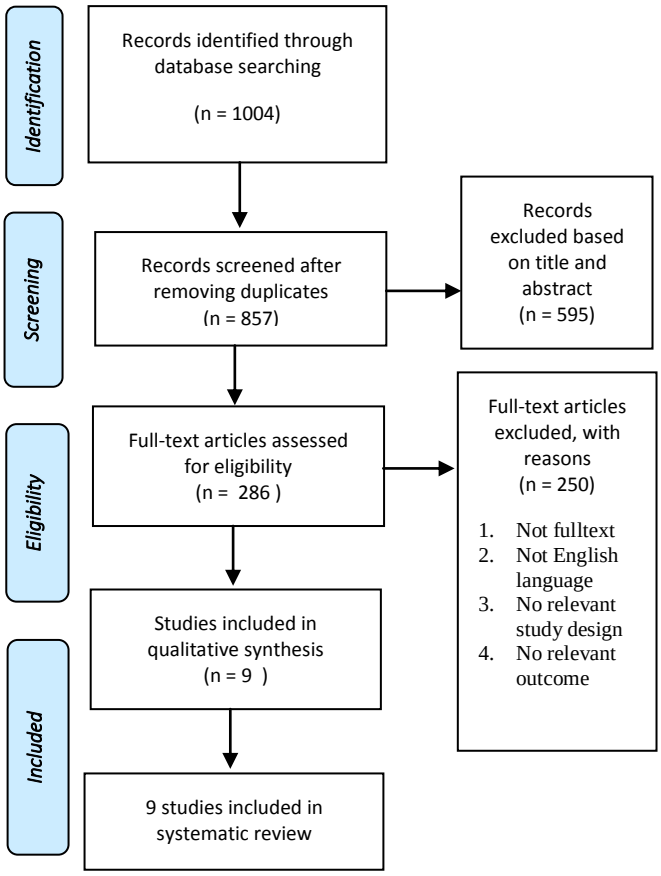

Fig. 1. Flow Diagram

3.2.2 Population

3.2.2 Population

Total respondents in the selected literature were 461 respondents in the range of 20-120 respondents. Respondents are between 18-80 years old.

3.2.3 Intervention Characteristic

Table 1 represents the characteristics and content of the interventions of the 9 studies.

Study	Participants	Interventions	Design	Result
Ebru K et all, 2017	Ninety-eight patients with dysphagia within the first month after ischemic stroke	sensory-level electrical stimulation (SES) to bilateral masseter muscles	*Randomized control trial*	SES applied to bilateral masseter muscles may provide an effective treatment for both dysphagia and cognitive function in early stroke patients
Jin-Woo Park et all, 2012	Twenty post-stroke dysphagic patients	Effortful Swallowing Training Combined with Electrical Stimulation	*Randomized control trial*	Effortful swallow training combined with electrical stimulation increased the extent of laryngeal excursion
Sonja Suntrup et all, 2016	Twenty stroke patients successfully weaned from the respirator but with severe dysphagia precluding decannulation	Electrical pharyngeal stimulation	*Randomized control trial*	Pharyngeal stimulation was significantly associated with improvement of airway protection and remission of dysphagia,
Lise Spronson et all, 2017	Thirty stroke dysphagic patients	Ampcare Effective Swallowing Protocol (ESP Combined with NMES with swallow-strengthening exercises	*Randomized control trial*	Ampcare Effective Swallowing Protocol (ESP Combined with NMES with swallow-strengthening exercises significant improve swallowing function
Anna Guillén-Solà et all, 2016	sixty-two patients with stroke dysphagia	inspiratory/expiratory muscle training (IEMT) and neuromuscular electrical stimulation (NMES)	*Randomized control trial*	Both IEMT and NMES were associated with improvement in pharyngeal swallowing
Kun-Ling Huang et all, 2014	29 acute stroke patients with dysphagia	traditional swallowing (TS) combined oropharyngeal neuromuscular	*Randomized control trial*	combined NMES/TS therapy is the most effective swallowing

		electrical stimulation (NMES)		therapy in taking solid diets and thick liquids
S. Park J. S. et all, 2016	Sixty dysphagic stroke patients	effortful swallowing combined with neuromuscular electrical stimulation	*Randomized control trial*	effortful swallowing combined with neuromuscular electrical stimulation on hyoid bone movement and swallowing function in stroke patients
Sun et all, 2013	Thirty-two patients with moderate to severe dysphagia poststroke (C3 weeks)	Combined NMES, FEES, and traditional swallowing	Experimental study	Combined NMES, FEES, and traditional swallowing rehabilitation showed promise for improving swallowing functions in stroke patients with moderate-to-severe dysphagia
Wenguang XIA et all, 2011	120 patients with post-stroke dysphagia	VitalStim therapy coupled with conventional swallowing training	*Randomized control trial*	VitalStim therapy coupled with conventional swallowing training was conducive to recovery of post-stroke dysphagia.

Six article about NEMS using VitalStim : Fen Sun et al, 2012; Ling Huang et al, 2014; Park et al, 2016; Wengguang et al, 2011, Woo Park et al, 2012, Anna G. et al, 2016. One article about NEMS using AMPCARE EPS : Sproson et al, 2017. Two article about electrical pharyngeal stimulation : Umay et al, 2017; Suntrup et al, 2015

3.3 Results of individul studies

3.3.1 Neuromuscular Electrical Stimulation using Vital Stim

Six article about NEMS using VitalStim : Fen Sun et al, 2012; Ling Huang et al, 2014; Park et al, 2016; Wengguang et al, 2011, Woo Park et al, 2012, Anna G. et al, 2016 reported that VitalStim therapy can alleviate swallowing function in post-stroke dysphagia and thereby improve patients' quality of life. The parameters of VitalStim surface electrical stimulation system (Chattanooga Group, USA) contained two direction square waves, with wave width being 700 μs, frequency 80 Hz, and wave amplitude 0–25 mA. The system has two channels, each beinge quipped with 2 discharge electrodes (Park *et al.*, 2016). The surface electrodes were placed on the surface of swallowing muscles. Electrode position and treatment mode were selected according to VFSS scores, patient's tolerance, and conditions of patients. Treatment was administered twice a day, lasting 30 min each time, 5 days a week, for 4 successive weeks. The above-mentioned assessments, conventional swallowing training, and VitalStim therapy were performed by experienced speech therapists blinded to the experimental design (Lin, Hsieh and Wang, 2013).

3.3.2 Neuromuscular Electrical Stimulation using AMPCARE

Sproson et al (2017) conluded that the pilot demonstrated successful recruitment, treatment safety and tolerability and clinically meaningful outcome improvements, justifying progression to a fully powered study. It also showed clinically meaningful treatment trends for the Ampcare ESP intervention. stimulation pulses were separated by rest periods of 25 s; producing 60 swallow attempts

per session. In week 2, the periods were reduced to 20 s, producing 72 swallow attempts. In weeks 3 and 4, the rest periods were reduced to 15 s, increasing the swallow attempts to 90. This represents a gradually increasing challenge on the swallowing musculature (Sproson *et al.*, 2017). Ampcare ESP involves NMES delivered via electrode placed under the chin, targeting the suprahyoid muscles. This electrode placement differs from that used n earlier studies and is based on work by Burnett *et al* (2003) to determine which muscle groups were most closely associated with laryngeal elevation.

3.3.3 Pharingeal Electrical Stimulation

Electrical pharyngeal stimulation (EPS) has been shown to improve swallowing function and inparticular decrease airway aspiration in acute stroke. Stimulation was delivered via the PhagenyxTM cathetersystem and base station (Phagenesis Ltd, UK). The system consists of a nasogastric feeding tube housing a pair of bipolar titanium ring electrodes with a distance of 10 mm in between. The electrodes were positioned in the middle pharynx. Correct positioning of the electrodes was visually confirmed by fiberoptic endoscopic evaluation of swallowing (FEES). The catheter was connected to the base station to deliver stimuli of 0.2 ms pulse duration at frequency of 5 Hz with 280 V, which had previously been found to be the most effective stimulation parameters. The current intensity (mA) was individually adjusted in every session. Therefore prior to the actual intervention the perceptual threshold (PT) and the maximum tolerated threshold (MTT) were determined repeatedly by slowly increasing the current. The average values of three trials were taken into account for the calculation of the optimal stimulation intensity according to the formula PT 0.75 9 (MTT - PT)(Suntrup and Schro, 2015) . Thresholds as well as calculated optimal stimulation intensities were documented at each session. In the treatment condition stimulation was afterwards delivered for a total of 10 min at this intensity, whereas in the sham condition the catheter was left connected to the base station for a further 10 min without current flow between the electrodes. The intervention was repeated daily for three consecutive days. The stimulation catheter remained in place over this period of time and was used as a regular feeding tube between treatment sessions (Umay *et al.*, 2017).

4 DISCUSSION

The swallowing function was obviously improved in patients receiving VitalStim effective for post-stroke dysphagia. The possible mechanisms (Foley et al, 2008) are as follows: Repeated rehabilitation training and electrical stimulation help to econstruct cerebral functions or arouse resting synapse to transmit nerve impulses, (2) elicit muscular contraction and prevent disuse atrophy, (3) accelerate the recovery of swallowing muscle power. Youngsun, Oh and Lee, (2012) reported that neuromuscular electrical stimulation can improve the swallowing function by enhancing swallowing coordination of post-stroke dysphagiapatients. Xia *et al.*, (2011)concluded that surface electrical stimulation can help raise the hyoid bone of patients during swallowing. Park *et al* (2016) observed that electrical stimulation can increase the range of motion of hyoid bone if swallowing action can be actively cooperated. (Guillén-solà *et al.*, 2016) thought that electrical stimulation yields better therapeutic effects than hot-cold stimulation. Suntrup and Schro,(2015) reported that electrical stimulation can increase pharyngeal and laryngeal activities by increasing the contraction force of hyoid bone muscle.

EPS, apart from its central effects, also enhances restoration of peripheral sensory feedback finally leading to improved airway protection. Moreover, the treatment should start as soon as possible, to stimulation was shorter in successfully decannulated (Suntrup et al, 2015).

4.1 Limitations

The limitations in this systematic review are (1) Heterogenity of design study. (2) Primary outcomes (swallowing function) was evaluated with different instruments. (3) the sample size is small. (4) Interventions not only single electrical stimulation but also combination with another dysphagia therapy

5 CONCLUSSION

Electrical stimulation both single or combined with another therapy can be used as an alternative choice in the hospital in determining the stroke patient's management standard with dysphagia. The existence of this Management standard is expected to help the healing process of the patient so that the quality of life of the patient increases and the burden of hospital and family will also be reduced.

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The Effectiveness Of Deep Breathing Relaxation Technique And Guided Imagery To Decrease Pain Intensity On Postoperative Fracture Patients In Bougenvile Ward Of Dr Soegiri Hospital Lamongan

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Keywords: Deep breathing relaxation, Guided Imagery, Pain, Postoperative Fracture

Abstract: Surgery is a tense complex procedure conducted in the operating theater. Pain is an unpleasant symptom experienced by post fracture surgery patients. The purpose of this study was to analyze the effectiveness of deep breathing relaxation technique and guided imagery to decrease pain intensity on postoperative fracture patients. The sampling method used was simple random sampling. Samples taken were 35 respondents within 2 months. Analysis used Wilcoxon Sign Rank Test statistic with significance level $\alpha = <0.05$. The result of this research showed that prior to the deep breathing technique relaxation and guided imagery, 25 respondents (71.4%) experienced moderate pain and 2 respondents (5.7%) experienced mild pain. After giving deep breathing relaxation technique and guided imagery, the patients' pain intensity was decreased, in which 25 respondents (71.4%) experienced mild pain. Result of Wilcoxon statistic test between deep breathing relaxation technique and guided imagery and pain revealed the influence between deep breathing relaxation technique and guided imagery and pain intensity with $Z= -5.178^{a}$ and $p = 0.000$. It is necessary for nurses to increase extension and care to patients or families in attempt to guided patients using deep breathing relaxation technique and guided imagery to reduce the pain.

1 BACKGROUND

Fracture is a dissolution of bone continuity tissue and cartilage which is generally caused by injury. Trauma causing fractures can be in the form of direct and indirect trauma (Sjamsuhidajat and Jong, 2005). Fractures treatment can be done through conservative and surgery according to the severity of the fracture and the patients' attitude (Smeltzer and Bare, 2002). Surgery is a treatment which uses an invasive way by opening or displaying body parts to be treated (Sjamsuhidajat and Jong, 2005). Pain after surgery is physiological, but it is one of the most feared complaints by clients after surgery. The pain sensation is started prior to the patients'consciousness fully return, and increases when anesthetic effect decrease. The form of pain experienced by patients after surgery is an acute pain occurring due to the incision wound former surgery (Perry and Potter, 2005).

Fracture incidence in Indonesia was 1.3 million annually with a population of 238 million people, the largest in Southeast Asia. The incidence of fractures in Indonesia as reported by the MOH RI (2007) showed that approximately 8 million people had fractures with different types of fractures. Fracture incidence in Indonesia was 5.5% with range of each profession between 2.2 to 9% (MOH, 2007).

If it is not adequately treated, pain will affect the pulmonary, cardiovascular, gastrointestinal, endocrine, immunologic and stressful systems and can cause depression and disability. This inability ranges from restricting participation in activities to inability to meet personal needs such as eating and dressing up (Smatzler and bare, 2002). Pain management strategies include pharmacological and non-pharmacological approaches. The approaches are selected based on patients' needs and objectives. Treating the pain experienced by the patients through pharmacological intervention is performed in collaboration with the doctor or

primary care physician and patients. Pharmacological intervention with narcotics or non-narcotics, as well as with non-pharmacologists such as stimulation and massage, skin stimulation, Transcutaneous Electrical Nerve Stimulation (TENS), distraction, relaxation technique, guided imagery, hypnosis, neuron surgical methods (Lusianah, 2012).

Non-pharmacological techniques are believed can decrease pain through gate control mechanism and increase the stimulation of endorphin expenditure. The gate control theory for pain explains why rubbing or massaging painful part after injury can relieve pain. This is because the activity of small diameter fibers (pain) is closed (Silvia A, Price, 2005). According to Loie (2004), human body has a natural analgesic, which is endorphin. Endorphin is a neuron hormone associated with a pleasant sensation. When endorphins are released by the brain,they can reduce pain and activate the parasympathetic system for body relaxation and lower blood pressure, respiration and pulse. Pain management with non-pharmacological techniques is the main capital to comfort. In terms of costs and benefits, non- pharmacological management is more economical and has no side effects when compared with pharmacological management, besides reducing thepatients' dependence on drugs. Non-pharmacological pain managements in this case are by giving deep breathing relaxation technique and guided imagery. The effort to treat postoperative fracture painnon-pharmacologically in this case is to use both pain management techniques.

Breathing relaxation technique is a form of nursing care, in which case the nurse trains the client how to do deep breathing, slow breathing (withholding inspiration maximally) and how to exhale slowly. Besides reducing pain intensity, deep breathing relaxation technique can increase lung ventilation and increase blood oxygenation (Smeltzer and Bare, 2002).

Relaxation technique which can be performed to intervene in postoperative fracture pain is guided imagery. Guided imagery is a relaxation technique aimed to reduce stress and increase calm and peace and a tranquilizer for difficult situations in life. Guided imagery or mental imagination is a technique for studying the power of either conscious or unconscious mind to create images which bring peace and silence (National Safety Council, 2004). Guided imagery is a process which uses the power of mind by directing the body to heal itself, to maintain health or relaxation through communication in the body involving all senses (visual, touch, guidance, sight and hearing). Thus the balance of mind, body and soul is formed. Simple guided imagery is "the deliberate use of the imagination to gain relaxation and or away from unwanted sensations" (Smeltze and Bare, 2002). Guided imagery can be useful for reducing anxiety, muscle contraction and facilitating sleep (Black and Matassarin, 2005). Potter and Perry (2005) also stated that guided imagery can reduce pain. Relaxation reduces muscle activity; muscles dilate and create a physiological rhythm of the body. The guided imagery relaxation technique is expected to decrease the pain of postoperative fracture patients. Based on the above data, the researcher is interested in examining "the Effectiveness of Deep Breathing Relaxation Technique and Guided Imagery to Decrease Pain Intensity on Postoperative Fracture Patients in Bougenvile Ward ofDr. Soegiri Hospital Lamongan ".

2 METHOD

The design of this research was pre-experimental with One Group Pre-test–Post- Test Design (Nursalam, 2008), i.e the subject group was observed prior to intervention, then observed again after the intervention. Population was all postoperative fracturepatients who experienced pain in Bougenvile ward of Dr. Soegiri Hospital Lamongan in average per month as many as 19 patients that reached 38 patients in two months. While the sample in this study were some postoperative fracture patients who experienced pain in the Bougenvile Ward of Dr. Soegiri Lamongan February to March 2015 which met the inclusion criteria of 35 people. This research employed Simple Random sampling technique. This study was conducted in Bougenville Ward at Dr. Soegiri Lamongan. The study was performed from October 2014 to March 2015. The instrument for data collection in this study was a bourbanis pain scale questionnaire through quantifying the postoperative fracture pain by marking the numeric number listed 0: no pain, 1-3: mild pain: objectively client can communicate well, 4-6: moderate pain: objectively the client hisses, grinned, can show the pain location, can describe it, can follow orders well, 7-9: severe pain: objectively clients sometimes cannot follow orders but still response to action, can show the pain location, cannot describe it., 10: very severe pain: the client is no longer able to communicate, beat.

With Code: 0: no pain, 1: mild pain, 2: moderate pain, 3: severe pain, 4: very severe pain. The data obtained were then analyzed by using Wilcoxon Signed Rank Test.

3 RESULTS

Here are the results of the effectiveness of deep breathing relaxation technique and guided imagery to decrease pain intensity on postoperative fracture patients in Dr. Soegiri Hospital Lamongan.

1) Table 1 Distribution of respondents by gender (postoperative fracture patients in Bougenvile Ward of Dr. Soegiri Hospital Lamongan in February - March 2015.

Gender	%
Male	62.9
Female	37.1
Total	100

2) Table 2 Distribution of respondents by age (postoperative fracture patients) in Bougenvile Ward of Dr. Soegiri Hospital Lamongan in February - March 2015.

Age	%
10-20 year	5.7
21-30 year	25.7
31-40 year	54.3
>40 year	14.3
Total	100

3) Table 3 Distribution of respondents by educational background (postoperative fracture patients) in Bougenvile Ward of Dr. Soegiri Hospital Lamongan in February - March 2015.

Educational Background	%
Primary school	2.9
JHS	20.0
SHS	68.6
University	8.6
Total	100

4) Table 4 Distribution of respondents by occupation (postoperative fracture patients) in Bougenvile Ward of Dr. Soegiri Hospital Lamongan in February - March 2015**.**

Occupation	%
Not working	11.4
Farmer	14.3
enerpreneur	68.6
police	5.7
Total	100

5) Table 5 Distribution of respondents by pain intensity frequency of postoperative fracture patients prior to giving deep breathing relaxation and guided imagery in Bougenvile Ward of Dr. Soegiri Hospital Lamongan in February - March 2015.

Pain Intensity	%
No pain	0.0
Mild pain	5.7
Moderate pain	71.4
Severe pain	22.9
Pain	0.0
Total	100

6) Table 6 Distribution of respondents by pain intensity frequency of postoperative fracture patients after giving deep breathing relaxation and guided imagery in Bougenvile Ward of Dr. Soegiri Hospital Lamongan in February - March 2015.

Pain intensity	%
No pain	17.4
Mild pain	71.4
Moderate pain	11.4
Severe pain	0.0
Pain	0.0
Total	100

7) Table 7 – Crosstab Table of Difference Test on Pain Intensity of Postoperative Fracture Patients prior to and after giving deep breathing technique and guided imagery in Bougenvil Ward of Dr. Soegiri Hospital Lamongan in February – March 2015

	Pain Intensity											
	No Pain		Mild Pain		Moderate Pain		Severe pain		Uncontrollable pain		Total	
Prior to	0	0%	2	5.7%	25	(71.4%)	8	22.9 %	0	0 %	35	100 %
After	6	17.1%	25	71.4%	4	(11.4%)	0	0 %	0	0 %	35	100 %
Z= -5.178[a]							p = 0.000					

4 DISCUSSIONS

1. Pain Intensity of Postoperative Fracture Patients Prior To Giving Deep Breathing Relaxation Technique And Guided Imagery

Table 4.5 shows that 25 (71.4%) of postoperative fracture patients prior to giving deep breathing relaxation technique and guided imagery experienced moderate pain intensity.

From the results, it is obtained that most of the postoperative fracture patients prior to giving deep breathing relaxation technique and guided imagery experienced moderate pain intensity, which means that more than a half patientsexperienced moderate pain.

Based on the above fact, besides experiencing injury caused by trauma, patients also experienced endhorphin-encephalin symptom as natural pain reliever to the hampered body. Pain is a subjective experience which is difficult to explain by the client and understand by the nurse. Pain is also influenced by the role of nurse and family, age, gender, anxiety, coping mechanism, previous experience on pain, and culture.

Potter and Perry (2005) stated that pain is caused by the decrease of one's health or while he is sick. Additionally, after having surgery pain is frequently experienced by the patients as the decrease of anesthesia. The surgery leaves different state of pain for individuals. The stimulation of pain after surgery is produced by mechanical stimulation namely incision in which it will stimulate mediator – chemical mediator from pain such as histamine, bradikinin, asetilkolin, and prostaglandin substance where the substances can increase pain receptor sensitivity causing pain sensation. Besides stimulating pain sensitiveness, body also has substance which inhibits pain namely endorphin and encephalin to soothe the pain (Smeltzer and Suzanne C, 2002).

The previous theory explains that sick state impacts patient's body. It is also influenced by incondusive environment and level of anxiety. If postoperative fracture patients experiences pain, his body will be weak because of losing appetite. Then, the condition will lead to the decrease of protein inside the body, whereas protein is needed in curing the injury from the surgery. In fact, the pain experienced by the postoperative fracture patientsis varied from one individual to others due to the patients'different characteristics. Someone's capability in feeling the pain is caused by many factors, including nurse role, family role, gender, culture, pain sense, caring, anxiety, weariness, coping style, pain intensity, and pain tolerance, in which the higher the factors that affect a, person the higher the pain also felt the person.

2. Pain Intensity On Postoperative Fracture Patients After Giving Deep Breathing Relaxation Technique And Guided Imagery

Table 6 shows that the pain intensity in postoperative fracture patients was found to be mostly mild pain by 25 patients (71.4%).

The results of the study showed that the pain intensity after being treated by deep breathing relaxation techniques and guided imagery could decrease pain. The effective non-pharmacological techniques for reducing pain in postoperative patients were deep breathing relaxation technique and guided imagery which could reduce physiological, stress, anxiety, and chronic pain in which the guided imagery was a distraction agent or as attention-shifting method. As a distraction agent, guided imagery worked by imagining delighted things to patients who previously experienced pain after a very disturbing surgery. It was found that the patients seemed more relaxed and calmer. Deep breath relaxation could increase the oxygen intake in the lungs and then distributed to all tissues in the body especially in muscle tissue, blood vessels, and brain tissue, so they could relax and improve patients comfort despite previous serious pain. In addition, it increased endogenous secretion in the form of endorphin so as to decrease pain intensity.

This was influenced by the willingness and increased knowledge of postoperative patient fractures which could affect respondents' perceptions of the benefits of deep breathing relaxation technique and guided imagery. Deep breathing relaxation and guided imagery could be used in many situations such as relieving stress and pain, sleeping disorder, allergies or asthma, dizziness, migraine, hypertension, and other conditions. According to Martin (2002) in Kalsum, (2007) deep breathing relaxation and guided imagery are also safe and convenient to use by various age groups, from children to the elderly. Some benefits of guided imagery according to some experts in Potter & Perry (2006) are as follows: According to Fontainer (2005), imagination often leads to strong psychophysiological responses such as changes in immune function, according to Huth et.al (2004) is to control or reduce pain, and according to

Borysenko (1987) is to achieve serenity and calmness. Meanwhile, according to Donssey (2005), imagination also helps in treating chronic conditions such as problems of pain, asthma, hypertension, premenstrual syndrome and menstruation, and gastrointestinal disorders. At the time of giving deep breathing relaxation and guided imagery, the patient seemed relaxed and calmer with occasional eyes closed when the treatment given, so the patients' attention focus, who initially complained of pain and anxiety, switched by doing guided imagery relaxation techniques.

3. The Effectiveness of Deep Breathing Relaxation Technique and Guided Imagery to Decrease Pain on Postoperative Fracture Patients

From table 7, it is obtained that there was different intensity of pain. For before treatment (pre) group and after treatment (post) group based on statistical test results Wilcoxone sign rank test SPSS with version 18 yielded Z = -5,178[a] and significant value $p \leq 0{,}000$ at significance level $p \leq 0.05$. Thus, HO was rejected, which meant there was an influence of the use of deep breathing relaxation technique and guided imagery to decrease pain intensity on postoperative fracture patients in Bougenvil ward of Dr. Soegiri Hospital Lamongan.

According to the above facts, postoperative fracture patients other than injury-induced trauma, they also experienced a fairly complex endogenous opiate disorder, in which endogenous opiate or better known as endorphins-encephalin as a natural pain reliever was disrupted. Thus, most of the postoperative fracture patients experienced pain with intensity of severe to moderate. Yet, after being given treatment of deep breathing relaxation technique and guided imagery, the pain intensity decreased to mild pain.

Nursing intervention for pain is by using relaxation techniques, including deep breathing relaxation technique and guided imagery (Potter and Perry, 2005). Breathing relaxation provides positive responses against mass discharge, in stress response from sympathetic nervous system. The condition is to decrease total peripheral resistance as a result of arterial vasoconstriction tonus. The decrease of arterial vasoconstriction affects blood flows which pass through arterial and capillary that have time to distribute oxygen and nutrition to cells especially brain tissue and heart, causing cell metabolism be better because ATP production increases. This leads to the better condition of the body, decreasing pain, and relaxing mind. Guided imagery is a technique which requires someone to shape an imagination about any pleasure things. The shaped imagination will be accepted as a stimulation by various senses in which the stimulation will be continued to thalamustrough brainstem (Guytone and Hall, 2002). Guided imagery is a cognitive technique which employs one mind to create mental imagination to meet sleeping needs. Patients can imagine pleasure place (Hawthron and Redmond, 2004). The intensity pain difference is perceived on postoperative fracture patients prior to and after giving deep breathing relaxation technique and guided imagery. In addition to be relaxation agent, deep breathing relaxation also influences endorphin-encephalin, while guided imagery as distractor can be explained with gate control theory (Ellwood, 2007).

The theory approves that deep breathing relaxation and guided imagery give positive impact on reducing pain. This condition can be perceived when the patients seem relaxed and calm and occasionally close their eyes while the treatment given. Besides, deep breathing relaxation technique and guided imagery also speed up healing process, meet sleeping needs, and help the body to reduce any kind of diseases such as depression, allergy, and asthma. Deep breathing relaxation technique and guided imagery are kind of cognitive behavior therapy specialized in pain management. Some literatures also suggest combining the two techniques to gain more effective result in treating postoperative fracture pain. The decrease of pain on postoperative fracture patients is strongly required to heal the injury. Those two techniques are kind of therapy which could be utilized in nursing care if there is pain matter. The decrease of pain intensity on postoperative fracture patients can be perceived from the fresh face, no grinning, relaxed, enough sleep, and no pain felt.

5 CONCLUSIONS

1. Most of the postoperative fracture patients prior to being treated using deep breathing relaxation technique and guided imagery experienced moderate pain intensity.
2. Most of the postoperative fracture patients after being treated using deep breathing relaxation technique and guided imagery experienced mild pain intensity.
3. Deep breathing relaxation technique and guided imagery are effective to decrease pain on postoperative fracture patients.

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Telenursing Using Mobile Phone Features For Medication Adherence Tuberculosis Patients: A Systematic Review

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Keywords: Telenursing, Mobile Phone Features, Tuberculosis, Medication adherence

Abstract: Background: The Direct Observation of Therapy (DOT) is recommended by World Health Organization to observe directly the medication adherence of TB patient which is conducted by health personnel, but limited health personnel and patient barriers to access treatment causes the role of DOT is diverted to the family, so it is less effective. Telenursing based mobile phone features can be used for remote DOT because mobile phoneis a communication technology commonly used by people around the world an has various features. Method: Searching article in electronic database; Ebscho, Science direct, ProQuest, Pub Med, Wiley, Springer Link, dan Journal Ners limited range of the last 10 years 2007 to 2017. Result:From 15 journals conducted review the number of samples vary between 30-6.203 respondents and duration of intervention by telenursing based mobile phone features (Short Message Service, Telephone, and Videophone) between 2 months up to 18 months. All research releted with telenursing is effective as DOT and improve the medication adherence of TB patients through mobile phone features. Conclusion: Telenursing based mobile phone features can be implemented to DOT in medication adherence of TB patients with direct observation by health personnel

1 BACKGROUND

Tuberculosis (TB) is an infectious disease that becomes a major problem for society in developing countries. At 2015, 10.4 million people are infected by TB, 1.8 million of them die because of TB. Over 95% mortality rate because of TB occur in low- and middle-income countries. In addition, by 2015 (Zare, Asadi, & Shahroodi, 2017). Treatment is needed by tuberculosis patients, in newly cases diagnosed TB is given combination therapy for six months and eight month therapy for TB case review (Farooqi, Ashraf, & Zaman, 2017). Long term treatment of Tuberculosis (TB) is at risk of treatment failure and resistance to Anti Tuberculosis Drug so, it causes continued transmission or death (Fox, 2017). The Direct Observation of Therapy (DOT) is recommended by World Health Organization (WHO) to observe directly the medication adherence of TB patient in which is health personnels are assigned to pay attention to the daily medication of each patient. However, limitations of health personnel and patient access barriers result in less effective DOT (Mohammed, Glennerster, & Khan, 2016). Innovation is needed to observe patient medication adherence directly, telenursing can be applied as DOT in TB patients. Telenursing of care management and provision of health services through information and telecommunication technology (Mishbahatul, 2015)

Telenursing based mobile phone feature can be used for remote DOT, because mobile phone is communication technology that is commonly used all over the world. mobile phone provides some features like video, audio, telephone, and Short message service (SMS) to communicate (Farooqi et al., 2017). In low- and middle-income countries mobile phones have been used for long-distance public health programs. Intervention of telenursing based Telecommunication can improve medication adherence and have been adopted for many diseases. Telenursing based on mobile phone (SMS, telephone, Videophone and Smart phone Application) (Dj, Rylands, & Sinclair, 2016).

2 METHODS

In this Systematic Review method used is the selection of the topic that is Medication Adherence In Tuberculosis Patients. Then determined keywords to search on several journal databases such as Scopus, Ebscho, Science Direct, ProQuest, Pub Med, Wiley, Springer Link, and Journal Ners (National Journal of Airlangga University). Keywords used are "Tuberculosis" and "Medication adherence", and additional keywords are "telenursing", "mobile phone", "SMS", "Telephone"

ursing with mobile phone features (SMS, telephone, and Videophone) and medication adherence in TB medication. An exclusion criterion is an article that does not have full text of pdf format, providing intervention in addition to telenursing with mobile phone usage. Type of articles study to be reviewed consisted of Randomized Control Trial (RCT), and expanded with non-RCT research because of the limitations of journals with topics.

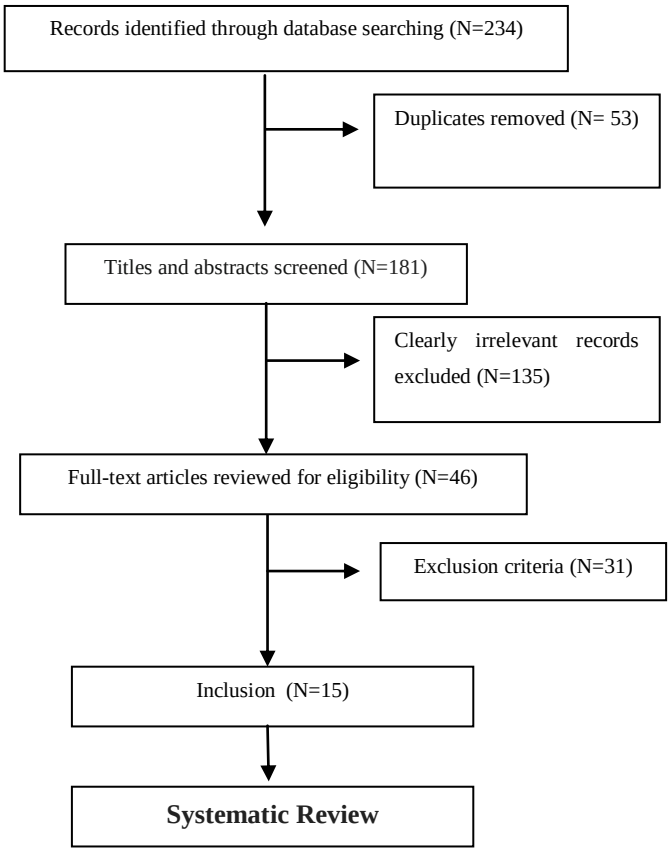

Figure 1: Flow chart.

and "Videophone". The article is restricted from the last 10 years 2007 to 2017. The search results identified 27 articles from Scopus, 14 articles from EBSCO, 22 articles from Science Direct, 98 articles from ProQuest, 40 articles from Spinger Link, 23 articles from Pub Med, 10 articles from Journal Ners and after being reviewed further, 14 International Journals and 1 National Journal are elected for review.

Articles conducted review based on studies adjusted by inclusion criteria. The inclusion criteria in this Systematic Review are articles about telen

3 RESULT

3.1 Literature search and study selection

A total of 234 articles were found using the selected keywords.

3.2 Study Characteristic

3.2.1 Population

From 15 journals conducted review the number of samples vary between 30-6.203 respondents.

3.2.2 Intervention Characteristic

Intervention by telenursing using mobile phone features (Short Message Service (SMS), telephone, and videophone) and duration between 2 months up to 18 months. All research releted with telenursing is effective as DOT and improve the medication adherence of TB patients using mobile phone features.

3.3 Results of individul studies

3.3.1 Mobile phone

High mobile phone usage in low and middle income countries as well as various features provided by mobile phones, such as; video, audio, text messaging, telephone, etc. to communicate with each other, The complete mobile phone features can be used as an innovation in health interventions based mobile phone to improve public health level, especially to improve medication adherence in patients with chronic diseases, one of them is tuberculosis (Mohammed et al., 2016).

3.3.2 Short Message Service (SMS)

One of the mobile phone facilities developed for health system intervention is text messaging or short message service (SMS). SMS is a cost-effective means and eliminates distance barriers and

networking difficulties. Evaluation by using medication adherence of patients with tuberculosis is by using SMS reminder (Farooqi et al., 2017).

Short messages or SMS can be an approach between healthcare personnel and patients to strengthen adherence, awareness and promote health to TB patients (Chen et al., 2011).

3.3.3 Telephone

DOTS innovation based technology that uses mobile phones as phone call reminders is to improve patients to take medication regularly, reminding patients to send their sputum specimens and to improve medication adherence. Based on the results of the study call reminder can make patients more obedient because patients feel better due to get attention, feel not alone in the treatment because of getting supports from health workers (Kunawararak et al., 2011).

3.3.4 Videophone

The mobile phone ownership increases Globally in India, Myanmar and Indonesia, 50% Smartphone from all mobile subscriptions and 80% of all new subscriptions. The high prevalence of Smartphone ownership can be an intervention to solve disobedience of TB patient medication by developing DOT. The telenursing service can eliminate the problem of direct observation of patients in drinking and swallowing, videophone can be used as a real time direct observation of the activity of TB patients in taking medicine and also this service is cost-effective (Wade, Karnon, Eliott, & Hiller, 2012) . The Fox studi (2017), telenursing with videophones using smart phone-based technology can be used although it is at remote area, since the prevalence of smart phone ownership is growing rapidly, videophones are effective for remote observation of drug ingestion in TB patients.

3.3.5 Mobile phone (SMS, Telephone, and Videophone) to medication adherence patients tuberculosis

From 15 journals reviewed, results showed significant p value that is telenursing by using mobile phones (SMS, telephone, and videophone) can improve Medication adherence of TB Patient.

Telenursing research using mobile phone text message by Liu et al (2015), provides SMS intervention in patients with TB. There were 4 control groups in this study, SMS group, drug monitor group, combination group of drug monitor and SMS. Drug doses were passed 29.9% in the control group, 27.3% in text messages, 7.0% on the treatment of the monitor arm and 13.9% in the combined SMS and monitor Shows the combined intervention of drug monitor monitors / DOT with effective text messages to improve patient medication adherence by monitoring the pills consumed.

The similar study conducted by Mohammed et al (2016)showed there is no significant difference between the control group and the intervention group with SMS, due to the limitations that clinic did not correctly record the treatment result to meet the success level expected.

Similar results in the Farooqi et al (2017) study, which provided daily SMS reminder interventions were sent to the patients at intervention group and the results of this study was the patient completed anti-TB treatment for six months; one patient experienced failure treatment in each group (both groups were comparable). Forty-nine patients had complete treatment in each group (both groups were comparable). Twenty-one patients had recovered in the intervention group compared with 20 patients in the control group. Three patients experienced defaults treatment in the intervention group compared with 4 patients in the control group. The number of default-treatment cases was lower in the "intervention group" than the "control group", but this numerical difference was not statistically significant.

In a research conducted by Kumboyono (2017)that there was no significant difference between the two methods in the Medication adherence between direct DOT and telenursing with SMS as DOT. Thus, SMS can be used as a substitute for systems by using field workers as DOT.

Telenursing intervention by SMS was also investigated by Wang & Wang (2017), in this study the intervention group was given SMS management and health education. The Results from this study was, treatment intervention groups completed Levels in the SMS group were higher than the control group ($p = 0.002$) and the dose rate was missed and the interrupted treatment rate in the SMS group was significantly lower than the control group ($p < 0.001$, $p = 0.001$).

Mishbahatul (2015) conducted a study using N-SMSI (Nurse Short Message Service Intervention) which measured medication adherence and nutritional status of TB patients, independent t-test results were there were differences in adherence between treatment group and control group, with $p = 0.031$ and there was difference of nutritional status

of treatment group before and after intervention seen from body weight (kg), with p = 0.001. Similarly, the control group, with p = 0.002.

Oren, Bell, Garcia, Perez-velez, & Gerald (2017) Oren, combine text message intervention and phone call reminders or telephone call reminders only (regular treatment), this study was conducted for 12 months in 40 patients with the aim of measuring adherence through increased completion rates treatment. Results of treatment adherence and completion rates for latent TB infection remain optimal in high-risk groups. Research by phone call reminders was also performed by Kunawararak et al (2011) with the results in the MDR-TB group treated using DOT and phone call reminders the success rate was 73.7% and in the MDR-TB group non treated with DOT without phone call reminders success rate is 96.7%.

In addition to SMS and phone call reminders to support technology-based remote DOT programs, there are video-taking interventions when patients swallow the drug, such as research conducted by Fox (2017) using Video Directly Observed Therapy (VDOT) the research result in medication adherence which is conducted within 60 days was Twenty one (71.1%) patients take every required dose, according to the count of pills. Four Patients missed four or more doses. Two participants are not complete follow-up and daily video has been properly uploaded, Thirty four (85%) patients missed less than four video uploads during follow-up.

Wade et al., (2012) conducted direct observation by videophone at home. results of this study revealed that videophone services are more effective than direct observation. A similar study conducted by Hoffman et al. (2010) with Mobile Direct Observation Treatment (MDOT) intervention,patients was encouraged to take the video while swallowing the drug and the results of this study that MDOT is a viable option

4 DISCUSSION

Directly Observed Treatment (DOT) has been implemented since 1992 proclaimed by WHO. Initially DOT was directly observed by health workers aimed to approach the patients and ensure adherence to TB therapy regimens. Difficulties in implementing DOT is a problem in many states, in some countries national policies are applied to TB control, treatment of TB patients is monitored by family members. Managing self-medication is done by more than half of TB patients that caused the patients are lost from case management and they do not continue the treatment. Thus a special approach is required to monitor TB medication adherence (Liu et al., 2015).

Through telenursing by using mobile technology because it is more cost effective and efficient, as nearly 6.8 billion people use it to communicate. Mobile phone offers many features for communication such as SMS, audio, video and MMS calls. In addition to off-line applications, mobile phone can be used with on-line applications such as WhatsApp, BBM, Telegram, and others (Farooqi et al., 2017). DOT can be done directly by a professional health worker by telenursing using mobile phone. Mobile phones can monitor patients swallowing medicine every day with features provided by mobile phones either off-line or on-line (Elangovan & Arulchelvan, 2013).

5 CONCLUSIONS

Telenursing based mobile phones can be implemented for Directly Observed Treatment (DOT) on medication adherence with TB patient by direct observation of health professionals. Video is more effective than SMS and phone call reminders to improve adherence due to the video, patients can record and send swallowing activity, but the process of taking swallowing video cannot be applied to the patient because of the low socioeconomic person with less education to implement and the old age may also experience some obstacles. there is no significant difference between SMS and DOT directly, so SMS can save cost and replace DOT directly. an obstacle on A telephone reminder occurs when a patient receives a call from health workers.

Telenursing based on mobile phone should be developed in Indonesia to optimize the DOT program on medication adherence of TB patient, the development of online application through media such as Whatsapp, BBM, Telegram, etc. or by making smart phone application because most of people already have mobile phone based smarthphone.

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The Effect of Resistance Exercise on Blood Glucose and HbA1C of Patient with Type 2 Diabetes Mellitus: Systematic Review

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Abstrak: Increasing the number of DM patients becoming one of the global health threats (Perkeni, 2015) and 70% DM cases are mostly in developing countries including Indonesia (Tot et al., 2016 in Tristiana et al, 2016). The American Diabetes Association (ADA) and the Indonesian Endocrinology Society (PERKENI) recommend resistance exercise to improve blood glucose for patients with type 2 diabetes.Analyze the effect of resistance exercise on blood glucose and HbA1C in patients with type 2 diabetes mellitus.We identified articles through databse searching: Sage, Proquest, Science Direct, Springerlink, and EbscoHost, published between (2008-2018).Seven articles were analyzed and selected from 65 journal articles found for this systematic review. The studied evaluated that the resistance exercise intervention are recommended for patient with type 2 diabetes mellitus.

1 BACKGROUND

Diabetes mellitus disease (DM) is a non-communicable disease that continues to increase from year to year (Putri & Isfandari., 2013). Increasing the number of DM patients becoming one of the global health threats (Perkeni., 2015) and 70% of DM cases are mostly in developing countries including Indonesia (Tot et al., 2016 in Tristiana., 2016) and predicted increases in the number of DM patients in Indonesia from 8.4 million in 2000 to about 21.3 million by 2030. International Diabetes Federation (IDF) predicts an increase in the number of DM patients in Indonesia from 9.1 million in 2014 to 14.1 million by 2035 (Perkeni., 2015). Complications of DM can be long-term in the form of microvascular and makrovaskuler that can cause death. Microvascular complications include retinopathy, nephropathy and neuropathy whereas macrovascular damage includes coronary artery disease, cerebral blood vessel damage and also peripheral vascular limb damage commonly referred to as diabetic foot (Lewis, Dirksen, Heitkemper, Bucher, & Camera, 2011; Waspadji, 2014 in Wahyuni &Arisfa., 2016). The occurrence of diabetic foot starting from high glucose will damage the peripheral blood vessels of the early leg of ischemia that can also cause Peripheral Artery Disease (PAD). Physical exercise that can be done by DM patients is resistance exercise. The American Diabetes Association (ADA) and the Indonesian Endocrinology Society (PERKENI) are resomendation resistance exercise for patients with type 2 diabetes. Resistance exercise is a muscle group exercise against the burden in one effort (Irianto, 2006 in Putri., 2014). This exercise will involve many muscles that is actively moving. In the active muscle moves an increase in the need for glucose, but insulin levels do not increase. Active muscle moves will increase blood flow so that more open capillary network. The opening of the capillary mesh causes more insulin receptors and receptors to become more active (Soebardi; Sudoyo, 2006 in Putri., 2014).

2 METHOD

The literature searches were conducted in major databases such as Proquest, Sciencedirect, Spingerlink, Sagepub, and EbscoHost by including intervention, resistance, blood glucose, HbA1C,

fasting blood glucose, glycemic control, diabetes mellitus type 2. The year limit used is 10 years (year 2008-2018). Inclusion criteria articles are: Intervention resistance exercise / training, in the form of all the duration of exercise, exercise repetition, age diabetic patients and a combination of exercises that affect the blood glucose and HbA1C levels. All articles use english. Articles are excluded if the article is a systematic review. The search results conducted on the basis of these criteria obtained seven selected journal articles from 65 journal articles found. As research on this intervention is lacking, all types of research designs are included in this review. In this systematic review, the journal used is intervention resistance exercise against HBA1C and blood glucose levels although the journal measured various variables but discussed in this systematic review only focus on HBA1C and blood sugar (GDA and GDP) only.

3 RESULTS

Research conducted by (Luh Inca & Agustini, 2017) with design one group pretest post test design using rubber band resistance exercise intervention. Intervention was given to 15 respondents who met the inclusion criteria. Data were collected in March 2017 by using questionnaires and observations of blood sugar levels. Observations were made to see pre-hypertension levels prior to intervention and post after intervention. Materials and equipment used consisted of a needle, adjustable lancing devices, 70% alcohol, cotton, Glico Dr Strip, blood glucose test and Glico Strip as reagent. The Blood is taken from the peripheral blood to the fingertips. Intervention is done within 30 minutes every day for 1 week (210 minutes). The results obtained are there was statistically significant decrease the level of blood sugar within group before exercise (M = 176.47, SD = 88.19), t (14) = 2.02, p <0 , 05 (two-tailed). The mean decrease in blood sugar level was 25.43. The eta squared statistics (.28) indicated a large effect size. Research conducted by (Misra et al., 2008) with design prospective study design is using Progressive resistance training intervention. This intention was given to 30 respondents of type 2 DM who were selected from the medical outpatient department and diabetes clinic. Respondents were selected according to the inclusion criteria. Before the intervention, the respondents first performed pretest on the short insulin tolerance test (SITT) and the last post test was 72-96 hours after exercise at the end of 12 weeks (3 months), Biochemical examination by checking the sample content fasting blood glucose prior to intervention. Interventions were carried out in duration 3hari a week for 12 weeks. The results obtained were fasting blood glucose from 10.07 ± 2.0 to decreased 7.4 ± 1.2 P <0.001 and HbA1C from 7.7 ± 0.5 to 7.2 ± 0.3 P <0.001 This proved that moderate-intensity PRT for 3 months resulted in significant improvemnet HbA1C and fasting blood glucose in patients with type 2 diabetes. Research conducted by (Bweir et al., 2009) with the design of controlled trial study with parallel group design and matched subjects using intervention resistance exercise training. This intervention was given to 20 respondents with diabetes mellitus according to inclusion and exclusion criteria divided into two groups: groups with tredmill intervention and resistance exercise intervention group. Prior to treatment, responders were monitored for glycemic control and treatment changes for 12 weeks initially including HbA1c measurements. Blood glucose measurements were recorded before and after the training sessions. Intervention is done for 3 times a week in 10 weeks. The results obtained for plasma glucose levels before and after exercise were decreased in both groups of P (<0.05), a significant decrease was seen at weeks 1.6 and 10. At 10 weeks, plasma glucose levels dropped to the normal 140mg / dl category in the intervention group resistance exercise as much as 80% of the respondents while the group following a tredmill intervention of only 20% of respondents who achieved normal glucose values. There was a significant increase in mean HbA1C yields before and after exercise in both groups (p <0.001), but greater decrease was recorded in the resistance group exercise and in the last 10 weeks HbA1C levels were lower than in the group received a treadmill (p <0.006). Both groups were actually effective in reducing blood glucose and HbA1C levels but exercise resistance exercise significantly decreased HbA1C (p <0.05) compared to tredmill exercise. Research conducted by Ng et all (2010) by design this randomized trial research using intervention progresive resistance exercise. This intervention was given to 60 people with type 2 diabetes mellitus with glycosylated hemoglobin (HbA1c) between 8% and 10% in the past month. HbA1c was measured using 10 ml of blood taken from the fasting respondent at least 10 hours from the previous night and analyzed in the Laboratory of Biochemistry Pathology Department at the Singapore General Hospital by a laboratory assistant who was also unaware of the project. HbA1c was measured using high performance liquid

chromatography with a variation coefficient (CV) of 2.4% at 5.1% (HbA1c) and CV of 1.9% at 9.6% (HbA1c). Intervention is done 2-3 practice sessions per week consisting of 10 minutes of warming followed by about 50 minutes of exercise. Each group is scheduled to complete 18 sessions over an 8-week period. The results showed that resistance training group experienced a decrease in HbA1c by 0.4% (SD 0.6) and had a greater decrease in waist circumference. It can also be seen in the table showing that at the beginning of intervention group HbA1C value is 8.9 after intervention for 8 weeks to 8.4 while the glucose level at the beginning showed the value of 10.4 after intervention for 8 weeks to 10.1.Research made by (Jin,Park, & So, 2015) with this randomized controlled trial using elastic band resistance exercise intervention. Interventions were given to 16 respondents who met the inclusion criteria then divided into two intervention groups and the control group. Before blood collection, more than 12 hours of fasting is needed to minimize the effects of diet. Blood collection for pretest was completed 48 hours before exercise and post test was done 2 hours after 12 weeks of intervention completed. The medical technic used was single-use syringe in antecubital vein to collect 10ml of blood and blood sample kept at evacuated site, tube blood samples were given EDTA solution (ethy diamine tetra acetate; EDTA) further to analyze blood glucose, all blood was inserted into plain vacutainer (vacutainer sterile) and left at room temperature for 30 min and then centrifuged 10 min at 3,000 rpm, and serum separated. become standard and empty; 20 ulplasma are classified into specimens, and 20 ul, standard reagents are classified into the standard. The color of 20 ml Reagents is mixed into each specimen, and they are left in the water at 37 ℃. Then, the absorbance is measured in wavelength 505 nm. Intervention was performed for 60 minutes (10 minutes of warm-up, 40 minutes of exercise and 10 minutes of cooling) and this exercise was done 3 times week for 12 weeks (3 months). The results obtained were changes in blood glucose levels before and after the intervention ie in the treatment group with blood glucose level before was 122.28 ± 2.45 blood glucose levels after intervention 103.12 ± 4.56. In this study, blood glucose ($p < 0.021$) proved to decrease (significant). Therefore this exercise has a positive effect on blood glucose levels. Research conducted by (Church et al., 2010) with research design A Randomized Controlled Trial with 262 respondents age 30-75 yrs with DM type 2 (HbA1C 6.5% -11%) and subsequently selected according to inclusion and exclusion criteria. This study used the HART-D method of 9-month training interventions that were randomly divided into 3 groups: aerobic group, resistance group and combination group and control group given stretching and relaxation exercises per week and respondents were asked to do this for 9 months. Resistance training participants exercised 3 days per week with each session consisting of 2 sets of 4 upper body exercises (bench press, seated row, shoulder press, and pull down), 3sets of 3 leg exercises (leg press, extension, and flexion) 2 sets of abdominal crunches and back extensions. The result is that the absolute mean change in HbA1c in the combination exercise group is -0.34% (95% confidence interval "CI", -0.64% to -0.03%; P = .03). The mean changes in HbA1c were not statistically significant in either endurance training (-0.16%; 95% CI, -0.46% to 0.15%; P = 0.32) or aerobic (-0.24% ; 95% CI, - 0.55% to 0.07%; P = .14) group compared with the control group. Only combined exercise groups increased maximum oxygen consumption (mean, 1.0 mL / kg per minute, 95% CI, 0.5-1.5, P <.05) compared with the control group. All exercise groups reduced waist circumference from -1.9 to -2.8 cm compared with the control group. Weight loss training group on average fat mass -1.4 kg (95% CI, -2.0 to -0.7 kg, P <.05) and training group combined average loss -1,7 (-2 , 3 to -1.1 kg, P <0.05) compared with the control group. so it can be concluded that among patients with type 2 diabetes mellitus, the combination of aerobic and resistance exercise compared with the nonexercise control group increased HbA1c levels. This is not accomplished by aerobic or resistance training alone. The study conducted by Baaci et al (2012) with this study design was a randomized controlled trial with a subset of RAED2 research aimed at comparing the metabolic effects of aerobic training and resistance on the subject of type 2 diabetes. This intervention is performed 3 times a week for 4 months with a term of 60 minutes each. In this sub-project, blood glucose is continuously monitored by CGMS over 48-hours, starting with the training sessions. To adequately assess the impact of the two modalities exercises, the CGMS Sensors were implanted in all subjects after at least two months of training, ie when scheduled exercise volumes were achieved and maintained for several weeks. Respondents who have been selected by meeting the criteria and agreed to conduct this intervention are as many as 26 people then divided into 2 groups namely 13 groups of aerobic intervention and 12 groups of resistance exercise. Aerobic groups exercise 3 times a week (treadmill,cyclette and ellipse). During the

initial phase (weeks 1-2), participants train 30-40 minutes later, the duration of the exercise gradually increases to 60 minutes per session and, then, the intensity gradually reaches 60-65% The target training intensity is reached after 5 weeks in all eyes AER group lessons. The heart rate monitor (Polar S810i; Polar Elektro, Kempele, Finland) is used to standardize the intensity of the exercise. The resistance group performed 9 different exercises in a 3-week session using heavy machinery and free weights. During the Learning Stage (Week 1-2) the subjects performed 3 series 10-12 repetitions at 30-50% 1RM. Furthermore, the amount of weight raised increases. All participants are required Perform any repetition in a slow and controlled manner, with a break of 60 seconds between sets. The workload of the training increases after the Subject has successfully reached 12 repetitions with the appropriate technique. The target intensity of the training program (10-12 repetitions at 70-80% 1RM) was achieved after 6 weeks in all subjects of the resistance group exercise. All training sessions are supervised by an exercise specialist. HbA1C changes from the baseline were assessed on this subject at the end of the RAED2 protocol, after 4 months of intervention. HbA1c levels showed similar mean improvements in aerobics and resistance groups (20.4860,14 vs 20.3960,16%, p = 0.70).

4 DISCUSSION

The first discussion is a journal that discusses blood glucose levels. There are three journals that discuss about random blood glucose levels and one journal that discusses fasting blood glucose levels. The journal which discusses the random blood glucose level is the journal from (Luh, Inca,& Agustini., 2010) with the design of one pretest post test study using the respondent as many as 15 people, the duration used in this research is 30 minutes in 7 days (210 minutes) the results obtained is the change in pre and post glucose levels as evidenced by previous exercise (M = 201, SD = 100.15) and after exercise (M = 176.47, SD = 88.19 t (14) = 2.02, p <0.05 (two-tailed) .This exercise is considered short enough to do only one week, but the excess is this exercise is done regularly every day to produce a decrease in blood glucose levels as much as 25 points from Pre 210 and post 176 while the other two journals of Bweir et al., 2009 with a controlled trial design study with parallel group design and matched subjects with 20 respondents and Jin, Park, & So, 2015 with randomized controlled trial design with respondents as many as 16 respondents, these two journals have the same duration of exercise 3 times a week but different is the length of exercise, Bweir et al., 2009 gives exercise for 10 weeks with duration of each exercise 30-35 minutes) while Jin, Park, & So, 2015 provides a 12-week exercise with a duration of 60 minutes each. Blood glucose levels in the journal Bweir et al., 2009 resulted in decreased glucose monitored pre and post (p <0.001) greater decreases recorded in the resistance group exercise and in the last 10 weeks of Week 1 (Pre 310. Post 230 with a decrease of 80 point), Week 6 (Pre 280 Post 210 with a decrease of 70 points),Week 10 (pre 220, Post 120 with decrease of 100 points), the result is more significant that at 10th week that decrease as much as 10 point then blood glucose level in research of Jin, Park, & So, 2015 yield before122.28 ± 2.45 blood glucose levels after intervention 103.12 ± 4.56 with decrease of 19 points. One journal from Misra et al., 2008 that discusses fasting blood glucose with design research design prospective study using 30 respondents Intervention research conducted in duration 3 days a week for 12 weeks (not explained how long duration). The result is before the fasting blood glucose exercise 10.07 ± 2.0, 1 month intervention to 8.7 ± 1.3, 2 months intervention 8.2 ± 1.1 and at 3 months intervention 7.4 ± 1.2 means there is a decrease of 2.67 points. Furthermore, there are 5 journals that discuss about the influence of resistance exercise to HbA1C ie Misra et al., 2008 with prospective study design study and four others with randomized controlled trial design ie Bweir et al., 2009, Ng et al., 2010, Chruch et al., 2010 and Bacci et al., 2012. Research conducted by Bweir et al., 2009 with 20 respondents and Ng et al., 2010 with 60 respondents, they intervene in the period of 3 times a week with duration for approximately 2 months. Results in the Bweir et al journals were significant increases in mean HbA1C yields before and after exercise in both groups (p <0.001), but greater decreases were recorded in the resistance group exercise and in the last 10 weeks HbA1C levels became lower than the group receiving the treadmill (p <0.006). Both groups were actually effective in lowering HbA1C but exercise resistance exercise significantly decreased HbA1C (p <0.05) compared to tredmill exercise (control group) and then the study of Ng et all (2010), can be seen in the table showing that at the beginning of HbA1C intervention group of 8.9 after intervention for 8 weeks to 8.4. Research conducted by Misra et al., 2008 with respondents as much as 30 respondents

and intervention 3 times a week for 12 weeks (3 months) yield HbA1C from 7.7 ± 0.5 to 7.2 ± 0.3 P <0.001 This proves that moderate- intensity PRT for 3 months resultant in significant improvemnet HbA1C in patients with type 2 diabetes. The next journal is a study conducted by Bacci et al., 2012 with respondents as many as 26 people and the intervention done as much as 3 times a week for 4 months with a period of 30-60 minutes each healing. The result obtained is the HbA1C change from the baseline assessed on this subject at the end of the RAED2 protocol, after 4 months of intervention. HbA1c levels showed similar mean improvements in aerobic and resistance groups exercise (20.4860,14 vs 20.3960,16%, p = 0.70). However, there was an insignificant HbA1C result in this study. The last journal was from Chruch et al (2010) with 262 respondents, intervention 3 times a week in 9 months. The results obtained were the mean changes in HbA1c not statistically significant in both resistance training (-0.16%; 95% CI, -0.46% to 0.15%; P = 0.32) or aerobic (- 0.24%; 95% CI, -0.55% to 0.07%; P = .14) group compared with the control group. Only combined exercise groups that increased maximum oxygen consumption (mean, 1.0 mL / kg per minute, 95% CI, 0.5-1.5, P <.05) compared with the control group.

5 CONCLUSION

From the four journals on blood glucose levels, we can see that the journal from Bweir et al., 2009 resulted in a significant decrease in blood glucose levels at week 10 of 100 points. In fact, following resistance exercise at week 10, 80 % of the participants had plasma glucose levels that fell within the normal recommendations after their exercise session. In contrast, only 20% of the participants achieved normal glucose values (post-exercise sessions) in the treadmill group (control group) and type 2 diabetes, consisting of insulin resistance within skeletal muscle, a positive effect on glucose control than aerobic exercise or tredmill exercise. Resistance exercises have been shown to have moderate-intensity PRT for 3 months. 2 diabetes. From the five journals discussing HbA1C it can be concluded that in the intervention conducted for 2 months there was a significant result in resistance exercise intervention in decreasing HbA1C (p <0,05) and from 8,9 to 8,4 there was a decrease 5 points The training duration of 8 weeks was brief compared to the 12-week regimens examined in earlier studies. The 8-week duration was chosen to minimize or avoid the influence of any medication change during the course of the trial. HbA1c levels reflect glycemic control over the preceding 2 to 3 month period (American Diabetes Association 1995-2010), thus the observed change in HbA1c may be adequately reflected in the effects of HbA1c level as compared to treadmill exercise. We propose that an optimal exercise program for individuals with diabetes should include a resistance training component to be effective in improving the overall metabolic profile. In the intervention given for 3 months, it was explained that PRT would improve insulin sensitivity by increasing the lean body mass in Asian Indians with type 2 diabetes. As skeletal muscle is the principle of the area of glucose disposal, increasing muscle bulk does increase insulin sensitivity, increasing muscle bulk by increased muscle strength and muscle strength. mass significance. While varying duration of study and protocols may decrease in intramyocellular triglyceride content, which may lead to an improvement in insulin sensitivity. Baaci et all there were results that were not much different from the control group (20.4860,14 vs 20.3960,16%, p = 0.70) it was seen that resistance exercise experienced a better rate of decline than the control group of the acute effects of single bouts of these exercise types differ. In particular, aerobic exercise lowers blood glucose concentrations to the exercise session, carrying a higher risk of exercise-induced hypoglycaemia. Of particular concern is lateonset hypoglycaemia, especially when the exercise is scheduled in the late afternoon, as this risk occurs in the sleeping nocturnal period. These findings suggest that there is no significant result in Church et al's research that intervenes for 3x a week within nine months. The combination training group improved peak oxygen consumption per unit time compared with the control and the resistance training groups. All groups improved time on treadmill compared with the control group. Work per extension over 30 repetitions increased in the resistance training group compared with all other groups and in the combination training group compared with the control and aerobic groups. At follow-up, the combination training group has a decrease in the mean weight of the comparison with the control and resistance training group. Participants in the resistance training group have reduction in fat mass with the control, whereas the combination training group has a reduction in fat mass with the control and aerobic groups. The mean lean mass in the resistance training group increased compared with the aerobic group and combination

groups. All exercise groups are compared with the control group. The findings from the per-protocol analysis closely matched the intent-to-treat analysis. The conclusions of this study were patients with type 2 diabetes mellitus, a combination of aerobic and resistance training compared with the nonexercise control group improved HbA1c levels. This was not achieved by aerobic or resistance training alone.

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Management of Adjunctive Therapy on Diabetic Foot Ulcers: a Systematic Review

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Keywords: Adjunctive therapy and diabetic foot ulcers

Abstract: Diabetic foot ulcers is a common complication of Diabetes Mellitus and was became world health global issue. The adjunctive therapy has become the latest modality in recent years, but there were not much significant research to support its utilization as a diabetic foot ulcer treatment standard. This review aims to assess the effectiveness of various adjunctive therapies for diabetic foot ulcers. The literature review was conducted through Scopus, PubMed, Embase, Ovid Technologies, CINAHL, Cochrane, and Web of Science databases were systematically searched for recent systematic reviews published after 2004, and randomized controlled trials published that evaluated treatment modalities for DFUs. Studied therapies include debridement, off-loading, negative pressure therapy, dressings, topical therapies, hyperbaric oxygen therapy, growth factors, bioengineered skin substitutes, electrophysical therapy, and alternative therapy. Good-quality evidence is lacking to justify the use of many of these therapies, with the exception of standard care (offloading, debridement) and possibly negative pressure wound therapy. Many therapeutic modalities are available to treat DFU. Quality high-level evidence exists for standard care such as off-loading. Evidence for adjunctive therapies such as negative pressure wound therapy, skin substitutes, and platelet-derived growth factor can help guide adjunctive care but limitations exist in terms of evidence quality.

1 INTRODUCTION

The worldwide epedemic of type 2 diabetes mellitus has brought increased attention to some of its common complications, such as foot ulcers, secondary infections, and limb amputations. The development of diabetic ulcers in driven primarily by the effect of peripheral sensory neuropathy on foot biomechanics (foot deformity). Lower extremity ulcers are responsible for 20% of diabetic-related hospital admissions and are a major source of morbidity and loss of income for diabetes mellitus. Treatment is often prolonged and is sometimes unsuccessful, and the patients are prone to seriuos complications.

In the indonesia, diabetes mellitus (DM) afflicts 9,9% of the population over 40 years of age, of which 30% suffer from lower extremity disease. Development of diabetic foot ulcer (DFU) is associated with staggeringly high mortality rates of 16,7% at 12 months and 50% at 5 years-rates comarable to mortality rates of colon cancer [2]. Furthermore, patients with dm and new-onset dfu have significantly reduced survival rates compared with age- and ex-matched controls with dm but without dfus (72 and 86% 3-year survival, respectively) [3]. In the Indonesia, healthcare cost are estimated to be 5,4 times higher in the first year after a diagnosis of DFU than for patients with dm without an ulcer [2, 3]. Therefore, management and intervention of patients with DM and DFU must be adequately addressed before onset of severe complications. Unfortunately, dm is associated with a 15-25% lifetime risk for developing DFU, and once ulceration occurs, healing is difficult and lower extremity amputations (leas) common [2].

Fortunately, there are going efforts towards international consensus on management and rapid communication on enchancing standard of care and reviewing novel therapies. These therapies address various mechanism of dfu formation in order to achieve wound healing. DFU standart of care is critical; however, for those not responding to standard care, new adjunctive modalities may provide opportunities for healing. Yet, while treatment options have expanded in recent years, the

cost effectiveness and efficacy of these modalities remain in question.

This review intends to identify recent evidence-based evaluations of all dfu therapies, focusing exclusively on high-level evidence. Furthermore, it identifies gaps in curent data and suggests direction for further investigation.

2 METHODS

Using electronic databases, such as Scopus, PubMed, Embase, Ovid Technologies, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane, and Web of Science databases were systematically searched in June 2013 for systematic reviews published after 2004 and randomized controlled trials (RCTs) published in 2012–2013. Databases were searched using the keywords diabetic foot, wound healing, diabetes complications, skin ulcer, and diabetes mellitus. Searches were filtered to retrieve systematic reviews, meta-analyses, and RCTs published in English.

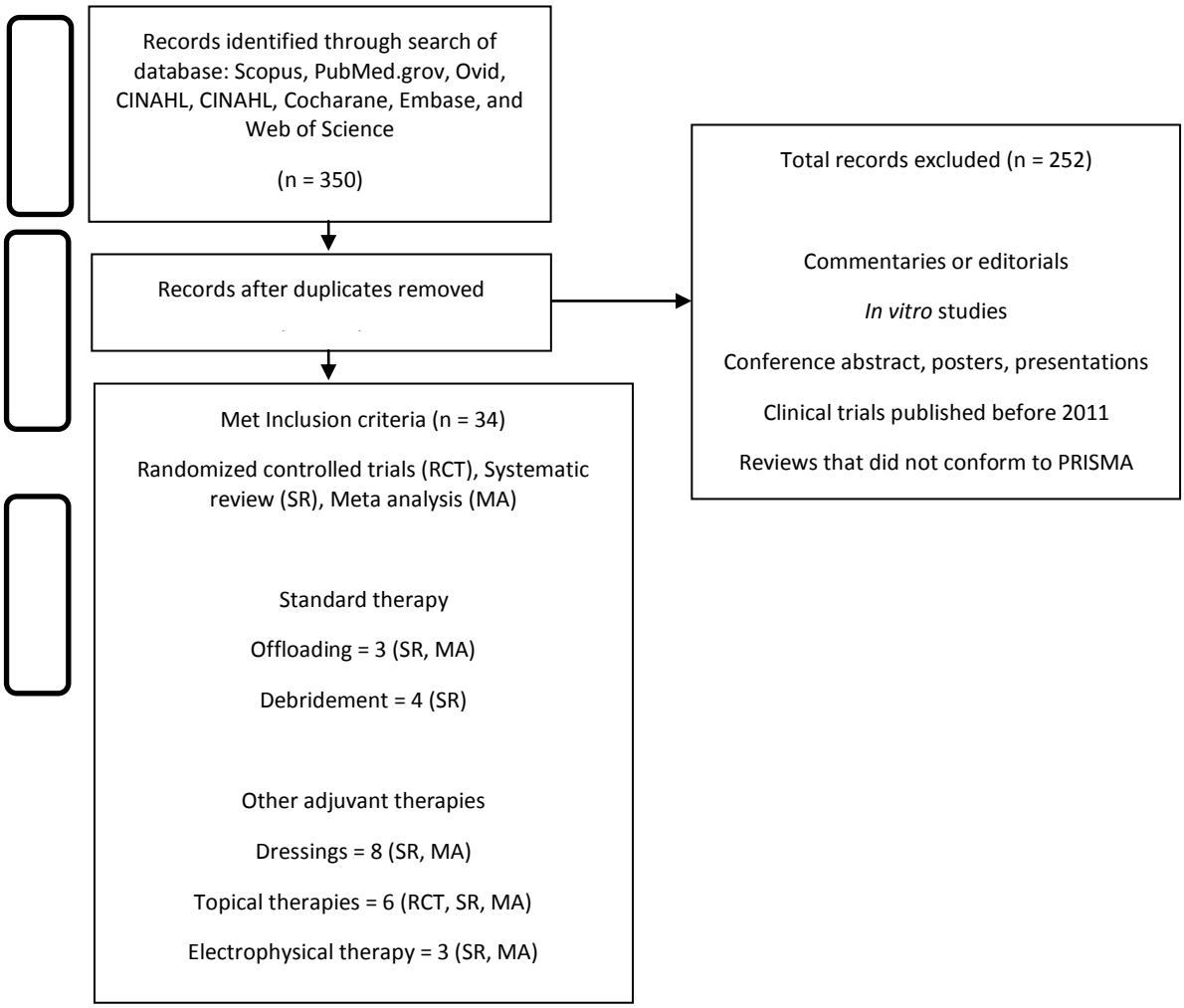

Fig. 1 Flow chart depicting study selection process. *COSORT* Consolidated Standards of Reporting Trials, *MA* meta-analysis, *PRISMA* (Preferred Reporting Items for Systematic Reviews and Meta-Analyses, *RCT* randomized controlled trial, *SR* systematic review

3 RESULTS AND DISCUSSION

Overall, 34 studies met inclusion and exclusion criteria (Table 1; Fig. 1). The modalities covered in these trials include negative pressure wound therapy (NPWT) (n = 5), growth factors (n = 3), bioengineered skin substitutes (BSS) (n = 6), cultured keratinocytes (n = 3), hyperbaric oxygen therapy (HBOT) (n = 7), off-loading (n = 3), debridement (n = 4), alternative therapies (n = 2), dressings (n = 8), topical therapies (n = 6), platelet-rich plasma (PRP) (n = 4), and electrophysical therapy (n = 3). These studies are summarized in Table 1. To enhance the discussion, we first discuss currently accepted standard of care and then present the evidence supporting it. Evidence on adjuvant therapies not currently considered part of routine standard care is discussed. Finally, a summary of the quality of evidence is presented (Table 2).

1.1 Current Standardized Approach to Diabetic Foot Ulcers (DFUs)

Current standard of care for DFUs includes assessment for vascular disease, skin, soft tissue or bone infection, and neuropathy [22]. The former two should be addressed, if present, with optimization of vascular supply and antibiotics. For neuropathic foot ulcers, redistributing pressure (off-loading) is critical (see evidence discussed in Sect. 3.2). A variety of approaches to off-loading exist, including bed rest, wheelchairs, crutches, foot inserts, therapeutic shoes, casts, or by surgical procedures [10].

Although the total contact cast (TCC) is considered the 'gold standard' off-loading device by many because it is associated with the highest healing rates, it has limited use because it requires trained staff for application and removal, may cause trauma if improperly applied, and is contraindicated in infection, contralateral foot ulcer, significant arterial insufficiency, and balance problems [10]. Indeed, a recent study found that fewer than 2 % of diabetic foot specialists utilize TCC [23]. Therefore the 'instant contact cast' made by applying fiberglass or CobanTM (3M, Minneapolis, MN, USA) around a removable cast walker has been increasingly used and may be equally effective [24]. Successful off-loading is frequently affected by poor patient compliance, given that these devices limit performance of daily activities. Therefore, the best device is the one that best adapts to the patient and allows a continuous use. Some surgical procedures have been reported to achieve offloading, including Achilles tendon lengthening, silicone injections, metatarsal head resection, and arthroplasties [25].

Debridement is also considered part of DFU standard care (see evidence discussed in Sect. 3.2). It allows removal of callus and abnormal edge tissue, necrotic tissue, and reduction of bacterial biofilms and excess matrix metalloproteinases (MMPs) [26, 27]. Debridement may be surgical, enzymatic (collagenase), autolytic (i.e., occlusive), mechanical (wet-to-dry dressing, lavage), or biologic (larval). Of these debridement types, surgical debridement is preferred for DFU. Surgical debridement is presumed to encourage healing by stimulating growth factor production and by converting a chronic non-healing wound environment into a more responsive 'acute healing' environment [27]. The optimal frequency for DFU debridement is not clear but often is performed either weekly or as needed based on the formation of non-viable tissue [10, 27]

Assessment commonly includes weekly wound measurements and if healing is not observed (such as 50 % wound size reduction over 4 weeks), adjunctive therapies are often considered (see evidence discussed in Sect. 3.3). Evidence exists for cellular constructs (ApligrafTM, Organogenesis, Canton, MA and DermagraftTM, Shire, La Jolla, CA, USA), selected cadaveric acellular constructs (GraftJacketTM, KCI, San Antonio, TX, USA), and recombinant platelet-derived growth factor (RegrenexTM, Smith and Nephew, Fort Worth, TX, USA) for superficial wounds. Hyperbaric oxygen and negative pressure wound therapy are used for deeper or complicated wounds [27].

1.2 Evidence Supporting Standart of Care Above

1.2.1 *off-loading*

Three systematic reviews evaluated off-loading techniques for the treatment of DFUs. All report that non-removable devices are more effective than removable devices [25, 28, 29]. Given this finding, it is not recommended that therapeutic footwear be used to treat DFUs [28]. Compared with removable devices, the superiority of non-removable devices may be due to improved compliance [30] and/or decreased physical activity of subjects [31], rather than superior plantar pressure reduction. Only one review evaluated surgical off-loading procedures. Lewis and Lipp [25] reported that Achilles tendon lengthening with TCC was more effective than TCC alone at 7-month and 2-year follow-up (relative risk [RR] at 7 months 3.41, 95 % confidence interval

[CI] 1.42–8.18; RR at 2 years 2.23, 95 % CI 1.32–3.76). However, this procedure is expensive, and long-term benefits are not well studied. The authors note that post-surgical scarring or worsening of diabetic motor neuropathy, for example, might decrease the benefits of Achilles tendon lengthening. For these reasons, it is recommended to pursue surgical methods only if alternative methods are unsuccessful.

Table 2 Summary of quality of evidence for the treatment of diabetic foot ulcer*

Therapeutic intervention	Quality of evidence
Off-loading	Moderate quality
Debridement	Moderate quality
Dressings	Insuficient evidence
Topical therapies	Moderate quality
Electrophysical therapy	Moderate quality
Negative pressure wound therapy	Moderate quality
Platelet-rich plasma	Moderate quality
Cultured keratinocytes	Moderate quality
Growth factors	Moderate quality
Bioengineered skin substitutes	Moderate quality
Hyperbaric oxygen therapy	Moderate quality
Alternative therapy	Insuficient evidence

* The quality of evidence was judged by the American College of Physicians (ACP) criteria [21]

1.2.2 *Debridement*

Four systematic reviews concluded that good-quality evidence for a beneficial effect of debridement on ulcer healing is lacking [32–35]. Surgical debridement was evaluated in two reviews; neither found statistically significant improvements in healing with surgical debridement [32, 33]. Of note, subjects undergoing surgery generally received several days of antibiotics and were told to off-load the affected area for several weeks after surgery. Both of these factors may contribute to beneficial effects and neither is controlled for in available clinical studies. Despite this, a statistically significant benefit of surgical debridement was not found. More recently, a large retrospective review of 312,744 wounds from 525 centers supported routine frequent debridement [36].

A Cochrane review evaluated the evidence for different types of debridement, including autolytic debridement, enzymatic debridement, and larval therapy, and found that autolytic debridement with hydrogels was superior to standard wound care, based on differences in healing rates (RR 1.84, 95 % CI 1.3–2.61) [32]. However, evaluated studies were small and of low quality, and the authors note that the benefits of hydrogels may not be limited to debridement, as this therapy also increases moisture in the wound bed [32]. Evidence is lacking for larvae therapy; a recent review noted that it did not significantly improve healing time or amputation risk in participants with DFUs [35]. No complete sets of data were found that evaluate enzymatic therapy for DFUs.

1.3 Evidence Supporting Adjuvant Therapies Not Currently Considered Standard of Care

1.3.1 *Dressings*

The primary goal of dressings in patients with DFU is to create a moist occlusive wound environment that prevents infection and further trauma as well as absorbs chronic wound fluid.

Multiple Cochrane reviews evaluated the efficacy of advanced dressings, such as hydrogels, foams, alginates, and hydrocolloids in DFU management [37–41]. Hydrogels improve healing in superficial DFUs compared with basic dressings; however, comparisons with other advanced dressings are lacking [41]. Studies of other dressing types, including silver,hydrofiber, and collagen dressings, found no statistically significant difference in wound healing compared with basic dressings and were limited by lack of high-quality data, lack of continuity in measured outcomes, and small sample size [42], but have found benefit for periwound skin.

Summary: Based on our review, the data suggest that advanced dressings may achieve better reduction in contact dermatitis and periwound maceration, common complications of wound dressings, rather than improving time to wound closure. One RCT, which did not meet inclusion criteria, found no difference in wound resolution for three different dressings, despite large cost disparities [43]. Ultimately, there is insufficient evidence to support which type of dressing best maintains a moist, occlusive wound healing environment.

1.3.2 *Topical Therapies*

Topical therapies include a range of therapeutic cutaneous applications aimed at improving wound healing by various mechanisms.

An RCT failed to demonstrate a significant difference in overall healing and amputation rates after application of topical honey. However, honey therapy significantly increased healing rate compared with povidone iodine dressings (p\0.0001) [44]. A systematic review by Shaw et al. [45] evaluated topical phenytoin but only 2 of the 14

studies were specific for DFU, and only one of which demonstrated statistically significant reduction in wound size. A sponsored phase II RCT of NorLeu3-A, an angiotensin analog, showed promising results, with DFUs healing at a median of 8.5 weeks compared with 22 weeks in placebo (p = 0.04) [46]. Lastly, a meta-analysis of hyaluronic acid (HA) evaluated four DFU-specific studies [47]. Two RCTs analyzed HA scaffolding with keratinocytes versus standard of care in DFUs, with a primary outcome of complete healing at 12 weeks. Neither study demonstrated statistically significant improvement, though a trend towards healing was observed (RR 0.90; 95 % CI 0.76–1.04; p-value 0.25). Two additional studies evaluated HA matrix alone versus standard of care in neuropathic ulcers. Meta-analysis of these studies found improved healing rates at 12 weeks post-treatment (RR 0.24; 95 % CI 0.24–0.49; p-value \0.0001) with fewer non-healed ulcers in the HA group [47]. Systematic reviews looking at various methods of topical therapy were not able to find a comprehensive analysis comparing each method, nor were they able to determine one superior therapy [34, 35].

Summary: There is moderate-quality evidence to support the use of various topical therapies; however, the strength of recommendation is low given study limitations and lack of comparative efficacy trials.

1.3.3 *Electrophysical Therapy*

Electrophysical therapy is an umbrella term for various treatments delivered by transmittal of energy from electrical, ultrasound, light/laser, and electromagnetic sources. Electrical stimulation wound therapy (ESWT) produces shortpulse electrical stimuli intended to mimic the body's natural electrical system and stimulate wound repair. Electrical stimulation may also improve perfusion, which can also contribute to improving healing. It may also stimulate the migration of various wound-modifying cells including keratinocytes, fibroblasts, macrophages, and neutrophils via various signaling mechanisms [48]. Unfortunately, multiple different methods for electrical stimulation have been used clinically, with widely varying physiological rationales, making comparisons between studies difficult.

Nevertheless, a single meta-analysis evaluated various electrophysical modalities, including ESWT, phototherapy, and ultrasound in treatment of DFUs and found statistically significant evidence to support their use (p = 0.002) [49]. Two additional systematic reviews evaluated electrical stimulation and shockwave therapy RCTs and determined the majority of the studies to be too methodologically weak or lacking in sample size to provide statistically significant results [34, 35]. Only one study was able to show an improved trend towards healing at 12 weeks with electrical stimulation [34].
Summary: These studies were conducted with moderate quality of evidence. Unfortunately, few conclusions could be drawn from these reports given the small sample size and poor methodological quality of the included studies. Kwan et al. [49] concluded that there was enough preliminary evidence to support larger randomized trials.

1.3.4 *Negative Pressure Wound Therapy*

Five systematic reviews compared NPWT with standard care or advanced moist wound therapy for DFUs and nonhealing post-amputation wounds in diabetic patients [34, 35, 50–52]. Game et al. [35] reported that two methodologically sound RCTs reported improved healing times and reduced risk of minor amputations with NPWT. An expert panel formulated recommendations based on the available literature and determined that NPWT should be considered in the following situations: (1) for post-operative Texas grade 2 and 3 diabetic foot wounds without ischemia, (2) to prevent amputation or re-amputation, and (3) to facilitate healing by secondary intention [52].

Many of the reviewed trials were of poor to moderate quality, and the systems and methods of applying therapies used were heterogeneous. None of the studies examined change in bacterial colonization of the wounds, participant quality of life, or cost effectiveness.

Summary: Moderate-quality evidence suggests that NPWTs improve healing of DFUs and non-healing postamputation wounds compared with standard wound care. Many questions remain regarding ideal patient population and cost effectiveness.

1.3.5 *Platelet-Rich Plasma, Cultured Keratinocytes, Growth Factors, and Skin Substitutes*

Among other elements, wound healing requires a functional wound bed. Topical growth factors and BSS target the aberrant wound bed of a chronic ulcer to stimulate intrinsic epidermal and dermal elements necessary for healing of chronic wounds.

1.3.5.1 *Platelet-Rich Plasma*

A 2012 Cochrane review did not find statistically significant evidence to support the use of PRP in treating chronic wounds [53]. Two of the RCTs included in the Cochrane study were DFU specific and did not find a statistically significant difference

between PRP and control in DFU treatment (RR 1.16; 95 % CI 0.57–2.35). Overall, the study was unable to establish evidence-based support of PRP by ulcer etiology or by the procedure used to obtain autologous PRP.

A separate meta-analysis of five RCTs comparing DFUspecific healing found the use of PRP to be an effective adjunctive therapy in wound healing (95 % CI 2.94–20.31) only if used in combination with other therapies in a multidisciplinary approach [54]. Of note, the study was unable to establish a reference value for PRP concentration consistent with each study and was therefore unable to recommend a therapeutic dose for DFU treatment [54]. Lastly, two additional systematic reviews found six studies addressing the use of PRP in wounds but were unable to determine significant benefit given the limitations of the studies, which included sample size, poorly established endpoints, and elaborate exclusion criteria. One RCT did find improved healing at 12 weeks (intervention 79 % vs. control 46 %; p\0.05); time to healing (intervention 7.0 ± standard deviation [SD] 1.9 vs. 9.2 ± 2.2 weeks; $p < 0.05$); and percent area reduction (intervention 96.3 ± 7.8 vs. control 81.6 ± 19.7; $p < 0.05$). However, reviewers stated that thestudy'sinclusion and exclusion criteria were unclear and were surprised by healing rates given the high incidence of bone exposure in pre-treatment wounds [34, 35].

1.3.5.2 *Allogeneic Keratinocytes*

Living skin equivalents comprise live skin cells that release growth factors prompting new growth. In an RCT, allogeneic neonatal foreskin keratinocytes achieved complete wound closure in 100 % of DFUs versus 69 % of control patients (p\0.05) [55]. The experimental group also had shorter healing time (35 days) than the control group (57 days). However, this study was single-blind, and the etiology of each ulcer was not sufficiently ruled out for possible neuro-ischemia. The authors acknowledged the necessity for larger studies and the need for DFU standard of care, including debridement and infection control, as essential to healing outcomes [55]. Two additional systematic reviews found two separate RCTs comparing allogenic keratinocytes; however, both lack of complete data set and poor methodology prevented further analysis [34, 35].

1.3.5.3 *Growth Factors*

Three systematic reviews evaluated the use of growth factors for DFUs [34, 35, 56]. A systematic review of growth factors and BSS included nine RCTs of growth factors. Studied growth factors included becaplermin (n = 6), recombinant human epidermal growth factor (rhEGF, n = 2), and basic fibroblast growth factor (bFGF) (n = 1) [56]. All described studies had significant methodological limitations, including in some lack of blinding and failure to provide sample size calculations. Becaplermin, a recombinant platelet-derived growth factor, is the only US FDA-approved drug for treatment of DFUs and has been shown to significantly increase the proportion of healed ulcers and decrease healing time when used as adjuvant therapy with standard wound care (p\0.05 in three RCTs and two meta-analyses). In a non-inferiority study, no statistically significant difference in effectiveness was seen between becaplermin and porcine small intestine submucosa, an advanced wound matrix implant ($p = 0.245$). Therapy with rhEGF (0.04 and 0.015 %) was significantly superior to standard wound care plus placebo in two trials. One study that compared bFGF with standard wound care failed to find a benefit of bFGF.

1.3.5.4 *Bioengineered Skin Substitutes and Skin Grafting*

Six reviews evaluated BSS for the treatment of DFUs [34, 35, 56–59]. All found BSS superior to standard wound care; however, these conclusions were based on studies of limited quality. Two cellular constructs are commercially available in the USA: a dermal equivalent (Dermagraft™, Shire, La Jolla, CA, USA) and a bilayered construct (Apligraf™, Organogenesis, Canton, MA, USA) and were found superior to standard wound care. Two reviews reported processed cadaveric acellullar dermis (GraftJacket™, KCI, San Antonio, TX, USA) superior to standard wound care [56, 57]. Promogran™, a composite of collagen and oxidized regenerated cellulose (Systagenix, Gatwick, West Sussex, UK), (n = 1) and Hyalograft™, cultured autologous fibroblasts seeded onto an HA-derived scaffold (Anika Therapeutics, Bedford, MA, USA), (n = 1) were not significantly superior to standard therapy [58]. However, Teng et al. [57] suggest that the lack of significant effect in the study of Hyalograft™ may be due to an inadequate number of applications. In this study, Hyalograft™ was applied only one to two times, significantly fewerthanin all other studies. No evidence of increased adverse events was reported in the reviewed studies.

Summary: Only limited conclusions can be drawn from these studies given that reviewed studies had multiple methodological limitations. Available data suggest that the addition of growth factors and metabolically active BSS Dermagraft@, Apligraf@, and GraftJacket@ increases the likelihood of

complete ulcer healing. This effect may be dose dependent.

1.3.6 *Hyperbaric Oxygen Therapy*

Adjunctive treatment with systemic HBOT is thought to accelerate wound healing by reducing tissue hypoxia [60]. Patients are placed in a compression chamber of 100 % oxygen at a pressure of at least 1.4 ATM. The oxygen dose and number of sessions are not standardized and vary between studies. Kranke et al. [61], for example, evaluated eight trials: seven used chamber pressures ranging from 2.2 to 3.0 ATA and sessions lasted between 45–120 min. Most trials included between 20 and 40 sessions, while one trial used only four sessions over 2 weeks.

Two recent systematic reviews [62, 63] that included both prospective and retrospective studies concluded that adjunctive therapy with HBOT significantly increased the likelihood of ulcer healing (RR 2.33, 95 % CI 1.51–3.60) [63] and significantly reduced the risk of major amputation (RR 0.29 95 % CI 0.19–0.44), with benefits persisting at the 1- to 3-year follow-up (RR of healing 2.97, p<0.01.) Game et al. [35] note that high-quality evidence is limited, but a methodologically sound study found that subjects receiving HBOT were significantly more likely to heal within 12 months (p = 0.03). However, a 2012 Cochrane review limited to RCTs found that while HBOT increased healing of DFUs evaluated at 6 weeks (RR 5.20, 95 % CI 1.25–21.66; p = 0.02,), this benefit was no longer evident at 1-year follow-up [61]. Furthermore, the Cochrane review did not find that HBOT decreased the risk of major amputations (RR 0.36, 95 % CI 0.11–1.18; p = 0.08).

Differences in data analysis and study selection among reviews likely explain these discrepancies. The Cochrane review was limited to RCTs, while the other two reviews also included non-randomized and retrospective studies, which increased the study's power at the expense of introducing bias into the analyses. Also, because individual trials were heterogeneous in patient populations, outcomes measures, and ulcer characteristics, the reviewers selectively chose to exclude some trials from their analysis. Liu et al. [35] excluded one RCT from their analysis because it reported healing outcomes only with conservative measures, excluding those requiring surgery. This increases the likelihood of detecting a protective effect of HBOT on risk of amputation. Also, when Kranke et al. [35] repeated their analysis without one trial of patients at high risk for amputation, their analysis did reveal a significant reduction of major amputation risk with HBOT therapy (p = 0.0009.) Due to the limited number of available studies, these small differences in analyses can significantly affect the results.

These discrepancies highlight the need for future, methodologically rigorous, appropriately powered, and methodologically standardized studies.

Summary: HBOT is frequently used, but because of a lack of a definitive efficacy study or well done effectiveness studies, this treatment remains, as Margolis and colleagues have pointed out in their recent analysis, controversial [66, 67]. More research is necessary to define the patient population that would most benefit from this therapy. The finding that the benefits of HBOT may be limited to shortterm follow-up should be further explored, as this may have significant implications regarding the cost effectiveness of this intervention.

1.3.7 *Alternative Therapy*

Only two systematic reviews were found that evaluated evidence for adjunctive oral Chinese herbal therapies [35, 68]. Meta-analysis of six studies studying different oral herbal preparations suggests that adding Chinese herbal medications to standard therapy improvesthe like lihood of complete ulcer healing (RR 0.62, 95 % CI 0.39–0.97) [68]. Side effects of therapy were mild, and adverse events were not significantly different between groups. Topical herbal preparations were not included in this analysis. Five of the six individual trials were judged to be of low quality, and only one was a randomized, double-blinded trial. Also, the herbal remedies were different across studies, making comparison and clinical recommendations difficult. The authors note that the most frequently used herbs were *Radix Angelicae sinensis, Flos Carthami Tinctorii, Semen Persicae, and Radix astragal*.

Another review noted that an oral Chinese herbal formulation did not improve healing of necrotic/gangrenous ulcers compared with placebo. The same review noted that ANGIPARS^{TM} herbal preparation (administered orally, topically, or intravenously) improved healing of DFUs, but supporting studies were methodologically flawed [35].

Summary: Evidence is insufficient to make clinical recommendations regarding the safety or efficacy of oral Chinese oral supplements when used adjunctively with standard wound therapy.

1.4 Limitations

Comparison of different treatment modalities is difficult since existing studies are not standardized. Notably, this review focuses exclusively on

evidence supporting treatment and excludes other data that may be critical to clinical decision making, such as side effects, cost, and applicability to practice setting. We also acknowledge the limitation that only including English-language papers introduces bias to our results.

4 CONCLUSIONS

Good-quality evidence is lacking for many of the described treatment modalities, and future studies are critical to better define the indications, therapeutic benefits, and adverse effects of each intervention. Given the diversity of therapies, future studies must define the populations that most benefit from each therapy by utilizing clear and strict inclusion and exclusion criteria. Also, baseline subject and ulcer characteristics should be described to allow comparison among trials and to define the indications of each modality. This is especially relevant to justify the use of new and expensive therapies that may be appropriate only for specific subsets of patients. Future study protocols should also incorporate a comprehensive set of outcome measures, including complete wound healing, wound healing rate, ulcer recurrence, pain, cost effectiveness, and quality of life. Most studies described in this review only evaluate healing rate or complete healing and disregard impact on quality of life and cost effectiveness. Given that compliance has been shown to be a critical factor in treatment success, parameters such as pain and quality of life should be evaluated. Of note, future studies should include subgroup analysis to evaluate treatment efficacy stratified by subject characteristics, including subject age, sex, smoking history, body mass index, and diabetes control. A recently published study protocol meets each of these criteria [69].

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Efectivity Clinical Supervision In Integrated Patient Development Records Of Compliance And Nursing Performance: Systematic Review

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Keywords: clinical supervision, nurse compliance, nurse performance.

Abstract: In Indonesia the model of nursing clinical supervision at the hospital is not as clear as what and how its implementation. Supervision is an effort undertaken in the context of monitoring accompanied by the provision of guidance, mobilization or motivation and direction involving many practitioners providing health services such as doctors, nurses, midwives, nutritionists, pharmacists, therapists, etc. and can involve various units of work and service which are in the integrated care record that is in the medical record. Literature searches are performed in major databases such as proquest, sciencedirect, doaj, sagepub, medline, and google scholar with time limits used in January 2008 to December 2018. A total of fifteen studies raised in this study, which is almost the same that is how to carry out clinical supervision in improving the compliance and performance of nurses in each population. From fifteen randomly selected respondents chose respondents. In order to ensure better compliance and performance of nurses in documentation of integrated patient development records, quality clinical supervision is needed in accordance with needs and problems in the inpatient room so as to improve the quality of documentation of integrated patient development records to support the achievement of optimal health services.

1 INTRODUCTION

The health service paradigm has begun to change by focusing on patient health services. No longer putting one of the professions as a service center, but it requires the integration of care from various service professions (National Standard Accreditation Hospital, 2017). Based on patient-centered care pattern (Patient Centered Care), care is given based on patient service needs. The care process is dynamic and involves many practitioners providing health services such as doctors, nurses, midwives, nutritionists, pharmacists, therapists, etc. and can involve various work units and services that are in integrated care records (National Accreditation Hospital Standard, 2017).

One of the functions of management is directing where there is nursing supervision activities, the fact shows the implementation of nursing supervision in various hospitals has not been optimal. Mularso's research (2006) found that more supervisory activities in "supervision" activities were not on guidance, observation and assessment activities. In Indonesia the model of nursing clinic supervision at the hospital is also not clear what kind and how its implementation. Supervision is an effort undertaken in the context of monitoring accompanied by guidance, mobilization or motivation and direction (Department of Health, 2008).

Medical records facilitate and reflect the integration and coordination of care. In particular, each health practitioner: nurse, physician, therapist, nutritionist and other health professionals records observations, medications, results or conclusions from the patient care group meeting / discussion in a problem-oriented developmental record in the form of SOAP (IE) together in the medical record, is expected to improve communication among health professionals (Frelita, Situmorang, & Silitonga, 2011; Iyer Patricia and Camp Nancy, 2004).

Documentation is a means of communication between health workers in order to restore the health of patients, without proper and clear documentation,

nursing care activities that have been implemented by a professional nurse person can not be accounted for in improving the quality of nursing service and improvement of patient's health status in hospital (Nursalam, 2011). Documentation in medical record is a means of communication between health professions in providing services to patients. The communication in question is inter-professional communication aimed at preventing misinformation, interdisciplinary coordination, preventing repetitive information, assisting nurses in the management of their time (Klehr et al., 2009). According to medical record guidance mentioned there are 3 main principles in medical record documentation that is: comprehensive and complete, patient-centered and collaboration and guarantee and keep patient confidentiality (WHO, 2007)

Written proof of service provided to patients by nursing personnel aims to avoid mistakes, overlapping and incomplete information. Act No. 44 of 2009 Article 52 paragraph 1 states that the hospital is obliged to record and report on all activities of the organization in the form of hospital management information system (Department of Health, 2009). Permenkes No.269/MENKES/PER/III/ 2008 concerning medical records in article 1, paragraph 1, stipulates that the medical record is a file containing records and documents on the patient's identity, examination, treatment, actions and other services that have been provided to the patient.

Given the importance documentation as a medium of communication between professions that can prevent the occurrence of unexpected events in the hospital due to communication problems including in the nursing. Data from Root Cause Analysis (RCA) results shows that one hospital in the United States shows 65% sentinel event, 90% of which is communication and 50% occurs during the handover of patient information (JCI, 2006).

One sign of a lack of communication between different health professions is the continued use of separate medical records with care records and other health profession records to record the patient's condition. The notes made less describe information about the patient's response and what the patient perceives, even many observations that are not recorded in the medical record. To improve the quality of medical records is to integrate the records of health professionals into an integrated patient record that is an integrated patient development record.

Patricia Suti Lasmani (2013) conducted a research with title evaluation of integrated medical record implementation in inpatient installation of RSUP Dr. Sardjito Yogyakarta. The result of this research is Implementation that still need to be improved that is: clarity: with result 29,7% rectification with crossed and initialed and none medical record using standard abbreviation; completeness: with 61.5% result of clear and concise treatment record, 85.4% developmental records fully and 81.3% written name and signature; novelty: with 41.6% written out the time and date of each action; comprehensive: 95% of the results of the incidence of critical incidents, patient-centered and collaborative: with 92.2% of the results there is subjective and objective data on developmental records, 73.4% of individual and comprehensive plans and 88.0% documented action approval.

Weaknesses in documenting an integrated patient development record (IPDR), nurses are required to make changes aimed at improving nursing services and the application of quality nursing documentation. Problems in the implementation of the current nursing documentation system, among others, 1) Currently there are still many nurses who have not realized that the actions they do must be accounted for. 2) Many parties mention that lack of documentation is also caused because many do not know what data should be included and how to make correct documentation. 3) Lack of document control (Handayaningsih, 2009). Compliance of nurses in documenting nursing care is defined as obedience to carry out documenting nursing care in accordance with fixed procedures that have been established (Arikunto, 2002). Less nurse compliance in applying nursing documentation records will result in low quality of service. In addition to the means of supervision, other issues related to the performance of the nurses in carrying out documentation can also be attributed to factors from the human resources of the nurse itself.

According to Setyono's research, this is because supervision is carried out by people who have been doing the same thing so that there is no impression from nurses that there is nothing new from such structured supervision and the factors that influence the performance of the nurses are not controlled such as work situation, work experience, motivation, attitudes and behavior of supervisors, who are responsible for carrying out supervision is a superior who has advantages in the organization, ideally the advantages are not only from the aspect of status and position, but also knowledge and skills (Nursalam, 2011).

All of these can improve the quality of nursing care to clients. Thus, nursing documentation can be

used as evidence of quality assurance nursing care for clients (Asmadi, 2008).

In order to adhere to the quality of nurses' compliance and performance in documenting an integrated patient development record, clinical supervision is needed to meet the needs and problems in the inpatient room. Based on the theory of clinical supervision to improve the quality in documenting the record of integrated patient development between professions. This research is expected to be one of the health service research that will provide solution in the implementation of clinical supervision to improve the compliance and performance of the nurses in documenting the record of the development of quality integrated patients so as to improve the quality of documenting the records of the development of integrated patients to support the achievement of optimal health services.

2 METODS

2.1 Design

Systematic reviews are used to review published journals that describe clinical supervision in documenting integrated patient development records to improve nurse compliance and performance.

2.2 Inclusion and exclusion criteria

2.2.1 Study type

This systematic review uses inclusion criteria which use quantitative and qualitative methods to evaluate outcomes from the implementation of clinical supervision.

2.2.2 Participant type

The nurse in charge of the patient / head of team / primary nurse at the inpatient.

2.2.3 Intervention type

Methods of implementation of existing clinical supervision include:

1) Conducted by a competent nurse or manager to the nurse in charge of the patient / team leader / primary nurse.
2) Covers experimental methods, observation, dialogue, reflection, briefings, post clinical clinical supervision implementation.
3) Activities are carried out individually or in combination of both methods.

2.3 Search literature strategy

The strategy in searching the literature used is to search in proquest, sciencedirect, doaj, sagepub, medline, and google scholar with the time limit used is January 2008 to December 2018. By using keywords of clinical supervision, nurse compliance, nurse performance.

2.4 Quality study assessment method

Study quality study method used to examine the data of research results using 2 stages of validity (validity), reliability and Applicability (applicable).

2.5 How to data extraction

To compare the journals already obtained, the data are extracted using the author and the year of publication, design, research objectives, population, interventions, methods of implementation and outcomes to be achieved.

2.6 Data synthesis

The synthesis of data using data from the extraction of journals that have been done then dilakukuan inference.

3 RESULTS

Competence of nurse in charge of patient during documentation of record of integrated patient development at this time many influenced factors such as composition of nurses in inpatient room, individual factor of nurses and factor from outside that is organization in this case is Hospital. Competence of nurses in charge of patients during documentation of records of development of integrated patients are still many that have not been appropriate due to several factors that can not be predicted and circumvented. Specifically, clinical supervision is necessary to improve the competence of nurses. From the results of research that has been done to get results that after the clinical supervision, there will be improvements in the quality of carrying out documentation or in improving the ability of nurses. In the systematic review of this research, the results obtained are:

3.1 Characteristics of respondents

Respondents for the implementation of clinical supervision on the four journals are nurse implementers (neonatal nurses), nursing students who will graduate, Nurse Fresh Graduate, pediatric nurse and Health Care Provider including nurses implementing therein.

3.2 Implementation of clinical supervision methods

Clinical Supervision is one of the ideal models to assist an individual in self-development, improvement of expertise and to help develop the nursing care plan that has been made. Implementation of clinical supervision reviewed in this research journal is carried out at least within 1st month of nurses conducted by clinical supervision supervisor who has been appointed then will be seen the impact of the implementation of clinical supervision on improving the competence of nurses in charge of patients during the documentation of records of development of integrated patients.

3.3 Advantages and disadvantages of journal

Research The obtained journal is a search result by limiting the clinical supervision of the nurses. The journals obtained have a nurse population of executives or fresh graduate students (Fresh Graduate). Of the five journals obtained are also less specific for each clinical supervision implementation using various methods. The implementation of coaching should have a standard or criteria to be achieved and measuring instruments used clearly. Critical Appraisal Quality The study was conducted by the author himself so that the results obtained still depend on the subjectivity of the author.

4 DISCUSSION

Supervision comes from the word super and vision. Super is something great, while vision is observing. Supervision is defined as the activity of observing the activities of others from the point of view of a person whose position or position is higher (Mulianto, S., Cahyadi, E.R., Widjayakusuma M.K., 2006). Supervision performed by superiors to subordinates with direct and periodic observations to provide guidance as a problem solving (Azwar, 1997). Supervision also facilitates the resources that workers need to complete their tasks (Swansburg R.C., 2000).

This relationship is evaluative and hierarchical, which involves a lot of time and has a goal to improve professional functionality for a more junior and professional quality of service monitoring (Dilworth et al., 2013). Thus the clinical supervision can be concluded as a part of the function of supervision that serves to improve the performance, daily tasks and competencies in order to improve the quality of nursing services.

Clinical supervision has benefits to improve nursing care and competence development. The quality of nursing documentation can be seen from the completeness and accuracy of writing the nursing care process given to the patient, which includes assessment, nursing diagnosis, action plan and evaluation (Nursalam, 2007). Clinical Supervision plays an important role in providing support to nursing services through quality assurance, risk management and competence within the framework of accountability and responsibility (Butterworth & Faugier, 2013).

The benefits of clinical supervision are the learning process, improving and honing the clinical ability. Clinical Supervision ensures the quality of nursing care. Clinical Supervision can improve therapeutic competence or skill and provide support to nurses or clinicians to be professional (Lynch et al., 2009)

5 CONCLUSIONS

Compliance of professional officers (nurses) is the extent to which the behavior of a nurse in accordance with provisions that have been given the leadership of nurses or the hospital (Niven, 2002).

Nurses as one of the health workers in the hospital plays an important role in efforts to achieve health development goals. The success of health care depends on the participation of nurses in providing quality nursing care for patients (Potter & Perry, 2005). This is related to the presence of nurses who served for 24 hours serving patients, as well as the number of nurses who dominate health workers in the hospital, which ranges from 40-60%.

Therefore, the hospital must have a well-performing nurse who will support the hospital's performance so as to achieve customer or patient satisfaction (Swansburg, 2000 in Suroso, 2011). The performance of nurses is nurse activity in implementing the best of an authority, duties and responsibilities in the framework of achieving the goal of the main task of the profession and the realization of the goals and objectives of the organizational unit. The performance of the nurse is actually the same as the work achievement in the company. Nurses want to measure their performance based on objective standards that are open and can be communicated. If nurses are noticed and rewarded until the award is superior, they will be

more motivated to achieve achievement at a higher level (Faizin and Winarsih, 2008).

6 RECOMMENDATION

Hospitals can develop clinical supervision instruments that focus on integrated patient development records and conduct periodic clinical supervision so as to evaluate nurses' compliance and performance with improvement, nurses must maintain compliance with quality documentation and improve nurse performance in accordance with agreed standards.

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The Effectiveness Of Telemonitoring In Treatment Adherence Cardiovascular Disease: A Systematic Review

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Keywords: Heart disease, cardiovascular disease, telemonitoring, adherence, mobile health

Abstract: Background. Cardiovascular disease is one of the leading causes of death in the world. The most important things as a determinant of success in the prevention of risk factors, controlling symptoms, delay the progression of the disease and prevent hospitalization in patients with cardiovascular disease are patients adherence to therapeutic regimens. Non-adherence to long-term therapy is still a global problem especially in chronic diseases such as cardiovascular disease. This requires the development of easy interventions, and can be applied in everyday practice. Methods: Systematic review consists of 5 steps: (1) identification of the instrument in the literature (database search); (2) identification of relevant literature based on the title and abstract; (3) inclusion and exclusion criteria; (4) obtain full text of the literature; (5) grading is based on components of the literature and analysis of the selected instrument. Search articles using the PICOT framework in the database; Ebscho, Science Direct, Elseiver, Sage Journals, Scopus, ProQuest, Journal Ners, limited to the last 7 years, 2010 to 2017 obtained 15 International Journal. Results: The magnitude and significant of telemonitoring effect on adherence in patient with cardiovascular disease. Conclusion: intervention with SMS system combined with smartphone gives good result in adherence patients with cardiovascular disease.

1 BACKGROUND

Cardiovascular disease is the leading cause of mortality and disability, as well as the resulting loss of productivity in adults worldwide (Vervloet et al., 2012). Cardiovascular disease or heart disease is the disorder of the disorder, anatomical and hemodynamic systems. In a broader sense of the definition of heart disease (CHD, myocardial infarction, angina pectoris), cerebrovascular disease, hypertension, heart failure, heart valve disease, peripheral vascular disease, congenital heart disease and peripheral artery disease. Global mortality caused by cardiovascular disease increased 41% between 1990 and the year 2013, (Park, Beatty, Stafford, & Whooley, 2016). Inpatients with heart disease, secondary prevention is more appropriately done bycontrolling risk factors comprehensively.Difficulty in following long term therapy is often the obstacles in patients cardiovascular disorders. The reason most frequently found associated barriers in therapy factor is forgotten. Compliance is a condition the extent to which a person's behaviorallevel carry out treatment of lifestyle changes in accordance with the agreement and the recommendations given by the health care provider, (Vervloet et al., 2012). Compliance with therapy and treatment is very important to control symptoms, delaying progression of the disease, and prevent hospitalization. However, non-adherence to long-term therapy is still a global problem mainly on chronic diseases such as cardiovascular disease, known up to 50% of patients with cardiovascular disease have a less compliance, (Gallagher et al., 2017). Complex interventions often spend a lot of time, requires labor intensive and high costs. Therefore required the development of interventions that are easy, and can be applied in daily practice. One example of easy and simple intervention is to remind a patient's response to therapy. Telemonitoring of patients heart failure is a promising new option. Telenursing / telehealth as part of telemonitoring is a way of providing nursing care with the use of telecommunications and information technology. the purpose of this study was to conduct a systematic review of the effectiveness of interventions in increasing compliance with telemonitoring in patients with cardiovascular disease. The results of the systematic review are expected to be applied to the health service. Systematic review is presented in the form of an article that consists of abstract, introduction, methods, results, discussion, PICOT, implications against the practice, a conclusion, and bibliography.

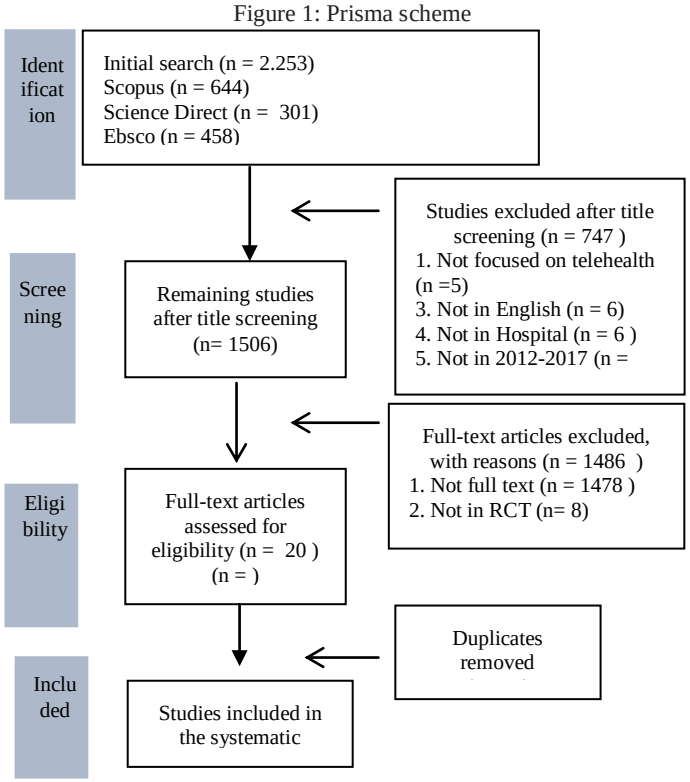
2 METHOD

Systematic review consists of 5 steps: (1) identification of the instrument in the literature (database search); (2) identification of relevant literature based on the title and abstract; (3) inclusion and exclusion criteria; (4) obtain full text of the literature; (5) grading is based on components of the literature and analysis of the selected instrument. Search articles using the PICOT framework in the database; Ebscho, Science Direct, Elseiver, Sage Journals, Scopus, ProQuest, Journal Ners, limited to the last 7 years, 2010 to 2017 obtained 15 International Journal.

The PICOT / PECOT framework is: Population : Patients with heart / cardiovascular disease Intervention: Telemonitoring. Control: - Outcomes: Patient compliance. Time: 2010 - 2017

Based on the determination of keywords according to the topics contained in the PICOT framework, and equipped with Boolean Logic methods (Ebscho, Science Direct, Elseiver, Sage Journals, Scopus, ProQuest, Journal Ners and Indonesia One Search) then the keywords in English used are "cardiovascular disease "," Heart disease ", AND" adherence "AND" telemonitoring "AND" telenursing "AND 'mobile-health

Figure 1: Prisma scheme



The inclusion criteria in this study are articles on telemonitoring and reminders with mobile phones (SMS, telephone), email, android applications. One result is adherence to therapy in patients with heart disease (coronary heart disease, myocardial infarction, angina pectoris, hypertension, heart failure, valvular heart disease, peripheral vascular disease, congenital heart disease, and peripheral arterial disease. Research design is RCT (randomize control trial), Quasy experiment, pilot study,. Exclusion criterion is an article about giving intervention in addition to telemonitoring.

3 RESULT

This review systematic reviewed 15 selected articles from various countries. Overall, 12 out of 15 studies (80%) showed that using telemonitoring was effective in improving adherence. This review includes several studies of several heart diseases: heart failure (5), hypertension (2), coronary heart disease (2), acute coronary syndrome (2), general heart disease (3), myocardial infarction (1) samples varied between 37-53480 respondents Systematic review includes several design studies a mongother RCT, Quasycircling, pilot studies, obser vational, descriptive, which was intended to get an overview of the extensive coverage in the field of telemonitoring. Some of the intrventions used in telemonitoring study include SMS, phones combined with the glow cap system and application tools, email “health buddy”, smartphone applications technology. Overall, 10 out of 13 studies show that the use of telemonitoring is effective in improving compliance in patients with heart disease, in particular adherence to therapy treatment. The majority of research studies (5 of 13) using SMS as an intrervention, 3 research using a combination of email and phone with using the smartphone technology, as well as two studies using applications that are connected to the internet. Most studies reported the value of customer satisfaction and high acceptence toward interventions

.Most studies using intervention in the form of reminder messages indicating good result related treatment adherence. In addition the intervention used involves a combination of modalities, such as the existence of web-based applications, where it is found positive result. Other studies using other combinations obtained by the phone and one study did not indicate the importance of adherence change, where patients will receive weekly emails containing therapy programs and the need to comply with calls from the Maintenance Manager. While other interventions with a combination system of telephone cable strokes (electronic pill bottles that record the date and time when the bottle is opened connected to the internet system to automatically send data) and combination of email and mentoring phone conducted every week shows. that there is success in the indicator of adherence to a therapeutic regimen. In a study using smartphone intervention applications, in addition In order to improve the results of the adherence indicator the patient also reported satisfaction (n = 174 and n =

37). The advantages that can be observed in the intervention by using smartphone applications that are related interesting features. The smartphone app has the potential to address the complexity of disobedient behavior as well as lifestyle, with respect to comprehensive features, unique and interesting

Title and author	Design	Sample	Type of telemonitoring & measured	Intervention	Control	Results	Time
1. *The effect of short message system (SMS) reminder on adherence to ahealthy diet, medication, and cessation of smoking among adultpatients with cardiovascular diseases* (Akhu-Zaheya & Shiyab, 2017)	*Randomize Controlled Trial*	Cardivaskular disease n= 180	SMS System (Adherence to diet, treatment, smoking cessation)	SMS System (reminders of dietary adherence, medication, and smoking cessation motivation) + general treatment	General treatment (doctor visits, diagnostic procedures, labs, prescribing)	There is a significant difference between intervention and control groups. In the intervention group obtained: 1. Increased adherence to treatment (p=0,001) 2. Increased adherence to a healthy diet (p=0,000). 3. There were no significant differences in smoking cessation and the number of cigarettes in use (p=0,327), (p=0,34)	3 Months
2. *A text messaging intervention to promote medication adherence for patients with coronary heart disease* (Park, Howie-Esquivel, Chung, & Dracup, 2014)	*Randomized controlled trial*	Coronary heart disease n= 90	SMS (adherence to antiplatelet and statin consumption: total number of doses taken, total percentage of prescriptions taken, presentation of schedule accuracy; feasibility and satisfaction with intervention)	1. SMS Reminder + health education (reminder therapy given morning for antiplatelet and night for statin + health education on Monday, wednesday and friday), total there are 74 SMS 2. SMS health education only on Monday, Wednesday and Friday (total of 14 SMS)	General treatment without reminder and educational SMS	- SMS reminder + education intervention group gets the best result. On the right dose indicator, taking prescribed and timely prescription doses, showed better results with values (p = 0.02) compared with educational SMS intervention. - Educational group SMS interventions are better in precise doses and exact schedule indicators than control groups (p=0,01) - Compliance response rates for antiplatelets therapy were higher than statins in the intervention group (p = 0,005). - adherence showed improvement, but statistically there was no significant difference between the two intrvensi groups (p = 0,16).	1 month
3. *Effect of a reminder system using an automated short message service on medication adherence following acute coronary syndrome* (Khonsari et al., 2015)	*Randomized controlled trial*	Coronary Syndrome N=62 Average age: 57,9 malaysia	SMS (adherence to treatment, enhancement of heart function)	Automatic reminder SMS (each time it takes time to take medication) combination of internet (Web)	General treatment	- The intervention group had a higher level of adherence to treatment than the control group (p<0,001) - Significant differences found in cardiac functional status were found to be better in the intervention group (p <	8 weeks

						0,001).	
4. *Electronic messaging support service programs improve adherence to lipid-lowering therapy among outpatients with coronary artery Disease* (Fang & Li, 2016)	*exploratory randomised control study*	Coronary artery diseaseN=280 China	SMS	1. SMS (reminder about treatment schedule) + Micro messenger application (contains health education information related to coronary artery disease) 2. Reminder SMS only	Telephone (once month reminder treatment schedule)	1. Intervention Group with SMS + Messenger application has better cumulative compliance than phone group (control) 2. Group SMS + Micro applications have better cumulative compliance than short message service groups	6 months
5. *Mobile Phone Text Messages to Support Treatment Adherence in Adults With High Blood Pressure (StAR)* (Bobrow et al., 2016) *Randomized Trial (Single-Blind)parallel*		Hypertension N= 1372 Afrika Utara Average age 54,3	SMS (treatment adherence)	1. Interactive SMS (information and feedback of patient response) 2. SMS information	General treatment	intervention with SMS can improve adherence and may lower blood pressure at 12 months	12 months
6. *Telemonitoring adherence to medications in heart failure patients (TEAM-HF*) (Gallagher et al., 2017)	*Pilot Randomized Clinical Trial*	CHF n=40 Average age 64 th	Phone (combined with glow cap system) Time: 1 month (adherence to diuretic treatment, return visit, follow-up visit)	*Telepon + glow cap system*	just a glow cap system without phone alerts	In the intervention group, all the results obtained were much better than the control group : - Return visit 30 days - Not attending follow-up visit - Comply with treatment (diuretic):	1 month
7. Efficacy of a nurse-led email reminder program for cardiovascular prevention risk reduction in hypertensive patients: (Cicolini et al., 2014)	*Randomized controlled trial*	Hypertension n= 203	Phone and email (treatment therapy adherence, blood pressure, BMI, fruit consumption and alcohol reduction, fasting blood glucose, LDL (cholesterol, triglycerides and physical activity)	Phone and email (receive emails each week (contains programs on the need for healthy lifestyle-based compliance based guidelines) and Phone calls from maintenance managers	General treatment	- In the intervention group showed better results. related to BMI, alcohol consumption, smoking, fruit consumption, physical activity, blood pressure, LDL and total cholesterol (all p <0.05) - improved adherence to therapy, did not show significant differences between the two groups.	6 months (follow up 1,3 and 6 months)
8. *A Mobile Health Intervention Supporting Heart Failure Patients and Their Informal Caregivers: A*	*Randomized Comparative Effectiveness Trial*	CHF N=331 Amerika Serikat	Phone and Email	Intervention : A. Interactive Voice Response (phone and email) per week + companion (CarePartner). B. IVR (Interactive Voice Response)	General treatment	- In the IVR + patient group, assistance was found to be better in the treatment compliance indicator - fewer reports of respiratory problems and weight gain in the intervention group (P <0.5) - there was no significant difference in improving the quality of life of HF patients (P> .21).	12 Months

9. *Effect of Reminder Devices on Medication Adherence REMIND* (Choudhry et al., 2017)	*Randomized Clinical Trial*	Chronic disease n=53480 average age 45 th Amerika serikat	Reminder tool (medication adherence)	Reminder tool: 1. Bottle of pills with strips that can change every drug taking 2. Bottle pills with digital timer 3. Standard medicine bottles	Without tools and reminders	There was no statistically significant difference in the likelihood of optimal adherence between control and any of the devices	12 months
10. *Effects of tailored telemonitoring on heart failure patients' knowledge, self-care, self-efficacy and adherence* (Boyne, Vrijhoef, Wit, & Gorgels, 2010)	*randomized controlled trial*	Heart failure n=382	Application tool "health buddy"	Application tool "Health Buddy": (monitor tool that sends data to the central server) + interactive dialog	ordinary care: receive oral and written information) is active	- The intervention group had significantly improved compliance outcomes compared to the control group ($p < 0.001$). - self-care ability in the intervention group was better than control group ($p < 0.001$) - Self efficacy in the intervention group increased after 6 months - in the intervention group there was an increase in compliance indicators ($p < 0.001$), adherence to fluid intake ($p = 0.019$). Compliance for - recommended physical activity increased ($p = 0.023$) after 3 months - treatment adherence increased after 6 months ($p = 0.012$) and 12 months ($p = 0.037$) compared with control group	12 months
11. *Effects of interactive patient smartphone support app on drug adherence and lifestyle changes in myocardial infarction patients*: (Johnston et al., 2016)	Randomized Controlled Trial	Infark miokard N= 174 Average age 58 th (Swedia)	Application *smartphone* 8 weeks	Web-based smartphones that contain an application about compliance (e-diary) and health education modules (BMI, physical activity, BP measurement)	simple application of compliance without health education	- adherence to treatment was better in the intervention group than in the control group ($p = 0.25$) - Patient satisfaction was higher in the intervention group ($p = 0.001$) - Results in the intervention group were better related to smoking cessation rate, increased physical activity - quality of life improved, but statistically did not show significant results.	8 weeks
12. *Features and usability assessment of a patient-centered mobile application*	Survey deskriptif	Heart failure N=37	Application *mobilephone*	*Application mobilephone* (*health Mapp*)	General treatment	Increased confidence in the intervention group	6 weeks

(HeartMapp) for self-management of heart failure (Athilingam et al., 2016)							
13. Meication reminder APPs to improve medication adherence in Coronary Heart Disease (MedApp-CHD) Study: (Santo et al., 2017)	*Randomised controlled trial protocol*	Coronary heart disease n= 156	Application *mobile smartphone* (adherence to treatment, knowledge, clinical state: BP, cholesterol)	1) interactive smartphone apps + reminders 2) standard smartphone apps + reminders	Just a reminder without using the smartphone app	This intervention had an effect on medication adherence, but there was no effect on the clinical state of the heart and the incidence of hospital admission.	3 months
14. A Randomized Trial on Home Telemonitoring for the Management of Metabolic and Cardiovascular Risk in Patients with Type 2 Diabetes (Iljaž, Brodnik, Zrimec, & Cukjati, 2017)	Randomized Controlled Trial	Heart disease risk patients with type 2 diabetes n=302	Tools with Sensors connected to internet networks and databases (quality of life, BP, lipid profile, visit schedule)	(HT) Home telemonitoring with weight sensor method, glucometer sensor and sphygnomnometer. connected to the internet network and connect the database to be monitored by health personnel.	General treatment n = 149	- Patients with HT were found to significantly decrease glycated hemoglobin level P = 0.001. - There is no difference about the quality of life, weight, blood pressure and lipid profile. - There are only significant differences regarding the specialist visit to the patient of P = 0.06	12 weeks
15. Fluid status telemedicine alerts for heart failure: (Böhm et al., 2016)	Randomized Controlled Trial	Patients risk heart failure n=466	Short message system (SMS) and phone connected to the sensor in the patient (liquid status)	Connecting an ICD (implantable Cardioverter defibrillator) device with an SMS system, in follow up with a telephone by a health worker.	General treatment N=223	- indicators of increased fluid status in patients with heart failure risk with ICD did not provide significant results.	

The relationship between types of measurements and outcomes

SMS/Text Message

Most of the studies were conducted using mail tets as interventions. In the use of SMS is almost all people reported an increase in compliance. In Jordan, studies using interventions SMS reminder for adherence of treatment, showed significant result to increase adherence to treatmnet and healthy diet. The use of SMS is combined with other modalities to improve compliance and accuracy in dose treatment. For example a study in Malaysia that combines SMS with a technology Web-based applications and internet shows better results related indicators of compliance with treatment and functional status of the heart, as well as the majority of the participants report on satisfaction in use of SMS in the system. In other experiments in China, experiments conducted for 6 months with a combination of SMS and smartphone technology (Micro Letter) shows better results in the treatment of compliance in patients with coronary artery disease. The combination of interactive SMS intervention, also gives better results when compared to just the giving message only. Research involving 90 persons with heart disease are given 2 intervention, i.e. SMS reminder treatments (daily schedule) with the addition of health information and automatic message that asks as a confirmation of acceptance, as well as intervention with just SMS only, Both have a more significant results than the control group. Intervention with SMS in General contains personal data about patient indications and appropriate motivation and barriers as well as treatment-related information / health education related diseases. Based on the results of the study the use of SMS can support monitoring of compliance against the particular intervention treatment in patients with cardiovascular disease.

(**Phone Voice Response) / IVR**

Intervention-based IVR (interactive voice response) can provide information on the status of validation patients. Random research conducted with intervention combination IVR + email + Companion (care giver) in 331 patients in the United States suggests that intervention is effective against an increase in compliance. Similary intervention with a combination of phone and glow cap system (i.e. the use of a bottle of pills that can record the date and time when the bottle is opened, then the network is connected to the internet so that it can automatically send the data online, followed by telephone to follow up) shows an increase in adherence to the terapeuthic results of the diuretic and accuracy in taking a dose of medicine. Not all research using the phone showed significant result studies conducted in Italy with a combination of phone and email does not show significant results towards compliance, but an increase in physical activity and consume a healthy diet. Interventions using the telephone, IVR with a combination of email is easy and does not require high costs as well as save time because it takes a 20-minute daily. However, the limitations may be obtained in connection with the age of respondents, where older people may have difficulty using email as a method of a reminder.

Smartphone Applications

Rapid development of smartphones, has made the application in smartphones as a potential tool for improving adherence to treatment, (Santo et al., 2017). Some studies use a smartphone application with the intervention indicator related patient treatement with heart disease. Study of application system-based Smartphone with a Web-based data analysis, in Sweden with a sample number of 174 people, deliver effective results on compliance and satisfaction of the respondents. Similarly, random research on 156 patients using the interactive smartphone application intervention and reminders, showing its effects on adherence to treatment on coronary heart patients, but there is no influence on the State of Clinical cardiac. This feature allows the use of interventions that are interesting, but the mobile data needed in its implementation.

The relationship of time and learning outcomes

Seven studies have follow up time is shorter than 6 months. n the group, almost all studies reported significant results for increased compliance, except 1 study that reported the lack of significance of the results the case study with a time more than equal to 6 months were reported there were 1 study that do not have to significantly to the results.

4 DISCUSSION

Telemonitoring is the intervention with the use of telecommunications and information technology to monitor the status of the clinic patients, in this case to provide nursing care that is not limited to distance. This review provides evidence of the effectiveness of the intervention of patients with electronic reminders in the improvement of compliance of patients with heart disease.

Adherence to treatment is very important to control symptoms, delaying the development of, and prevent recurrence of heart disease. Substantial progress in information technology and mobile, as well as more rampant mobile-health becomes an alternative promising new tools for the improvement of health services by improving compliance with therapy treatment. The intervention uses of monitoring / reminders are based primarily on the principles of behavior analysis. .Some of the research that has been analyzed by using the theory of behavior change theory and Bandura SRT (Self regulation response). According to the theory of Bandura, the behavior depends on stimulus both internally (from within one's self) and external (associated with the environment) where in this case, the behavior of infidelity can be changed with the repetition of the external stimuli that is with reminder (Park et al., 2014). The theory of SRT (Self Regulation Theory) also the basis in the intervention of telemonitoring. This theory uses the experience of health that is based on the assumption of the patient, their role in health care as well as acceptance of health providers. Patients are expected to imitate behavior, introduced independently or with the support of health care providers (Akhu-Zaheya & Shiyab, 2017). This study provides evidence of the effectiveness of short term (6 month <) on an electronic reminder intervention in improving treatment of compliance in patients with heart disease. Not all research provides an overview of the results, but most show results enhancement towards compliance with treatment. Electronic reminder to be evaluated here among other things: the use of SMS (as well as in combination with Web systems), telephone / interactive voice response (combination with email, application tool), a device application reminders (health buddy, sensors), smartphone. Currently SMS still widely applied as a reminder interventions towards compliance. Effectiveness in this regard is evidenced by several studies, stating the result increased compliance. Economic value is also derived from this intervention, other than cheap and widely available and everyone is using it. SMS course may tend to be less interactive, will be more effective with a mechanism for actively in communication (2-way). Some studies linked the contents of SMS used customized personal, related names, dosage of medication, and always accompanied by a motivation that is adapted to the condition of the patient and the barriers experienced by patients. As well as the existence of a combination with other modalities such as smartphone applications, create a more interesting and complete with the features available. As the development of technology, the use of smartphones is also increasing. Smartphone applications offer features that are interesting and interactive so that this intervention produces satisfaction for users. Intervention with smartphone also has the potential to overcome the complex behavior of his disobedience of the treatment or lifestyle. In reviews several studies with Smartphones, obtained not only increase compliance against treatment, but also in the change of lifestyle improvements in patients with cardiovascular disorders and quality of life of the patient. But research-based smartphone is still relatively few, ongoing test results will help to develop accurate evidence of other related matter. Several controlled trials using telephone / IVR (Interactive voice response) combined with other modalities of intervention provide effective results in patient compliance, especially in medicine. However, the interaction with the IVR requires a patient's willingness to participate when the call or the phone system

The Implications To The Practice

Compliance in therapy is the crucial to the case of cardiovascular disease. With adherence to the regimen of therapy then can control symptoms, delaying progression of the disease, and prevent hospitalization. Interventions that are easy to be applied to everyday is sides, both healthcare providers and patients themselves. Telemonitoring is a great alternative to give promising interventions. With him some intervention of telemonitoring, as can be used in consideration of alternative interventions by healthproviders. Applications smartphone or SMS with a combination of web-based applications shows good results in the study.

5 CONCLUSION

Telemonitoring is an easy intervention to be applied daily. Telemonitoring devices such as SMS that are combined with Web applications, and Smartphones are more easily applicable to the patient, so that it can be an alternative in interventions to improve adherence to treatment. Advances in technology make the smartphone into an alternative that is promising, but needed more evidence based research to related learning outcomes that will beobtained.

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Yoga as an Alternative and Complementary Approach for Controlling Type 2 Diabetes Mellitus : a Systematic Review

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Abstract: **Background:** Type two diabetes mellitus is a complex and demanding chronic disease. Yoga has been suggested as a complementary and alternative for preventing and controlling type 2 diabetes mellitus. Objectives: The purpose of this study was to review studies using yoga to controlling type 2 diabetes mellitus. **Methods:** A systematic review of studies involving yoga interventions for controlling diabetes was the method used in study. A literature search was conducted in several major database such as scopus, proquest, ScienceDirect, Google Schoolar, Pubmed. Inclusion criteria were as follows : (1)conducted between 2012 until 2018; (2)publish in English language; (3)used randomized control trial design. **Result:** A total of 9 studies met the inclusion criteria. Seven studies used randomized control trial, 1 studies used randomized control trial (a feasibility study), and 1 studies used randomized control trial (pilot study). Of these studies, 9 used yoga asanas, 7 used pranayama, and 6 studies used relaxation. All studies that measured FBG, and showed significant decrease FBG. And 3 showed significant improve QoL. **Conclusions:** Despite the limitations, had nonstandardized yoga intervention, had different outcomes and varying lengths. Yoga can be modality for controlling diabetes mellitus.

1 INTRODUCTION

Type 2 diabetes mellitus (T2DM) is a highly prevalent chronic disease with 366 million people in 2011 and approximately to increase by 51% reaching 552 million by 2030(Whiting, Guariguata, Weil, & Shaw, 2011; WHO, 2006). The International Diabetes Federation (IDF) currently states that the 5 top countries with highest amount of diabetic patients are China, India, United States, Russia and Brazil. Diabetes caused 4.9 million people deaths in 2014. T2DM accounts for 90-95% of all diabetes cases in adults (Center for Disease Control and Prevention, 2011). Factor contributing to the high prevalence of T2DM include genetic predisposition, environmental and lifestyle risk factors (Neel J.V., 1962). Lifestyle factors such as physical activity and dietary (Hamman, 1992; Manson et al., 1991). Lifestyle interventions including exercise have been effective in offsetting T2DM complications and the progression from prediabetes to T2DM (Nathan, Turgeon, & Regan, 2007; Zanuso, Jimenez, Pugliese, Corigliano, & Balducci, 2010).

Controlling blood glucose level is fundamental to the management of T2DM (American Diabetes Association, 2013; Waugh et al., 2007). Often pharmacological treatment alone is insufficienct to achieve glycemic control, arrangement to dietary and physical activity is recommendations (Dyson et al., 2011; Knutson, Ryden, Mander, & Van Cauter, 2006) So far, interventions involving arrangement dietary and increased physical activity to bring about weight loss and delay the onset of diabetes (Li et al., 2008; Tuomilehto et al., 2001). Furthermore, mind-body interventions have been suggested to aid in regulating stress and controlling blood glucose. In this light, yoga has been suggested as a complementary and alternative medicine for treatment of T2DM.

Yoga is traditional mind-body medicine 400 years ago in India and common did by religion of Hinduism (Sreedevi, Gopalakrishnan, Karimassery Ramaiyer, & Kamalamma, 2017). Yoga is found to be one the effective non pharmacological intervention in reducing stress with the result that glycemic control in T2DM (S. Singh, Malhotra, Singh, Madhu, & Tandon, 2004; Gordon et al.,

2008; Mahapure, Shete, & Bera, 2008). Yoga therapy includes physical postures (asanas), breathing exercise (pranayama), relaxation and meditation (Nagarathna et al., 2012) Yoga therapy is treatment noninvasive, free of side effect, and can be practiced by individuals with severe physical limitations. The purpose of this study was to systematically analyze and synthesize studies using yoga to controlling type 2 diabetes mellitus.

2 METHOD

A systematic review of studies involving yoga interventions for controlling diabetes mellitus was the method used in this study. To be included in this study, the article must meet the following criteria : (1)conducted beetwen 2012 until 2018; (2)publish in English Language; (3)used randomized control trial. First phase, identified studies meeting these criteria through databases searching: scopus, proquest, ScienceDirect, Google Schoolar, Pubmed. Keywords used to identify studies meeting the criteria included "Yoga AND Diabetes" or "Yoga AND Diabetes mellitus" or "Yoga and diabetic". Second phase, included preliminary distillation of the articles by eliminating duplicates and review/discussion/other articles. Third phase, comprising manuscript review of the remaining articles. Finally, the remaining article (n=9) satisfied the eglibity criteria.

3 RESULT

The completed data extraction process resulted in 9 studies, which satisfied the inclusion criteria. Table 1 summerizes the elements of the interventions, including research year, research design and sample size, age of the paticipants enrolled, intervention modality, intervention dosage, and silent findings. The reported interventions are arranged in ascending order by year publication.

4 DISCUSSION

The aim of this review was to look at studies published from 2012 until 2018 and examine whether yoga can be an alternative and complementary therapeutic approach for controlling diabetes mellitus. A total 9 studies met the inclusion criteria. The majority of the studies were conducted in India, that is as much as 7 studies, one studies in Thailand, and one studies in Hongkong.

Yoga originated in India, so it is natural that the majority studies would arise from that location. Should, conducting studies in countries where yoga is not rooted in more ethnic cultures and diversity can help in future program implementation. Such a study would be useful because the researcher tried to translate the trial-effectiveness trial.

The review looked at 9 studies of which 7 were randomized controlled designs, 1 studies used randomized controlled trial a pilot study, 1 studies used randomized controlled trial a feasibility study. Based on these studies, some conclusions can be made but one would need to consider the limitations. Besides the design, some other shortcomings that need to be kept in mind while interpreting the efficacy of yoga in controlling T2DM are the small sample sizes used in the studies, the lack of standardization of the yoga interventions, and varying dosages of the interventions. The sample sizes have generally been small with 7 studies having sample size more than 100. Power calculations and sample size justifications are generally missing from most of the reviewed studies. There have been no multicentric studies or largescale studies that have been done with this research problem. Future research should look at the possibility of conducting large-scale studies. The sampel of studies included 1480 adults who consented to participate (mean age = 36 years). To advance yoga as a potential treatment for T2DM, sampel sizs that can generate significant power are required.

Of the interventions, All studies used yoga *asanas*, 7 studies used *pranayama*, 6 studies used *relaxation*, and some studies used meditation, lectures on yogic life style, loosening exercise. The yoga interventions have been from a variety of schools of yoga and substantial numbers do not even identify any particular school. Yogic asanas are physical exercises with low physical impact that involve various body postures. These postures are ideally used for meditative practices. Yogic asanas relieve bodily strain and relax the mind. Some examples of asanas helpful in diabetes are padma asana (lotus pose), dhanura asana (bow pose), paschimotana asana (forwardseated bend pose), mayur asana (peacock pose), and shalabh asana (locust pose). Pranayama is focused on controlling and inducing rhythmic breathing patterns to improve oxidative power and blood flow. Pranayama consists of 3 stages: puraka (inhalation), kumbhaka (pausing or holding the breath), and rechaka (exhalation).

Relaxation have been shown to improve the mood with better glycemic control. Some exampels of relaxation are shavasana pose, yoga nidra and A-U-M chanting. Yoga nidra is deep relaxation techniques to reduce tension and anxiety. Future randomized control trials testing various combination of these techniques would assist in determining the efficacy of various yoga practices as a treatment for T2DM.

The duration of the yoga intervention have various. Of the 9 studies, 5 studies with duration 3 months, 2 studies with duration 2 months, 1 studies with duration 6 months and 1 studies with duration 1 year. Because T2DM is a long-life disease, more interventions are needed that include long-term evaluation of yoga adherence and treatment effects. The duration of yoga is tailored to the physical activity needs of T2DM patients. Excessive activity in T2DM patients can produce negative effects such as hypoglycemia.

All studies measure glucose like as fasting blood glucose (FBG), fasting plasma glucose (FPG), Post prandial glucose level (PPBS), glycated hemoglobin (HbA1c). Four studies measure quality of life, 5 studies measure blood pressure, and some research measure fasting lipid, insulin, LDL, HDL, tryglycerides, depression. All studies showed significant decrease fasting glucose. Fasting blood glucose is a standardized, objective measure, which should be applied in future studies exploring this topic. From a prevention perspective, fasting blood glucose can be used to assess prediabetes. As a tertiary measure, fasting blood glucose measurements can monitor the treatment of diabetes.

5 CONCLUSIONS

Controlling blood glucose level is fundamental to the management of T2DM. One of the approaches to controlling diabetes is through yoga. A total of 9 studies from 2012 until 2018 looked at yoga and its efficacy in controlling blood glucose. Of the 6 studies that measured changes in blood glucose, 6 showed significant glucose. And 3 showed significant improve quality of life. Despite the limitations, had nonstandardized yoga intervention, had different outcomes and varying lengths, yoga is a promising modality for controlling diabetes mellitus.

Table 1. Summary of Yoga as an Alternative and Complementary Approach for Controlling Type 2 Diabetes Mellitus Done Between 2012-2018 (n=9)

No	Year	Authors	Design and Sampel	Age	Intervention Modality	Intervention Dosage	Outcomes	Silent Findings
1	2017	(Keerthi et al., 2017) India	Randomized Control Trial, n=310, control group (n=62), prediabetcs (n=124), diabetics (n=124)	18-45 years	Yoga included Sukshmavyayama, suryanamaskar, asana, pranayama, meditation, Relaxation	45 minutes duration three times/week for 12 weeks	Biochemical measures (fasting insulin, fasting plasma glucose), anthropometric, Blood pressure, Indian diabetes risk score, Quality of life	improvement in QoL scale with $p<0.01$ in group II and IV reduction in IDRS in group II ($p<0.05$), $p<0.001$ in Group III, IV, V significant difference ($p<0.001$) in QoL scale an IDRS were found when study groups with standard treatment along with yoga therapy were compared to standard treatment alone.
2	2013	(Hedge et al., 2011) India	Randomized control trial n = 29 non-alcoholics and non-smokers	30-75 years	Asanas and pranayama	75-90 minutes each day interrupted by a two day weekend break for 3 months	anthropometric, Blood pressure, glucose, vitamin C and vitamin E, malondialdehyde, reduced glutathione and superox-ide dismutase (SOD) levels	Yoga intervention resulted in a significant decline in malondialdehyde ($p < 0.001$), rela-tive to the control group. In comparison with the control, there was a significant improvementin BMI, waist circumference, systolic blood pressure and fasting glucose levels at follow-up.
3	2012	(Nagarathna et al., 2012) India	Randomized control study n = 277 type 2 diabetics of both genders	Above 28 years	Yoga asanas, pranayama, meditation and lectures on yogic life style	One hour/day – 5 days/week for 12 weeks	Medication score, Biochemical measures included blood glucose, HbA1c and lipid profile	Intention to treat analysis showed better reduction ($P<0.05$, Mann-Whitney test) in the dose of oral hypoglycemic medication required (Yoga - 12.8 %) (Yoga-12.3 %) and increase in HDL (Yoga7 %) in Yoga as compared to the control group; FBG reduced (7.2 %, P00.016) only in the Yoga group. There was significant reduction within groups ($P<0.01$) in PPBG (Yoga-14.6 %, Control-9 %), HbA1c (Yoga-14.1 %, Control-0.5 %), Triglycerides (Yoga-15.4 %, Control16.3 %), VLDL (Yoga-21.5 %, Control-5.2 %) and total cholesterol

No	Year	Authors	Design and Sampel	Age	Intervention Modality	Intervention Dosage	Outcomes	Silent Findings
								(Yoga-11.3 %, Control-8.6 %).
4	2015	(V. P. Singh, Khandelwal, & Sherpa, 2015) India	Randomized control study n = 337	Above 20 years	Asanas and pranayama	15 second each pose and adding 15 seond each pose every week for 6 months	Glycated hemoglobin (HbA1c), Fasting Blood glucose level (FBS), Post prandial glucose level (PPBS), Body mass index (BMI), Lipid Profile, State trait anxiety inventory (STAI), Beck depression inventory (BDI), Diabetes-Quality of Life (D-QOL), Exercise self efficacy and Blood Pressure (BP).	Yoga shows benefical effects of clinical importance in glycemic control, reducing anxiety ad depression, reducing weight and BMI, and QoL.
5	2014	(Youngwanichsetha, Phumdoung, & Ingkathawornwong, 2014) Thailand	Randomized control trial N = 180	27-37 years	Asanas and pranayama	50 minutes, 5 times a weeks for 8 weeks	Fasting glucose, postprandial blood glucose, and hemoglobin A1c.	Combination yoga and mindfulness eating showed significantly reduced fasting plasma glucose, 2-h postprandial blood glucose, and glycosylated hemoglobin (HbA1c) in the intervention group (p b 0.05).
6	2017	(Sreedevi, Unnikrishnan, Karimassery, & Deepak, 2017) India	Randomized control trial (result) N=124	30-65 years	Suryanamaskar, relaxation, asanas	60 min, 2 days a week, 3 months	FPG, HbA1c, QOL, and pharmacological adherence	Yoga significant increases QoL in the enviromental domain. Peer support and yoga improved perceptions of QOL though its impact on scores was not significant due to a short period of study among women with poor glycemic control
7	2017	(Sreedevi, Gopalakrishnan, et al., 2017) India	Randomized control trial (feasibility study) N = 124	30-65 years	Suryanamaska, relaxation, asanas	60 min, 2 days a week, 3 months	fasting plasma glucose, HbA1c, quality of life and pharmacological adherence	Yoga significant decrease glycosylated haemoglobin (HbA1c), diastolic blood pressure and hip circumference. Combination yoga and peer group support showed trend in decline of

No	Year	Authors	Design and Sampel	Age	Intervention Modality	Intervention Dosage	Outcomes	Silent Findings
								fasting plasma glucose
8	2014	(McDermott et al., 2014) India	Randomized controlled trial (pilot study) N=41	38-56 years	Didactis, Pranayama, Loosening exercises, asana, relaxation	75 minutes, attend at least three, and up to six, yoga classes per weeks over the eight weeks	Anthropometric, blood pressure, FBG, OGTT, fasting lipid and insulin, LDL	There were no between group differences in fasting blood glucose, postprandial blood glucose, insulin resistance or any other factors related to diabetes risk or psychological well-being. There were significant reductions in systolic and diastolic blood pressure, total cholesterol, anxiety, depression, negative affect and perceived stress in both the yoga intervention and walking control over the course of the study.
9	2015	(Siu, Yu, Benzie, & Woo, 2015) Hongkong	Randomized control trial N = 182	47-65 years	Asana, pranayama, relaxation	Each session lasted for 60-min consisting of 10-min of warm-up, 40-min of Hatha yoga practice, and 10-min of breathing exercise and relaxation	blood pressure, waist circumference, fasting glucose, triglycerides, and HDL-C, Center for Epidemiologic Studies Depression Scale (CES-D), the 12-item Short-form health survey (SF-12), and the International Physical Activity Questionnaire (IPAQ).	yoga exercise improves the cardiovascular risk factors including central obesity and blood pressure in middle-aged and older adults

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Factors Related to Decubitus in Patient with Bed Rest and Physical Immobilization : A Systematic Review

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Abstract: Background: Decubitus is one of nosocomial infection that caused by a very long bedrest and physical immobilization. The prevalence of decubitus was still high in Indonesia. The objective of this systematic review was to identify factors that cause decubitus in patient with bedrest and physical immobilization. Method: 15 best articles were found using PECOT framework in some databases; EBSCO, Science Direct, Scopus, ProQuest, Pub Med, Wiley and Springer Link. Those articles have been chosen based on some criteria. Result: These are factors that cause decubitus ; Medical diagnosis, nutritional deficit, using mechanical ventilator, skin integrity, age, gender, immobilization, skin type, nurse's workload, Length of Stay (LOS), fecal incontinence, environment humidity, albumin, hemoglobin, limfosit, triceps skinfold, blood pressure, sensory perception, friction, weight, mental status, vertebra trauma, diabetic history, and hypertension. Discussion: The most dominant factor was immobilization, skin integrity, friction, nutrition, age, and gender.

1 BACKGROUND

Decubitus is a common problem most common in patients with prolonged bed rest or physical limitations. The problem lies with all health facilities, including hospitals, clinics, home care facilities or palliative care and private homes (Jaul, 2010). The inability of patients in mobilization is an important risk factor that can cause decubitus and more rapidly leads to progression of the lesion. In a study it was mentioned that in patients with prolonged bed rest, decreased albumin levels, fecal incontinence and fractures were significant factors causing decubitus (Allman, Goode , Patrick, Burst, & Bartolucci, 2015). The number of patient deaths in hospitals has tripled, one of which is due to decubitus (Raju, Su, Patrician, Loan, & Mccarthy, 2015).

Based on the Decree of the Minister of Health of the Republic of Indonesia Number: 129 / Menkes / Sk / II / 2008 About Minimum Hospital Service Standard states that the limit of tolerance of the incidence of nosocomial infection (decubitus) is <1.5% of the total incidence of decubitus in the Hospital. Decubitus incidence is still very high in hospitals in Indonesia, for example, the Hospital in Pontianak shows an average decubitus incidence of around 29%. This mortgage is an extraordinarily high figure when viewed / compared from incubation of deCubitus in the Region of Asian Countries that is between 2.1% - 31.3% (Sanada et al., 2007). The quality indicator of nursing service can be a reference for assessing the quality of service that has been provided and can be used as the basis for assessing whether the quality of nursing is in a condition below the standard so that improvement programs are required, as per standards or above standards so that efforts are required to maintain DEPKES, 2008). Some Hospitals Make dekubitus as one indicator of nursing quality because dekubitus is one of nurse responsibility and can be used as an indicator of nursing service.

The purpose of this study was to conduct a systematic review of the factors that influence the occurrence of decubitus in patients with bed rest and physical limitations. In this study, the authors identified the journal publication of research results on factors causing decubitus including accompanying medical diagnoses, nutritional deficits, mechanical ventilation, skin moisture, age, sex, decreased mobilization ability, skin type, nurse workload, day care old, fecal incontinence, environmental humidity, body temperature, history

of smokers, lab results (albumin, hemoglobin, lymphocytes), skinfold triceps, blood pressure, sensory perception, friction, weight and underweight and mental status, particularly trauma spine, postoperative patient, history of diabetes, history of hypertension. The result of this systematic review is expected to be useful for the order of health services, especially in the effort of prevention of nosocomial infection, especially in this case is dekubitus. This systematic review is presented in the form of articles consisting of; abstract, introduction, method, result and discussion, implication to practice, conclusion, bibliography, and attachment.

2 METHODS

The method used in Systematic Review begins with the selection of the topic of Factors Related to Decubitus in Patient with Bed Rest and Physical Immobilization. Then determined the keyword to search articles with several databases such as EBSCO, Science Direct, SCOPUS, and Journal of Airlangga University. PICOT / PECOT Framework. Population: Patient bed rest and who have physical limitations. Exposure: Factors affecting the occurrence of decubitus. Outcomes: the occurrence of decubitus. Time: 2007-2017.

Based on the determination of keywords according to the topics contained in the PECOT framework in the database; Ebscho, Science Direct, Elseiver, Sage Journals, Scopus, ProQuest are limited to the last 10 years; 2007 to 2017 obtained 15 International Journal then. The English keyword used is Pressure Ulcer AND Risk Factors AND bedridden AND limited physically. Selection of articles. Search through the above keywords generate 96 articles, from all articles after reviewed the conformity with the topic then obtained 15 articles in English.

3 RESULTS

This review systematic reviewed 15 articles abroad. Articles from abroad come from Brazil, Switzerland, Birmingham, Australia, Pontianak. For articles originating from Indonesia that is Pontianak is expected to reflect the profile of Indonesian society in general, so that habits, posture, character and thoughts can be homogeneous and get results that describe the occurrence of Decubitus in Indonesia.

The results of the Systematic Review and PICOT of the 15 articles are included in the Matrix Table in Appendix 1. There are 8 journal of Cross Secsional Study, 2 journal retrospective study, 1 journal restrospective cohort study, 1 prospective study journal, 3 cohort prospesctive study. The number of samples varied from the smallest of 78 respondents (research by Mônica Suêla de Azevedo Macena, et al, 2017) and at most 2573 respondents (research by Andrea R. Fisher, et al, 2010). Measuring tools used in all studies is an observation sheet, questionnaire, Norton scala, Bradden scale and Waterlow scale. From the results of the review then obtained the results of factors that affect the occurrence of dekubitus written in the table below.

Table 1: Lists the factors that affect the occurrence of decubitus found from the 15 selected articles.

No	Risk Factor	Author Articles
1	Medical illness (50.3%), Deficit nutrients, Use of mechanical ventilation, Patients with complications of CKD, Pneumonia and patients with vasoactive drugs	(Becker et al., 2017)
2	Dryness / moisture of the skin, Mobilization, Demographic factors (age, sex)	(Lechner, Lahmann, Neumann, Blume-peytavi, & Kottner, 2017)
3	Braden scale score low (6-21), Age over 70 years, Have a diagnosis of diabetes mellitus	(Fisher, Wells, & Harrison, 2002)
4	Nurses work load, The severity of disease, age, Long lived in ICU	(Keller & Ramshorst, 2002)
5	1. Dependent (pressure ulcer development) : Interface factor, Network ischemia 2. Independent (risk factor): Fecal incontinence, Skin moisture, Environmental humidity, Albumin, Hemoglogin, Triceps skinfold, Diastolic blood pressure, Systolic blood pressure, Body temperature, Smoking	(Sanada et al., 2007)
6	Age, sex, sensory perception, moisture, mobility, nutrition, Friction	(Fisher et al., 2002)
7	the limitations of physical mobility, skeletal prominent, unbalanced nutritional status,	(Raju et al., 2015)

	moisture, mechanical factors (pressure, restrain, shearing forces), Norton scale ≥ 14, Hipertermi, Excrescence, Age	
8	Underweight (BMI <19), Extremely weigt (BMI> 40)	(Hyun et al., 2014)
9	Malnutrition, Old age, Bedridden, Immobilization, Primary diseases (neurological and cancer disorders)	(Brito et al., 2013)
10	sensory perceptions, moisture, activity, mobilization, nutrition and friction, demographic factors (age and sex)	(Risco et al., 2011)
11	Age> 40 years, Installation of mechanical ventilator, Patients with spinal trauma	(Lauren A. Raff, Holly Waller, MPH, Russell L. Griffin, PhD, & Patrick L. Bosarge, 2018)
12	Malnutrition	(Banks et al., 2010)
13	age ≥ 75 years, dry skin, nonblancable erythema (decubitus stage 1), have previous decubitus history, immobilization, fecal incontinence, Tricep damage, limphopenia (limphocite count <1.5 x 10 / L), weight loss (<58 kg)	(Allman et al., 2015)
14	bed rest, malnutrition	(Perrone, Paiva, & Aguilar-birth, 2011)
15	Age, Tobacco consumption (smokers), History of diabetes, History of hypertension	(Suêla et al., 2017)

According to Table 1, various types of decubitus risk factors are mentioned by the authors. Risk factors include age, sex, history of diabetes mellitus, hypertension, dry skin, nonblancable erythema (decubitus stage 1), history of previous decubitus, immobilization, faecal incontinence, tricep damage, limphopenia (limphocite count <1.5 x 10 / L), weight loss (<58 kg), Mechanical ventilator installation, Patients with spinal trauma, malnutrition, Underweight (BMI <19), Extremely weigt (BMI> 40), limitations of physical mobility, skeletal prominent, nutritional status unbalanced, mechanical factor (pressure, restrain, shearing forces), Norton scale ≥ 14, Hyperthermic, Excretion, sensory perception, moisture, friction, Interface factor, tissue ischaemia, fecal incontinence, skin moisture, environmental humidity, Albumin, Hemoglogin, Triceps skinfold, Diastolic blood pressure, Systolic blood pressure, Body temperature, Smoking, Nurses workload, Braden scale score low (6-21) Medical illness (50.3%), Patients with CKD complications, Pneumoni a and patients with vasoactive drugs (Becker et al., 2017), Age over 70 years, Severity of disease, Long lived in ICU (ALOS). but there are a number of dominant or frequent factors causing decubitus from the above mentioned factors: limitation of mobilization and activity, nutrition, skin moisture and mechanical factors (pressure, restrain, shearing forces) and age factor (most often at age> 40 years)

The results of the above review found many factors that cause decubitus, but after the analysis it is concluded that the most common risk factors for decubitus are limited mobilization and activity, nutrition, skin moisture, mechanical factors (pressure, restrain, shearing forces) and factors age (most common at age> 70 years). Decubitus is not only caused by a single risk factor, but a combination of at least two risk factors.

1.1 The limitation of mobilization and activity

The limitation of mobilization and activity is the inability to change the position of the body, or part of the body, without help. Such inability can be caused by CNS depression, such as vegetative cases, stroke, or late-stage dementia, sensory impairment and spinal cord injury or in postoperative (musculoskelatal) patients (Jaul, 2010). Limitations of mobilization and activity are significant risk factors causing decubitus. As we mentioned earlier that the risk factors found do not singularly cause decubitus. The limitation of mobilization and activity is closely related to mechanical factors such as shear strength, pressure and restraints. In patients with limited mobilization and activi- ties, there is a risk of decubitus. As mentioned in the study ((Sciences et al., 2016) 80.5% of patients with limited mobilization experience decubitus

1.2 Nutrition

Decubitus and nutritional disorders have a very close relationship and they affect each other. It is more common in elderly patients, who are treated in both health and home facilities with limited economic, social, physical and mental status. Nutritional disorders (malnutrition) often begin with a lack of energy. Decubitus protein suggests a catabolic process accompanied by more protein consumption which will eventually cause tissue

damage (Jaul, 2010). In the treatment of patients with dekubitus caused by nutritional deficit factors there are some things to note that history of previous nutritional status, among others, about the history of nutrition (appetite, food intake, gastrointestinal symptoms); gastrointestinal disorders (diarrhea, vomiting, nausea); functional physical capacity; and physical assessment (fat loss, musclewasting, and presence of foot and sacral edema and ascites) (Brito et al., 2013). Dental conditions should be evaluated, including chewing and swallowing ability, supporting actors include social isolation, lack of accessibility of nearby families and povertyAwareness of medical personnel in drug use is minimized as it may cause digestive problems, decrease appetite, cause constipation and cause dryness of the mouth (Perrone et al., 2011).

1.3 Skin moisture

Decubitus is one of the serious health problems both in terms of medical and nursing. Therefore, prevention efforts are very important things to do. Risk factors that cause decubitus one of them is the moisture / dryness of the skin, therefore should always be considered in the treatment of patients who have risk factors tesebut. Dryness of the skin especially in areas of prominent and depressed body such as sacrum, ankle sanagt potentially cause injury (Lechner et al., 2017). Skin moisture is often associated with a state of fecal incontinence, sweating due to elevated body temperature. If the patient's body condition is moist and supported by impaired physical mobility, then the risk for decubitus to occur will be higher. As mentioned in the results of research that has been done by the hospital in Pontianak City (Sanada et al., 2007). In a study that has been done by (Sciences et al., 2016) mentions that 48% of patients with decubitus caused due to skin moisture due to urinary and faecal incontinence.

1.4 Mechanical factors (pressure, restrain, shearing forces)

Mechanical factors (pressure, shearing forces) are also risk factors for decubitus. In patients with decubitus tissue damage that pathologically causes prolonged pressure or friction can cause deformity in soft tissue (such as muscle tissue), prolonged pressure can lead to blockage of blood vessels and lymph nodes that will eventually lead to tissue necrosis (Lechner et al., 2017). Mechanical factors (pressure, shearing forces) can cause decubitus because it creates strain in the deeper part. Pressure can cause minor or substantial skin damage, but pressure alone is not a direct cause of decubitus. Pressure may contribute to worsening decubitus conditions because the shear / shear cuts / wounds may increase the risk of tissue and membrane damage (Brienza et al., 2015)

1.5 Factors age (most common at age> 70 years)

Potential risk of exposure to decubitus increases especially in the elderly (over 70 years). Aging and environmental factors can cause skin damage, loss of elasticity, subcutaneous depletion, overall muscle mass reduction (sarcopenia), and decreased perfusion of intradermal blood vessels (Jaul, 2010). From the riview that has been done by (Suêla et al., 2017), sex also affects the incidence of decubitus. From the riview, it was found that dekubitus occurs more in women (52.6%) because it is affected by muscle strength, elasticity and elasticity, and high adipose tissue, thus increasing pressure on the tissues and causing cell hypoxia.

4 DISCUSION

Hospitals need to have a good quality of service to help the patient cure. Decubitus is one indicator of hospital service quality that reflects the quality of care, especially nursing. Unsurprisingly patients who come to the hospital to seek recovery are getting secondary infections from hospital services. Maintenance costs can also increase due to dekubitus experienced by a patient. By knowing the dominant factor affecting the occurrence of dekubitus that is location of installation, fluid osmolaritas given then hospital or pengampu policy in Hospital can follow up the factor as standard so that can prevent dekubitus and increase quality of service to patients.

5 CONCLUSIONS

Decubitus is one of the HAIs (Health Assosiated Infection's) caused by prolonged bed rest and physical limitation of the patient. Decubitus is a complication that is often encountered in hospitals that are classified as high risk (if not getting good care can cause death), high cost (generally decubitus patients have long day care), high volume (the number is relatively large, especially in intensive space) . Through this Systematic Review, the author tries to identify the factors that cause decubitus.

From 15 junal conducted the review got 5 factors that can influence dekubitus. The most common factors causing decubitus are intrinsic factor (nutrition, mobilization, humidity), external factors (friction) and demographic factors (age, especially in elderly.After knowing the causes of dekubitus is expected to be a reference in the prevention of dekubitus and can be applied in Health services. Subsequent research is expected to always pay attention to the factors that influence the incidence of decubitus when doing an intervention for both prevention and treatment

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Job Satisfaction In Nurses Perspective, Its Antecedent And Its Outcome
A Systematic Review

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Keywords: job satisfaction, nurse

Abstract: Background: Nurses today play an integral and important role in health care system. Nurses are health care agencies that play structural role and bring mission to change a better organization. So nurses become the determinant factor in health services. Purpose: These systematic review is determined to describe the antecedent and outcome of nurses' job satisfaction. Method: A systematic review was conducted by searching in online article. Research articles published were restricted to 2011-2018 and identified from the following database: Sage, Google Scholar, Scopus and Science Direct. Result: from the article search, we obtained 20 article. From these finding, the antecedent of nurse' job satisfaction are empowerment, organizational commitment, work environment, transformational leadership, and work engagement. The outcome of nurse' job satisfaction are lower burnout, higher intention to stay, and lower turnover intention. Conclusion: to create higher nurses' job satisfaction, the nursing management should consider about empowering nursing staff, create good environment, create work engagement and foster the nursing staff commitment.

1 INTRODUCTION

Nurses are health care agencies that play a structural role and bring a mission to change a better organization. So that in line with this the nurse becomes one of the key or determinant factor in health service of an organization in all layers of health care center, if the nurse is considered good then will also be good service in an organization (Teixeira and Barbieri-Figueiredo, 2015). Various issues occurring within the scope of nursing and health care require that the nursing managerial level improve the nursing work environment, improve nurse retention, and improve nurse satisfaction, so as to have a positive impact on the quality of health services provided (Bawafaa, Wong and Laschinger, 2015). This systematic review discusses what things can be improve by the management of the organization to improve job satisfaction nurse and the effect of the nurses job satisfaction.

2 METHODS

This systematic review begins with searching for articles related to the topic. The topic of this systematic review is about nursing job satisfaction. The articles were retrieved from Google Scholar, Sage, Scopus, and Science Direct. Keywords used to search the articles were: "nursing" and "job satisfaction". The inclusion criteria used in this systematic review are: the article is restricted from years 2011-2018, the research article, articles in English language, articles with observational or cross sectional method, and research articles with nursing as research subject.

As a result of searching by keywords, the corresponding articles was found. Then, the corresponding articles were selected and included in the systematic review. In the end, 20 articles obtained in accordance with the purpose of systematic review.

3 RESULTS

From the 20 articles, most of the article state that nurse' job satisfaction have effect on burnout and turnover intention. Burnout can explained by emotional exhaustion, depersonalization and decreased feeling of personal accomplishment (Tarcan *et al.*, 2017). Job satisfaction also exerted strong effect on turnover intention (De Simone, Planta and Cicotto, 2018). Based on Hezberg motivation theory, factors of nurse' job satisfaction are consist of two item, motivators and hygiene factors. Opportunity for advancement is one of the motivators in nurse' job satisfaction that can improve intention to stay (Biegger *et al.*, 2016). Turnover intention was significantly explained by job satisfaction (Delobelle *et al.*, 2011). In the other article state that job satisfaction had stronger impact on actual turnover (Castle *et al.*, 2007).

There are many predictor or antecedent of nurse' job satisfaction. The organization that create good work conditions, positive leadership style, give support for nurse' staff, and have strong commitment are the factor that contribute to improve nurse' job satisfaction. In other words, to improve nurse' job satisfaction we must have big concerns in organizational factors, like commitment, work environment, support and leadership. In the article that we collected, we found that organization can create structural empowerment workplace to bring positive nurse outcomes. Kanter' structural empowerment stems from four sources, access to information, receiving support, ability to mobilize resources and opportunity that given by organizational to their staff (Yang *et al.*, 2014). Social support from co-workers and high work engagement effect on high nurse' job satisfaction. Work engagement and social support in health units are important determinants of job attitudes, health and well-being. Social support from supervisor and co worker, and work engagement are key elemnent in foster the level of nurse' job satisfaction (Orgambídez-Ramos and de Almeida, 2017). In line with this findings, The other item of work environment are pshycological environment. It must considered as a part of work environment. The study from (Khamisa *et al.*, 2017) showed that work stress associated with staff issue is a better predictor of job satisfaction. Other factor from organization is about leadership style. Positive leadership style that we can conclude from the article and have the positive impact on nurse' job satisfaction are transformational leadership (Boamah *et al.*, 2017), and resonant leadership (Bawafaa, Wong and Laschinger, 2015). Resonant leadership is the leadership style based on emotional intelligent of the leaders, so the leaders being able to motivate the follower through positive emotions (Bawafaa, Wong and Laschinger, 2015). Transformational leadership is a style which followers have trust and respect to the leader, so informally they can achive organizational goals (Boamah *et al.*, 2017).

Organizational support perception will help improve nurse' job satisfaction and organizational commitment (Chang, 2015). In the other research we found that organizational commitment and organizational culture are predictor of nurse' job satisfaction. Organizational commitment has been considered of one of the indicators for nurse' behavior in the organization, so it is essential to determine and understand about organizational commitment (Kim *et al.*, 2017). Choi, Cheung, and Pang (2012), state that attribute of nursing work environment that significant bearing on nurse' job satisfaction are professionalism, co-worker relationship, management, staffing and resources, and ward practice. From the organizational side we found that job satisfaction also predicted by work engagement and social support from supervisor and from co-worker (Orgambídez-Ramos and de Almeida, 2017). Work engagement and emotional supervisor support can improve nurse' job satisfaction. However, work environment that can foster acceptance, caring and trust by supervisor, in fostering engagement, in this way emotional support from supervisor can contribute to increase organizational well-being, include nurse' job satisfaction (Pohl and Galletta, 2017)

Professional commitment is the aspect of organizational commitment. Professional commitment influences both instrinsic and extrinsic job satisfaction,in line with this finding, intrinsic and extrinsic job satisfaction also impact on turnover (Hsu *et al.*, 2015).

4 DISCUSSION

Job satisfaction becomes an important study in a health service. The management of health services should consider employee job satisfaction, so that employees can provide maximum service that will ultimately impact on the satisfaction of health services' customers. Organizational support perception will help improve nurse' job satisfaction. Positive leadership style that we can conclude from the article and have the positive impact on nurse' job satisfaction are transformational leadership and

resonant leadership. However that should be a concrete action to make that happen.

5 CONCLUSIONS

Based on the results of the study, in order to create higher nurses' job satisfaction, the nursing management should consider about empowering nursing staff, create good environment, create work engagement and foster the nursing staff commitment. However, low job satisfaction can effect on burnout and turn over intention.

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Information Technology Helps Self-Management among Chronic Kidney Disease (CKD) Patients

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Keywords: Self-management, Chronic Kidney Disease, Information Technology

Abstract: Background: Self-management becomes an important part of Chronic Kidney Disease (CKD) therapy to achieve maximum therapeutic results. Methods to improve self-management in CKD patients have developed, one of them is through the use of Information Technology (IT). The development of IT today makes everyone to access a lot of things. Therefore, the development of technology enables clients to improve self-management. This systematic review aims to know the effectiveness of IT using in Self-management among CKD patients. Methods: Literatures are obtained through several databases including Science Direct, Scopus, and PUBMED. This search is restricted from 2011 until 2017. Results: Based on a study of 10 selected journals, obtained some types of information technology that is used to improve self-management in CKD patients. The technologies include mobile phone applications, SMS, teleconferencing and web-based. Conclusion: IT is effective to improve self-management in CKD patients.

1 INTRODUCTION

Chronic renal failure or renal disease is a disorder of renal function, progressive and irreversible where the ability of the body fails to maintain metabolism and fluid and electrolyte balance, causing uremia (Corwin, 2009). Clinically the disease is characterized by kidney damage and / or decrease in Glomerular Filtration Rate (GFR) of less than 15ml / min. (Center for Data and Information MoH RI, 2017).

The prevalence of End Stage Renal Disease (ESRD) patients in the United States are 661.648 inhabitants (USRDS, 2015). While in Indonesia in 2013 as many as 499.800 people suffering from kidney disease, and as many as 30.554 of them are chronic renal failure undergoing haemodialysis (HD). The prevalence of kidney failure patients is expected to rise as the number of aging population and the incidence of diabetes mellitus and hypertension (PERNEFRI (Society of Nephrology Indonesia), 2015).

One treatment that can be performed on patients with terminal renal failure is HD. Haemodialysis is a renal replacement therapy by using a semipermeable membrane to remove the remnants of the metabolism of blood circulation, kidney failure patients can also be combined with pharmacological therapy to obtain optimal results. Complexity of this treatment often result in patient non-compliance (Brunner & Suddarth, 2011).

The active participation of people with CKD are paramount to the management of CKD. Self-management becomes an important part of therapy CKD to get maximum therapeutic results. Self-management in CKD patients is shown in the concept of the management of fluid restriction, restrictions on food (diet), the treatment and management of vascular access care. Measurement of fluid restriction weight using Interdialytic Weight Gain (IDWG). Methods to improve self-management in CKD patients have developed, one of them is through the use of information technology (IT). The development of information technology today makes the individual to access a lot of things. Therefore, the development of technology is very possible, enables clients to improve self-management. This systematic review aimed to review the use of information technology in the self-management in clients with CKD.

2 METHODS

The method used in this systematic review begins with the selection of topics, and then determined the keywords to search the journal in English through several databases including Science Direct, Scopus, and PUBMED. This search is restricted from 2011 until 2017. Journals selected for review based on studies in accordance with the inclusion criteria. Criteria for inclusion in this literature review are journals that discusses the use of information technology on the client CKD, the study Randomized Control Trial, Quasi-Experimental, Pre and Post experimental and research on clients with age> 18 years. Researchers analyzed the literature obtained by the selected 10 journals to do systematic review.10 journals are then examined, analyzed and evaluated. Then conducted systematic review in accordance with the results of Critical Appraisal has been done before.

3 RESULTS

Based on a study of 10 selected journals, obtained some type of information technology that is used to improve self-management in CKD patents. The technologies include mobile phone applications, SMS, teleconferencing and web-based. Research selected in this review as much as 6 journals using RCT research design and quasi-experimental.

3.1 Self Management

Self management in CKD patients is shown in the concept of the management of fluid restriction, restrictions on food (diet), the treatment and management of vascular access care. Measurement of fluid restriction weight using Interdialytic Weight Gain (IDWG). Food management in haemodialysis patient care is an important aspect of self-care management to maintain nutritional status and electrolyte balance. End Stage Renal Disease patients undergoing haemodialysis typically consume large amounts of drugs to various circumstances, further vascular access is a lifeline for haemodialysis patients that required treatment (Ishani et al., 2016).

3.2 Information Technology

Information technology (IT) is a term that describes the technology that helps people to create, modify, store, communicate or disseminate information. IT brings together computing and high-speed communications for data, voice, and video. Examples of Information Technology is not only a personal computer, but also telephone, television, and modern devices (eg mobile phones) (Ong et al., 2016). Today the use of information technology also play a role in health. Various studies conducted to determine the effectiveness of the use of information technology to health. Some types of information technology used in the 10 journals in this review include:

Mobile Phone Application

Mobile Phone Application / application on the mobile phone into other alternatives in helping to improve self-management on the client. The high number of mobile phone user is now possible to manufacture an application therein. CKD management applications can include user profiles, activity tables, fluid intake and output diary, diet, and treatment table. Clients include every activity in the application, then the application will calculate the fluid balance and activity. Diary on this application, enables clients to save activities, and assist nurses in evaluating the success of fluid restriction, diet and medication. Further, the application is also equipped with an alarm to add or drop client fluid consumption (Agapito et al., 2017).

Short Message Service

Short Message Service (SMS) is a technology that allows it to receive and transmit messages between mobile phones. SMS, which means short message service, then the data can be accommodated by SMS is very limited. One SMS being sent contains a maximum of 140 bytes, which when converted in the form of a character is 70-160 characters. The limited number of characters in an SMS makes nurses must pay attention to the effectiveness of SMS content. SMS will be sent to clients each day. SMS contains information about the client's health and treatment schedule CKD (Millman and Hartog, 2015).

Teleconference

Teleconference is a meeting held by two or more persons who do pass the phone or network connection. The meeting can use the voice (audio conference) or using the audio-video (video conference) which allows participants to see and hear what is discussed, as well as regular meetings. Teleconference in CKD management allows for interaction between clients and health workers. Clients have previously been taught how to use cam, oxymetri pulse, and blood pressure monitor. Clients report measurement results that have been done, then health officials will determine what actions to take (Chen et al., 2011).

Web-Based Support Community

Website is a collection of web pages containing information in the form of text, images, sounds, and others that were presented in the form of hypertext and can be accessed by software called a browser. The website is an internet facility that can link documents locally and remotely. The concept is similar to the use of web based applications on mobile phone use, but the media used is a computer. Clients report of fluid intake, activity and medication everyday, then health officials will examine the client reports (Diamantidis et al., 2012).

The entire journals evaluate the effect of the use of IT to self-management. The entire journal using samples aged> 18 years. Measurement of self-management is shown by various indicators. Each journal evaluates self-management through management components on the client with CKD, including IDWG, Hospitalization, medication adherence and GFR. 67% of the research carried out within a period of 6 months, 13% was done for 6 weeks, and 20% implemented> 6 months.

Based on a review of 10 journals about the effectiveness of the use of information technology there is only one journal that shows the results ineffective. Research conducted by Ishani, et.al in 2016 showed that the use of telemedicine does not show any significant differences in the intervention and control. These results contrast with 9 other journals showing that the effective use of IT for the scaling up of client self-management in CKD. Research carried out by the year showed that the use of videoconferencing may increase client self-management in CKD. Improved self-management is analyzed through GFR and hospitalization numbers. GFR was higher in the intervention group (29 116 versus 15 726 mL / min) number of hospitalization was lower in the intervention group (5 versus 12, p> 0.05).

4 DISCUSSION

Development of information technology makes health workers possible to provide health services remotely, and it has been developed to improve the management of chronic illnesses and disease. This situation provides an opportunity for health professionals to provide an alternative to help improve self-management in CKD client. The use of IT introduces new ways to improve self-management, education and access to client communication with health professionals. The survey conducted in the United States in 2014 reveals that a 64% of adults own a smartphone,90% of adults have a mobile phone with 81% used for SMS. While in Indonesia, the MCIT estimated 2018 active users of smartphones reaches> 100 million users. This fact offers an opportunity to resolve health problems through the use of information technology (Murali, Arabic, Vargas, and Rastogi, 2013).

Based on a review of 10 journals about the effectiveness of the use of information technology there is only one journal that shows the results ineffective. Research conducted by Ishani, et.al in 2016 showed that the use of telemedicine does not show any significant differences in the intervention and control. It is caused by complex process of blood pressure measurement and oxymetri to be done by the client. Previous clients have been educated about the use of the tool, but still found obstacles at the time of execution.

These results contrast with the results of 9 other journals showing that the effective use of IT for the scaling up of client self-management in CKD. Technologies used include mobile phone applications, SMS, videoconferencing and web usage. Research conducted by Chen aet.al in 2011 showed that the use of videoconferencing may increase client self-management in CKD. Improved self-management is analyzed through GFR and hospitalization numbers. GFR was higher in the intervention group (29 116 versus 15 726 mL / min) number of hospitalization was lower in the intervention group (5 versus 12, p> 0.05).

The influence of the use of IT on increase self-management among CKD patients is closely with the client's behaviour patterns in the search for health information through the use of smartphones and the Internet. The use of these various technologies do not require a lot of energy and can be done anywhere. CKD patients with symptoms of fatigue tend to choose this way to find out information about his health. IT gives easy access for users, so that it can really help a client with chronic disease (Ann et al., 2017).

The successful use of information technology is caused by several factors, individual internal and external factors. Internal factors include understanding, ability and health condition. The external factors include the existence of the Internet network and errors on the tool. Therefore before determining the type of technology will be applied, firstly researchers must analyze the situation of individuals and the environment. Thus the use of IT can provide a positive influence on the client.

Implications For Nursing Practice

Use of IT to improve self-management clients CKD should be considered to be one of the nursing interventions. This is in line with the increasing accessibility of the Internet in Indonesia. Nurses have to identify the needs and communication patterns of the client first, so as to determine the right type of IT. Each community / client has vary communication patterns, it makes interventions can't be equated to all clients.

The use of IT in healthcare in Indonesia has been progressing. IT widely applied to clients with chronic illnesses. It's because clients with chronic illnesses tend to bored with the treatment, so it is often decreased motivation to the management of the disease. Therefore, the application of IT to improve self-management in CKD client can be applied in Indonesia.

5 CONCLUSION

Based on the review conducted in 10 journals selected, it can be concluded that the effective use of IT to improve self-management in CKD client. Researchers first have to analyze the needs and the resources available, so as to determine the most appropriate type of technology.

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The Effectiveness of Diabetes Self-Management Education: a Systematic Review

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Keywords: Diabetes self-management education, diabetes mellitus, systematic review

Abstract: Diabetes mellitus is a long-term illness that requires lifetime care. However, 50-80% of diabetic patients do not have enough skills and knowledge for self-care. Diabetes self-management education (DSME) is an educational program for diabetics on diet, activity, monitoring, treatment, risk reduction and coping. This systematic review was performed to assess the effectiveness of diabetes self-management education in diabetic patients. The literature search used predefined keywords through several electronic databases such as Scopus, ProQuest, Ebsco and Science Direct. The initial search retrieved 801 studies that were potentially relevant, and 15 studies were selected for review. Results showed that diabetes self-management education is effective in improving clinical outcomes, self-management and knowledge. These study result could be a reference to health workers and diabetes self-management education needs to be considered as one of the interventions in diabetic patients.

1 BACKGROUND

. Diabetes mellitus type 2 is one of the biggest health problems worldwide. It has been estimated that there were 552 million diabetics with 300 of them are having impaired glucose tolerance by the year 2030 (Yuan et al., 2014). According to Indonesia's Ministry of health, there were 1.1% of the total population aged 15 years and over suffering diabetes in 2007 and increasing to 2,1% in 2013 (Kurnia, Amatayakul, & Karuncharernpanit, 2017).

Diabetes mellitus requires lifetime care. However, there were 50-80% of patients with diabetes mellitus did not have enough knowledge about self-care management (Yuan et al., 2014). Lifestyle changes are sometimes difficult to do especially in adults. Therefore, it is necessary to get education and support for self-care management that are focused on patient's knowledge about his illness, adherence to therapy, lifestyle changes and glucose monitoring to optimize glycemic control and prevent acute and long-term complication (Gallé et al., 2017).

According to the American Association of Diabetes Educator, self-care behavior of diabetic patients includes management of healthy foods, activity, blood glucose monitoring, drug-taking behavior, problem solving, coping and reducing risk (Kurnia et al., 2017). Self-care deficit theory is a nursing theory that describes and explains why humans can be helped through nursing and how nursing care can be applied to patients. When the patient is unable to perform self-care independently, one of the strategies is the provision of health education to support changes in healthy behavior of patients (Surucu, 2017). The Diabetes Self-Management Education (DSME) program should be undertaken to improve knowledge, skills and abilities of patients with diabetes mellitus in self-care. DSME is expected to support patients in decision-making, self-care behavior and problem solving. An effective self-care behaviour is expected to improve the quality of life, health status as well as the improvement of clinical outcomes (ADA, 2016). DSME consists of some education about healthy eating, activity, monitoring, medication, problem solving, reducing risks and healthy coping (Yuan et al., 2014).

The aim of this systematic review was to asses the effectiveness of the program diabetes self-management education (DSME) in diabetic patients.

2 METHODS

This systematic review was conducted using the PICO framework.

Search Strategy

Search articles using keywords specified by some English-languange journals electronic databases i.e Scopus, Pro Quest and Ebsco with copyright 2012 to 2017. Keywords used in searches are the education program AND diabetes mellitus and diabetes self-management education.

Inclusion Criteria

The inclusion criteria of this systematic review are english-language journals, as a DSME program for diabetic patients, using randomized controlled trial and non-randomized controlled trial in study design.

Study Selection

There was no restriction in study design and DSME method. This systematic review was not only limited to study using RCT but also for study with non-randomized controlled trial design. DSME method either individual, group or combination can be included.

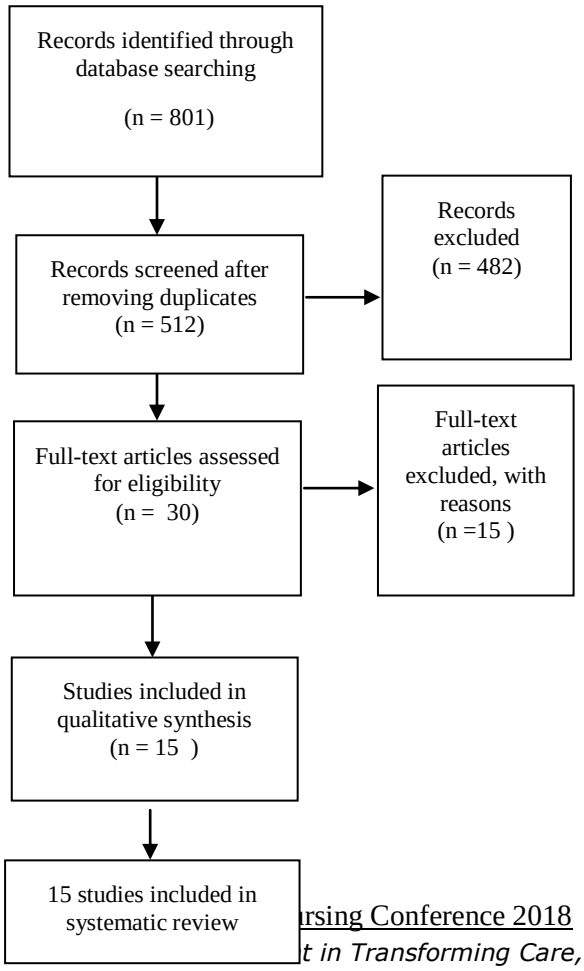

Figure 1. Flow diagram

3 RESULTS

Literature search and study selection

From the search results by using the specified keyword found 801 articles then conducted screening by looking at the title and abstract and first obtained 30 journals. After that, there were 15 journals that meet inclusion criteria.

Among the 15 selected studies, there are 6 studies using randomized controlled trial design, 3 type of studies using quasi experimental design, 3 using retrospective study design, 1 study using mixed-method longitudinal, 1 study using observational study and 1 study using one group pre post test design.

Table 1: Study characteristic

No	Author, Year	Study Design	Sample	Intervention (DSME)			Control	Outcome	Result
				Duration of DSME	Mode	Provider			
1	(Ku & Kegels, 2014)	Quasi experimental	N= 203 patients	3 months	Individual	Nurse	No	Level of knowledge, attitude, adherence, BMI, HbA1c, waist circumference, waist-hip ratio (WHR)	1) There was an improvement in HbA1c, waist circumference and WHR, but not in BMI in intervention group 2) There was a significant increase in knowledge, positive attitude, perceived ability to control blood glucose and adherence in intervention group
2	(Yuan et al., 2014)	Randomized controlled trial	N= 88 patients DSME group: 44 Control group: 44	3 months	Group	Certificated nutritionist	Nutrition therapy	Triglycerida, cholesterol, HDL, LDL, blood glucose, HbA1c, weight, carotid intima-media thickness (CIMT) and carotid arterial stiffness (CAS)	1) There was a significant reduction in HbA1c level and body weight in intervention group 2) There was significant decrease in the total cholesterol, triglycerida, HDL and LDL in both groups 3) There was a significant decrease in CIMT, but no significant decrease in CAS parameter in intervention group
3	(Paz-Pacheco et al., 2017)	Randomized controlled trial	N= 155 patients DSME group: 85 Control group: 70	6 months	Group	Peer educator	Usual care	1) Anthropometry: BB, BMI, waist circumference, hip circumference, WHR and blood pressure; 2) HbA1c, fasting blood glucose, total cholesterol, LDL, HDL, TG; 3) health behaviors and 4) drug use	1) There were no significant differences in the mean BMI and diastolic blood pressure 2) There was a significant difference in WHR in intervention group 3) There was a significant reduction in HbA1c level
4	(Shakibazadeh, Bartholomew, Rashidian, & Larijani, 2016)	Randomized controlled trial	N= 280 patients DSME group: 140 Control group: 140	4 weeks	Group	Nurse educator, dietitian and counselor	Usual care	Level of knowledge, self-care activity, health beliefs and HBA1c	1) There was an improvements in knowledge, self-care activity and health beliefs in intervention group 2) There was a significant improvements in mean HbA1c in intervention group

No	Author, Year	Study Design	Sample	Intervention (DSME)			Control	Outcome	Result
				Duration of DSME	Mode	Provider			
5	(Brunisholz, Briot, & Hamilton, 2014)	Retrospective case-control	N= 1920 patients DSME group: 384 orang Control group: 1536	6 months	Group and individual	Registered nurse or dietitian	Usual care	HbA1c, 5 diabetes bundle elements: LDL, retinal eye exam performed in the last 2 years, nephropathy screening, blodd pressure	There was a significant reduction in HbA1c level and 5 diabetes bundle elements in intervention group
6	(Naccashian, 2014)	Quasi eksperimental	N= 89 patients	6 weeks	Group	Researcher	No	HbA1c, empowerment and acculturation	1) There was an improvement of HbA1c level (mean HbA1c level 6.86 ± 1.03 %) in postintervention 2) DES score postintervention was significantly greater than preintervention
7	(Nicoll et al., n.d.)	Retrospective evaluation	N= 43 patients	6 months	Group	The diabetes educator team: a pharmacist, a nurse and a dietitian	No	HbA1c	1) There was a significant reduction in HbA1c level after intervention 2) Patients with a duration of diabetes of < 1 year had a significantly greater reduction in mean HbA1c than those with a duration of diabetes ≥ 1 year
8	(Sugiyama, Steers, Wenger, Duru, & Mangione, 2015)	Mixed-method longitudinal design	N= 64 patients	6 months	Group	Diabetes educator	One-on-one sessions to review laboratory and biometric data	HbA1c and mental health	1) There was an improvement of HbA1c level in interevention group in posttest 2) There was an increase in Mental Component Summary score (MCS-12)
9	(Krebs, 2013)	Observationla study	N= 107 patients	6 weeks	Group	Nurse and dietitian	No	HbA1c, lipid profile, blood pressure, weight, smoking status and urinary microalbumin:creatinine ratio (UACR)	1) Glycemic control improved at 6 months, but was no different to baseline at 9 months 2) Systolic blood pressure reduced at 6 months 3) Diastolic blood pressure, TG and

No	Author, Year	Study Design	Sample	Intervention (DSME)			Control	Outcome	Result
				Duration of DSME	Mode	Provider			
									UACR were significant improve at 3,6 and 9 months
10	(Rohloff, 2017)	Quasi eksperimental	N= 90 patients	6 months	Individual	Nurse	No	HbA1c, blood pressure, diabetes knowledge, self-care activity	1) HbA1c and systolic blood pressure improved significantly at 12 months 2) There was an improvement in diabetes knowledge and self-care activities after intervention
11	(Surucu, 2017)	Randomized controlled trial	N= 139 patients DSME group: 70 Control group: 60	6 months	Group and indvidual	Nurse	Usual care	Self-care agency, self-care activities and HbA1c	There was significant improved in self-care agency score, self-care activity score and HbA1c in DSME group after intervention
12	(Technol, 2013)	Pre post test design	N= 41 patients	1 year	Group and indvidual	Physician and clinical pharmacist	No	HbA1c, blood pressure and LDL, patient satisfaction	1) There was a significant decrease in LDL, systolic and diastolic blood pressure, HbA1c after intervention 2) The majority of patients (84 %) reported greater satisfaction with the group DSME than individual group
13	(Rygg, Rise, Grønning, & Steinsbekk, 2012)	Randomized controlled trial	N= 146 patients DSME group: 73 Control group: 73	1 year	Group	Nurse, physician, physiotherapist and a lay person who talks about the experience of living with diabetes	Waiting list	HbA1c, patient activation	There was significant improvement in HbA1c and patient activation measure (PAM) in intervention group
14	(Didarloo, Shojaeizadeh, & Alizadeh, 2016)	Randomized controlled trial	N= 90 patients DSME group: 45 Control group:	4 weeks	Group	Nurse	Usual care	HbA1c, knowledge, beliefs, behavior and quality of life	There was a significant difference between two groups in the mean score of knowledge, attitude, self-efficay, behavior adn HbA1c

No	Author, Year	Study Design	Sample	Intervention (DSME)			Control	Outcome	Result
				Duration of DSME	Mode	Provider			
			45						
15	(Zagarins, Allen, Garb, & Welch, 2012)	Retrospective evaluation	N= 234 patients	6 months	Individual	Certified diabetes educator	No	HbA1c, depresive symptoms (CES-D) and diabetes distress	There was significant improvement in HbA1c, diabetes distress and depressive symptoms after intervention

Study Characteristic

Type of Participants

In this systematic review, there were 3,520 people with type 2 diabetes above the age of 18 years.

Intervention

1) Mode of DSME

Mode of delivery in DSME were individual education, group education, a combination of the individual and group education. There were 3 studies using indvidual method, 9 studies using group method and 3 studies using combination method of the individual and group.

2) Duration of DSME

Of 15 studies, 2 studies was conducted for 1 month, 2 studies for 6 weeks, 2 studies for 3 months, 7 studies for 6 months and 2 studies for 1 year. . The follow-up time was done on the 3rd, 6th and 6th months after DSME program.

3) Provider Type

DSME is performed by doctors, nurses, nutritionists, pharmacists and peer educators who are trained volunteers. There were 4 studies administered by nurses, 1 study by a dietitian, 9 studies by diabetes educator team, and 1 study by peer educators.

Findings

1) HbA1c: all the studies assessed HbA1c, all showing significant improvement after intervention
2) Lipid profile (TG, LDL and HDL): of 15 studies, 5 studies assessed lipid profiles showed significant improvement after intervention (Yuan et al., 2014; Paz-Pacheco et al., 2017; Brunisholz, Briot, & Hamilton, 2014; Krebs et al., 2013; Technol, 2013).
3) Anthropometry (weight, BMI, waist circumference and waist-hip ratio): 5 studies assessed anthropometry showing significant improvement at the time of evaluation (Ku & Kegels, 2014; Yuan et al., 2014; Paz-Pacheco et al., 2017; Sugiyama et al., 2015; Krebs et al., 2013)
4) Blood pressure: there were 5 studies showed improvement in systolic blood pressure after DSME intervention (Paz-Pacheco et al., 2017; Brunisholz, Briot, & Hamilton, 2014; Krebs et al., 2013; Rohloff, 2017; Technol, 2013).
5) Knowledge: of 15 studies, 3 studies assessed knowledge indicates an increase in level of knowledge during the evaluation (Ku & Kegels, 2014; Shakibazadeh et al., 2016; Rohloff, 2017).
6) Attitudes: 1 study showed a positive attitude change during the evaluation (Ku & Kegels, 2014)
7) Adherence: of 15 studies, 1 study assessed patient adherence to diabetes showing improved adherence after DSME (Ku & Kegels, 2014)
8) Health behaviors (smoking, alcohol and drug use, foot examination): 1 study assessed showing improvement in health behaviors after intervention (Ku & Kegels, 2014)
9) Self-care activities: among 15 studies, 2 studies assessed self-care activities showing improvement after DSME (Rohloff, 2017; Surucu, 2017).
10) 1 study assessed depresive symptoms and distress in diabetes showing improvement in diabetes distress and depressive symptoms after DSME program (Zagarins et al., 2012).

4 DISCUSSION

DSME education programs proven effective in patients with diabetes mellitus. Patients are actively involved in self-care management and decision making, and it can improve patient compliance with treatment plans. Some studies showed a significant improvement in clinical outcomes, knowledge and attitudes, self-care activity as well as health behaviors in patients with diabetes mellitus after DSME. A significant reduction in HbA1c levels and other clinical results show that patient self-care management has been improved.

In practice, the DSME program can be done individually, group or combination of the individual and group. Implementation of DSME can be adapted to the local culture so easily accepted by diabetes patient, and can be carried out home visits to involve the family in the patient's self-care activities.

In the educational provision, who can become an educator is a professional health worker to show the feasibility of the program (Amendezo et al., 2017). In addition, DSME can be provided by peer educators which are trained in advance on the ways and content of health education (Paz-Pacheco et al., 2017).

5 CONCLUSIONS

This systematic review can support the implementation of the DSME program for patients with diabetes mellitus proven effective in improving clinical outcomes, knowledge and attitudes, self-care activities as well as health behaviors. DSME can be one of the interventions in the treatment of diabetes mellitus patients by involving various health professionals such as doctors, nurses, nutritionists, pharmacists and physiotherapist.

Nurses as an educator should perform their role in providing health promotion for people with diabetes mellitus to improve knowledge about self-care management and self-care skills.

The Limitations of the systematic review are in some studies did not use a control group and non-random sampling techniques so that it can increase the risk of bias and outcomes of the research. This systematic review did not use a quality assessment.

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Effect of Isoflavones on Hot Flushes Women Menopause: A Systematic Review

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Keywords: Isoflavones, hot flushes, menopause

Abstract: Aim: Reviewing the effects of soy isoflavones and red clover isoflavones on the incidence of hot flushes in menopausal women. Method: search articles via database: Proquest, Scopus, and ScienceDirect, Limits of 2007-2017 there are 13 RCT research journals. Results: Of the 13 journals of 10 journals using soy isoflavones intervention, 2 journals used red clover intervention and 1 journal using intervention combinations of soy isoflavones and red clover. Soya isoflavones intervention of 50.7 mg, 90 mg, 80 mg, 100 mg, 70.56 mg, 60 mg, 80 mg, 30 mg genistein and red clover isoflavones as much as 80 mg showed a decrease in the incidence of hot flushes. Soy isoflavones intervention of 35 mg, 70 mg and red clover isoflavones of 37.1 mg / d did not show a decrease in the incidence of hot flushes. Combination interventions of 60.8 mg soy isoflavones and 19.2 mg red clover showed a decrease in the incidence of hot flushes. Conclusion: soy isoflavones and red clover isoflavones have a positive effect on reducing the incidence of hot flushes in postmenopausal women but a similar study is required with larger numbers of samples and corresponding measuring instruments.

1 INTRODUCTION

Menopause is characterized as decreased levels of estrogen and progesterone which can lead to the development of some symptoms such as hot flushes, night sweats, vaginal dryness, mood disorders, decreased libido, insomnia, lethargy or fatigue, irritability, anxiety, depression, heart palpitations and pain (Borrelli and Ernst, 2010). Hot flushes usually occur for at least 1 year to 5 years after menstruation ends permanently. Hot flushes in menopausal women is a vasomotor response of reduced estrogen, a symptom that generally affects the quality of life of women and makes women seek to perform effective and safe tracments. Epidemiological data indicate the highest prevalence of hot flushes of 60% are at the age of 52-54 years (Ferrari, 2009). Hot flushes incidence of 18% in China, 15% in Japan, and 14% in Singapore. While in Europe and America, hot flushes incidence could reach 80-85% and in Brazilian women reach 70% (Thomas *et al.*, 2014).

Decreased estrogen levels are a major factor in loss of bone density, vaginal epithelial atrophy, hot flushes and mood changes. A number of women do the prevention of menopause symptoms by using hormone replacement therapy. Research on the effects of hormone replacement therapy by the Women's Health Initiative Study (WHI) mentions an increased risk of breast cancer and cardiac complications early in its use. Thus, many women switch by using complementary and alternative therapies (Levis *et al.*, 2010)

Some women use complementary and alternative therapies to treat menopausal symptoms by using soy products, herbs and other alternative complementary therapies. The main reason for the use of complementary and alternative therapies is the fear of the effects or risks of long-term use of hormone replacement therapy (hormone replacement therapy). In fact, complementary and alternative therapies are safer than hormone replacement therapy (Posadzki *et al.*, 2013). The derivative of estrogen is phytoesterogen with 3 classification of isoflavones, lignans and coumestans. Isoflavones were found to have high concentrations in soybeans, soy products (such as tofu) and red clover(Borrelli and Ernst, 2010).

In the study of Toku et. All found that soy isoflavones given for 6 weeks to 12 months can reduce the incidence of hot flushes by almost 21%. Many studies on the effectiveness of isoflavones diet

against menopausal symptoms. In the current systematic review, it will be more focused on the effectiveness of soy isoflavones and red algae isoflavones facing menopause symptoms especially in the event of hot flushes

2 METHOD

Literature Search

This sytematic review includes original journals discussing the effects of isoflavones on menopausal symptoms as outcomes in general but also in the measurements of hot flushes. Systematic literature searches are performed in major databases such as Proquest, Sciencedirect and Scopus by entering isoflavones keywords, hot flushes, menopause. No other restrictions are used to maximize literature search. The list of literature references is done manually. The search results on the scopus database as many as 182 journals, ScienceDirect as many as 637 journals and Proquest 312 journals.

Criteria Inclusion

The criteria of inclusion of literature are random clinical trial (RCT) study on isoflavones effectiveness on hot flushes occurrence in postmenopausal women with years limit of 10 years (2007 - 2017). The research design of RCT must meet PICO criteria including the population used are menopausal women with both premenopausal, menopause transtition, and post menopause with history of hot flushes> 4 times a day, intervention of isoflavones use as treatment can be extra pure soybean, combination and red clover. The comparison groups in the study consisted of at least two groups: the intervention group and the placebo group. The comparison groups in the study consist of two groups: the intervention group and the placebo group. All studies use English. Of the total journals of 1131 journals, there are 13 journals that match the criteria of inclusion of researchers and made material systematic review.

3 RESULTS

Literature Characteristic *Systematic Review*

From 13 journals, data collection is done in United Nasition of America as much as 1 journal, Canada 1 journal, Korea 1 journal, Italy 3 journals, Brazil 2 journals, New Delhi 1 journal, Denmark 1 journal, Nepal 1, Austria 1 journal and Taiwan 1 journal. The total sample in the literature was 1398 samples. A total of 3 journals involving Asian women, 9 journals involving western women (caucaisan) and 1 journal involving multi-ethnic women are white spanic, white non spanic, Asian and African. All journals are journals with randomized control trial design designs with 8 journals using double blinded, 1 unblended journal, 1 journal of multicenter comparative study and 3 other journals not explaining in detail.

Isoflavones Intervenstion

From 10 journals, total of seven journals using pure soy extract with isoflavone dose of 70 mg (Fontvieille, Dionne and Riesco, 2017), 50,7 mg (Levis *et al.*, 2010), 90 mg (Carmignani *et al.*, 2010), , 60 mg (Franciscis *et al.*, 2017), 100 mg (Nahas *et al.*, 2007), 35 mg (Yang *et al.*, 2012), and 70 mg (Lee, Choue and Lim, 2017), and 80 mg (Ferrari, 2009). Two journals used combined soybean extract with isoflavone dose of 70.56 mg, and 80 mg (Davinelli *et al.*, 2017). One journal uses 30 mg of ganestein (Evans *et al.*, 2011).

Two journals using red clover with isoflavones of 37.1 mg / d (Lambert *et al.*, 2017), 80 mg (Lipovac *et al.*, 2012), 60.8 mg mg One journifer combination of 60.8 mg soy isoflavones and 19.2 mg red algae isoflavones (Mainini G, 2013). Characteristics of isoflavones dose can be seen in table 2.

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Measuring *Hot Flushes*

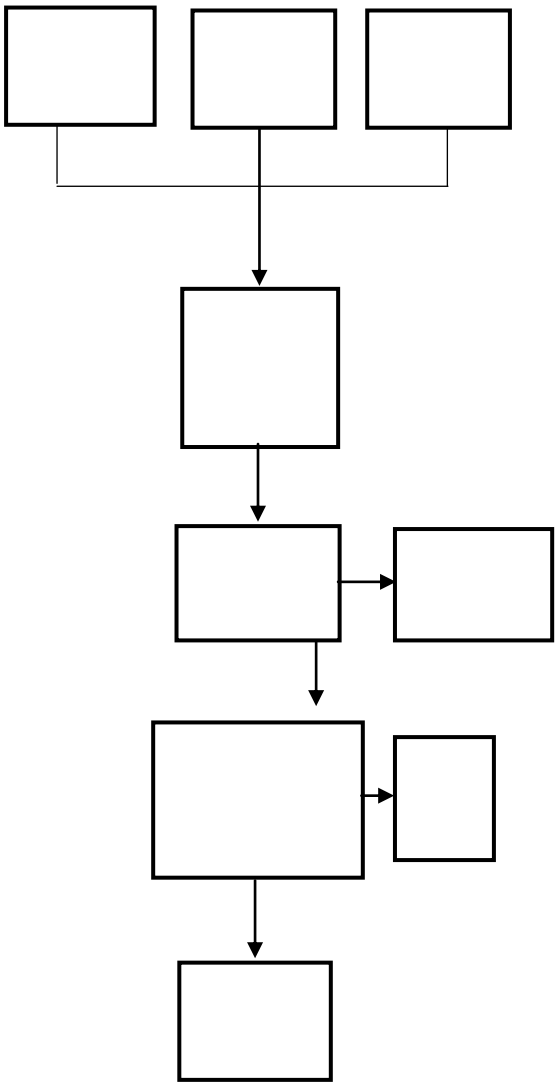
Measurement of hot flushes analysis in one journal using matlab software. As for other journals, hot flushes are always measured along with other components. Existing measuring instruments are usually a combination of menopausal symptoms. However, in each measurement there are several journals that include hot flushes diary to record hot flushes every day. Measurements used in the journal include Kupperman index used to assess vasomotor symptoms of menopausal women including hot flushes, Menopause Rating Scale (MRS) is used to evaluate the symptoms of menopause divided into 3 sub-somatic somatic (including hot flushes), psychological symptoms, and urogenital symptoms, Greene Climacteric Scale to measure psychological, vasomotoric, somatic, depression and anxiety on the subject, and Cooperman's index questionare

The influence of isoflavones on *hot flushes*

The results of the journal analysis revealed 9 out of 10 journals using extra pure soy intervention with isoflavones of 50.7 mg, 90 mg, 80 mg, 60 mg, and

100 mg, combined soybean intervention combined with isoflavones 70.56 mg, 60 mg, 80 mg the 30 mg genistein intervention showed a decrease in the incidence of hot flushes in postmenopausal women.

Figure 1. Process selection of Paper



From 2 journals, 1 journal with intervention of red algae isoflavones as much as 80 mg showed decreased incidence of hot flushes in menopausal women. While the combined intervention between soy isoflavones 60.8 mg and isoflavones 19.2 mg. The value of hot flushes decrease can be seen in table 1.

Table 1. The Value of Hot Flushes Decreased

Author	Decreased of Hot Flushes
Lee, H. et all. (2017) **Extra soybean tablets**	Positive Significant to intervention group 2.73±2.60
Fontvieile, A. (2017) **Extra soybean tablets**	Negative ρ=0.131
Franciscis, P. et all (2017) **Extra soybean tablets**	Positive Significant to ntervention group from 4.31 to 2.12
Davinelli, et all (2016) **Fermentation of soybean**	Positive ρ<0.001
Yang, T (2011) **Extra soybean tablets**	Negative ρ=0.506
Levis (2010) **ekstra protein kedelai**	Positive Significant to ntervention group 12.15±6.61
Carmignani (2010) **Extra soybean tablets**	Positive ρ=0.01
Evans (2010) **Tablet genistein**	Positive ρ=0.009
Ferrari (2009) **Extra soybean tablets**	Positive Significant to intervention group 41.2%
Nahas (2007) **Extra soybean tablets**	Positive ρ<0.001
Lambert, M. et all (2017) **Extra red clover**	Negative ρ=0.18
Lipovac (2012) **Capsule of red clover**	Positive ρ<0.0001
Mainini (2012) **Suplement of red clover and soybean**	Positive ρ<0.05

4 DISCUSSION

Isoflavones contained in soy extract and red clover extract (Lambert *et al.*, 2017). Research with intervention of extra isoflavones of pure soybean, genistein and combined soy isoflavones resulted in a significant reduction in the incidence of menopausal hot flushes. The structure of soybeans has an equation with 17 B-estradiol, the female main sex hormone (Thomas *et al.*, 2014)

Based on the analysis of 10 journals, extra isoflavones of soybeans are in the range of 30-100 mg. There is one journal using combined monoteraphy genistein, with the result that it decreases the incidence of hot flushes in the intervention group by 51% with p = 0.009 (Lambert *et al.*, 2017). There are 3 studies using the same extra soy as much as 200 mg but with different isoflavones ie 1 journal containing 50.7 mg and 2

journals containing 80 mg with different population numbers. The 12 week intervention in a sample of 60 Italian women resulted in a significant decrease in the incidence of hot flushes by 74.3%. The 24-week intervention in a sample of 248 multiethnic women resulted in a decrease in hot flushes with a standard deviation of 12.58 + 6.87. The 12 weeks intervention in a sample of 120 Italian women showed a decrease in hot flushes in the intervention group by 41.2%.

Based on the analysis of these results showed the limit of extra consumption of soybeans in its role reduce the incidence of hot flushes in menopausal women more than 70 mg / day. This is in line with the statement of the European Food Safety Authority (EFSA) which confirms that the consumption of at least 150 mg of extra soy isoflavones daily for 3 years can increase hormones in sensitive tissues such as in breast, endometrium and gland tyroid (Schmidt *et al.*, 2016).

In addition to being found in soybeans, isoflavones are also present in red clover. Soybean has 3 main structures of isoflavones in the form of glycoside ie genistin, daidzin and glycitin. While the main structure of red clover is 4 isoflavones including formononetin, biochanin A, daidzein and genistein. Both act as esterogenic in the female body (Jacobs *et al.*, 2009).

A study by Lambert et.All on the administration of extra red clover isoflavones combined with probiotics showed no significant difference between the placebo group and the intervention with p = 0.18. This study uses extra red clover which is combined as much as 13.5 liters and consumed for 90 days with isoflavones content of 37.1 mg / d. This study describes hot flushes as primary outcomes and assessment of the respondent to the time of the sleep cycle.

The average characteristics of the study sample were women aged 40-60 years. A decrease in the incidence of hot flushes with intervention of more than 12 weeks gave more valid results compared to shorter duration (Schmidt *et al.*, 2016) Of the 13 journals, there are 4 journals with female populations focusing on women with post menopausal, 1 journal with pre menopausal population and other journals based on female age between 40-60 years unnoticed. Level of characteristic of menopause level can be seen in table 3 Characteristics of menopausal level of research sample. Women with pre menopasue can cause a higher placebo response than women with post menopause (Liu and Eden, 2007).

The use of soy isoflavones and red algae to control the incidence of hot flushes in menopausal women requires an evaluation of the impact on women's health. The limitation of this systematic review is the difficulty of comparing results with diverse interventions, ranging from doses, compositions and measuring instruments

Table 2. The Dose of Isoflavones In the Study

Author	Intervention			Dose per day	Isoflavones per day	Decreased of hot flushes
	Isoflavones	Additives	Other intervention			
Lee, H. et all. (2017) Extra soybean tablets	35.28 mg	Lactose powder 15.6%, cilica dioxide (0.5%) and magnesium stearate (0.5%)	-	2	70.56 mg	positive
Fontvieile, A. (2017) Extra soybean tablets	17.5 mg	-	Physic exercise	4	70 mg	negative
Franciscis, P. et all (2017) Extra soybean tablets	60 mg	Lactobacillus 109 spores, 50 mg ekstra magnolia officanilus, 40 mg ekstrak vitex agnus castus, 35 mg vitamin D	-	1	60 mg	positive
Davinelli, et all (2016) Fermentation of soybean	80 mg	25 mg resveratrol from vitis vinifera	-	1	80 mg	positive
Yang, (2011) Extra soybean tablets	17.5 mg	-	-	2	35 mg	negative
Levis (2010) ekstra protein kedelai	49,5+2.2 mg	-	-	1	51.7 mg	positive
Carmignani (2010) Extra soybean tablets	45 mg	-	-	2	90 mg	positive
Evans (2010) Tablet genistein	-	-	30 mg genistein	1	30 mg	positive
Ferrari (2009)	80 mg	-	-	1	80 mg	positive

Extra soybean tablets						
Nahas (2007) **Extra soybean tablets**	100 mg	-	-	2	100 mg	positive
Lambert, M. et all (2017) **Extra red clover**	37.1 mg/d	-	-	Not specific	Not specific	negative
Lipovac (2012) **Capsule of red clover**	80 mg	-	-	1	80 mg	positive
Mainini (2012) **Suplement of red clover and soybean**	60.8 mg	-	-		60.8 mg	positive

Table 3. Characteristic Level of Menopause Study Sampl

Author	Age of Study Sample	Menopause Level	Total Sample	Decreased of Hot Flushes
Lee, H. et all. (2017) **Extra soybean tablets**	45-60	Not Specific	84	Positive
Fontvieile, A. (2017) **Extra soybean tablets**	50 -70	Post Menopause	31	Negative
Franciscis, P. et all (2017) **Extra soybean tablets**	Not Specific	Post Menopause	180	Positive
Davinelli, et all (2016) **Fermentation of soybean**	50-55	Menopause	60	Positive
Yang, T (2011) **Extra soybean tablets**	Not Specific	Menopause	130	Negative
Levis (2010) **ekstra protein kedelai**	45-60	Peri Menopause	248	Positive
Carmignani (2010) **Extra soybean tablets**	40-60	Menopause	60	Positive
Evans (2010) **Tablet genistein**	45-65	Menopause	84	Positive
Ferrari (2009) **Extra soybean tablets**	40-65	Not Specific	120	Positive
Nahas (2007) **Extra soybean tablets**	Rate 55,1	Not Specfic	80	Positive
Lambert, M. et all (2017) **Extra red clover**	40-65 Tahun	Peri Menopause	62	Negative
Lipovac (2012) **Capsule of red clover**	.>40	Post Menopause	109	Positive
Mainini (2012) **Suplement of red clover and soybean**	Not Specific	Post Menopause	150	Positive

5 CONCLUSION

Systematic review of the effects of isoflavones on hot flushes occurrence in menopausal women provides a solution for further research. In a randomized control trial study, there will be 2 groups: the placebo group and the intervention group, to avoid a higher placebo response, it is necessary to have participant criteria, in a homogeneous level of menopause

Giving extra isoflavones to soybeans in either pure form or combination and red clover isoflavones positively impacted the decrease in the incidence of hot flushes in postmenopausal women but a similar study was required with larger numbers of samples and corresponding measuring instruments. Use of hot flushes as outcomes primar provides a more specific assessment of hot flushes variable.

The implication that can be taken is to know about alternative actions in reducing hot flushes. Nursing paradigm with 4 pillars of human in the sense of menopausal women, environment is defined as an environment that provides a choice of attitudes in menopausal women, healt illness is defined as how the experience of menopausal women in the face of menopausal symptoms in the form of adaptive or maladaptive and nurse is defined as how the nurse see this phenomenon. Interventions given to women who are menopausal need to be informed to maintain reproductive health.

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The Use of Negative Pressure Wound Therapy for Treatment Surgical Wound Arthroplasty A Systematic Review

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Keywords : Negative Pressure Wound Therapy, Arthroplasty, wound healing, Surgical Site Infection

Abstract: As the increasing of arthroplasty surgery, the number of complications resulting from this procedure also rises, including delayed surgical wound healing and infection. Revision surgeries are often needed due to wound healing complications. Recently, a dressing technique that uses a vacuum dressing (Negative Pressure Wound Therapy) to promote healing, has been widely used as therapy for many different indications wounds. This study aimed to present the use of negative pressure wound therapy (NPWT) in surgical wound healing after arhtroplasty surgery. Scopus, ScienceDirect, and PubMed databases were sistematically searched from 2009 to 2018 of the use NPWT to treatment wounds after arthroplasty surgery. Ten articles that met the inclusion criteria, NPWT used for wound treatment after TAA (total ankle arthroplasty), TKA (total knee arthroplasty), THA (total hip arthroplasty) surgery, were eventually included. We found 8 reports stated that NPWT accelerated wound healing and reduced surgical site infection compared to conventional dressing. The results 5 of 10 studies had lower complication of prolonged wound healing when used NPWT for treatment. The other studies showed NPWT shortened the duration of hospitalization, had no further surgery, decreased area of infection, and concise inflammation process. All the articles included in the review indicated that NPWT have positive effect on wound healing process.

1 BACKGROUND

Periprosthetic infection is the most common complication and the main problem of arthroplasty. According to Sukeik and Haddad, "infection after total hip replacement is a devastating complication with significant sequellae both for patients and for the healthcare system". Wound problems after arthroplasty not only impair postoperative physical therapy, clinical outcomes, and patient satisfaction but also notably increase the risk for implant infection, which can lead to dire consequences such as amputation. The development of infectious process can result in sepsis, and the removal of the infected prosthesis leads to loss of function and to significant reduction in quality of life.(Obolenskiy *et al.*, 2013; Matsumoto and Parekh, 2015).

The management of the infectious process in some cases can be possible without removing endoprosthesis or endocorrector, if a combined treatment includes local negative pressure – negative pressure wound therapy, NPWT, or vacuum-assisted closure, VAC1-therapy. NPWT is an adjunctive healing method for selected surgical wounds at high risk for complications, acute wounds, and certain chronic wounds after failure of primary intention healing and recently, has been applied to closed incisions following trauma or clean surgery and has demonstrated notable clinical effects (Matsumoto and Parekh, 2015; Robert, 2017).

The surgical wound healing process often causes a decrease in the physical and psychological condition of the patient. Conventional wound care requires a long healing time, especially for chronic wounds and complicated complications. Visits by medics and paramedics are also needed. This has an impact on the cost. Therefore, more effective and efficient wound care management is required.

Long-term surgical wound healing processes that occur in patients with arthroplasty are the most common cause of compliaction. Patients who receive arthritis therapy belong to the elderly with joint problems such as arthritis due to degeneration and others, which in the case of treatment is usually performed arthroplasty surgery several times due to prolonged wound healing process.

Recent management associated with chronic wounds or post-operative arthroplasty wounds include the use of hyperbaric oxygen and negative pressure techniques (Negative Pressure Wound Therapy / Vacuum Assisted Closure (VAC)). This negative pressure technique has grown rapidly and is now widely used in many countries, especially in Western Europe (Germany) and the United States.

Negative pressure wound therapy (NPWT) system has been used and developed since more than 25 years to deal with complex wounds. Even other

sources mention that this system has been found 50 years ago. Various researches continued to develop until in 1995 a pharmaceutical company promoted it commercially in Ukraine.

Currently, NPWT has been used in the treatment of various injuries such as orthopedic trauma, soft tissue trauma, skin graft, diabetic ulcers, venous varicose ulcers, burns, postoperative wound infections, and other types of acute and chronic wounds.

This review is aimed to explain the effectiveness of NPWT use in patients who had undergone arthroplasty surgery.

2 METHODS

The scope of the source is the use of Negative Pressure Wound Therapy either using an incision, by cover or not as an intervention. This use is a negative pressure vacuum device that uses electric power and usually uses a certain wound

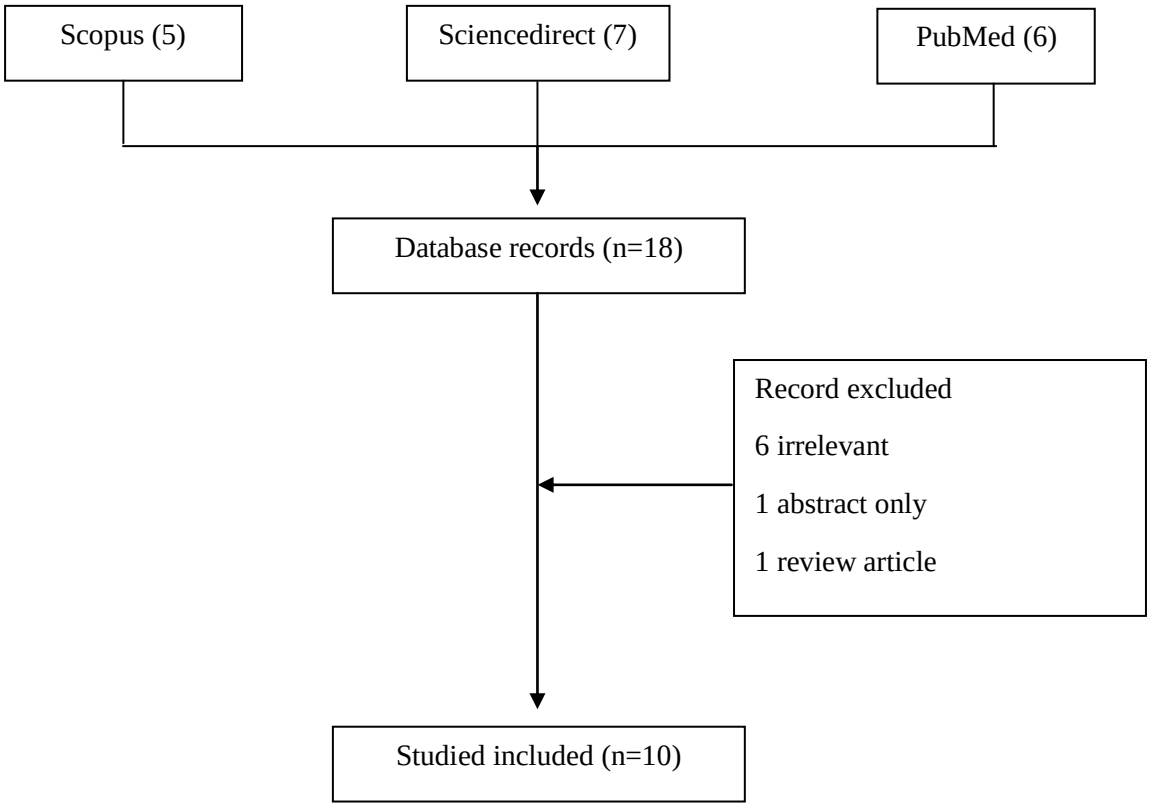

Figure 1. Selection articles process

cover that is connected to the device. The sources studied are from international journals scopus indexed. Journal search engines used are Scopus, Sciencedirect, PubMed, by providing "*Negative Pressure Wound Therapy*" and "*arthroplasty*" keyword limits with the year 2009-2018.

Data Extraction and Appraisal

Data extraction is designed using the main criteria of the Greenhalgh framework. The components taken are objectives, research design, population (sample size, characteristics and sampling method), interventions of wound care using Negative Pressure Wound Therapy, measured results, data collection methods, and yield analysis. Articles that meet the criteria are evaluated regarding quality and validity with focus of sample size, client allocation and needs and bias factors. Data extraction was performed by one reviewer and examined by a second reviewer.

3 RESULTS

Characteristic of Included Trials

Research articles obtained as many as 18 journals published from 2009 to 2018 with the most compositions published in 2011-2018. All research journals are conducted in various countries with experimental methods. The research designs were found in the research of Randomized Controlled

Trial (n = 5), Retrospective cohort study (n = 1), Prospective cohort study (n = 4). The most widely used research design is the prospective cohort study.

Negative Pressure Wound Therapy (NPWT)

NPWT, a dressing technique that uses a vacuum dressing to promote healing,. It has been demonstrated that NPWT can accelerate wound healing by advancing angiogenesis, increasing microvascular blood flow, stimulating granulation tissue formation, and reducing edema. It has been used mainly for open wounds but recently, this therapy has been applied to closed incisions following trauma or clean surgery and has demonstrated notable clinical effects. NPWT enhances granulation tissue formation over previouslycleansed wounds, by stimulating local angiogenesis, therebyimproving the local blood supply. This local increase in vascularityresults in an influx of fibroblasts, which diminish the surface areaof the wound by approximating its margins (Robert, 2017).

Mecanism of Action NPWT/ VAC

The use of NPWT is done by providing local negative pressure on the surface of the wound. The surface of the wound will be covered by a water tight film connected to a suction tube (connected to a control unit) that has a negative pressure on the surface of the wound with a pressure of 50-175 mmHg. Usually that is often used is 125 mmHg. Disuction fluid will be collected in a container on the control unit (Santy, 2015).

The NPWT mechanism in the postoperative wound healing process is to keep the wound environment moist, remove fluids and infectious material, decrease bacterial colonization, increase tissue granulation formation, faster cell growth, increase local blood flow, decrease bacterial count, and remove proteases that harm the wound healing process (Santy, 2015).

Research conducted by Blume et al (2008) says that the use of NPWT (V.A.C) can improve the process of wound healing through efforts to create a humid wound environment and reduce edema. In general Andros et al (2005) states that the advantages of NPWT method compared with other methods is that this method can provide a moist environment, so that wound healing becomes optimal, remove the exudate from the wound so that protease enzymes inside the exudate are also made, this enzyme known to interfere with the wound healing process. Besides other advantages are infection control, where on day 4 and 5 wound that does not use NPWT bacterial count and bacterial colonization increase. While on the use of NPWT this is not visible. Another advantage is that NPWT can stimulate cell growth physically by increasing angiogenesis, so that new cell growth will be maximal. The results of this study are not fully supported by Mouësa et al (2006) which states that in patients receiving NPWT therapy, the wound does become more rapidly healed and the wound surface area also decreases rapidly compared to conventional therapy (Santy, 2015).

4 RESULT

Post Operative Wound Healing Using NPWT

NPWT proved to accelerate the healing process of surgical wound in patients post-arthroplasty surgery with mechanisms of absence of dehydrogen on the wound, the presence of good scar and drainage and reduce the problem of wound healing compared with conventional dressings (Matsumoto & Parekh, 2015, Redfern et al., 2017).

Dehiscence associated with infection demonstrated closure of the wound and control of the infectious process without the need for surgical intervention, and the six patients who underwent surgery to treat infection showed clinical improvement in infection and good healing (Helito *et al.*, 2017).

There is evidence in the use of NPWT in orthopedic trauma with good results but limited literature assessing the use of NPWT on post arthroplasty incision care. Suzuki et al assessed application of NPWT directly to high-risk surgical wounds associated with open fractures. Early studies have indicated though, that NPWT has been associated with decreased seroma size as well as earlier resolution in hip arthroplasty patients (Manoharan *et al.*, 2016)

The incidence of surgical wound infections as a form of postoperative complication also proved to be low in wound care performed using NPWT. In addition, the use of NPWT has also been shown to decrease the incidence of surgical wound complications by narrowing the wound and improving wound characteristics (Pelham *et al.*, 2006; Stannard *et al.*, 2009, 2012; Pachowsky *et al.*, 2012; Suzuki *et al.*, 2014; Matsumoto and Parekh, 2015; Redfern *et al.*, 2017), improving quality of life for accelerating wound healing (Manoharan *et al.*, 2016), does not require the replacement of repeated dressings (Mendame Ehya *et al.*, 2017), does not cause pain in the sufferer (Mendame Ehya *et al.*, 2017), accelerates the return of motion function ((Stannard *et al.*, 2009; Mendame Ehya *et al.*, 2017), preventing the occurrence of fistula and purulent inflammation (Pachowsky *et al.*, 2012; Obolenskiy *et al.*, 2013), shortening the patient's LOS in the hospital (Hansen *et al.*, 2013), decrease the amount of exudate (Hansen *et al.*, 2013), is quite efficient in the use of cost (Hansen *et al.*, 2013), does not require re-operation (Karlakki *et al.*, 2016), prevent colonization that may cause infection (Stannard *et al.*, 2009, 2012; Zhang *et al.*, 2016; Helito *et al.*, 2017),

Clinical evidence from case study and cohort study results, the majority of the results indicate that the effect of NPWT use can reduce the size of the wound and help the wound healing process. The prospective randomized trial of patients with chronic post-arthroplasty, non-healing injury by comparing NPWT use showed that 64% of patients treated with NPWT (VAC system) showed good tissue granulation while 81% of patients treated with conventional dressings showed inflammation and fibrosis in the wound tissues. (Pelham *et al.*, 2006; Stannard *et al.*, 2009, 2012; Pachowsky *et al.*, 2012; Suzuki *et al.*, 2014; Matsumoto and Parekh, 2015; Redfern *et al.*, 2017).

5 DISCUSSION

Arthroplasty has the most wound healing problem after surgery compared to other surgical techniques such as implants. Many post-operative wound healing events are elongated. Many factors that affect the wound healing process include an incision, decreased vascular perfusion, diabetes mellitus, kidney disease, immunocom-promised (Matsumoto & Parekh, 2015; PRedfern et al., 2017; Stannard et al., 2012; Stannard, Volgas, Stewart, McGwin, & Alonso, 2009; Suzuki, Minehara, Matsuura, Kawamura, & Soma, 2014).

In terms of financing, the use of NPWT and Conventional Therapy (moist gauze) also showed no significant difference. The results of the Dutch study conducted by Manoharan (2016) show that there are differences but not significant between NPWT and Conventional Therapy, ie for NPWT the required cost is Australian $ 48.70 and for Conventional Therapy is Australian dollar $ 43.51 (Manoharan *et al.*, 2016).

However, consideration in the application of this method is the result of Randomized Controlled Trial (RCT) research on the safety and effect of NPWT on pressure ulcer wounds, diabetic foot ulcers, miscellaneous chronic wounds indicates that of the many studies it states that NPWT is safe and serious side effects rarely reported and also more effective than the usual standard therapy.

Nursing Implication and Recommendation

Nurses need to be aware of the following issues including infections, potential bleeding, use of anticoagulant therapy, malignancy, patient compliance, offloading and ambulation at home. If there is an infection in the wound area, then debridement therapy and antibiotics are the main therapies. NPWT is merely an adjuvant therapy. Potential bleeding may occur, so strict monitoring of the drainage of fluid out of the container is required. If excessive bleeding occurs, the use of this method should be discontinued.

Use of NPWT in patients receiving anticoagulant therapy should be of concern to doctors and caregivers. If bleeding occurs, negative pressure should be lowered and if the bleeding continues after a drop in pressure, treatment should be discontinued. In the case of malignancy, this therapy is not indicated because it can increase the growth of cancer cells. In addition, patient compliance during the use of the tool in this therapy is very important, because the patient must still do the ambulation well, and much rest. In diabetic ulcers patients who have dementia therapy is also very effective but must be supervised.

6 CONCLUSION

The use of NPWT for the treatment of chronic wounds such as postoperative wounds that require a long healing process, very effective if done using NPWT with the latest modifications such as the use of PHMB, Instillation, closed incise, and others. However, it should be underlined that the cost will be spent on the use of NPWT is more expensive than normal dressing. On the other hand it accelerates the healing process of the wound, if the wound heal quickly then it will also cut the cost of prolonged care. The nurse in this case plays a role to provide an offer to the client regarding the choice of intervention that suits his needs and abilities.

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Table 1. Characteristic of included articles

No	Author	Study Design	Sample	Intervention	Control/ Comparison	Outcome measured	Results
1	Matsumoto& Parekh (2015)	Restrospective cohort study	N=74 participants with TKA Control Group = 37 Intervention Group = 37	continuous −80 mm Hg negative pressure for 6 days postoperatively	conventional nonadherent gauzedressing	Wound healing (dehiscence, eschar, drainage) and surgical site infection menurut kriteria Center for Disease Control and Prevention	On 9 patients (24%) experience in wound healing problems in the control group and 1 (3%) in the incisional NPWT group. Incisional NPWT was found to reduce wound healing problems with an odds ratio of 0.10 (95% CI, 0.01-0.50; P = .004).
2	Redfen et al (2017)	Prospective cohort study	N = 400 post operative patients Intervensi Group = 192 Control Group = 216	Closed incision negative pressure therapy (ciNPT)	Traditional gauze dressing	Surgical site complication	The rate of deep infection was unchanged in the ciNPT group compared with control (1.0% vs 1.25%); however, the overall rate of infection (including superficial wound infection) decreased significantly (3.5% vs 1.0%, P = .04). Overall complication rate was lower in the ciNPT group than controls (1.5% vs 5.5%, P =.02).
3	Manoharan et al (2016)	Prospective cohort study	N = 33 patients who done knee arthroplasty Intervention Group = 21 Control Group = 12	Negative pressure wound therapy (NPWT)	Conventional dry dressing (CDD)	Quality of Life, Wound complications, and total cost	There was no wound complications in the intervention group, and wound protection was more favorable in the intervention group than in the control group. More costs were spent when using NPWT than CDD and there was no significant difference in quality of life in both groups
4	Ehya et al (2017)	Prospective and randomized study	N = 51 patients 17 dan 34 patients randomly divide to two groups intervention and control group.	VAC combined perforator flap technique	Conventional wound dressing (CWD)	Time of the first post-operative dressing change, pain visual analogical scale VAS, perforator flap infection rate, 95% perforator flap healing time and percentage of survived perforator flap.	There was no exudate at the opening of the first dressing in the VAC group, and the 2 participants' surface exudate in the control group.
5	Obolenskiy et al (2013)	Quasi experimental- one group study	N = 58 patients who experience wound complication after	Negative pressure wound therapy (NPWT)	-	Recurrent fistula and purulent inflammatory process	Out of a total of 58 patients only 7 people were given NPWT and 3 of them had no recurrent fistula within 2-8 weeks.

No	Author	Study Design	Sample	Intervention	Control/ Comparison	Outcome measured	Results
			arhtroplasty				
6	Karlakki et al (2016)	Non-blind RCT	N = 220 patients who done TKA or THA Kelompok intervensi 102 Kelompok kontrol 107	Incisional negative pressure wound therapy dressings (iNPWTd)	Conventional dressing	Wound complication, wound exudates, LOS, dressing change, cost effectiveness	LOS reduction was not significant in both groups. Wound exudates decreased significantly in the control group, and significantly decreased in the intervention group. More dressing changes were performed in the control group than in the intervention group (NPWT)
7	Hansen et al (2013)	Prospective cohort study	N= 109 post operative arhtroplasty patients	Negative pressure wound therapy (NPWT)	-	Rate of wound Complications, further surgery	Eighty-three patients (76%) had no further surgery and 26 patients (24%) had subsequent surgery: 11 had superficial irrigation and debridement (I&D), 12 had deep I&D with none requiring further surgery, and three ultimately had component removal.
8	Pachowsky et al (2011)	Prospective randomized	N = 19 patients randomly divide to two groups intervention and control group.	Negative pressure wound therapy (NPWT) group B	Standard dressing group A	Postoperative seromas on the fifth and tenth postoperative days using ultrasound	Ten days after surgery, group A (ten patients, 70.5±11.01 years of age) developed seromas with an average size of 5.08 ml and group B (nine patients, 66.22 ± 17.83 years of age) 1.97 ml. The difference was significant (p=0.021).
9	Helito et al (2016)	Long-term randomized prospective study	N= 10 patients TKA infection with or without dehiscence and post operative patients with infection risk factor	Negative pressure wound therapy (NPWT) Pico device	-	Wound infection and complications	The wounds experienced by all patients have no infections or complications, all showing the healing process.
10	Suzuki et al (2014)	Restropective study	N = 10 men and 4 women who done open fracture fixation	Negative pressure wound therapy (NPWT) 125 mmHg	-	Outcome dari NPWT terhadap luka operasi	The average use of NPWT is 9 days for surgical wound healing, maceration of the skin can sometimes appear as a side effect although not every time

Comparative Effectiveness of Internet Cognitive Behavioral Therapy for Insomnia (iCBT-I) With and Without Therapist Support: Systematic Review

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Keyword: Insomnia, sleep, behaviour therapy, cognitive therapy, therapist support, CBT-I, Internet, adult

Abstract: Insomnia is a health problems for adults and require long-term medication treatment. Internet based Cognitive Behavioral Therapy for Insomnia (iCBT-I) was developed as a potential alternative therapy. This systematic review aims to compare the effectiveness of iCBT-I with and without therapist support in reducing insomnia symptoms in adult participants (18 Years old). In accordance with PRISMA guidelines, we systematically reviewed ProQuest, Scopus, Ebsco, Cinahl, and ScienceDirect for randomized controlled trials (RCTs) comparing iCBT-I with and without therapist support in patients with primary or comorbid insomnia. Trials had to report quantitative sleep outcomes (e.g. sleep latency) in order to be included in the analysis. Extracted results included quantitative sleep outcomes, as well as psychological outcomes and adverse effects when available. The results is indicate that iCBT-I performed with the help of therapist was able to provide more significant results in advanced insomnia symptoms compared with iCBT-I without the help of a therapist. Thus, Supported iCBT-I is more effective than without support in reducing insomnia. Primary care providers should consider iCBT-I with therapist support as a first-line treatment option for insomnia in the future.

1 INTRODUCTION

Insomnia is a difficulty or inability to start and / or maintain sleep or wake up in the morning or night that affects the decreased ability of the function during the day or the loss of desire to perform activities

Based on the results of diagnosis using insomnia criteria obtained as much as 6-10% of the population including the group who experienced insomnia (Kaldo et al., 2015). While in other studies reported 10-30% of adult individuals experience insomnia (Blom et al., 2015). Approximately 35% -50% of adult population experience symptoms of insomnia, with a 12% -20% meeting criteria for insomnia as an abnormality and an estimated 10% -15% of adult population experience chronic insomnia (Ritterband et al., 2017).

Insomnia has an impact on the individual who experiences. insomnia is associated with low concentration levels, excessive fatigue, and impaired cognitive function. Another consequence of insomnia is an increased risk of mental disorders such as depression and anxiety, or physical disorders such as diabetes and high blood pressure. Insomnia also causes economic and social consequences such as reduced productivity, higher sick leave rates, and more accidents (Horsch et al., 2017)

There are two types of treatment to overcome the insomnia that has been use that is pharmacology and non-pharmacology. They are has different effect to insomnia. The Pharmacological management of insomnia has been shown to have a rapid effect but its effects are included in the short term than non pharmacological management. While non-pharmacological management may have long-term effects (Blom et al., 2015).

Recognition that psychological factors play an important role in maintaining sleep disturbances has led to increased interest in the use of a cognitive behavior therapy for insomnia (CBT). CBT targets maladaptive sleep habits and irregular sleep-wake schedules, unhelpful beliefs about sleep, sleeprelated worry, and attentional bias and hyperarousal (Harvey et al., 2014).

Cognitive behavioural therapy-insomnia (CBT-I) is one of the management of nonpharmacological

therapy that has long-term effects compared to pharmacological therapy. Cognitive Behavioral therapy (CBT) and pharmacotherapy are two treatments with empirical support recommended for treating chronic insomnia (> 1 month). Treating insomnia with CBT-I, as opposed to medication, has a number of potential advantages, including fewer known side effects, and an explicit focus on treating the factors that may be responsible for perpetuating chronic insomnia in an effort to produce more durable effects. Traditionally, patients practice numerous behavioral self-management assignments in order to implement lifestyle modifications that will facilitate the reduction of sleep disturbances

Although it has benefits in the treatment of insomnia, CBT has a disadvantage that unavailability of trained cognitive behavioral therapists in many health settings so that access to health services is low and expensive. In addition, a small percentage of people with insomnia seek face-to-face treatment

Bridging the gap between the high prevalence of insomnia and the low accessibility of trained therapists, self-help CBT has been proposed as the first choice in the model of insomnia treatment. The development of CBT self-help has reached the use of the internet as a means to conduct face-to-face CBT-I which is considered to have a better effect in patients with insomnia and can be reached by patients with insomnia. Recently, mobile, compact electronic technologies have become popular in contemporary society, and the application (app) systems on these convenient digital devices could be adapted to facilitate CBT-I. For example, by using a smartphone in conjunction with personal mobile apps, a CBT-I app accessible through a smartphone touchscreen could offer an intuitive and easy-to-use computer interface, and wireless networking could enable remote clinical data transmission (Chen, Hung, & Chen, 2016)

The primary objective of this review is to examine the most up-to-date evidence comparing ICBT-I with and without therapist support in patients with primary and comorbid insomnia and assess the comparative effectiveness of these treatments.

2 METHOD

Search Strategy

The search strategy used in the preparation of this systematic review start with the selection of topics, then determined keywords. Keywords used are Insomnia AND CBT AND Therapy AND Effect. Journal search is done on the ProQuest, Scopus, Ebsco, Cinahl, and ScienceDirect database, restrictions on journal results are published journal year limited from 2013-2018, nursing journal area and Psychology, and English language

The search strategy using the above keywords with the restrictions used obtained 188 related journals, then do the selection on the journal and decided 8 appropriate journals. After the selection, then the journal is synthesized and then concluded as the research output

Selection Procedures And Data Extraction

Literature selection procedure is to determine the necessary data from the literature in the review such as objectives, design / research methods, research time, research variables, and research subjects. This stage is called data extraction. After the selection and data extraction procedures are performed, feasibility tests are performed. The feasibility of this study was assessed using the PICOS approach

Population

The study population was adults (18 years - 65 years) with insomnia or self-reported sleep deprivation occurring for 3 months or more prior to the study. The population we took was respondents who did not have chronic illness who could support sleep difficulties and did not take sleeping pills for at least 14 days before the study.

Intervention

1. Cognitive Behavioral Therapy Multi-component therapy for insomnia (CBT-I), including a combination of two or more elements, is usually considered part of CBT-I (sleep restriction, stimulus control, cognitive therapy, health education on sleep hygiene, relaxation);
2. delivered through various media or internet-based technologies;
3. Therapy is done with or without the help of a therapist.
4. respondents who get therapy with the help of therapists are regular responders to meet face to face with therapist or via telephone or other media based internet
5. respondents who get therapy without the help of therapists are the respondents who only met the therapist to be given education about sleeping health in general and required to be able to do therapy independently with internet-based technology

6. We did not set minimum or maximum treatment periods for study inclusion

Comparisson
We examined all RCTs comparing CBT-I with and without therapis support.

Output
Studies had to report at least one quantitative measure of sleep to be included in this analysis. These measures included sleep latency, wake after sleep onset, sleep efficiency, total sleep time, and total wake time**.** As secondary outcomes, standardized measures of quality of life, sleep quality and psychological outcomes including depression, anxiety and fatigue were also abstracted when available, as was data on adverse events**.**

Study Design
Randomized control trials (RCT).

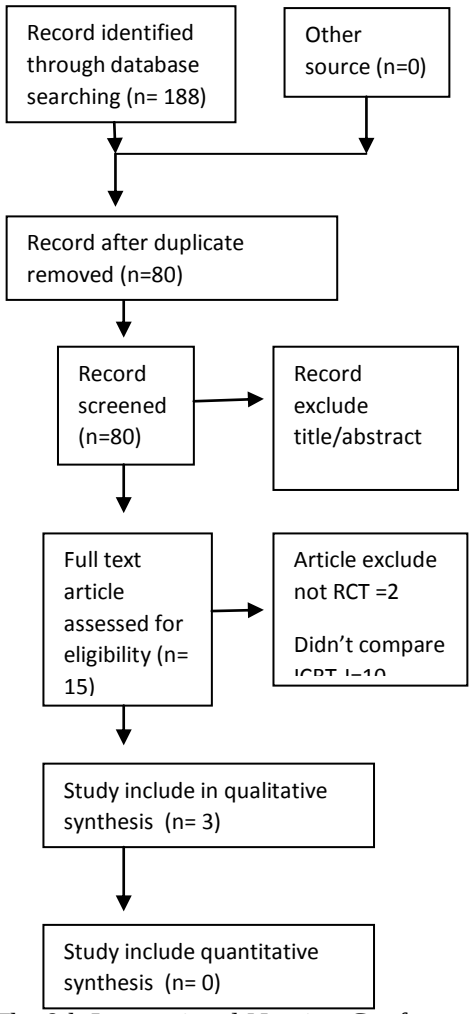

Figure 1: PRISMA flow diagram for literature search and article inclusion.

3 RESULT

Study Characteristics

The total number of participants in the entire study was 2259 with age > 18 years and had sleep disturbance. Interventions used in all studies are multicomponent interventions including behavioral, educational, and cognitive techniques used in CBT-I. With an average duration of therapy for 6 weeks with an average 24-week follow-up.

Of all the research most use the same measuring instrument that is: *insomnia severity index* (ISI), *sleep efficiency* (SE) *and the secondary outcomes of sleep onset latency* (SOL), *wake after sleep onset* (WASO), *subjective sleep quality* (SQ), *Pittsburgh Sleep Quality Index* (PSQI), there are two studies that have additional measuring instruments depression index and anxiety

Quantitative Sleep Outcomes

All trials asked patients to complete sleep diaries. The evidence which compares ICBT -I with the support of telephone therapists who have significant effects with no telephone therapy support (P = 0.02), accompanied by improved quality of life in follow-up 4 months post treatment. While the other research showed significant improvements based on measuring instruments ISI, SE *and the secondary outcomes* SOL, WASO and SQ

4 DISCUSSION

A review of several studies has shown that the application of Internet-based CBT-I to overcome insomnia showed significant results in primary and secondary outcomes: insomnia severity index (ISI), sleep efficiency (SE) and the secondary outcomes of sleep onset latency (SOL) wake after sleep onset (WASO), subjective sleep quality (SQ), Pittsburgh Sleep Quality Index (PSQI). The results shown lead to improvements in the quality of sleep of adult clients with sleep disorders insomnia. Improvements in the quality of sleep produced have long-term effects to the clients indicated by the quality of sleep is still good when the follow-up is done.

Treatment guidelines universally recommend cognitive behavioural therapy insomnia (CBT-I) as

first-line treatment for insomnia in adulthood (Alessi et al., 2016) Provided therapy is adopted from the CBT-I manual consisting of sleep restriction, stimulus control, cognitive restructuring, sleep hygiene, and relapse prevention. This includes relaxation and medication (Ritterband et al., 2017). In the study participants are given modules that will be studied alone, in the implementation participants can submit complaints and discussions that will be given feedback by the therapist through the facility face to face on the web (Kaldo et al., 2015)

The implementation of CBT-I, which is based on technology and internet, provides benefits such as simple setting, minimal investment, and minimal training for experienced staff in providing therapy for clients with clinical setting (Feuerstein et al., 2017). This allows for the convenience of clients in reaching health access.

In one study it was found that ICBT-I with the telephone as a form of therapist support indicated that this therapy had a good effect in changing insomnia from the client but could not prove the change in quality of life and anxiety (Ho et al., 2015). In addition, the techniques taught in CBT-I itself encouraged participants to increase pleasant activities and face feared situations, both of which could have resulted in improved scores on physical functioning and role limitations due to physical health problems (Brenes, Danhauer, Lyles, Anderson, & Miller, 2016).

This systematic review has a disadvantage in the limitations of finding studies that have particularity in examining comparisons between ICBT-I with and without the support of therapist support. In addition the researchers did not use the GRADE approach in assessing the effectiveness of the two interventions performed. The GRADE approach used to grade the evidence base for the comparisons examined in this study can help identify areas where the evidence is least robust and where additional studies can most impact our conclusions about ICBT-I. GRADE can also help identify causes for the weakness of the evidence base. So this can be an improvement for further research

5 CONCLUSION

Research has shown that internet-based CBT-I therapy with various types of technology and assisted by therapists has a significant effect on insomnia and is more effective and efficient than ICBT-I therapy without the help of therapists. This can be used as a reference for further research tailored to the characteristics of insomnia clients in various countries.

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The Effect of Music Therapy for Elderly with Dementia: A Systematic Review Music Therapy for Elderly with Dementia

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Keywords: music therapy, dementia, elderly

Abstract: Background: Dementia is a term used to describe a condition which results in progressive organic brain disease affecting memory deficit, generally in adults aged 60 years or more. Music therapy is non-pharmacological interventions reducing symptoms of dementia. Methods: Databases searched included SCOPUS, SAGE, Web of Science, Oxford Academic Journal, and Science Direct. Inclusion criteria were 5 years limit journals (2013-2017), article type documents, English, gerontology nursing area, and participants ≥60 years with dementia. Exclusion criteria were a literature review, editorial, critical synthesis, discussion paper, comment, meta-analysis, mini-review, study protocol and second disease in participants such as hypertension, diabetes mellitus, stroke. Results: Interventions of active music therapy, passive music therapy, and combination music therapy demonstrate greater improvement of parasympathetic nerves and reduce sympathetic nerves activity. The output increase self-esteem, cognitive status, coping and emotional, and decrease depression, agitation, wandering, mood, anxiety, phobia, paranoid, and delusional. Conclusions: The finding of this review highlight music therapy potentially reduce symptoms of dementia in elderly.

1 BACKGROUND

Dementia is a term used to describe a condition which result in progressive organic brain disease affecting short-term memory and cognitive deficit (Holmes and Amin, 2016). Dementia affecting neuropsychiatry disorders, such as the process of thinking, affection, perception, behavior, mood changed, and depression (Knopman, 2001 in Ahn and Ashida, 2012). The symptoms of dementia are cognitive disorder such as losing short-term memory, aphasia, apraxia, and agnosia (Holmes and Amin, 2016).

Southeast Asia has placed in 4th ranks of most cases dementia after East Asia, Asia Pacific, and South Asia (Prince *et al.*, 2015). Indonesia, one of the Southeast Asian countries in particular has been estimated number of people with dementia increase from 960,000 in 2013 to 1,890,000 in 2030 and 3,980,000 in 2050 (World Report Alzheimer, 2012 dalam Kementrian Kesehatan RI, 2015).

Dementia raises a global disturbance of cognitive function with a normal level of consciousness (Holmes and Amin, 2016). Therapies used for symptoms of dementia include of pharmacological and non-pharmacological (Blackburn and Bradshaw, 2014 in Ray and Mittelman, 2015). Non-pharmacological therapy such a music therapy is the most effective long-term psychological approach in reducing symptoms of dementia (Sjogren, Lindkvist, Sandman, Zingmark, & Edvardsson, 2013 in Ray and Mittelman, 2015). Music therapy aims to overcome stress, cognitive strength and mind to people with dementia. Various studies related to the effectiveness of music therapy against symptoms of dementia has been applied in various countries. The purpose of this review is to highlight music therapy that potentially reduces symptoms in the elderly with dementia.

2 METHODS

Sources of this review used SCOPUS, SAGE, Web of Science, Oxford Academic Journal, and Science Direct. Inclusion criteria were 5 years publication (2013-2017), respondents with age ≥ 60 years both women and men with the various mild-severe level of dementia, either home nursing or hospitalization and willing to be given music therapy. Exclusion criteria were literature review, editorial, critical synthesis, paper discussions, comment, meta-analysis, mini-review, and study protocol. Respondents with additional diseases such as hypertension, diabetes mellitus, and stroke become the exclusion criteria either. Articles selection started on December 1st, 2017. The process of articles selection can be seen in Figure 1.

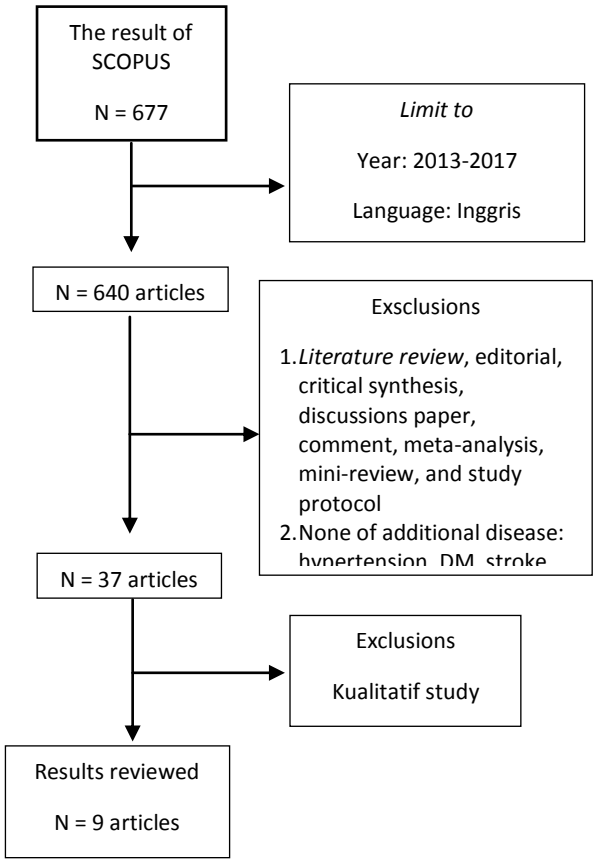

Figure 1. The process of paper selection

The search is limited on the scope of nursing, gerontology, aging, geriatric, dementia, dementia and *alzheimer* disease. The search is also limited to English "Article" document type.

The study excluded from 677 by year, area of study, type of document, and the language in order to obtain 37 articles. There are 37 articles will do inclusion and exclusion criteria in order to obtain the corresponding 9 journal articles. Those articles will examine as a systematic review using Picot.

3 RESULTS

The year of this research has started from 2014 to 2017. These reviews come from various countries; USA, Singapore, Taiwan, Japan, Germany, Italy, France, and Spain. Music therapy intervention in the systematic review can be seen in table 3.1 and 3.2.

Table 3.1 Frequency of music therapy

No.	Code	Σ Sample (n)	Onset (minute)	Giving old
1.	P1	132	15-60	3x / week for 2 weeks
2.	P2	12	90	3x / week for 3 months
3.	P3	100	30	2x / week for 6 weeks.
4.	P4	39	30	1 x / week for 10 weeks
5.	P5	117	40	2x / week for 6 weeks
6.	P6	16	45-60	12 weeks
7	P7	120	30	2x / week for 10 weeks
8	P8	64	120	2x / week for more than 1 month
9.	P9	20	30	2x / week for 16 weeks

Based on table 3.1, four of nine journals show the average onset used in music therapy is 30 minutes and five of nine journals provide music therapy intervention twice per week.

Table 3.2 Type of music

No.	Code	Σ Sample (n)	Genre	Instrument
1.	P1	132	Combination	1. Cornell Scale For Depression (CSD) 2. Wandering Algase Scale (AWS) 3. Cohen Mansfield Agitation Inventory (CMAI) 4. Reisberg's Functional Assessment Screening Test (FAST)
2.	P2	12	Combination	1. Menorah Park Engagement Scale (MPES) 2. Observed Emotion Rating Scale (OERS)
3.	P3	100	Combination	1. Chinese Version of the Cornell Scale for Depression in Dementia (CSDD) 2. Mini-Mental State Examination (MMSE)
4.	P4	39	Combination	Behavioral Pathology in Alzheimer's Disease (Behave-AD) Rating Scale
5.	P5	117	Combination	Montgomery Asberg Depression Rating Scale, MADRS)
6.	P6	16	Combination	Suspended for Quality of Life
7	P7	120	Passive	1. The Neuropsychiatric Inventory (NPI) 2. Cornell Scale for Depression in Dementia (CSDD), 3. Cornell-Brown Scale for Quality of Life in Dementia (CBS-QoL)
8	P8	64	Combination	State-Trait Anxiety Inventory for Adults (STAI-A)
9.	P9	20	Combination	Multisensory stimulation environment (MSSE)

Based on Table 3.2, there are 8 of 9 journals using a combination of music therapy. Research showed music therapy significantly decrease the levels of depression and agitation by CMAI, and decrease the rate of wandering by AWS (Ray and Mittelman, 2015). A pilot study used the control situation without music on the first day and used creative music therapy (CMT) in the second and third day. The music given in those study were improvisation music accordance to the client's desire. The result showed statistically significant higher occurrences toward engagement and mood changed measured by Menorah Park Engagement Scale (MPES) and Emotion Observed Rating Scale (OERS) (Cheong et al., 2016).

Singing intervention, listening to music, playing music, and improvisation of music over 12 weeks, significantly increase the quality of life the elderly with dementia (Sole et al., 2014). The other research of music therapy can improve emotional and behavioral functions either (Samson et al., 2015).

Research with different interventions both passive and active combination music therapy proven to decrease depression level and inhibit cognitive impairment. The first group is given a passive music and the second group is given an active music therapy. Short-term effects of both groups are equally able to improve the parasympathetic nerves, but the active group showed a better mood than the passive group. Long-term effects in the passive group may decrease anxiety and phobia, whereas in the active group may decrease anxiety, phobia, paranoia, delusional, and activity impairment. The study of this music therapy can be applied with the onset of administration at least once a week for ten weeks (Chu et al., 2014).

Study showed an exploratory post hoc analysis similar within group reduce depression during treatment (Raglio et al., 2015). The other research ordered that music therapy decreases depressive symptoms in elderly people in nursing homes more effective than recreational singing (Werner, Wosch and Gold, 2015). The other study suggested that music therapy can decrease an agitation, improve cognitive and repair an emotion (Sanchez et al., 2016). The identification of the study can be seen in table 3.3.

3.3 Table identification study

No.	*Author / year of publication / country*	*Study design*	*Population*	*Intervention*	*Comparison*	*Outcome*	*Time*
1.	Ray and Mittelman (2015) USA	*exploratory design*	132 elderly people with symptoms of agitation, depression, wandering	Music performed by two therapists who are already certified. Music heard: 1.Under the Boardwalk 2.Love Me or Leave Me 3.Cheek to Chee 4.Hava Nagilah 5.Quizas, quizas, quizas 6.Stars and Stripes forever 7.Alexander's Ragtime Band 8.Beyond the Sea 9.Thais: Meditation (Tempo used 2/4, 4/4) Songs are: 1. Side by Side 2. You Are My Sunshine 3. Hava Nagilah 4. Tumbalalaika 5. Quizas, quizas, quizas 6. Michael Row the Boat Ashore 7. God Bless America 8. Tzenah Tzenah 9. Red River Valley (Tempo used 2/4, 2/2, 3/3, 4/4) Tone: 1.Row, Row, Row 2.Your Boat 3.Michael Row the Boat Ashore 4.Three Blind Mice 5.Three Blind Mice 6.You are My Sunshine 7.Oh Susanna 8.Clementine 9.De Colores (tempo used 2/4, 3/4, 4/4). Participants are grouped into groups	The presence of symptom changes in participants before and after music therapy	↓ depression ↓ agitation ↓wandering	3x/week for 2 weeks (15-60 minutes)

				consists of 4-6 elderly. Participants may freely leave the room. The music is chosen according to the participant's preference in the group.			
2.	Cheong et al. (2016) Singapore	*Pilot study*	25 people in elderly with Delirium and/or Dementia aged 86.5 ± 5.7 years	Interventions are performed by a certified therapist for 90 minutes (30 minutes before, 30 minutes during, 30 minutes after music therapy). First day (control condition without music), second and third days with CMT. The music provided is improvised based on client desired.	There are the differences before and after CMT	- Statistically significant in engagement (mean = 6.26, Z = 3.383, p = 0.01). - Positive mood changed (mean = 0.68, Z = 3.188, p = 0.01).	3x/week for 3 weeks (90 minutes)
3.	Chu et al. (2014) taiwan	*Prospective, parallel-group design, with permuted-block randomization*	104 elderly people with dementia. Divided into 49 experimental group and 51 control group. 4 participants drop out (2 uninterested, 2 hospitalizations)	The experimental group received 12 sessions of music therapy. The control group only received treatment as usual. Sessions 1 and 2 - musical instrument activity using triangles, clappers, maracas, handbells, and tambourines Sessions 3 and 4 - singing therapeutic activity that allowed for broad participation Sessions 5 and 6 - music listening Session 7 and 8 - color bell sound, hand function, and attention rehabilitation in the which the music therapist encouraged participants to name a color out loud and then press the bell of that color Session 9 and 10 - activity and traditional music festival in the which the therapist played music related to traditional festivals and encouraged of participants to	There are the differences in experiment group and the control group	↓ Depression ↓ Cognitive impairment - None salivary cortisol differences	2x/week for 6 weeks. (30 minutes)

				accompany the music Briefly with an instrument to demonstrate Reviews their sense of celebration Session 11 and 12 - music creators in the which the therapist asked each participant to choose			
4.	Sakamoto, Ando and Tsutou (2017) Japan	*Study Comparison*	39 people in elderly with dementia. Divided into passive group, interactive group, and control group.	The therapist treats the passive group by giving a CD music sound, the interactive group by listening to music and singing, clapping, dancing, and the control groups by none of the music.	There are short-term and long-term differences between passive group, interactive group, and control group.	- Short-term effect. ↑ Mood Interactive group > passive group - Long-term effect. a. Passive group ↓ anxiety ↓ phobia b. Interactive group ↓ Anxiety ↓ Phobia ↓ Paraoid ↓ Delusional ↓ Activity impairement	1x/week for 10 weeks (30 minutes)
5.	Werner, Wosch and Gold (2015) Germany	*Cluster randomized control study*	117 people in elderly with dementia 62 groups of music therapy 55 groups of recreational singing	Interactive music therapy performed with 2 type, the first by Muthesius and the second Hamberger. Muthesius used a holistic, person-centered approach, focusing on individual biography and milieu-orientation. Hamberger used the same as Muthesius but there are also multisensory elements. Type of music given are receptive music therapy, instrumental improvisation, and dance.	There are differences in reducing depression	↓ Depression Music therapy > recreational singing	2x/week for 6 weeks (40 minutes)

6.	Solé *et al*. (2014) USA	*Pretest-postets design*	16 people in elderly with dementia	Intervensi dilakukan pada 3 kelompok. Kelompok 1 terdapat 9 orang dengan GDS 3-4. Kelompok 2 terdapat terdapat 5 orang dengan GDS 5. Kelompok 3 terdapat 2 orang dengan GDS 6-7. Kegiatannya berupa meyanyi, mendengarkan musik, memainkan musik instrumen, dan improvisasi musik. The interventions were divided into 3 groups. There are 9 people with 3-4 GDS in the first group, 5 people with GDS 5 in the second group, and 2 people with GDS 6-7 in the third group. Activities include singing, listening to music, playing instrument music, and improvising music.	There are the differences before and after the therapy	↑ Quality of Life ↓ Depression	12 weeks (45-60 minutes)
7.	Raglio *et al*. (2015) Italy	*Randomized Controlled Trial*	120 people inn elderly with dementia	Patients were grouped into groups of MT (Music Therapy), LtM group (Listening to Music) independently, and control group	There is no significant difference between groups	↓ Depression	2x/week for 10 weeks (30 minutes)
8.	Samson *et al*. (2015) France	*Randomized Controlled Trials*	First study : 16 people in elderly with dementia. Second study: 48 people in elderly with dementia	Study 1: participants are given music by the therapist, and they can act passively (only listen) or active (by clapping, singing, dancing) for 2 hours. Study 2: the same as study 2 only but only 1.5 hours.	There are effectivity differences between each group	↑ emotional function and behavior	2x/week for more than one month
9.	Sánchez *et al*. (2016) Spain	*Randomized Controlled Trials*	20 people in elderly with severe dementia	The MMSE group is held in Snoezelen room which contains materials such as color fiber optic cable, water bed, rotating mirror ball with a color light Projector, video, musical selection, aromatherapy with fragrance oil. Here the participants are stimulated in both visual, auditory,	There is difference before and after the therapy.	↑ Cognitive status, emotional ↓ Agitation	2x/week for 16 weeks (30 minutes)

	tactile, and olfactory. The music therapy group performed in a quiet room, and the music was chosen according to the client's preferences.	

4 DISCUSSIONS

An increasing number of systematic reviews about music therapy have been published in recent years. Eight of the nine journals of combination music therapy is more often intervened in recent years in various countries. Eight journals have combined between active and passive music therapy, the other has combined with other therapy. Based on the onset of music therapy, four of nine journals given the therapy within 30 minutes. Five of the nine journals provide twice per week music therapy intervention, either passive and or active music with various types of music. It shows significant results in repairing of thought processes in dementia symptoms. Non-pharmacological interventions, such as music therapy, may be the most effective psychological approach to the improvement of long-term neuropsychiatric symptoms. These interventions can provide a low-cost alternative for treatment to reduce behavioral disorders.

5 CONCLUSIONS

Music therapy has been implemented in several countries around the world. The finding of this review highlighted the music therapy potentially reduced symptoms of dementia in elderly, but in this review, there are still shortcomings. This review is expected to be followed up through meta-analysis research.

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Analysis of Patient Dependence Level Based on Triage Classification

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Abstract : The nursing systemwas defined or structured based on self-care needs and the client's ability to perform self-care, so nursing was formed when nurses use their ability to define, design and provide care to clients, both individuals and groups. The application of triage consists of rapidly classifying cases of injury cases based on the severity of their injuries and their survival opportunities through immediate medical intervention. The purpose of this study was to determine the level of dependence of patient based on the triage classification in the Emergency Instalation of RSK Mojowarno. Method of this study was analytic description with cross-sectional study. The population of all patients hospitalized through the Emergency Instalation, sample counted 63 patients. Sampling technique using purposive sampling. The results of study revealed that from 63 respondents there were 9 respondents (14%) at first priority with total care dependency level, and there were 18 respondents (29%) on the second priority with partial care dependency level, 28 respondents (45%) on the third priority with minimal care dependency level. From the data was known that most elderly people were 28 respondents (45%) have minimal dependence level on the third priority.At the Emergency Instalationof RSK Mojowarno the most patient was elderly people who had minimal dependency level on the third priority.

1 BACKGROUND

Emergency services for hospitals are contained in Peraturan Menteri Kesehatan No.159 b/1988 on Hospitals, in pasal 23 concerning the hospital's obligation to provide emergency services 24 hours per day. So in practice health professionals should be right in determining triage in emergency nursing. One that needs to be studied in continuous nursing is the level of patient dependency. (Simanjuntak, 2010)

Nursing care is needed when clients are unable to meet biological, psychological, developmental and social needs. The nurse assesses the cause of the client not being able to meet those needs, what needs to be done to improve the client's ability and meet his needs and assess the ability of patient to meet the self needs (Potter&Perry, 2008). The results of preliminary study at the Emergency Instalation of RSK Mojowarno, each patient who came not studied patient dependency level. So in the nursing process is often not ascertained patients with total care, partial care, or minimal care. Then, when the nursing process of transfer to the room in accordance with the category of disease, often overlooked patient dependency level.

The research journal presented by Farokhnia and Gorransson in 2011 on "Swedish Emergency Department Triage and Interventions for Improved Patient Flows: a National Update" describes the level of dependency of emergency department patients in Sweden from 2010 total 38% to 62%.

One of the effects of dependency patients who come to the Emergency Instalation is depression, which was an emotional disturbance in the patient, while depression appears in postoperative patients can cause various problems such as not supporting the implementation program in hospital care.

This nursing system is defined or structured based on self-care needs and patiernt ability to perform self-care, so nursing is formed when nurses use their ability to assign, design, and provide care to clients, individuals or groups, through various care : wholly compensatory system, partly compensatory nursing system, supportive educative nursing system, so as to be able to pay attention to dependency level or requirement and ability of client in doing self treatment (Asmadi, 2006). Based on the

background phenomenon of the above problems, the researchers wanted to examine the analysis of the dependency level of patients based on triage in the Emergency Instalation of RSK Mojowarno.

2 METHODS

The research design was a research design consisting of several unified components to obtain data or facts in answering research problems (Lapau, 2015). This research was a quantitative research using analytical description method with cross sectional research design.

Population was the whole subject of research (Arikunto, 2010). The population of this study were all patients who came at the Emergency Instalation of RSK Mojowarno Jombang.

Samples from this study were patients who came at the Emergency Instalation of RSK Mojowarno Jombang from 19th to 25th March 2017, as many as 63 patients. Sampling method in this research is non probability sampling with purposive sampling approach.

The variables in this research were patient dependency level and triage classification of patient in the Emergency Instalation of RSK Mojowarno. The instrument used in this research was observation sheet which filled by nurse, then analyzed its value.

3 RESULTS

Table 1 : Distribution of respondent's characteristic based on age in the Emergency Instalation of RSK Mojowarno 19th to 25th March 2017.

Age (year)	Percentage (%)
0 – 5	0
5-11	3
12 – 16	14
17 – 25	3
26 – 35	6
36 – 45	10
46 – 55	22
56 – 65	33
More than 65	8
Total	100

Based on the above table can be obtained information about the age frequency, most of the respondents are 56 - 66 years old is 33% of all respondents.

Table 2 : Distribution of respondent based on medical diagnosis at the Emergency Instalation of RSK Mojowarno 19th to 25th March 2017.

Type of Disease	Percentage (%)
Stroke	30
Diabetes Mellitus	22
Asthma	19
Hypertention	17
Typhoid	6
Fractur	5
Total	100

Based on the above table can be obtained information about the frequency of nursing diagnoses of respondents, most respondents suffered a stroke that is 30% of all respondents.

Table 3 : Distribution of respondent's characteristics based on occupation at the Emergency Instalation of RSK Mojowarno 19th to 25th March 2017.

Occupation	Percentage (%)
Farmers	37
Merchants	16
Private Sector	6
Worker Housewife	22
Student	19
Total	100

Based on the above table can be obtained information about the occupation of respondents, most respondent are farmers is 37% of all respondents.

Table 4 : Distribution of characteristics of respondents based on the dependency level of patients in the Emergency Instalation of RSK Mojowarno 19th to 25th March 2017.

Level of Dependency	Percentage (%)
Minimal care	29
Partial care	46
Total care	25
Total	100%

Based on the above table obtained the level of dependence of patients with partial care is 46% of all respondents.

Table 5 : Distribution of respondent characteristics based on triage classification in the Emergency Instalation of RSK Mojowarno 19th to 25th March 2017.

No	Triage Classification / Dependency Level	P1	P2	P3	P4	Total
		%	%	%	%	%
1.	Minimal care	-	8	45	-	29
2.	Partial care	-	29	3	-	46
3.	Total care	14	1		-	25
	Total	14	38	48	-	100%

Based on the above table can be seen that most respondents priority 3 is 48% of all respondents.

Table 6 : Analysis table of patient dependency level based on triage classification of patients 19th to 25th March 2017.

No	Triage Classification / Dependency Level	P1	P2	P3	P4	Total
		%	%	%	%	%
1.	Minimal care	-	8	45	-	29
2.	Partial care	-	29	3	-	46
3.	Total care	14	1		-	25
	Total	14	38	48	-	100%

Based on the above table can be seen that most elderly people were 45% of all respondents have minimal dependence level on the third priority.

4 DISCUSSION

The most patients have partial care dependence rate. This could be due to the majority of respondents aged 56 - 65 years, is elderly. Elderly requires extra care related to patient safety. Because the age factor of the patient has a tendency to require assistance in activity, although only partially. According to (Sidiarto, 2008), social support for the elderly is required as long as the elderly are still able to understand the meaning of social support as a life support. But in life often is found that not all elderly are able to understand the social support of others, so that although he has received social support but still shows dissatification, which is displayed by grumbling, disappointed, upset and so on.

The most patients were third category of priority. This could be cause most respondents come with a diagnosis of diabetes mellitus. Most patients include composmentis. So the patient is in the third priority category. According to the standard of (ENA, 2008) in classifying patients, including physical needs, growth, psychosocial, client access in health care institutions, patient grooves in emergency. The third priority includes mild cases that can be resolved while at the Emergency Instalation, need follow-up minimal care while in the room, including minor injuries, all ambulance cases.

From the results of the research, then cross tabulation showed that in the first priority most of the total treatment dependency level, the second priority most partial care dependency level and third priority most of the minimal treatment dependency level. From the results obtained above can be concluded that the first priority classification of patients tend to the level of total care dependence level. The worse the condition of the patients who come to the Emergency Instalation of RSK Mojowarno, the more likely to be the total care dependency level. The results of this study are in line with the opinion of (Mubarok, 2008) that the individual has an effort to help the individual itself in improving the ability or behavior to achieve optimal health. Therefore, patients who come at the Emergency Instalation during the assessment process, also assessed the dependency level of patients to maximize next treatment in the treatment room. In addition, generally patients with ugly conditions, in accordance with the classification of triage (first priority) is usually into total care.

5 CONCLUSIONS

At the Emergency Instalation of RSK Mojowarno, most patient was elderly people who had minimal dependency level on the third priority.

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Evaluation Intervention In Improving Breastfeeding Self Efficacy: A Systematic Review

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Keywords: intervension, improve,breastfeeding self efficacy,women

Abstract: Introduction: Breastfeeding is one of the most effective ways to ensure the health and survival of children, the failure factor in the breastfeeding process is due to the emergence of several problems, both mother and infant. Factors that influence effective breastfeeding actions include self-confidence capable of breastfeeding effectively. Breastfeeding self efficacy is a person's self-confidence in something that has not been done that can increase the motivation for breastfeeding, the amount of effort a mother will make to breastfeed, whether to have a constructive or destructive mindset and how to respond to problems and difficulties during breastfeeding. Methods: review the article with this systematic method of review by using an article search from multiple databases is Scopus, Ebsco host, Proquest, Sciencedirect, Journal ners UNAIR and Google Scholar doaj, sagepub and medline with time limits used from January 2006 to February 2018. Results: A total of fifteen studies raised in this study, interventions using educational interventions, peer counseling, bilingual computer-based education and direct skin-to-skin contact of newborns may improve breastfeeding self efficacy given pregnancy Conclusion: Breastfeeding self efficacy is the mother's self-confidence in breastfeeding that can be a predictor whether the mother will decide to breastfeed, stop breastfeeding or not breastfeed.

1 INTRODUCTION

Breastfeeding is one of the most effective ways to ensure the health and survival of the child (WHO, 2015). (UNICEF, 2013) that breastfeeding is the most inexpensive and effective life saver of children in the history of human health, it is expected that at least six months of breastfeeding mothers, wherever possible exclusively (six months without any fluid / intake other than breastmilk). Ironically, only less than half of the world's children enjoy this golden opportunity. Breastfeeding factors that support effective breastfeeding practices include self-confidence capable of breastfeeding exclusive. *Self efficacy* is the confidence that a person has for something that has not been done that can increase motivation (Bandura A, 1994)

Breastfeeding self efficacy is the self-confidence that mothers have in terms of breastfeeding that can become *predictor* whether the mother will decide to breastfeed, how much effort a mother will do to breastfeed, whether to have a constructive or destructive mindset and how to respond to various problems and difficulties during breastfeeding (Rodríguez and & Dennis, 2003). The research by (Kohan, Heidari and Keshvari, 2016) that with empowerment in breastfeeding mothers should be considered because of the main factors of breastfeeding process of the mother's own decision, husband, family, and community support.

A mother with low self-efficacy breastfeeding proved to tend to use alternative techniques to breastfeed their babies when faced with problems during breastfeeding (Keemer F., 2011). The results of this study open new discourse that breastfeeding self efficacy is closely related to the success of breastfeeding practice.

2 METHODS

Design

Systematic review is used to review published journals that describe what interventions can improve Breastfeeding self efficacy.

a. Inclusion criteria and Exclusion criteria

Inclusion criteria :

a) Literature published in English
b) Original result
c) Intervention research:
   - Quasy-experimental studies
   - Randomized controlled trials
d) breastfeeding self-efficacy as an outcome measure

Exclusion criteria

a) Studies published in a language other than English
b) Editorial/ opinion papers/ systematic reviews/ literature reviews/ concept analysis

Search Literature Strategy

The strategy in searching the literature used is by searching on Scopus, Ebsco host, Proquest, Sciencedirect, Journal ners UNAIR and Google Scholar doaj, sagepub and medline with time limits used from January 2006 to February 2018. By use keywords intervention, improve, breastfeeding self efficacy

Quality Study Assesment

Quality Study Assessment Method used to examine the data of research results using 2 stages of validity (validity), reliability (reabel) and Applicability (applicable).

Measurement

Compare the journals that have been obtained then the data is extracted by using the author and the year of publication, design, research objectives, population, intervention, method of implementation and outcome to be achieved.

Data Synthesis

Synthesis of data using data from journal extraction that has been done then done the conclusion.

3 RESULT

In this systematic review, research articles found are 56 journals, the whole is an international journal published from 2006 to 2018, then determined 15 journals in accordance with inclusion criteria. The designs used in the study mostly use the method *Randomized Controlled Trial (n=11), and Quasy-experimental (n=4).* The most widely used research design is *Randomized Controlled Trial* with the highest number of samples that is 150 respondents. Of the fifteen journals dianalis obtained results as follows. The Research by (Ashish Joshi , Chioma Amadi a, Jane Meza, Trina Aguire, 2016) To evaluate the educational impact of bi-lingual interactive computer-based education feeding, this program on breastfeeding knowledge, self-efficacy and the intent to breastfeed in rural women's communities, results in an increase in breastfeeding knowledge and the intention to breastmilk ($p < 0,05$).

Research by (Chan Man Yi and Chow, 2016) to determine the effectiveness of self-efficacy-based self-efficacy breastfeeding program (SEBEP) in improving breastfeeding self-efficacy, breastfeeding duration and exclusive breastfeeding rate of the research results that significant difference ($p < 0.01$) changes in BSES-SF mean score between mothers receiving SEBEP and those not receiving SEBEP. In addition, there are seven journals providing education-based breastfeeding self efficacy interventions from the results of these interventions showed significantly greater improvement in breastfeeding self-efficacy.

A study conducted by (Aghdas, K., Talat, K. and Sepideh, 2014) aims to evaluate the direct skin effect of skin to mother-baby skin on primipara enhancing breastfeeding self efficacy. The results showed that in the routine care group significantly higher in the skin-to-skin contact group ($p = 0.0003$) and successful breastfeeding initiation rate was 56.6% in the skin-to-skin contact group compared with 35.6% in the routine care group ($p = 0,02$), time to initiate first feed was 21.98 9.10 SD min in SSC group vs. 66.55 20.76 min in routine care group ($p < 0.001$).

Research by (Srinivas *et al.*, 2015) aims to evaluate breastfeeding rates and breastfeeding self-efficacy by providing peer counseling. The results of this study showed that women who received peer counseling had significantly higher breastfeeding rates at 1 month (odds ratio = 3.2; confidence interval 95%, 1,02-9,8). The intervention group is slightly more likely to achieve their breastfeeding goals (43% vs 22%, P = 073). There are two journals having interventions with peer counseling and peer counseling in improve breastfeeding self efficacy.

Of the fifteen journals using the same instrument Breastfeeding Self-efficacy Scale-Short Form (BSES-SF) questionnaire The BSES-SF consists of 14-items on a 5-point likert scale questionnaire with response options from 1 = not confident to 5 = always confident, with scores ranging from 1 to 5. The minimum and maximum scores for the BSES-SF scale was 14 and 70 respectively, with scores less than 50 indicating a higher risk for breastfeeding cessation.

In the (Otsuka, K., Taguri, M., Dennis, C. L., Wakutani, K., Awano, M., Yamaguchi, T., 2014) study by providing interventions giving the breastfeeding self efficacy workbook in the third trimester during pregnancy. The results showed a significant increase (p = 0.037) in the four postpartum weeks, while the twelve week decreased breastfeeding self efficacy.

4 DISCUSSION

The study examined in this Systematic Review is about various interventions in improving breastfeeding self efficacy in both the community and the hospital. Interventions of health promotion for breastfeeding show its effectiveness in some countries. In the study (Kohan, Heidari and Keshvari, 2016) that empowerment in breastfeeding mothers needs to be considered because of the main factors of breastfeeding process of the mother's own decision, husband, family, and community support.

Research by (Handayani, L, Kosnin, AM, 2010) research proves that there is a close relationship between social support, knowledge, attitude and self efficacy with breastfeeding behavior. The results (Me *et al.*, 2016) that the majority of respondents stated the decision on breastfeeding and child feeding was made by the mother alone. The result of (McQueen, K. A., Dennis, C.-L., Stremler, R., & Norman, 2011) study that the higher breastfeeding self efficacy, the harder the mother effort can successfully breastfeed her baby, and vice versa. Breastfeeding self efficacy effect on individual response in the form of mindset, emotional reaction, effort and persistence and decision to be taken hence need education since antenatal period to help the mother's readiness when entering the postpartum period.

5 CONCLUSIONS

Educational self-efficacy based theory, peer counseling, bilingual computer-based education and direct contact of skin to mother-newborn skin can improve breastfeeding self efficacy. Of the many educational journals, interventions are often given to improve breastfeeding self efficacy, educational research is required to the public because of social, cultural, and economic influences that may also affect maternal beliefs for breastfeeding.

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The Effect of Prenatal Yoga on Mental Health In Pregnant Women: A Systematic Review

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Keywords: Prenatal yoga, mental health, and pregnant women

Abstract: Background: Mental health has become a worldwide concern so that the promotion of mental health and prevention and treatment of mental illness are included in the Sustainable Development Goals 2030. Pregnant women often face the challenge of adapting to the physical, mental, and social changes associated with their pregnancies. Response to these changes can lead to common perinatal mental health disorders including depression, anxiety and stress. Methods: The design used is systematic review. Journal searches are performed on online databases such as Scopus, Science Direct, ProQuest, Google Scholar and Ebsco Host in 2007-2017. Search journals, articles and literature reviews using keywords of prenatal yoga, mental health, and pregnant women. Results: That there are fifteen articles selected from 17,196 articles obtained from five databases. All articles suggest that prenatal yoga practices are significant in lowering depression, anxiety, and stress levels during pregnancy. Conclusions: Based on the literature that has been reviewed, prenatal yoga has been done from many countries to overcome mental health problems (depression, anxiety, stress) in pregnant women who aim to improve the quality of life of mother and fetus. Therefore, this intervention is very useful for women in improving mental health during pregnancy.

1 BACKGROUND

Mental health has been a particular concern in worldwide, so that the promotion, precaution, and medication of mental illness has come under Sustainable Development Goals 2030 (Rebar and Taylor, 2017) and is a part of healthy family indicator (Mapping, Sustainable and Goals, 2015). Pregnant women frequently experience some challenges to conform to physical, mental, and social changes that relate with the pregnancy (Kusaka *et al.*, 2016). The response of some changes can cause prenatal mental disorder, such as depression, anxiety, and Post-traumatic Stress Disorder (PTSD) (Yildiz, Ayers and Phillips, 2017).

Depression is commonly defined where the mood level is at the lowest, losing pleasure or indulgence when doing some activities (Fink, 2010), and categorized as mental disorder that prevalently influence women up to 25% (Schuver and Lewis, 2016). Meanwhile, anxiety can be identified when there are physical changes, feeling uptight, and anxious (Fink, 2010). The prevalence of prenatal anxiety is assumed as high as 25% during the first three months (Vinícius *et al.*, 2015), and up to 21% during the third three months (Ct, 2017). Several studies have logged obstretic complications which relate to prenatal anxiety cases. It includes the more serious medical risks and the risk of perceived complications (Dunkel-Schetter et al., 2016). The assessment of prenatal related anxiety (PrA) indicates that the perceived anxiety involves the feeling of worried about the baby's sanity and safety, the labor, and health and hospital experiences during pregnancy period. Whereas, psychological stress emerges when an individual finds any environmental demands that transcend the capacity of adaptive response (Hewett *et al.*, 2017). Recently, there are several studies discover the prevalence of PTSD as 3.3% during pregnancy (Yildiz, Ayers and Phillips, 2017). Higher level of stress during pregnancy can cause mental disorder and inhibit the growth of the fetus (Kusaka *et al.*, 2016).

Yoga is getting familiar as a therapeutic practice. More than of two-thirds practice uses yoga as a way to improve their health status and level (Cramer *et al.*, 2016). Prenatal yoga implicates some practices and exercises, such as breathing, physical posture,

and meditation. (Rakhshani *et al.*, 2012) which have been assigned as a positive intervention (Battle et al., 2015). The review is conducted to find out the influence of prenatal yoga towards mental health in pregnant women.

2 METHODS

The design used in the present study is a systematic review. The considered research design is not limited to a particular research design. The journals were browsed on online database, such as *Scopus*, *Science Direct*, *ProQuest*, *Google Scholar*, and *Ebsco Host*by by using keywords of prenatal yoga, mental health, depression, anxiety, and stress in the range time of ten years (2007-2017).

However, there were merely 15 articles selected out of 16.095 corresponding with the inclusion criteria, which are: 1) the given intervention is yoga; 2) the sample of the study was pregnant women, participants who suffer complications, smoke, and consume narcotics.

3 RESULTS

Literature Quest

Four hundred and ninety eight journal articles were selected by particular criteria. Then, there were 21 articles picked up regarded the prenatal yoga. Yet, three articles were eliminated due to the inappropriate intervention which does not associate with mental health in pregnant women, and (Rakhshani and Maharana, 2010; Rakhshani et al., 2012; Hewett et al., 2017; dan Babbar et al., 2016). In result, there were 15 articles selected considering the appropriate criteria (Satyapriya et al., 2013; Chen et al., 2017; Beddoe et al., 2009; Battle et al., 2015; Field et al., 2012; Field et al., 2013; Field, Diego, Delgado and Medina, 2013; Bershadsky et al., 2014; Davis et al., 2015; Kusaka et al., 2016; Uebelacker et al., 2016; Newham et al., 2014; Satyapriya et al., 2009; Mitchell et al., 2012; dan Muzik et al., 2012).

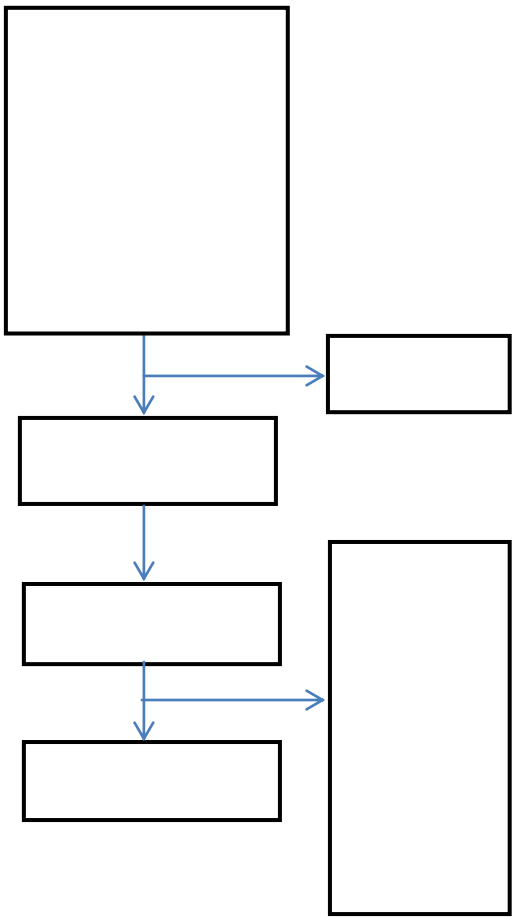

Figure 1: Schema for the result of literature quest

Respondents Characteristics

There are eight RCT designs, two RCT pilots, one prospective RCT, two groups of pre-post designs, one feasibility study pilot, and one mixed within and between subject design, with participants in 18-45 years old. The respondents are drawn and recruited from a prenatal clinic, a prenatal psychiatric clinic, a community health center, obstetric referral, a prenatal clinic of medical school, midwifery unit, a hospital, and given leaflets from pregnancy service office.

Thirteen articles clarify that the pregnancy of the participants is categorized as primigravida, another article classifies primigravida and multigravida, and the other one does not mention either primigravida or multigravida. The involved respondents come with several criteria, such as not in multiple pregnancy, not a yoga instructor, and not in severe mental disorder. Those studies have been conducted in countries as well as Australia, Japan, India, California, Colorado, and The United States.

Interventions Characteristics

Given interventions to respondents in all articles consist of nine prenatal yoga, two mindfulness-based yoga, one prenatal yoga and social support, one prenatal yoga and massage, one tai chi/prenatal yoga, and also prenatal yoga along with treatment-as-usual (TAU).

There are active-control groups in some studies which are tai chi/prenatal yoga at the last session (1), relaxation technique (1), prenatal health education (1), parenting session (1), standard antenatal exercises (3), treatment-as-usual (TAU) (2). Whereas, the other six studies contain inactive-control groups.

The amount of sample is about 16-101 respondents along with the given interventions for 20-120 minutes and two meetings of yoga class at least.

Measure Outcome

The results are measured by employing some instruments, for instances, Pregnancy Experiences Questionnaire (PEQ), State Trait Anxiet Inventory (STAI), Hospital Anxiety Depression Scale (HADS), cortisol saliva which is measured by immunoassay kit, enzyme linked immunoassay (ELISA), IgA saliva measured by ELISA double antibody, Prenatal Psychosocial Profile (PPP), Structured Clinical Interview for DSM-IV Axis I Disorder, Mood Module and Psychotic Screen, Interviewer-rated QIDS, Edinburgh Postnatal Depression Scale. Antidepressant Questionnaire, International Physical Activity Questionnaire, Five-Facet Mindfulness Questionnaire, State Anger Inventory (STAXI), Relationship Questionnaire, Center for Epidemiological Studies Depression Scale (CES-D), Profil of Mood States (POMS), International Physical Activity Questionnaire (IPAQ), Client Satisfaction Questionnaire (CSQ-8), The Positive and Negative Affect Schedule-Negative Subscale (PANAS-N), Yoga Adherence Scale, Credibility/Expectancy Questionnaire, Wijma Delivery Expectancy Questionnaire (WDEQ), Beck Depression Inventory (BDI-II), Five Facet Mindfulness Questionnaire-Revised (FFMQ- Revised), and Maternal Fetal Attachment Scale (MFAS).

4 DISCUSSION

There are fifteen journal articles have been reviewed and indicates that prenatal yoga is significant in decreasing the level of depression, anxiety, or stress

that is measured by equipping appropriate measuring instruments. There have been substantial number of conducted studies about variety of exercises for mental health (West *et al.*, no date). In addition, physical activities are presumed as one of the ways to intensify mental health significantly and able to subtract the symptoms of depression, anxiety and stress (Dilorenzo *et al.*, 1999).

These days, plenty of evidence indicates that mother's anxiety during the pregnancy can increase the emergence of some risks of preterm labor and the possibility of low birth weight (Newham *et al.*, 2014). Therefore, mental health is considered as the important for pregnant women. In this case, 13 studies have been conducted toward primigravida pregnant women, due to their level of anxiety tends to be much higher (Nieminen, Stephensson and Ryding, 2009).

The response of stress is modulated by hypothalamus-pituitary- adrenal (HPA), where the hypothalamus generates some factors to release corticotropin which stimulates the pituitary to produce adrenocorticotropin that ultimately induces the secretion of adrenal cortisol. Likewise, during the pregnancy, placenta produces some factors to release corticotropin which is able to increase the amount adrenal cortisol secretions (Chen et al., 2017). However, consuming drugs to overcome the increasing level of stress in pregnant women is a wrong way, thus it is necessary and more appropriate to do non pharmacological therapy.

In order to undertake such therapy, yoga, an activity which combines physical activities, relaxation, and breathing techniques into an integrative practice (Kinser and Masho, 2015). Prenatal yoga techniques merely has low and very least effects (Rakhshani *et al.*, 2012), so that it is the most ideal way for pregnancy since the moves of yoga can be easily modified based on necessity and ability of pregnant women (Sun *et al.*, 2010). Once pregnant women's muscle happens to be more tense while doing yoga moves, it helps them to be gain more energy and be more relax (Dykema, 2006). Moreover, yoga assists pregnant women to lessen their exhaustion and inconvenience during the pregnancy (White, 2001).

5 CONCLUSIONS

Prenatal yoga has been a common and familiar practice in many countries worldwide to overcome various issues that relate to mental health (depression, anxiety, stress) in pregnant women which purposes to improve quality of life of mother and the baby. According to numerous reviewed studies, they point prenatal yoga as a significant practice and exercise that can be performed simply to degrade the level depression, anxiety, and stress during the pregnancy, also when in intranatal and postnatal periods. Therefore, this intervention is highly worthwhile for women to improve their mental health during the pregnancy.

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Regulation Of Blood Sugar Through Psycological Control To Type-2 DM: A Systematic Review

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Keywords: mind body therapy, type-2 diabetes mellitus, mind body intervention

Abstract: Background: Diabetes mellitus (DM) is a metabolic disease with characteristic hyperglycemia resulting from impaired insulin secretion, insulin action or both. Based on the etiology of diabetes mellitus can be classified into four types, namely types 1, 2, types and gestational diabetes (American Diabetes Association (ADA), 2012), Results of the study showed that prevalensi diabetes is increasing dramatically worldwide. The negative effects of physiological stress and emotional on blood glucose control has been described can be overcome with a mind-body therapy, such as meditation, yoga, qi-gong, and other relaxation techniques, which had previously been studied in the treatment of diabetes as a means of reducing the stress associated with hyperglycemia. Methods: Search articles through database: Scopus, Proquest, ScienceDirect, and PubMed. The year limit used is 10 years (year 2007 -2016). Results: There are fifteen selected journal articles from 14,487 journal articles found. Conclusions: This systematic review generally recommends intervention with mindfullness gives good result in glucose cotrol patients with diabetes mellitus. However, it should be done more and more research by using RCT with good preparation and cooperation with all elements in the implementation and implementation of the program

1 BACKGROUND

Diabetes mellitus (DM) is a metabolic disease characterized by hyperglycemia that results from insulin secretion, insulin action or both. Based on the etiology of diabetes mellitus can be classified into four types, namely type 1, 2, other types and gestational diabetes (American Diabetes Association (ADA), 2012). Type 2 diabetes mellitus (type 2 DM) has characteristic insulin resistance with decreased insulin secretion which varies from relative to dominant deficiency, (Grace Puspasari, 2010).

Cases of diabetes mellitus worldwide in 2011 based on The International Community reached 366 million people. Indonesia in 2013 there are about 12 million people who have diabetes mellitus. In East Java, the prevalence of diabetes mellitus was 9.1 million, (Riskesdas Kemenkes RI, 2013).

Attacks the hyperglycemic crisis of society especially among diabetes mellitus patients, which can certainly increase the burden of health financing and the economic burden of society. Therefore, it is necessary to make every patient with diabetes mellitus get the right diagnosis and treatment and able to manage its blood glucose level.

Treatment for diabetes mellitus is divided into two kinds, namely pharmacological and non-pharmacological treatment. There are two pharmacological medication classes, namely long-term treatment and rapid relief as symptomatic relief combined as needed (Smeltzer, Suzanne C. O'Connell., Bare, 2008). Nonpharmacologic forms of treatment are complementary treatments that include acupunture, mind body therapy including exercise theraphy, yoga, qi gong, psychological therapies, manual therapies (Council, 2006).

One of the complementary therapies that can be administered to patients with diabetes mellitus is mind body therapy or mind body developed in India. This complementary therapy aims to improve the functioning of the immune system and the defense of the body, especially the immune system and the body's defense so that the body can heal itself

The purpose of this study is to conduct a systematic review to determine the effectiveness of mind body therapy method as one form of additional therapy that includes non-pharmacological

management in patients with diabetes mellitus. This study is expected to give the idea of further research in the provision of interventions to increase the control of attacks on patients with diabetes mellitus so that quality of life diabetes mellitus patients increased.

2 METHODS

Using electronic databases, such as Scopus, Proquest, PubMed and ScienceDirect, the search was carried out with "*mind body therapy*," "mind body intervention" and "type-2 diabetes mellitus" as the main keywords. From this search, only papers including an human model and published in English language were considered. In a second step, "exercise therapy" and "mindfullness therapy were added to the same previous keywords. Randomized controlled trials (RCT) designs were included.

Following PRISMA
1. Literature search strategy
2. Inclusion and exclusion criteria
   a. Study design
3. Population
4. Intervention
5. Clinical outcomes
6. Study selection

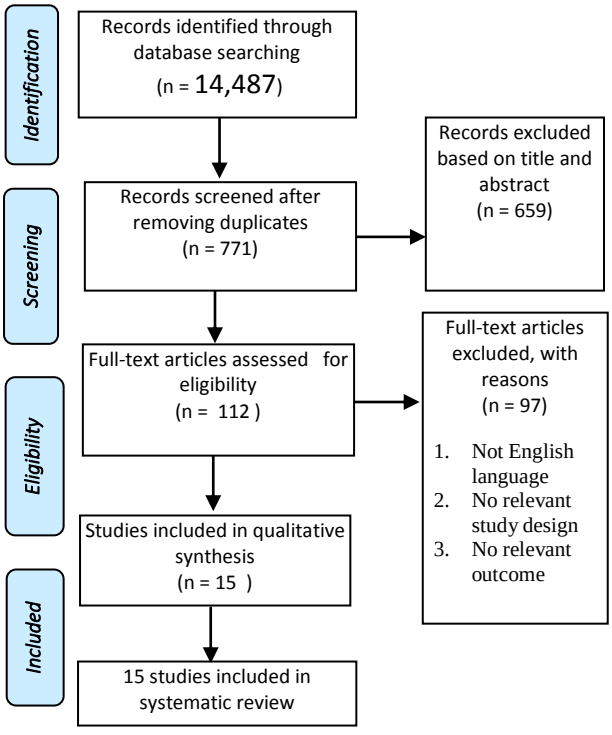

Figure 1. The process of paper selection

3 RESULTS

3.1 Literature Search And Study Selection

A total of 14,487 articles were found by using selected keywords.

3.2 Study Characteristic

3.2.1 Intervention Characteristic

The results showed PICOT characteristics and interventions carried out in the research.

Two articles about Mindfullness based cognitive therapy Ebrahimi, {(Guilan-Nejad and Pordanjani, 2017), (Tovote *et al.*, 2014)}. Four articles about yoga {(Sreedevi *et al.*, 2017),(Ebrahimi, Guilan-Nejad and Pordanjani, 2017)}, Three articles on Tai Chi {(Alsubiheen *et al.*, 2015), (Hung *et al.*, 2009), (Ahn and Song, 2012)}. Two articles on qi gong {(Gainey *et al.*, 2016), Liu, Xin, et al (2011)}. Three research on mindfulness based stress reduction {(Van, 2013), (Type and Juric, 2012), (Haenen *et al.*, 2016)}. Total articles used in this review is 15 articles.

3.3 Results of Study

Mind-body therapy provides interventions with various techniques to facilitate thinking capacity that affect physical symptoms and body functions such as tai chi, qi-gong, yoga, MBSR, MBCT and meditation. How to give Mind Body Therapy. The provision of mind-body therapy in each study varies. Mind-body therapy is administered through breathing, confidence and mind-conditioning. The provision of these interventions was greatest and was significantly successful in providing therapy to clients with type 2 diabetes mellitus.

Health generally affects the quality of life of clients with type 2 diabetes mellitus. In one study found a significant influence on the use of Mindfulness-Based Cognitive Therapy intervention conducted for 6 months, (Van, 2013).

On the research of Complementary and alternative medicine in Diabetes in the get the number of people with diabetes in the U.S. and around the world are using complementary and alternative medicine (CAM) while receiving conventional medical therapy as a means of managing disease and improve quality of life. Although herbal and natural products are the most commonly used form of CAM, mind body Approach is the most commonly used form of CAM, mind body therapy is the most commonly used form of CAM. The current findings suggest that CAM can help to promote participatory model of integrative treatment of diabetes that rely on providers of

knowledge about evidence-based therapies and disclosure of patient use of CAM. Emerging evidence of positive findings with some natural products and mind body therapy have been reported can help nenjadi Glycemic parameters, in individuals with type 2 diabetes. However, further investigation in welldesigned, adequate studies supported needed before the use of CAM modalities can be recommended as part of clinical care (Dinardo,2012).

Other studies such as qi gong with the approach of mind body therapies to control diabetes, HbA1c, covering the control of weight and circumference of the foot. The results in this study seen from linear regression analysis showed significant differences (p = 0.01), ring pingggang (p = 0.01), the strength of the legs (p = 0.01), and HbA1c (p = 0.05). These results demonstrate the therapeutic approach to mind body mind body therapy is effective in controlling diabetes mellitus, (Liu, Xin, et al, 2011).

The results of the research on the comparison of the effectiveness of interventions with interventions MBCT self management of adult patients with type 2 diabetes mellitus, obtained as a result of significant research namely blood Glycemic levels decrease (p = 0.0001) in patients with a given therapy mind body therapy with Randomized control trial research method. The target of this research is aimed at adult patients aged between 35 to 65 years old, because at that age is early someone get diabetes mellitus, so diabetes mellitus can be addressed early on, (Carla, et al., 2013).

On the research of Mindfullness based stress reduction (MBSR) is associated with improved glycemic control in type 2 diabetes mellitus there is a controlling type-2 diabetes mellitus. Researchers suggested that the negative effects of physiological and emotional stress on blood glucose control has been described can be overcome by mind-body therapies, such as meditation, yoga, qi-gong, and other relaxation techniques, which had previously been studied on diabetes therapy as a means of reducing the stress associated with hyperglycemia. The purpose of the mind-body therapy is to facilitate the achievement of a State of physiological response against stress, (Type, S. I. and Juric, Z. D. D., 2012). The physiological and emotional stress activates the neuro-endocrine and sympathetic pathways through the hypothalamus-pituitary-adrenal and adrenal medulla sympathetic dystrophy. Circulating Catecholamines and glucocorticoids affect the structure and function of various tissues and induces inflammatory cytokines that cause increased production of glucagon and decrease the absorption and elimination of glucose in peripheral muscles. Cytokines, particularly interleukin 6, has been heavily involved in oxidative stress and inflammatory processes that cause insulin resistance and vascular complications. The relaxation response can give effect to regulation of cortisol and other stress hormones. Structured program of meditation, such as transcendental meditation and Mindfulness-based stress reduction or Mindfulness-Based Stress Reduction (MBSR) using focus and diaphragmatic breathing in relaxation therapy which involves progressive relaxation muscle, biofeedback, stress management, and behavior. Statistic analysis of results obtained (p = 0,009 d = 0.48) which means there is a significance between administering therapy MBSR in controlling blood sugar levels (Hba1c), blood pressure and weight are also more stable measurement results obtained with the method research a Prospective observational study used, (Type, S. I. and Juric, Z. D. D., 2012).

Research with approach of mind body therapies in the article on yoga and mindfulness: clinical aspect an ancient mind/body practice as research-based mind body terapy effective in lowering HbA1c levels. Yoga is a traditional practice of India that includes breathing diafragmatic and asana (posture that promote physical and mental calmness comfort). Experts believe that some yoga asana gives positive effect on the endocrine glands. This research supported other studies that approach mind body therapy can control Analysis of advanced glycation end products in patients with diabetes mellitus research methods type of purposive sampling experiments Quasy with treatment at 702 sample. The results of this research are significant, i.e. p = 0.0054 d = 0.1, (Adams, Jeremy N, 2016).

4 DISCUSSION

Mind body therapy is a form of complementary alternative medicine using body mind as well as balance and confidence that aims to regulate the physiological functions of the body and psychological. mind body therapy consists of various exercises including tai chi exercises, yoga. Mindfulness based cognitive therapy, mindfulness based stress reduction and qi-gong therapy, (Andreassen, L. M. *et al*, 2014).

There are many ways to use mind body therapy that has its own benefits. In patients with type 2 diabetes mellitus therapy is required one of them ie activity therapy. Therapy of refractive activity is done by mind body therapy approach. Solid activity

is often the reason for people not exercising. And automatically it is difficult to get health holistically, physically and psychically. But it's good we take the time to exercise though not every day. Maybe one of them with alternatives that can be selected such as yoga, tai chi and qi gong. For workers and especially nurses this can be done. Yoga, tai chi and qi-gong is an artwork that originated in India and is well known throughout the world that not only can cure illness, it also can provide peace in the soul due to stress or psychic imbalances (Sreedevi et al., 2017). However, excessive use accompanied without mentoring also gives some concerns of side effects, because it can lead to fatigue can sometimes trigger the drastic reduction of blood sugar levels and increase blood pressure (Liu, Xin, et al, 2011). Another literature reports that mind body therapy can reverse the molecular reactions in DNA responsible for deteriorating health conditions and conditions of the mind (depression).

Chemical imbalances and energy disturbances in the human body play a role in the emergence of various emotional disorders, including depression. Intervention in mind body therapy can change the chemical conditions in the brain (neurotransmitter) which can further change the emotional condition of a person including depression conditions, (Haenen, S. *et al.*, 2016).

Every atom in an object including humans as living beings has electromagnetic energy that flows throughout its body. One of the energy that plays a role in human body health is energy "Chi". Energy Chi flows along 12 lines called energy meridians, and if this energy flow is disrupted it will cause emotional problems (including depression) or physical problems, (Alsubiheen *et al.*, 2015). When viewed from the aspect of physiological reactions to mind body therapy, then by way of body mind balance, the body can stimulate the gland pituitary to release hormone endorphins, where the hormone endorphins can provide a calming effect as well as causing a sense of happiness, so as to reduce the level of depression in the sufferers and improve physiological status such as controlled levels of control under normal circumstances and blood pressure tends to be stable. Prolonged depression without treatment can create an imbalance of serotonin, an important chemical substance in the brain responsible for making people happy and social, so mind body therapy is very effective to overcome these problems, (Van, 2013).

5 CONCLUSIONS

A systematic review aims to find evidence of influence or effect of using mind body therapy. Mind-body therapy proves it can deliver a significant influence. Such influence occurred in controlling type-2 diabetes mellitus include controlling stress, controlling blood sugar levels, control of BMI, blood pressure control and increased physical activity, quality of life, increase and decrease of the number of visit sufferers of diabetes mellitus type 2 to the emergency room. Exercise with the approach of the mind body therapy is the best intervention compared to the others. But the need for further research concerning the adverse effects of its use was in a long period so that the duration of the right acquired and useful.

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Pressure Ulcer Prevention With Application of Silicone Foam Dressing in Intensive Care Unit: A Systematic Review

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Keywords: Pressure ulcer, Silicone Foam Dressings, Prevention, Intensive care unit

Abstract: Pressure ulcers pose a significant burden to patients in intensive care units. The increasing number of studies that have examined the use of foam dressings, and their ability to protect the skin from damage with shear and friction redistribute pressure. The Systematic review has the purpose to know the use of silicone foam dressing to prevent pressure ulcers. Information related to this research was found in some databases such as MEDLINE journals, PubMed, CINAHL, Ebsco, Elsevier ScienceDirect identified that was started from 2012 until 2017. The result of a review journal Articles 20 indicate that the use of silicone foam dressings can prevent pressure ulcers to clients in intensive care units. Sufficient appropriate knowledge and skills about healthcare products and procedures for the prevention and treatment of pressure ulcers are needed to reduce the incidence of pressure ulcers. Financial analysis shows that the use of silicone foam dressings can reduce the healthcare cost. Current research suggests that while further research is required, the use of silicone foam dressings have a place alongside standard procedures, in helping to prevent pressure ulcers, shear and friction damage in intensive care units.

1 BACKGROUND

Patients in critical condition require bed rest in a long time. Patients usually can't move in a supine position. Critical patient at risk of injury to the skin because of their sheer and friction caused by pressure or pressure combined with the movement of the bony area commonly referred to as pressure sores or *pressure* ulcers.

The incidence of hospital-acquired pressure ulcers (Clear) according to the National Pressure Ulcer Advisory Panel (NPUAP) in 2000 to 2010 the incidence in Intensive Care Unit (ICU) stays high of 5.2% to 41%, the incidence rate may vary the number of patients examined the type of ICU, risk assessment and research methods (Kalowes, Messina and Li, 2016).

A pressure ulcer is a localized damage to the skin and underlying soft tissue or bony part relates to medical devices or other devices. Injuries can include intact skin or open wounds and may hurt. Injuries caused by strong pressure and pressure or prolonged pressure in the patient's condition can not move. Soft tissue tolerance to pressure and movement is influenced by the microclimate, nutrition, perfusion, comorbid conditions, and soft-tissue conditions (Edsberg *et al.*, 2016). Risk factors or contributing factor associated with the *pressure* ulcer; the implications of these factors has not been described yet (European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel, 2014).

Prevention of pressure ulcers is important because of pressure ulcers are preventable. The purpose prevention of pressure ulcer is to reduce the time and/or the amount of pressure and rips that are influenced by the equipment is effective or not, and the methods used. Prevention of pressure sores in patients who are at risk should be conducted on an ongoing basis for those at risk of pressure sores (Edsberg *et al.*, 2016). Although the standard strategies such as risk assessment, regular repositioning, and advocates the use of the surface have been carried out in the hospital, the problem of pressure sores remains a challenge, especially in patients who are treated in the ICU. A variety of factors including the severity of the illness client,

elongation length of stay, and there are many immobilization causes of pressure ulcer incidence rate (N. Santamaria *et al.*, 2015).

The purpose of this systematic review was to describe the effectiveness of the use of silicone foam dressing to prevent pressure ulcers in patients treated in intensive care.

2 METHODS

This study was a systematic review of research journal articles prepared Randomized Control Trial (RCT), and expanded with non RCT research because of the limitations of the journal on the topic.

Inclusion criteria for this study are the prevention of pressure sores using silicone foam dressing, while exclusion criteria are the absence of full text in pdf format, in addition, some of the literature shows provide interventions other than silicone foam dressing.

The database used in the literature search was Scopus, Proquest, ScienceDirect, BMC, EBSCOhost, PubMed by limiting keyword "Pressure Ulcer" AND "dressing", year published between 2012-2017.

To determine the quality of the articles used in this systematic review of research using PRISMA 2009 Critical Appraisal Checklist accessed from prisma-statement.org.

Data Extraction designed using criteria taken the main component is the goal, the design of the study population (sample size, characteristics, and methods of recruitment), the intervention of the use of silicone foam dressing, the outcome measures, the method of data collection, and analysis of results. Then, articles meeting the criteria related to the quality and validity were evaluated with a focus on the sample size, allocation of clients and their needs and the bias factor.

The data described in the narrative. Presentation of data includes the characteristics of the article, the effectiveness of interventions, and outcomes after implementation of the intervention.

3 RESULTS

The article that found as many as 20 research journals published from 2013 up to 2017. The research conducted in various countries with diverse methods. The research method was found in the study of Randomized Controlled Trial and non-Randomized Controlled Trial.

A non-randomised experimental study in an acute medical ward with participants who presented at the Emergency Department (ED), with the aim of examining the effectiveness of a foam dressing in reducing the prevalence of sacral PU. Fifty-one participants aged over 65 and assessed to be at high/very high risk of developing a PU based on the Waterlow Risk Assessment Tool (2005) were included (Cubit, Mcnally and Lopez, 2013).

A randomised controlled trial, to investigate the effectiveness of a Mepilex Border Sacrum or Mepilex Heel dressing in preventing PUs in a hospital ICU after being applied in the ED. The results revealed that there were significantly fewer patients with PUs in the intervention group compared to the control group (5 versus 20) (Nick Santamaria *et al.*, 2015).

Use of a soft silicone foam dressing combined with preventive care yielded a statistically and clinically significant benefit in reducing the incidence rate and severity of HAPUs in intensive care patients. This novel, cost-effective method can reduce HAPU incidence in critically ill patients (Kalowes, Messina and Li, 2016).

Previous study applied the silicone border foam dressing to 69 patients admitted to ICU who had no sacral PU on admission (Walsh *et al.*, 2012). The intervention was discontinued prematurely in 7 patients, including 5 who expired during their ICU stay, 1 who was agitated resulting in friction against the dressing and frequent displacement, and 1 who did not fulfill inclusion criteria after the dressing was initially applied. Data collection continued for 3 months. The silicone foam sacral dressing was applied to the sacral area and maintained through the patients' ICU stay. The dressing was changed every 3 days to allow for assessment of the sacral area based on 2007 NPUAP PU staging guidelines. As the result, 53 ICU patients developed pressure ulcers in the sacral area in fiscal year 2009, representing a 12.5% incidence for the ICU as compared to a 3.4% overall pressure ulcer incidence for the total hospita (Walsh *et al.*, 2012)l.

Park (2014) measured the effect of a silicone border foam dressing on the development of pressure ulcers (PUs) and incontinence-associated dermatitis in intensive care unit (ICU) patients. The application of a silicone border foam dressing decreased PU development and reduced the IADS score. Pressure ulcer development was found to be related to IADS score; the incidence of PU

development signifi cantly increased as IADS score increased.

All the research result show that use of silicone foam dressing gave positive effect to prevent the pressure ulcer for patients in Intensive care unit. It can be considered to use this protocol to deminished patient's burden by pressure ulcer because it can reduce the health care cost and risk for infection that potentially cause sepsis that harm for patient.

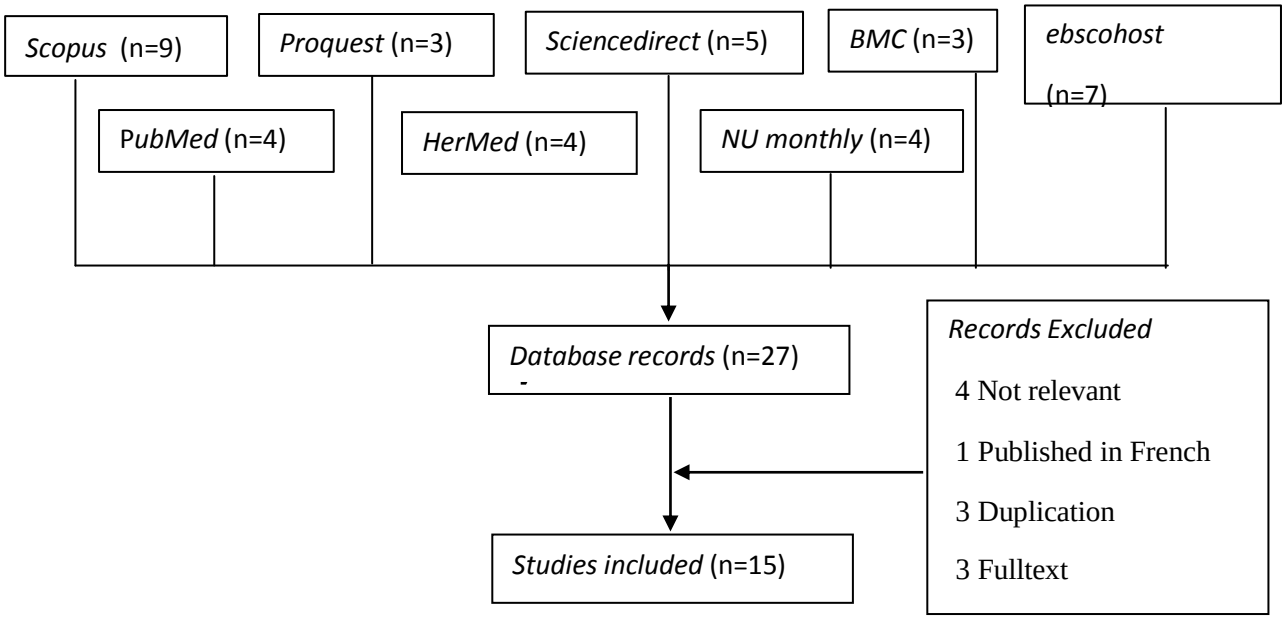

Figure 1. Paper Selection Process

4 DISCUSSION

Pressure ulcer is a problem that may be acquired clients of hospitalization. The conditions resulted in losses for its clients. The increasing cost of care to be one of the negative impacts of the occurrence of pressure sores.

Nick Santamaria et al., 2015 conducted a randomized controlled trial to investigate the effectiveness of Border Sacrum Mepilex or Mepilex Heel in preventing PU in ICU hospital after being applied in the ED. Hypothesis Santamaria and his research team are that patients treated with the dressing will reduce PU incidence rate compared with patients who received standard care. A total of 440 participants were randomized to a control group (n = 221), which receives regular PU prevention strategies, or the intervention group (n = 219), which receives regular PU prevention strategies, plus the application of the Mepilex dressing to the sacrum or heel. The results showed that significantly fewer patients with PU in the intervention group compared with the control group (5 to 20).

Kalowes et al., 2016 found that the use of silicone-coated foam dressing as much as 5 layers further reduce the formation of HAPUs when the dressing is applied within 24 hours after admission to the ICU. These results are similar to studies conducted Santamaria et al when placing the dressing on the sacrum/heel when the patient is in the emergency department. However, not all patients in the ICU through emergency departments, some of which are the direct reception and some transfers to the ICU from another room in the hospital. Participants in this RCT acute risk of skin damage; However, the use of preventive dressing reduce the pressure on high-risk patients as well (Park, 2014).

As a result of Kalowes et al research findings, the system 5-our hospital now has mandated the use of foam Sacep Mepilex Border Sacrum for the prevention of all patients who are at high risk for ulceration pressure in all areas of care, including space procedural and operations(Kalowes, Messina and Li, 2016).

In another study, N. Santamaria et al.(2015) the study provides evidence of the benefits of the cost to implement the Border Sacrum Mepilex and Mepilex Heel dressing on the sacrum and heels of critically ill

patients when they arrive at the ED. Dressing intervention costs and the time required for dressing application can easily offset by the savings gained great care through the reduction of PU in ICU. Implications proved policy changes. Policymakers in hospitals should consider the use of dressing prophylaxis among high-risk patients with ED or ICU when developing clinical protocols and new initiatives for the PU(Mallah, Nassar and Kurdahi Badr, 2015)

The analysis in terms of financing, a study showed that the use of silicone foam dressing can be more efficient and does not burden the patient. The use of silicone foam is also cheaper when compared with other types of dressings (Nick Santamaria *et al.*, 2015). Efforts need to be engaged to prevent the occurrence of lesions of this nature and, given the inevitability of the occurrence of a PU, immediate action in order to prevent its progression is essential, as the stage advances the higher are the costs related to the treatment and management of associated complications (European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel, 2014; Fernandes *et al.*, 2015). Good adhesion and factors that influence it are important aspects to be considered by nurses at the time of recommendation and selection of the type of dressing for prevention of sacral PU (Inoue *et al.*, 2016)

5 CONCLUSION

Some research findings indicate that the use of silicone-coated foam is effective in the prevention of pressure sores. Surely it would benefit the client. From the financial side also found that the use of these dressings cheaper than other dressings. The implication, further research is needed to be related to their effectiveness in preventing the occurrence of pressure sores in patients admitted to the ICU with a high risk of pressure sores in the area of bony prominences.

The use of *dressing* silicone foam is also more efficient in terms of financing when compared with other dressings. The use of silicone foam dressings may be used in the ICU for prevention of pressure sores. As for the availability of nurses related to modifications to the materials with the same characteristics. So as to improve the quality of service to clients.

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Relaxation Techniques for Patients with Chronic Obstructive Pulmonary Disease (COPD): A Systematic Review

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Keywords: Relaxation Technique, COPD, Lung Disease, relaxation, relaxation therapy, relaxation training

Abstract: Background: Chronic Obstructive Pulmonary Disease (COPD) is a chronic lung disease where there are limited blood flow in the airway that is not completely reversible and progressive. It also characterized by a pulmonary inflammatory process that can develop into a systemic disorders. Untreated COPD patients may experience with a respiratory failure and further death. As a result of disease progression, COPD patients may experience with a decreasing physical ability and may lack of the personal control over activities of daily livings, and even eventually isolate themselves. The impact of COPD on the physical and emotional aspects of life can cause disability and mood disorders. This in turn, affects the quality of life, so it may need some relaxation techniques to overcome them. Purpose: The aim of this study was to examine effectiveness of relaxation techniques for patients with Chronic Obstructive Pulmonary Disease (COPD) Method: The study used a systematic review that begins with a PICO framework. Data were collected from ten selected articles from various databases, which are Science Direct, Ebscohost, and Proquest databases. Result: This study provided positive benefits for respiratory function and psychological well-being. Conclusion: Relaxation techniques are proved to positively affect the psychological well-being and respiratory function. From this study, it can be suggested that the health care provider should maintain relaxation techniques to manage patients with COPD.

1 BACKGROUND

Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable and treatable disease which characterized by persistent respiratory symptoms and airflow limitations caused by airway and / or alveolar abnormalities usually caused by significant exposure to harmful particles or gases. Chronic COPD airflow limitations are caused by a mixture of small airway diseases (eg, obstructive bronchiolitis) and parenchymal destruction (emphysema), relative contributions that vary from person to person (GOLD, 2017). The World Health Organization

(WHO) estimates that the global COPD morbidity rate is around 210 million cases by 2012 (Wangsom and Matchim, 2017). The results of non-communicable disease surveys in 5 provincial hospitals in Indonesia in 2004 showed that COPD ranks first in terms of morbidity (PDPI, 2011). GOLD (2017) gave a similar report showing that the most common symptoms of COPD are dyspnea, chronic cough, and chronic sputum production. Dyspnea greatly interferes with eating and breathing work. This brings energy depletion resulting in weight loss and fatigue. In addition, dyspnea at the time of activity has a serious impact on daily activities and training capacity and quality of life of patients. Increased anxiety is also associated with poor dyspnea (Lolak *et al.*, 2008). There is no effective drug for COPD patients, but appropriate treatment can help relieve symptoms, slow the impairment of lung function, and improve patient's quality of life. It is important to keep physically active patients to reduce the impact of lung damage and reduce disability, therefore COPD patients are always advised to do regular exercise. Research has shown that outpatient pulmonary rehabilitation programs improve functional capacity and quality of life (Chan *et al.*, 2010). In this perspective, relaxation techniques are often used to inhibit anxiety, improve perceptions of self-control or emotional patients. Various relaxation techniques have been compiled and described as a method that

can be tailored to each individual. This relaxation technique includes progressive muscle relaxation, breathing techniques, distraction therapy, yoga, meditation, Tai Chi, biofeedback, and practicing imagination of peace. This technique can reduce anxiety, minimize psychological pressure, and generate benefits for certain physiological parameters such as oxygen saturation and heart rate, which are not exclusively found in patients with COPD (Wangsom and Matchim, 2017). The purpose of this systematic review is to examine the effectiveness of relaxation techniques in patients with chronic obstructive pulmonary disease (COPD).

2 METHODS

The method used in this systematic review begins with the PICO framework. Types of Randomized Controlled Randomized (RCT) experiments and experimental designs that examined the effectiveness of relaxation techniques in COPD patients were used as research criteria included in this study. While scientific articles that do not know the effectiveness of relaxation techniques in COPD patients include exclusion criteria and are not included in topic selection, then specify keywords to search for journals using English through several databases, including Science Direct, Ebscho, and Proquest. This search is limited to journals from 2008 to 2017. Keywords used are relaxation techniques, COPD, relaxation therapy and relaxation exercises.

Principal investigators read titles and abstracts as well as research article mismatch issues. Research articles will then be printed by other researchers to determine methodological quality and biases using the Quality Assessment Tool for Quantitative EPHPP Studies (Effective Public Health Practice Project). There are three criteria to rank or the overall rating (global ratting) of the tool used is strong, medium and weak. No search results found 35 journals and then 12 journals were found to be match with the criteria.

3 RESULTS

Twelve journal articles were selected and were assessed. Selected journal articles involve a total of 1040 participants with the smallest sample size of 14 participants and the largest sample size is 206 participants. Most articles use RCT design and one pre-post experimental test design. Five articles provided a relaxation technique program using breathing techniques. Exercises Pursed Lips Breathing. In the experimental group, the mean respiratory rate was 32.20 with the standard deviation of 3.12 and P <0.000 levels, while the mean PEFR in the experimental group was 275.0 and the deviation standard 42.24 and P <0.001. Pursed lips breathing is proven to be effective because there are significant improvements in respiratory parameters in the experimental group. In the control group did not show any major improvement during the post test period (Vijayakumar, 2017). In a study conducted by Bhatt, et al (2013) and Cabral, et al. (2015), Pursed lips breathing can increase functional tolerance exercises manifested by decreased respiration and increased diaphragm, but pursed lips breathing can also reduce pulmonary hyperinflation and increase oxygenation arterial. Respiratory control training with RBF (respiratory feedback training) technique showed forty patients of COPD (mean 8 SD age 66.1 8 6.4, FEV 1 45.9 8 17.4% predicted) randomized to rehabilitation (n = 20) or rehabilitation plus controlled breathing (n = 20). There was no statistically significant difference between the two groups about the change in FEV1 (mean difference -0.8% predicted, 95% CI -4.4 to 2.9% predicted, p = 0.33), 6MWD (mean difference 12.2 m, 95% CI -37.4 to 12.2 m, p = 0.16), CRQ (mean difference in total score of 0.2, 95% CI -0.1 to 0.4 , p = 0.11) and rMSSD (mean difference 2.2 ms, 95% CI -20.8.

Table 1. Summary of Studies Include

Author/Year	Sample size	Design	Intervention	Outcomes	Quality of articles
Vijayakumar S, 2017	60 COPD patients	Quasi experimental design	Pursed lips breathing	There was an increasing in vital and respiratory status among patients with COPD, after pursed breathing exercises in the experimental group versus the control group.	Moderate
Bhatt et al., 2013	14 patients with Moderate to severe COPD	randomized crossover study	Pursed lips breathing	PLB increases the tolerance of functional exercises. This effect can be mediated by decreasing RR and increasing diaphragm movement.	Moderate
Cabral et al., 2015	40 patients with stable COPD with FEV1 <60%	Randomized Crossover Study	Pursed lips breathing	In patients with COPD with low PEF, PLB reduces dynamic hyperinflation and proves exercise tolerance, respiratory patterns and arterial oxygenation in the submaximal intensity exercise.	Moderate
Van Gestel, A.J.R. et al., 2012	43 COPD patients	RCT	Controlled breathing	In patients with COPD who underwent pulmonary rehabilitation programs, respiratory control using respiratory biofeedback has no effect on exercise capacity, lung function, quality of life or autonomic cardiac function	Strong
Yamaguti, et al, 2012	30 COPD patients	RCT	Diaphragmatic breathing training program (DBTP)	DBTP for patients with chronic obstructive pulmonary disease leads to increased diaphragm participation during natural breathing, resulting in improved functional capacity	Strong
Singh et al., 2009	72 COPD patients	RCT	Music and Progressive muscle relaxation (PMR)	Quite convincingly, music and PMR are effective in reducing anxiety and dyspnea	Strong
Lolak S et al ., 2008	83 COPD patients	RCT	Progressive Muscle relaxation (PMR)	PMR is effective in reducing anxiety and depression levels in patients with chronic lung disorder. There is an added benefit in the reduction of further anxiety and depression in patients receiving PMR.	Strong

Leung et al., 2012	42 COPD patients	RCT	Short-form Sun-style t'ai chi (SSTC)	SSTC is more effective than regular medical care in improving exercise capacity, balance, physical performance, HRQOL, anxiety and self-efficacy compared to no exercise in people with COPD.	Strong
Ng et al.,2014	192 COPD patients	RCT	Tai Chi	The adjuvant effect of combining Tai Chi in lung rehabilitation demonstrates simple complementary benefits in exercise capacity, self-efficacy and health status	Moderate
Chan,A.W.K. et al,, 2010	206 COPD patients	RCT	Tai Chi Qigong (TCQ)	This TCQ style seems safe and there is an increasing health outcomes with the respect of client perceptions and respiratory symptoms and decreased disruption to their daily physical activity	Moderate
Victoria M Lord, et al 2012	24 COPD patients	RCT	Singing classes	The singing group (n = 13 mean (SD) FEV 1 44.4 (14.4) % predicted) and the control group (n = 11 FEV 1 63.5 (25.5) % predicted) did not differ significantly at the beginning. There was a significant difference between the response of the physical component score of SF-36, supporting the singing group 12.9 (19.0) vs -0.25 (11.9) (p = 0.02) The singing class had an impact on health status.	Moderate
Victoria M Lord, et al, 2010	28 COPD patients	RCT	Singing teaching	Singing class programs improve quality of life and anxiety. The physical component score of SF36 improved in the singer (n = 15) compared to the control group (n = 13); 7.5 (14.6) vs -3.8 (8.4) p = 0.02. Singing also has a significant decrease in HAD anxiety scores; -1.1 (2.7) vs + 0.8 (1.7) p = 0.03	Moderate

to 25.1 ms, p = 0,51). In patients with COPD who underwent a pulmonary rehabilitation program, control Respiratory use of respiratory biofeedback has no effect on exercise capacity, lung function, quality of life or cardiac autonomic function (Van Gestel *et al.*, 2012). Diaphragmatic breathing training program (DBTP) in COPD patients can also cause diaphragmatic participation and increasing functional capacity (Wangsom and Matchim, 2017). Another relaxation technique in COPD patients is Progressive Muscle Relaxation which has been shown to be effective in reducing anxiety and depression in patients n COPD (Lolak *et al.*, 2008). This is also supported by a research conducted by VP Singh, et al 2009 which combines PMR with music. Relaxation techniques with the Sun-style Tai chi Short-form method (SSTC) are also quite effective than ordinary medical treatments in improving exercise capacity, balance, physical performance, HRQOL, anxiety and self-efficacy compared with no exercise training in people with COPD. In addition, SSTC raised moderate levels of exercise intensity from 53% of reserve oxygen consumption (Regina, et al 2012). A study conducted by Aileen, et al in 2010 also showed the results of Tai Chi Qiqong Group (TCQ) showing symptom improvement (F4, 404 = 3,351, P = 0,010) and domain activity (F4, 404 = 2.611, P = 0.035). No difference was detected in the perceived social support among the three. Combining Tai Chi in lung rehabilitation demonstrates simple complementary benefits in exercise capacity, self-efficacy and health status (Ng *et al.*, 2014).

The quality of research articles was selected using the EPHPP assessment tool. Five articles were categorized as powerful tools through the EPHPP assessment do not get weak values in the tool variables. Meanwhile, the other seven articles categorized by moderate.

4 DISCUSSION

Generally, articles related to relaxation techniques provide benefits for improvement of respiratory function, anxiety, depression and quality of life. Active participation of patients with COPD in doing relaxation techniques will bring benefits if it was done with a high exercise routine. The phenomenon of relaxation training is through the body's own analgesic system. This theory states that relaxation has an effect on the body's natural analgesics (endorphins). Endorphin is a neuro-hormone associated with the sensation of pleasure. When they are released by the brain, pain can be reduced by raising the threshold of pain and activating parasympathetic nervous system to relax the body and to lower blood pressure, breathing and heart rate. There is an evidence that relaxation can increase blood levels of endorphins and improve a person's ability to relax. Furthermore, relaxation can reduce muscle tension and arousal. Relaxation also aims to help people to exercise their cognitive control over their central nervous system, so that they can sense and recognize undesired improvements hyper-arousal and reduce the activity of skeletal muscle (Singh *et al.*, 2009). Meanwhile, social support plays an important role in optimizing the quality of life. Therefore interventions should include efforts to strengthen social networks that will affect the overall function of patients with COPD and improve health management and compliance in treatment (Chan *et al.*, 2010). However, in some cases, the role of respiratory control using respiratory biofeedback during the rehabilitation of patients with COPD is remain unclear. This can be seen from a research conducted by Van Gestel, AJR, 2012 which does not support that breathing diaphragm may improve ventilation, gas exchange or work respiration in patients with COPD. Further studies are needed to understand the mechanism of improvement of dynamic hyperinflation during PLB, the impact of dynamic hyperinflation reduction on exercise and activity of daily livings (ADLs) performance as well as respiratory strategies that benefit for patients with COPD (Laura *et al.*, 2015).

5 CONCLUSION

In summary, this review shows that almost all relaxation techniques in patients with COPD may have a positive effect on respiratory function, anxiety, depression and quality of life. Nurses play an important role in helping patients to reduce and to prevent the severity of dyspnea by providing guidelines and suggestions to patients and their families, and ensuring proper relaxation techniques. By performing this action, patients with COPD can perform daily activities which lead to improving respiratory function, anxiety control and improved quality of life.

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The Multivariants of Physical Activitiy for Cognitive Impairment Among Elderly: A Systematic Review

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Keywords: Multivariate, physical activity, elderly, cognitive function

Abstract: **Background:** Dementia is a syndrome characterized as a decline in cognitive function, decreased memory capacity, orientation, language, decision making, judgment, emotional control changes, social behavior, motivation and physical abilities. The purpose of this study was to determine the effect of various physical activities on the elderly with decreased cognitive function. **Method:** The method used is Systematic Review using 17 articles Randomized Control Trial Study and 1 Sstematics Review, 2 article Systematic Review and Meta-Analysis by using PICOT approach. **Results:** Simple physical activities, natural and followed by social activities can improve the condition of cognitive function decline and physical function of the elderly with decreased cognitive function. **Conclusion:** Physical activity programs are highly varied, simple and easy to implement by nurses to reduce physical and cognitive dysfunction, decrease fall risk factors and overcome sleep disorders of patients with decreased cognitive function, through various ways both formal and informal in health and community facilities with combining physical and social activities for the elderly

1 BACKGROUND

Today, many interventions that support psychosocial cases are developed and believed to be more effective than pharmacological interventions for people with dementia, which include interventions of physical activity that have been a promising alternative to interventions, physical activity includes movement of the body to move muscles and burn calories from body [1]. Physical activity is closely related to some of the health benefits and cognitive function of the human adult phase and high levels of physical activity may decrease the risk of mild cognitive impairment or future dementia [2]. Physical activity can stimulate elderly cognitive function with decreased cognitive function and healthy elderly and may relieve neuropsychiatric symptoms. However, implementing and maintaining a program of physical activity in everyday life is a challenge in itself [3]. Physical activity is one of the external factors associated with the rhythm of rest and activity in the elderly. Physical activity and balanced rest are essential to restore sleep function as it is vital in maintaining the physical and mental health of the elderly [4]. Low physical activity and sleep disturbances can disrupt the health of the elderly so it is important for nurses to plan for interventions and develop appropriate treatments for people with dementia [5]. Good physical activity can be seen from the physical appearance of the physical ability of the elderlyThe concept of physical ability of the elderly is closely related to the ability to implement ADL. Physical activity is low and physical dependence is common in the elderly. Good physical ability greatly contributes to the physical ability of the elderly with decreased cognitive function and dementia [6]. A study suggests that elderly people with mild cognitive impairment noted a positive effect between physical activity on global cognition, executive function, attention and memory, a meta-analysis also noted that aerobic exercise may improve global cognitive abilities and provide fewer positive effects on memory impairment cognitive [1]. Aerobic and cognitive activity have moderate effects on cognitive decline in elderly people with or without cognitive function decline [7].

Dementia is a syndrome caused by a disease of the brain that causes a progressive decrease in cognitive function, including memory loss, learning, orientation, language, decisions and judgments commonly found in elderly people over 65 years [8], cognitive decline beyond normal-age expectations,

followed with changes in emotional control, social behavior, motivation and / or physical ability. [9] The number of elderly with dementia is estimated to be 5 - 8.5% of the elderly (≥ 65 years) in 2030. Prior to diagnosis dementia begins with a decrease in cognitive function lighter in elderly [3], the main cause of disability and dependence on the elderly, and the need for care in elderly dementia is expected to increase sharply as the number of elderly people in the world also increases [10]. The increased prevalence of dementia leads to an increase in maintenance and financial burdens, causing frustration and causing family agitation behaviors, due to the fact that dementia sufferers have difficulty in balance, mobilization, and fine motor skills, which affects the ability to maintain independence in implementing ADLs [9] . In the world, there are 35.6 billion families with dementia, 7.7 billion diagnoses each year, and will double 2 every 20 years [11], 47.5 million people live with dementia worldwide and the number is expected to rise to 131 , 5 million by 2050 [12], in developing countries 2-3 people live with people with dementia and care for them at home, and over 90% care for them with informal caregivers such as partners, other family members and friends.

[1]. Alzheimer's Disease International notes that in 2010 in the United States it took $ 604 million for the care and treatment of people with dementia [13]. Therefore, dementia is referred to as the second ranking cause of the high burden of disease and the causes of poverty [13]. Decreased cognitive function is a transitional condition between healthy elderly conditions and dementia [6]. Elderly with a decline in cognitive function the majority live in the community and treated by his family at home [3], where dementia disease including Alzheimer's disease is the latest issue because it requires high maintenance costs, morbidity and death in the community [2]. But when the condition of people with dementia can not be handled alone then moved or put in health facilities or elderly parlors. Patients with dementia after 6 months without good treatment will show symptoms of functional decline of the body such as personal hygiene, dressing, and toileting and in severe dementia showed symptoms of eating disorders [14]. So that the fulfillment of body needs will be greatly disturbed, on the way the disorder is not uncommon cause symptoms neuropsikiatri. Neuropsychiatric symptoms that appear can be physical and verbal aggression, sleep disorders, wandering and refused treatment. Neuropsychiatric symptoms are present in 90% of people with dementia along with illness [14]. It is strongly influenced by many factors in elderly life with dementia, one of which is physical activity. Low physical activity is one of 7 factors that contribute to 13% of Alzheimer's disease in the world [3]. Decreased mobilization is a risk factor for the risk of falling, incontinence, decubitus and pneumonia, which ultimately decreases the quality of life of the elderly [15].

The onset of cognitive decline in dementia causes a decrease in complex physical ability more rapidly. At an advanced stage the patient needs help with self-care, so interventions to alleviate cognitive impairment and support of the caregiver are urgently needed [1]. Some studies say that someone who is physically active can prevent dementia and have a positive effect on cognitive health [8]. Interventions of physical activity aimed at improving the components of physical ability are closely related to the ability to perform physical activities because the higher the level of physical activity the higher the physical ability and other functions, the components include muscle strength, aerobic resistance, flexibility, body composition, dynamic balance, and dexterity of the body, recommended activities for the elderly include carrying out aerobic activities in daily life, activities to maintain or improve flexibility, and balance exercises for the elderly who have the risk of falling, can be supplemented with muscle strength activities, reduce the habit of sitting still , and manage the risk of injury and / or [6] in order to benefit health, as well as impact on cognitive function and to delay or prevent mild cognitive decline and dementia in the elderly. Thus, physical activity can have a positive impact on cases of cognitive impairment in the early stages of cognitive impairment and may slowly decrease physical disability and dependence in administering ADL to elderly people with dementia [6]. Physical activity can have a positive effect on cardiovascular health, gait and balance, cognitive function and general elderly health, but in the elderly the dementia of physical activity and motor function decreases and is recommended as one that can prevent the risk of falling, although physical activity also may increase the risk of falls and the risk of injury to the elderly [16]. With the increased prevalence of dementia, the lack of appropriate and effective treatment and lowering the cost of care and reducing neuropsychiatric symptoms, is a vital intervention to minimize undesirable behavior and improve or maintain quality of life, the benefits of appropriate physical activity can provide a more useful alternative to specific activities and easily implemented by people with dementia [17]. Patients

with dementia generally suffer from decreased physical function, severe cognitive impairment, and sleep distress. Many of the factors that cause it include changes in age, health and medical conditions, psychotropic side effects, the risk of falling illness, physical dependence, noise, brightness and the surrounding environment [5].

Therefore, living together with the elderly with decreased cognitive function or dementia will experience many changes in life and must be able to make changes in stimulating the environment and physical activity of the elderly [2]. Physical exercise can be used as a strategy of managing and inhibiting the progress of dementia [9]. But still needed a qualified program to achieve the goal of giving strategy of physical activity. So optimal parameters such as exercise type, frequency, time required and intensity of physical activity for dementia patients [9] are required. Progressive motor exercises that are easy and securely intensive are very effective for body strength and physical appearance [16]. Physical and cognitive exercise has a more effective effect on the treatment of symptoms of dependence of people with dementia. The Long Lasting Memories (LLM) The European Project has been validated as an alternative to technology-based interventions that combine cognitive exercise with physical exercise [7]. Innovative approaches are needed to overcome neuropsychiatric symptoms. Function-Focused Care (FFC) is intended to transform a nursing care philosophy that focuses on optimizing physical activity rather than other maintenance tasks. The objective of the FFC is to focus on the appropriate cognitive and physical abilities of the patient, including walking in the dining room, participating in eating in the orphanage or feeding themselves, preparing cutlery, filling drinking and helping others to drink, or facilitating ROM (Range of Movement) is active during treatment [14]. Although physical exercise has a major impact on people with dementia including physical functioning, ease of movement, hospitalization, caregiver death and burden, short and precise interventions that not only involve the patient but also the caregiver is urgently needed [18].

A systematic review in 2011 that reviewed 10 articles with qualitative methodologies gave results that regular physical activity carried out involving walking and implementing ADLs could positively impact some physical functional indicators [8]. While many people think that physical activity means doing sports and parents should avoid sports that are considered quite heavy. Phenomena that exist in health facilities are often difficult to find alternative physical activity for the elderly. Based on the above explanation, the hypothesis of this systematic review is to test whether various kinds of physical activity affect the elderly with decreased cognitive function using quantitative method. While the purpose of this systematic review is to determine the effect of various physical activities on the elderly with decreased cognitive function.

2 METHODS

The development of this article using Systematic Review designed PICOT approach.

Participants

The inclusion criteria in the preparation of this article are 1). Articles with participants diagnosed with dementia and aged over 60 years 2). Articles with participants are still able to carry out physical activities 3). There are clear interventions and instruments and data retrieval procedures in the articles obtained 4). There are at least 2 groups of participants 5). Participants can be obtained from orphanages or in the community. While the exclusion criterion are 1). Articles with participants suffering from terminal pain 2). Articles with participants in treatment programs that do not permit physical activity 3). Articles with participants receiving palliative therapy 4). The article does not contain clearly the participants and the intervention provided.

Search Strategy

The search strategy of an article in the preparation begins with topic selection, then the keyword is specified. Keywords used are physical activity and cognitive and elderly and experiment. The article searches are done on the SCOPUS and Science Direct databases, the result restrictions are journal, publication year 2012 - 2018, nursing journal area and gerontology, and English speaking. When the search was obtained 2317 journals, after selection was obtained 39 journals from SCOPUS and 22 journals from related Science Direct, and decided 7 journals from SCOPUS and 13 journals from the appropriate Science Direct. Journals that were determined using Randomized Control Trial Study, Systematic Review, Systematic Review and Meta Analysis designs were all quantitative studies. After the journal is determined, then the preparation of PICOT of the entire journal.

Comparison

The benchmarking stage uses the participation of the control group and the intervention group, or the group with the most minimal intervention with the group receiving the planned interventions. In the arrest there are also participants divided into more than 2 groups.

Result

Based on the articles obtained, the results are summarized based on an assessment of the articles using objective methods, subjective methods and a combination of objective and subjective methods. The objective method when physical activity is performed directly and observed directly, the subjective method when the observation is performed using a particular instrument. Results do not include data of physical activity outside the criteria.

3 RESULT

Article Identify

In the search in the database, obtained 2317 articles displayed. After reviewing the title and abstract then full textnya, it was decided 20 articles included in this systematic review.

Article Quality

Overall the bias risk of the articles is moderate [19] [13] [20] [21] [22] [23] [24] [25] [15] [8] [9] [16] [26] [14] [7] [2], high bias [17] [1], and low bias [27] [28]. Participants were taken randomly for intervention and control groups in almost all articles except on [7] [2] [17] there were no control groups and in the article [20] [23] [24] [25] there was no clear control group because it is a systematic review and meta-analysis. The method of intervention is objectively performed on [15] [19] [22] [28] and the method of intervention of combinations that is objectively and subjectively performed on [27] [8] [9] [16] [26] [14] [7] [2] [13] [1] [21].

Article Characteristic

Of the 20 articles that constitute RCTs articles are [27] [19] [13] [17] [1] [21] [22] [28] [15] [8] [9] [16] [26] [14] [7] and systematic review and meta-analysis articles [20] [23] [24] [25]. Three articles are from the United States [17] [14] [8] and Spanish [28] [7] [26], two articles are from Australia [13] [9] and Netherland [1] [16] as well as one article derived from Korea [27] and Portugal [2] while other articles do not clearly mention the location of his research. The total number of participants in this article is 9104 participants and 56 families. Participant age between 55 years to 96 years, which includes both women and men, elderly participants themselves and caregivernya. In those articles there is a control group and an intervention group in which there is a control group that is not assigned an activity that is on [27] [19] [13] [28] [21] [22] [9] is on the other RCTs article of the fixed control group get treatment. All RCTs articles provide clear intervention protocols.

Affectivity of the Intervention

Overall, the results of the intervention indicated that the intervention provided a positive effect on the physical condition, especially the physical appearance of participants and able to reduce the risk of decline in cognitive function and functional funnya. Although there are articles that show the results of significant low analysis but still provide positive results between physical activity with decreased cognitive function in the elderly.

Overall Results

Studies of the effects of physical activity on cognitive impairment have significant results on improvements in cognitive function, neuropsychiatric symptoms, physical appearance and ADL implementation in the elderly. Some of the physical activity programs provided include flexibility, stretching, balance and resilience [1] & [14] fun activities and TUG (Time up and Go) 3 meters [18] aerobic exercise [7] & [18] in the form of hiking and biking [7] arts and crafts activities, physical exercises, cognitive stimulation, music / entertainment, sensory stimulation, social / reminiscence and daily routine activities [17]. walking, marching, moving weights, and upper and lower body strength activities [13], standing up straight from sitting or squatting [15], social activities [8], sitting and standing exercises [9], and balance while standing, , up stairs, stepping over objects [16]. Participants included in the study were from several elderly (wreda) institutions [13] [15] [8] [9], and from the rehabilitation section of a hospital [16], physical activity for spare time with lots of lounges [3], physical activity associated with simple sleeping activities [4], physical activity using modern fitness equipment [2], physical activity involving ADL activities selected by participants [5]. The results of these studies were safe physical

exercise given to people with dementia and did not cause an increased risk of falling [16], physical activity had an effect on the agitation and physical appearance of dementia residents [9]

The physical activity program influences the physical and cognitive functions of dementia [8], physical activity is able to maintain its mobility and slow the functional and cognitive impairment [15] and physical activity significantly affects the severity of dementia [13], physical activity increases the fulfillment of elderly sleep needs with dementia [5], elderly people with decreased cognitive function have low levels of physical activity as well as their physical fitness level [2], newly diagnosed dementia elders possess lower levels of fitness than those long diagnosed [6], weak physical activity is affected to the appearance of neuropsychiatric symptoms in the elderly with decreased cognitive function and causing distress in the caregiver [3], new dementia patients tend to have lower resting activity levels with lower activity, more time-consuming patients in bed, and insomnia [4] and people with dementia exhibit lower levels of physical fitness than the elderly without dementia, suggesting that dementia sufferers have less physical activity and increased physical dependence annually [6], physical exercise has an effect on concentration power [1], physical activity has an effect on improving the variables of cognitive functioning except in the symptoms of depression [18], the program of physical activity affects the improvement of cognitive function [14] [7] and physical function [17]. When viewed from the results of these studies can be concluded that the physical activity has a positive effect on the power of concentration, decreased cognitive function except symptoms of depression and physical function, elderly with decreased cognit function.

4 DISCUSSION

Although the overall results of the above studies show a positive relationship to cognitive function decline, physical activity is a simple activity, light and in accordance with the wishes of participants. From the article there are still studies that use the number of participants less than 100 people and the largest number of 415 people. The study area was conducted in care facilities for the elderly and from the community population. While the design used has been in accordance with the research dilaksanakakan. Measurements, data retrieval procedures, interventions provided and intervention procedures have been clearly stated.

A Systematic Review notes that a combination of physical and cognitive exercise effectively improves cognitive function and functional status of the elderly with decreased cognitive function [29]. A study noted that the ability of physical activity in people with mild cognitive impairment may affect brain structure changes, and increased physical activity may have a positive impact on neuropathologic substrates that may decrease brain function and medial temporal lobe atrophy [18]. But many people still think that medical therapy is the only therapy for people with dementia regardless of side effects of drugs given. Physical activity and exercise can be a non-pharmacological strategy to help people with neurocognitive disorders [2]. People also consider that people who are sick should not perform physical activity because it will be difficult to recover from illness, and elderly who experience decreased cognitive function is considered as a sick person who is expected to recover. People also still think that the so-called physical activity is an activity that involves the physical function of bodybuilding to sweat like sports. Various kinds of physical activities to fill leisure time include walks, qigong, gardening, and based on notes from a community-based study, walking is a popular activity for the elderly with or without cognitive function decline [3]. Elderly people who are able to perform their ADLs are still not considered as performing physical activity and those with ADL dependency should be assisted in total. Physical activity has a positive impact on cognitive function decline in the early stages of cognitive function decline and can slowly restore physical ability and ADL skills, ADLs include bathing, dressing, and mobilization [6]. People assume that people who have trouble sleeping is prohibited for physical activity because it can cause fatigue so that more difficult to sleep, or vice versa that doing physical activity can cause a strong drowsiness so that after doing physical activity will immediately fall asleep. Given similar research can change the minds of people and health workers in this case medical and nurses that physical activity can be an alternative for elderly care takers either in care facilities, hospitals and in the community. Physical activity is meant not ahanya in the form of heavy activities that must sweat when carrying out. The "time up and go" exercise may affect executive and periventricular leukoaraiosis in patients with mild cognitive impairment [18]. The combination of the ability of the sport to slow down and / or withstand cognitive decline in patients with dementia [30], the movement of bodies that support

physical exercise can reduce unstable behavior and agitation, and improve sleep patterns, and potentially decrease the need for psychotropic treatment [31]. Physical activity tailored to the abilities and interests of patients and caregivernya also proven to improve the decline in cognitive function and physical function of the elderly. Such activities include arts and crafts, physical training, cognitive stimulation exercise activities, music / entertainment, sensory stimulation, social / reminiscence and daily routine activities [17].

Physical activity program is quite a lot and can be given easily and cheaply, only needed continuity in the implementation. Nurses as spearheads in the provision of nursing services in health care facilities ahrus able to implement the program effectively and efficiently. Progressive motor exercises that are easy and securely intensive are very effective for body strength and physical appearance [16]. Simple mobilization interventions in the elderly should be integrated into routine care routines by nurses, thereby helping to slow the decline in mobility impairment and ADL function impairment [15].

Based on the above studies found that a variety of physical activities are simple, natural and followed by social activities can improve the condition of decline in cognitive function and physical function of the elderly with decreased cognitive function. Although it is believed that physical activity may increase the risk of falling in the elderly, but based on the results of the study found that relevant physical activity in elderly conditions with dementia can actually reduce the risk factors of falls and injury sufferers of dementia.

Implication

The implications for the nursing practice of this systematic review are that simple and easy physical activity programs are useful interventions in care facilities for the elderly with both short-term and long-term dementia. The recommendation for further research is to develop research topics of physical activity with populations in community areas.

5 CONCLUSION

In general, the results of this study is that the physical activity program is very varied, simple and easy to implement by nurses in order to reduce the disruption of physical and cognitive function, reduce the risk factors fall and overcome sleep disorders of patients with decreased cognitive function, through various ways both formal and informal diarea health facilities and communities by combining physical activities and social activities for the elderly. Current studies have only examined the association and / or the effect of physical activity on the physical ability of the elderly with dementia without broadening targets for the community and interventions involving social activities and linking to risk factors for falls and injuries.

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The Effectiveness Of Cognitive Behavioral Therapy (CBT) For Chronic Schizophrenia Patiens: A Systematic Review

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Keyword: Chronic Schizophrenia, CBT, Therapy

Abstract: Introduction: Schizophrenia is a chronic and frequent recurrence that cauces a decrease in functional and cognitive impairment and behavioral changes. Antipsychotic drugs are at the core of the treatment of schizophrenia, but the achievement of cognitive behavior is one of the psychosocial therapies for schizophrenic patients. This research has not been widely developed. The purpose of this paper is to investigate the effectiveness of cognitive behavioral therapy as adjunctive therapy in reducing signs and symptoms in schizophrenic patients Method: Systematic review included: 1)Science Direct, Google Scholar, Ebsco, Scopus Database 2)search on February-March 2018, publication 2013-2018 3) English language 4) focus on effectiveness of CBT for chronic schizophrenia 5) PICOS approach. Results: The results of this study indicate that CBT in the treatment group showed a significant and more significant clinical improvement compared to the control group. Conclusion: CBT as additional therapy in schizophrenic patients effectively lower signs and symptoms in patient with chronic schizophrenia.

1 INTRODUCTION

Mental disorders are maladaptive responses to stressors from internal and external environments, evidenced by thoughts, feelings and behaviors that are inconsistent with local or local cultural norms, and disrupt social, occupational and or physical functions (Townsend, 2005). The prevalence of severe psychiatric disorders in the Indonesian population is 1.7 per mile. Severe major mental disorders in DI Yogyakarta, Ace, South Sulawesi, Bali, and Central Java. The proportion of households with severe mental disorder 14.3%, and the highest in rural population (18.2%), and in population group with lower population index (19.5%). The prevalence of emotional mental disorder in Indonesia's population is 6.0%. Provinces with the highest prevalence of mental emotional disorders are Central Sulawesi, South Sulawesi, West Java, NTT (Badan Penelitian dan Pengembangan Kesehatan, 2013). About 450 million people in the world suffer from mental health problems. A third of them occur in developing countries in 2012. While in 2016 there are about 32% of all sub-districts in the world. The lift increased from the previous year.

Schizophrenia is a severe mental disorder with a lifelong prevalence. Schizophrenia is associated with functional impairment including concentration in activities, thus decreasing patient productivity and burdening families in finance. Symptoms Schizophrenia can be classified in 3 dimensions are: gejalah positive, gejalah positive, and gejalah disorganization. Positive gangs include: hallucinations, wisdom, rowdy anxiety and violent behavior. Negative gangs include: blunt and flat effect, apathy, withdrawal, lack of motivation, tend to be silent and difficult to talk to. Grievances disorganization includes: disorder in focusing and experiencing a decline in managing information. Schizophrenia is at risk for suicide Schizophrenia is a severe mental disorder with a lifelong prevalence. Schizophrenia is associated with functional impairment including concentration in activities, thus decreasing patient productivity and burdening families in finance. Symptoms Schizophrenia can be classified in 3 dimensions are: positive symptom, and disorganization symptom. Positive gangs include: hallucinations, wisdom, rowdy anxiety and violent behavior. Negative gangs include: blunt and flat effect, apathy, withdrawal, lack of motivation, tend to be silent and difficult to talk to. Grievances disorganization includes: disorder in focusing and experiencing a decline in managing information. Recurrent schizophrenic patients will experience

deterioration so as to burden families in meeting family need. There is no single treatment that can improve a lot of symptoms and must be comprehensive. Anti-psychotic therapy and family support, communities can help patients improve their quality of life.

Cognitive Behavior Therapy is one of psychosocial therapies in addition to family therapy, social skills, supportive counseling and vocational rehabilitation (Kaplan & Sadock, 2003). The main aim of cognitive Bahaviour Therapy is for the treatment of psychosis in reducing the intensity of intelligence, hallucinations and increasing the active participation of individuals and reduce the risk of recurrence. Cognitive behavior therapy is a form of psychotherapy emphasizing the importance of the role of the mind in how we feel and what we will do. Cognitive Behavior Therapy in addition to antipsychotic regimens and the growing evidence supporting the use of CBT for the most effective treatment of schizophrenia (Naeem, F., Kingdon, D., & Turkington, 2009). Cognitive first treatment was given to patients with chronic schizophrenia by Beck in 1952 and was found to be beneficial in the treatment of their persistent delusional system. Although cognitive behavioral therapy has been used for more than fifty years, it is not often used in the treatment of psychotic disorders to date. Recently, several specialized cognitive care programs have been developed for the treatment of schizophrenia and are being used (Naeem, F., Kingdon, D., & Turkington, 2009).

Previous studies have compared the effectiveness of cognitive behavioral therapy combined with drug treatment, known as standard treatment, in schizophrenia and other psychotic disorders, with alone treatment and standard treatment alternatives. Some behavioral cognitive therapy (CBT) programs are given individually and some groups. Because group therapy saves time compared to individual therapy, it appears to be more feasible in crowded clinics. Therefore, in the present study, studies investigating the effectiveness of cognitive behavioral therapy group programs (CBGT) have been discussed. The purpose of this review is to test the effectiveness of CBGT as compared to conventional treatment and other psychosocial treatments.

2 METHOD

Search Strategy

The search strategy of the journal begins by asking the research question, "whether CBT can reduce signs and symptoms of patients with schizophrenia?". The results of research on all indexed journals related to CBT and chronic schizophrenia. The database used for journal searching are Science Direct, Google Scholar, Ebsco, and Scopus databases. Keywords used are TITLE-ABS-KEY (CBT AND reduce AND chronic AND chizophernia) AND DOCTYPE (ar) AND PUBYEAR>2012; TITLE-ABS-KEY (CBT ANDchronic AND schizophrenia) AND DOCTYPE (ar) AND PUBYEAR>2012. The journal searching begins on February-March 2018. Study characteristics are selected from 2013 to 2018. The language chosen on the characteristics of this study is using the English language.

Data extraction is done by first searching the journals related to the variables to be studied. Researchers then select the appropriate areas and titles to the variable of the variable CBT ti reduce sign of chronic scizophrenia.Then the researcher reviewed the abstracts, the contents of the journal, and finally found the appropriate journal.

The first step of the researcher identified the search through 4 databases, that are Science Direct, Google Scholar, Ebsco, and Scopus databases. Found as many as 1626 displayed and matching titles. A total of 59 journals are according with abstact to the title of CBT for chornic shizophrenia. Then the researchers do the assessment on full text and obtained results as many as 34 appropriate. Then the researchers went on the search and got 15 journals that compare control group and therapy group of CBT for chornic schizophrenia..

Selection Procedures and Data Extraction

Selection of study and criteria this Systematic Review by PICOS approach.

Population

The selected population is adult man and women (18-50 years) who are experiencing schizophrenia ≥ 2 years.

Intervention

This study compared between the control group and the group that CBT gave to the decline in chronic schizophrenia symptoms.

Comparisson

This study compared control groups and CBT treatment groups to chronic symptoms of schizophrenia.

Output

Studies had to report that there was a significant difference between the control group and the treatment of CBT on the reduction of schizophrenia symptoms.

Study Design

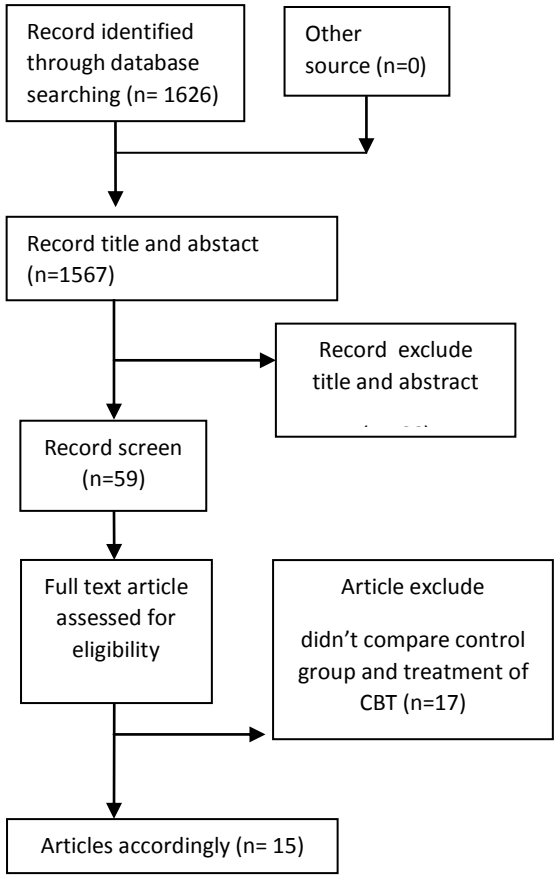

Figure 1 PRISMA flow Diagram CBT for Chronic Shizophrenia.

3 RESULT

Study Results and Selection Selection

The results obtained from the Scopus and Science Direct databases. The search results obtained result of 1626 journals. Scopus database got 8 journals. Database Science Direct obtained as many as 1618 journals.

All the journals that have been obtained are then screened according to the area of Medicine, Nursing, and Psychology until there are 1567 journals. Then performed a filtering back in accordance with the CBT variable and schizophrenia research got 59 journals accordingly.

Then, the re-screening was obtained as many as 15 journals that fit the inclusion criteria and exclusion. Design used include: 6 journals using RCT, 5 journals using quasy experiment, 2 jounals using cluster randomized trial using cohort, 1 journal using cross-sectional. with a focus on CBT as an adjunctive therapy on the reduction of signs and symptoms in schizophrenic patients.

Study Characteristic

Of the 15 journals conducted the review of the number of samples varied between 42 - 269 respondents were performed in the psychiatric and psychiatric inpatients, pediatric and adult patients suffering from schizophrenia, overall control group of ordinary medication or antipsychotic medication while the intervention group in addition to antipsychotic treatment also performed cognitive behaviour therapy. With the duration of follow up varies from 24 weeks to 24 months. The research used Randomized Cotrolled Trial design, Quasy experiment, cohort and Cross-sectional. The total number of respondents is 1797. The research was conducted in various countries, namely: Africa, Italy, Denmark, Amsterdam, Australia, USA, Hongkong, Pakistan, China, Germany and Turkey.

4 DISCUSSION

Studies on cognitive behavioral therapy (CBT) for schizophrenia, 50% of patients showed improved relative. Studies have shown that CBT is effective in patients with persistent treatment of persistent schizophrenia (Naeem, F., Kingdon, D., & Turkington, 2009). There is also evidence of CBT being helpful in acute relapse treatment and for early schizophrenia.

CBT has been shown to reduce relapse in psychosis (Naeem, F., Kingdon, D., & Turkington, 2009). Successful CBT involves reducing the pressure, through problem solving, modifying distorted thinking, and reducing dysfunctional behavior. CBT for psychosis (CBTp) pays particular attention to reducing the stress associated with positive psychotic symptoms (Naeem, F., Kingdon,

D., & Turkington, 2009) and has been shown to have beneficial effects in relieving anxiety symptoms in patients with first episode psychosis (Naeem, F., Kingdon, D., & Turkington, 2009) and more lasting schizophrenia with a brief insight-focused intervention CBTp study involving session 16, focused primarily on paranoid cognitive restructuring hallucinatory hearing assessments and experimental behavior work increasingly through assessed exposure to induced anxiety-inducing stimuli, found beneficial in patients with paranoid schizophrenia and co- morbid anxiety disorders, such as paranoid attenuated, anxiety, and improved psychosocial functioning. The multicentre randomized control trial day found that CBTp, given as 15 sessions over 24 weeks, improved positive symptoms, insight and long-term social functioning, up to 60 weeks postintervention (Li, Z.-J., Guo, Z.-H., Wang, N., Xu, Z.-Y., Qu, Y., Wang, X.-Q., … Kingdon, 2015). Six-session, 12-week CBTp interventions designed to reduce negative self-esteem and positive self-cognitions, find abatement in negative self beliefs, improvements in well being psychological, positive beliefs about self, minus negative social comparison, self esteem, and depression, but not there was a change in anxiety, and reported improvement was not maintained. Another enlargement of CBTp intervention focuses on management concerns associated with paranoid delusions: the worry is portrayed by the authors thus, his hopes occur worst. It consists of repeated negative thoughts about potential adverse outcomes, and the psychological component of anxiety. Worrying to bring unreasonable ideas to the mind, to make them exist, and to increase the degree of difficulty. From this, they suggest that the worry may be a contributing factor in the occurrence of a delusional persecutory (Startup et al. 2016) The six-session worry-reduction intervention results in a decrease in worry and delusion of confidence: positive decreased worry (cognitive component anxiety) accounts for 66% of positive changes in delusional presentations.

CBT for co-morbid anxiety disorders in psychotic disorders appears promising, with effects such as attenuation of social anxiety symptoms, panic disorder, and OCD. However, a new study addressing PTSD in schizophrenia found no reduction in PTSDrelated symptoms with CBT, where positive effects were found only with the passage of time from trauma: the authors suggest that further adaptation of cognitive- restructuring programs, such as CBT, is necessary to improve emotional processing of traumatic memories in psychotic disorders (Steel, C., Hardy, A., Smith, B., Wykes, T., Rose, S., Enright, S., … Mueser, 2017).

Cognitive behavior therapy can improve cognitive function and alter gradual deviant behavior in schizophrenic patients found in the study in the treatment group (6,473, df = 38. P <0.05) this means that CBT effectively decreases signs and symptoms schizophrenia (Williams, E., Ferrito, M., & Tapp, 2014). Kelitan conducted by Kukla, Davis, & Lysaker, 2014 the control and intervention groups were not significant where there was no difference.

Implications

Based on the results of research that has been done a study, it can be concluded that the results of the journal can be applied in the realm of Nursing Soul. Therapy is one of the skills that must be possessed by a specialist ners. This makes it easier for nurses to conduct comprehensive nursing care. Cognitive behavioral therapy is effective as an adjunctive therapy for schizophrenic patients, thus this study is expected to be used to expand and deepen the study of mental nursing. This systematic review can be the foundation of further research so that it can provide benefits in terms of future schizophrenia patients implantation

5 CONCLUSION

The overall way the results of analysis of 15 journals on behavioral cognitive therapy demonstrate that CBT may decrease the signs and symptoms of delusions and hallucinations in schizophrenic patients compared with patients receiving only antipsychotic therapy. CMB added to standard treatment is an effective method of management of psychotic disorders such as schizophrenia or schizoaffective disorder. Although this method does not seem to be economical it must therefore be managed by trained personnel and therapy that takes longer than the drug, .the evidence that CBT reduces the number and duration of admisssions demonstrates cost-effectiveness In addition, the fact that short-term intervention yields positive results improves the feasibility of this method to be used on a regular basis.

CBT is expected to be developed to help patients control their behavior toward the positive, providing benefits in the management of chronic schizophrenic patients in the future.

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The Efficacy of Stabilization Exercises for Chronic Low Back Pain: A Systematic Review

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Keywords: Low Back Pain, Exercise, Stabilization Exercise, Chronic.

Abstract: Background: Non-specifc low back pain (NSLBP) is described in a recent review of national guidelines as adiagnosis of exclusion, where pain caused by a suspected or confrmed serious pathology or presenting as a radicular syndrome have been ruled out. The treatment includes the correct body mechanics and ergonomics training, postural awareness training, strengtheningexercise, trunk stabilization exercise, stretching exercise. This systematic review aimed to explain the effectiveness of stabilization exercise against a decline in the level of pain and disability in patients with chronic nonspecific low back pain. Methods: The methods used by searching articles database SCOPUS, capping the results journals that do is the year of publication of the journal are restricted to start 2011-2017. Assessment of Risk of Bias on this review using a special Chocrane for research in methods of Randomized Control Trial (RCT). Results: This therapy can implied in medical surgical nursing especially musculoskeletal disorder. Stabilization exercise can be used as a option therapy to reduce the pain in chronic low back pain but must be with expert supervision. Conclusions: The results of this review indicate that stabilization exercise have significant influence towards a decrease in the level of pain and decrease disability

1 INTRODUCTION

Chronic low back pain is one of the most common and costly musculoskeletal pain syndromes, affecting up to 80% of people at some point during their lifetime (Kofotolis, Vlachopoulos, & Kellis, 2008). A majority of LBP resolves within 6 weeks, while others take about 12 weeks to resolve (Ahmed, Shaphe, Iqbal, Khan, & Anwer, 2016). Non-specific low back pain (NSLBP) is described in a recent review of national guidelines as a diagnosis of exclusion, where pain caused by a suspected or confirmed serious pathology or presenting as a radicular syndrome have been ruled out (Akhtar, Karimi, & Gilani, 2017). Lack of specific sources to explain the symptoms have raised challenge in the management of CNLBP. It seems that factors other than simple mechanical explanations contribute to patients' symptoms. Therefore, treatment protocols addressing control and coordination of spinal muscles are thought to be effective in the management of CNLBP (Salavati et al., 2016).

There are varieties of treatment modalities available in the management of LBP. The treatment goals are to relieve pain, reduce muscle spasm, improve range of motion (ROM) and strength, correct postural problems, and ultimately improve functional status. The treatment includes the correct body mechanics and ergonomics training, postural awareness training, strengthening exercise, trunk stabilization exercise, stretching exercise (Ahmed et al., 2016)

The trunk muscles have an important role to maintain the spinal stability. Without the support of the trunk muscles, the spinal column is unable to carry normal physiological loads (Ahmed et al., 2016). Stabilization exercises involve coordination exercises and muscle independent activity (including transversus abdominis muscles) maintain a pain-free position and movement. This exercise is equipped with posture control, normal breathing patterns, and pelvic muscle exercises (Salamat et al., 2017).

Therefore the aim of this systematic review was to determine whether there are more recent interventions showing efficacy in treatment of low back pain for chronic low back pain

2 METHODS

Literature Search Strategy

The strategy had seven components which were combined: (1) low back pain AND (2)exercise OR (3)stabilization exercise AND (4)chronic OR 5)nonspecific NOT (6)Pilates, NOT (7)Yoga. The specific focus of the search was any intervention (prevention or treatment) for chronic low back pain. All randomised controlled trials from phase one and two were assessed for eligibility using strict inclusion and exclusion criteria and were all critically appraised using the same risk of bias assessment

Searching the Databases

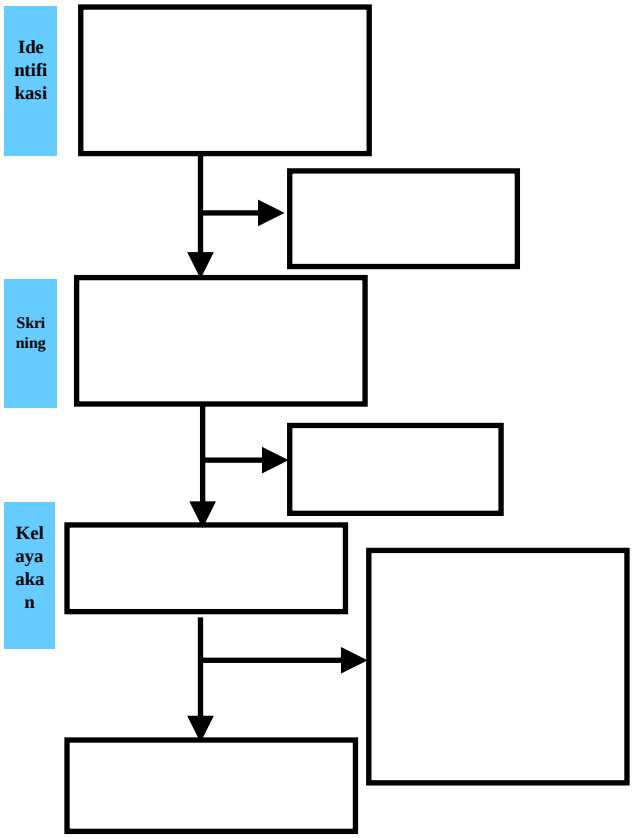
Searching the databases yielded 2,385 potentially relevant studies. 1423 excluded based on title and 962 abstracts were scanned. 327 full-text studies were retrieved with 312 studies being excluded as they did not meet the eligibility criteria. Searching the reference lists of the included studies did not result in the inclusion of other studies. Reasons for exclusion included lack of appropriate randomization, including non-nursing subjects in the study population, Iranian language, and failing to measure appropriate outcome measures. Fifteen studies matched these inclusion criteria

Searching the Database Inclusion and Exclusion Criteria

Inclusion and exclusion criteria Study design Only studies (from phase one and two) of completed randomized controlled trials published in peer-reviewed journals written in English was include.

Population: Studies including people with non-specific low back pain between 18 and 65 years of age were included. Participants needed to have a minimum of three month of low back pain causing pain and/or disability and/or seeking care and/or sick leave in the previous two years. Studies involving participants with specific pathologies/conditions (e.g. pregnancy, **"**red flag**"** disorders (e.g. spinal cord compression/cauda equina, spinal cord injury, cancer, fracture) or neurological, cardiac, renal or respiratory, rheumatological conditions) were excluded.

Interventions: Dynamic Muscular Stabilization Techniques (DMST), Segmental Stabilization Exercise (SE), Core Stability Exercise (CSE), Spinal Stabilization Exercise (SSE), Rhythmic Stabilization Exercises, Trunk Stabilization Exercises (TSE), Lumbar Stabilization Exercise, Novel Core Stabilization Technique can be used as one of the therapy modalities of chronic nonspecific low back pain patients to reduce the level of perceived pain.



3 RESULT

Characteristics of study: participants overall total of the entire study was 606 with a range of adults aged 18-60 years and had complaints *of low back pain* for more than three months and have no pathological condition. Interventions used in all research is a multicomponent intervention with an average duration of therapy 3 times a week for 8 weeks with an average follow-up 1 month to 8 months. Most use the same measuring instrument, namely: *the Visual Analogue Scale and Oswestry Disability Index.*

Clinical outcome measures: All studies reported a pain intensity outcome measure by Visual Analogue Scale (VAS) and Disability by Oswestry Disability Index (ODI) pre- and post-intervention.

Risk of bias assessment: Assessment of risk of bias in this review using Chocrane to research by the

method of only Randomized Control Trial (RCT). We only included articles with the highest value in the assessment of which is assumed as an article with a low risk of bias in the study. Points in Risk of Bias used include Random sequence generation, Allocation concealment, Blinding of participants and personnel, Assessing blinding by outcome, Incomplete outcome data, Selective reporting, Other source of bias. The data can be seen in the table appended at the end of this review.

Effect post treatment: Significant effects were found statistically from almost all articles of stabilization exercise show decreasing pain levels and disability indexes. There are some articles that do not show significant changes in statistical tests but succeed in decreasing the value of pain level.
DISCUSSION

4 DISCUSSION

In general articles that have been explored in systematic reviews on these positive outcomes that stabilization exercise effective for patients of chronic nonspecific *low back* pain, especially at the level of pain and disability although most articles mention the intervention of stabilization exercise that they do not stand alone, but combined with interveensi Additional and specific conditions. Research Lamba, Kandpal, Joshi, Koranga, & Chauhan, 2013 reported that there were significant improvements in exercise by using swissball. Similarly, Akhtar, Karimi, and Gilani, 2017 mentions Core stability exercises using swissball effective in the long-term management of *low back* chronicpain. Stabilization of the core more effectively reduce the pain of the regular physical exercise in patients with *low back* chronicpain.

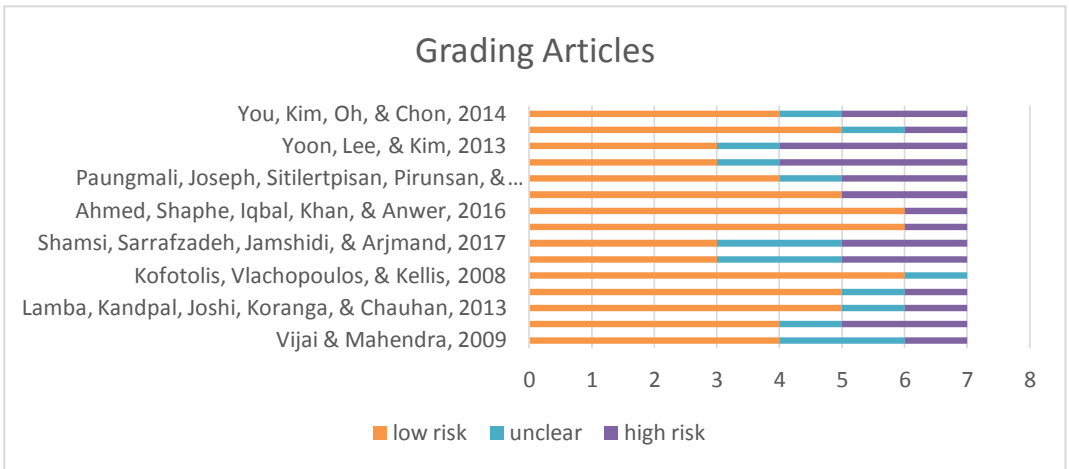
Stabilization exercise is an exercise models used to improve the strength and position of the body stability. This exercise refers to the ability of the body to maintain the position and movement of the central body. Repair spine posture has the effect of increasing the body's resistance to change in motion or in static and dynamic loading. Such conditions can stimulate neurons beta-A, which will cover the defense mechanism, the message delivered will stimulate the mechanoreceptors or substance that can inhibit pain stimuli.

From the above literature review, the management of *low back pain* with physical exercise therapy is an effective treatment and very efficiently used as an alternative to reduce pain and disability *low back pain* of chronic patients.

Implications: The results of the literature review *stabilization exercise* of various studies could be implicated in medical-surgical nursing, especially nursing musculoskeletal. Therapy can be used to be a therapeutic option to reduce pain experienced by patients with *low back pain* chronic but should be under the supervision of experts.

5 CONCLUSSION

Research indicates that *stabilization exercise* has a significant effect on the reduction of pain and decrease level of disability. Stabilization exercise in combination with a variable or other therapies that will provide a better impact. It may be worth exploring, with high quality randomised controlled trials, the efficacy of multidimensional interventions which are more specifically tailored to the needs of patient with chronic low back pain.



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Correlation of Coping Mechanisms Towards Fulfillment Capabilities Daily Activities of Elderly

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Keyword: Coping Mechanism, Activity Daily Living (ADL), Elder

Abstract: Along to the aging process, the elder got kinds of problem such as physical, psychological, social and spiritual. Coping mechanism is a method used by someone especially the elder to cope with their problems or tasks such as their Activity Daily Living (ADL) or basic activity that routinely did by the elder independently or with another person help. This study aim to know the correlation between coping mechanism towards to fulfillment the elder daily activities using cross-sectional study design with 132 respondents. The result showed that 95,4% elderly use adaptive coping mechanism, whose have independent ability are 87,3% from them. 14,6% elderly use maladaptive coping mechanism and whose dependent are 66,7% from them. Based on the result of range spearman test obtained correlation coefficient value is 0.502 with significancy value is 0.000. This result indicate that there is a significant correlation and quite close between coping mechanism and elderly ability to fill their daily activities. Problem or tasks encountered by the elder affect to their coping. The elderly are expected to use the coping adaptively to solve the problem, so the ability to fulfill daily activities can be carried out and fulfilled optimally.

1 INTRODUCTION

Last decade, the Indonesian life expectancy increase from 45,7 years old in 1970's, become 59,8 years old in 1990's and it will increasing until 71,1 years old in 2010's. Indonesia is the one of country which is evolve to aeging structured population era because of the elderly population reach more than 7% (Menkokesra, 2005). In line with data in BPS (Badan Pusat Statistik) that showed the elder population increase until more than 9,77% in early 2011. World Health Organization define that someone 65 years age indicate the real aging proses and they can called as elderly. Increasing of the elderly number also followed by increasing the problem too. As an individual the elder problem appear as an effect of the physical, mental and social changes. It makes regression in function and the elder ability. So, the elder independence was decrease too. In this situation need someone to accompany, treat, or help them such as family, social life, even the health care provider or social worker. Becoming old, it changes someone life style and patern too such as they will get more free time as the effect of decreasing the elder daily activity. Mental health is the one of the problem that appear in elderly. Generally, the mental health problem that appear in elderly it caused by adaptation problem. In elderly phase, there is a condition which is need more psychosocial adaptation, such as: lose and griefing; lose the job and financial; conflict with their kids; far away from their kids; home alone; and social isolation. The problem that faced by elderly is need to solve as an effort to adaptate with their problem.

This study aims to know the correlation between coping mechanism towards the elder daily activities fulfillment. This study is expected to give beneficial for nursing science so can help the elder to maintain and increasing their health status.

2 METHODS

This study using cross-sectional study design with 132 respondents. The instrumen in this study

are quesioner which is develope from Stuart & Sunnden about coping mechanism and Kartz Index to measure the activity daily living fulfillment. The researcher using SPSS to validate the instrument especially in coping mechanism quesioer.

3 RESULT

Based on result of survey found data about respondents caracteristic

Table 1. Respondent caracteristics

Caracteristic	Classification	f	%
Age	65-70 yo	100	75.7
	>70 yo	32	24.3
Sex	Laki-laki	69	52.3
	Perempuan	63	47.7
Education background	Elementary	63	47.7
	Middle high	33	25
	High school	19	14.4
	No school	17	12.9
	Collage	0	0
Ocupation	Farmer	74	56.1
	Jobless	29	22.9
	Enterpreneur	18	13.7
	Retire	11	8.3
Social activity	Following	110	83.3
	Not following	22	16.7
Home life	Family	125	94.7
	alone	7	15.3

Table 2. Coping mechanism distribution

Caracteristic	Classification	adp	mal	Sig
Age	65-70 yo	99	1	0.000
	>70 yo	27	5	
Sex	Laki-laki	67	2	0.366
	Perempuan	59	4	
Education background	Elementary	62	1	0.005
	Middle high	32	1	
	High school	18	1	
	No school	14	3	
	Collage	0	0	
Ocupation	Farmer	74	0	0.001
	Jobless	24	5	
	Enterpreneur	18	0	
	Retire	10	1	
Social activity	Following	108	2	0.001
	Not following	18	4	
Home life	Family	119	6	0.557
	alone	7	0	

Significant value in age, education background, occupation, dan social activity category are <0.05. it means that three category give an effect for the individual coping mechanism.

Tabel 3. ADL's distribution

ADL's	F	%
Independence	112	84.8
Not-independence	20	15.3

Tabel 4. Correlation of coping mechanisms toward ADL's

	Ind		dep		Coefisien value	Sig.
	F	%	f	%		
Adp	110	83.3	16	12.1	0.502	0.000

Mal	2	1.5	4	3.1

The result showed that 126 (95.4%) elderly used the adaptive coping mechanism and 110 (83.3%) have the independent ability. While 6 (4.6%) elderly use maladaptive coping mechanism and 2 (33.3%) of them have the independent ability. Based on the result of Spearman Rank Test obtained a correlation with coefficient value is 0.502 and significant value is 0.000. This result indicates that there is a significant correlation between coping mechanism and elderly ability to fill their daily activities.

4 DISCUSSION

The result showed that 126 (95.4%) elderly used adaptive coping mechanism. According to researcher opinion, this condition caused by the elder get high social support and good appreciation from other village people. According to Rook & Dooley in Sini (2009) there are 2 social support resources, that is artificial and natural resources. Natural resources comes from person social interaction in life spontaneously with people around them such as family, friends or association. This is non-formal social support. According to Maryam (2008), social support can give an effect to the elderly mental health. The level and role of the elder in social life regarded as someone whose be respected and appreciated also the elder considered to be someone whose have high value in social can make the elder more health in psycology. Feeling acceptance by other will change their assumption to face the elder phase and give an effect to their health status. in Table 5.1, showing 100 (75.7%) of the elderly aged 65-70 and 32 (24.3%) of the elderly aged> 70 years. From both groups found that in the age group> 70 years more use of maladaptive coping mechanism. health is important, because in an effort to cope with stress a person is required to exert considerable energy. characteristics of respondents based on education showed 63 (47.7%) elderly education level is primary school, 17 (12.8%) elderly are not school. elderly groups who are not in school are more likely to use maladaptive coping 74 (56.1%) elderly work as farmers and 29 (22.9%) elderly do not work. elderly characteristic in social life found 110 (83.3%) elderly follow activity in the community. work and active in community activities, has a close relationship with coping mechanisms used by the elderly. because the influence of social support factors can meet the information and emotional needs of a person. this is supported by the activity theory proposed by Roach. the higher the activity performed by the elderly, the satisfaction of life will increase. according to researchers, the high social support of the community can make elderly people feel more appreciated and can improve the more adaptive coping.

ADL's data show 112 (84.8%) of elderly and 20 (15.2%) dependent elderly. this suggests that age greatly affects the ADL's level of elderly the more one's age the higher the ADL's level. the age of a person shows a sign of willingness and ability or how one reacts to the inability to perform daily activities (Potter, 2005). social environments such as social support, educational opportunities, and lifelong learning, peace and protection from violence and solving are major factors in the environment that affect health. based on the results showed 110 (83.3%) elderly use adaptive coping with ADL's independently and 16 (12.1%) elderly with ADL's dependent. 2 (1.5%) elderly use maladaptive coping with ADL's independently and 4 (3.1%) elderly with ADL's dependent. these results indicate there are 16 (12.1%) elderly people using adaptive coping, but ADL's dependent. this is because the coping mechanism is not the only factor that affects the level of independence of the elderly. there are several other factors such as age, physical health, cognitive function, psychological, stress and physical activity, as well as a low lifestyle.

Based on the result of range spearman test obtained correlation coefficient value is 0.502 with significancy value is 0.000. This result, indicate that there is a significant correlation and quite close between coping mechanism and elderly ability to fill their daily activities. the results are consistent with the statement of Tamber (2009) that psychological functions relate to a person's emotional life, even if the person is fulfilled of his financial needs. however, if his psychological needs are not met it can lead him to be dissatisfied with his life.

5 CONCLUSIONS

The results of the study found that most elderly people use adaptive koping. this is influenced by a good social environment that can support the psychological health of the elderly. ADL's also show mostly self-contained. This is supported by the still active elderly in the activities of social and active work. There is a relationship between coping

mechanisms with ADL's fulfillment ability of the elderly.

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Neglect Elderly in Family: A Systematic Review

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Keywords: Neglect, Elderly

Abstract: Neglect is a failure to provide services in providing well or failure in providing mental illness services such as leaving the elderly, refusing to give food or preparing meals or health-related services. Where the elderly suffers a physical setback that causes people to grow old, is actually a biological phenomenon, but the regulation of the system, status, role and social function of the elderly in families and communities is cultural construction. Methods literature searches are performed in major database such as Ebsco Host, proquest, sciencedirect, scopus, sagepub, medline, and google scholar with time limits used are journals from january 2007 to december 2017 Results from various research journals raised in this study, all have a similar goal that is aware of the factors that cause neglect of the elderly in the family. From the obtained journals, research chose random sampling technique. Conclusion The elderly neglect of the elderly so as not to increase the physical condition of the elderly, the psychological state of the elderly should be healthy, the elderly's daily activities are not dependent on the family, and social support of the elderly, and the family's economic level affects the occurrence of neglect of the elderly.

1 INTRODUCTION

Aging or aging process is a process of gradually disappearing the network's ability to repair itself or replace and maintain its normal function so that it can not survive the infection and repair the damage suffered. Along with the aging process, the body will experience various health problems or commonly referred to as degenerary disease (Constantinides, 1994 in Siti Maryam et al., 2012). Aging is a biological, psychological and social change that often occurs over time and age. Changes in psychosocial function that occur such as the elderly who experience interaction disorders due to illness and limitations, interaction interference with support because of changes in the role of changes in relationship with the environment of residence (Miller, 1995). The condition of psychological changes is related to the process of penua (Mauk, 2010). The physical degeneration that causes people to grow old is actually a biological phenomenon, but the regulation of the system, the status, the role and social function of the elderly in families and communities is cultural construction. Changes in psychosocial function in the elderly will have an impact on the occurrence of damage to psychosocial function in the elderly and the risk of neglect.

Neglect is a failure to provide services in providing good or failure in providing painful services such as leaving the elderly, refusing to give food or preparing meals or health-related services (Maurier and Smith, 2005). Neglect is related to the failure of the caregiver in providing the service needed for physical and mental needs in elderly individuals (Stanhope and Lancaster, J. A, 2004). Neglect is divided into active neglect and passive neglect. Active neglect is the refusal or failure of the service provider to perform its obligations done consciously and deliberately causing physical distress and emotional distress in the elderly. Passive neglect is the refusal or failure of service providers to perform obligations in meeting the needs of the elderly without any element of deliberate but causing physical and emotional distress in the elderly (Burke and Laramie, 2000). East Java Dinsos data, in the range 2015-2016 recorded an increase in neglected elderly 32,625 people from 112,867 in 2015 to 145,492 inhabitants.

The National Indian Council on Aging (NICOA) reports for the National Center on Elder Abuse (NCEA) which states that the neglect of the elderly by the family ranks second by 45% after the

financial violence by the family by 63% (NICOA, 2004). Kemen Sos said 2010 estimates of elderly population in Indonesia will reach 23.9 million or 9.77% in 2020 estimated elderly population in Indonesia reached 28.8 million or 11,34% In Indonesia neglect or neglect is case most experienced by elderly equal to 68.55% (Social Ministry, 2008). Statistical data of elderly people in Indonesia states that of the approximately 21 million elderly (8.5% of the population), 9.55% of elderly are neglected. As many as 45.14% of elderly people in Indonesia are at home with low economic status, and only 11.08% of elderly households have social security (Badan Pusat Statistik, 2015).

Incidence of risk of neglect experienced by the elderly in the family to provide an overview of the function of the family has not been optimal in fulfilling health needs, welfare and elderly nursing. The risk of neglect in the elderly cederung occurs in the family because most of the service providers in the elderly are families or working mothers. The signs of neglect of elderly include:

a. Late in the treatment
b. Dehydration, malnutrition, decubitus ulcers, less hygiene conditions
c. Changes in the provision of health services
d. Loss of tools such as dentures, eyeglasses, hearing aids, and other aids (Mauk, 2010).

If the elderly reply yes means the elderly are at risk for experiencing neglect. The neglect of the elderly is recognized worldwide as a matter of serious concern, so we aim to know the underlying causes of neglect of the elderly in the family by systematically reviewing the neglect on the elderly.

2 METHODS

Literature searches are conducted in major database such as Ebsco Host, proquest, sciencedirect, scopus, sagepub, medline, and google scholar with time limits used are journals from january 2010 to february 2018. Inclusion criteria article is ignoring elderly senua type neglect that happens to elderly in the family. all articles use ingris. Articles are excluded if the target population focuses on children and young adults or the general public. Method of study of study quality used to study data of research result by using 2 stages namely validity (validity), reliability (keajegan) and Applicability (applicable). Data Extraction Methods To compare between journals already obtained the data is extracted using the author and the year of publication, design, research objectives, population, intervention, method of implementation and outcome to be achieved. The synthesis of data using data from the extraction of journals that have been done then dilakukuan inference.

3 RESULTS

Propagation on the elderly in the family much influenced by elderly and family factors, in the systematic review of this research then the results obtained are:

a. Characteristics of respondents

The respondents of the abandonment action in the six journals are elderly living or living with the family (children).

b. Factors that affect the occurrence of neglect in the elderly:

From the results of the journal article the factors of physical health decline, cognitive impairment, emotional disturbance or mental illness, decreased expectations, emotional and financial dependence on the recipients of services, acquired the form of violence in childhood, especially if the elderly were once perpetrators violence, social isolation and lack of support systems.

c. Advantages and disadvantages of journals

From the advantages and disadvantages of the journal five journals are less specific in including the most influential factors for the occurrence of neglect in the elderly, the five journals do not explain the length of the study conducted, and two journals not described measuring instruments used, should in the journal explain the use of measuring tools penelitin because it works for to clarify the results of research presented by researchers. Quality Critical Appraisal The study was conducted by the authors themselves the results obtained still depend on the subjectivity of the author.

4 DISCUSSION

The neglect of the elderly is a failure of the service provider in providing well or failure in providing services that cause physical, mental or mental hazard conditions, such as leaving the elderly, refusing to feed or preparing meals or health-related services (Maurier and Smith 2005) . Waivers include conditions intentionally or unintentionally committed, when the elderly require food, medication or unintentional when the elderly need food treatment or services in the elderly is not done. The act of leaving the elderly alone in the

home is also an act of neglect of the elderly. Not preparing services for the elderly as punishment for the elderly committed by a person is also a form of neglect of the elderly (Mauk, 2010).

The division of neglect of the elderly is active and passive. The active abandonment action that it implies is the refusal or failure of the service provider to perform its obligations consciously and intentionally resulting in physical suffering and emotional distress in the elderly. the act of neglecting the elderly is the refusal or failure of the service provider to perform obligations in meeting the needs of the elderly without any element of deliberate but causing physical and emotional distress in the elderly (Burke and Laramie, 2000). So it can be simpuplkan actions done intentionally or unintentionally causing or causing failure in the service so that the elderly needs can not be fulfilled is a waiver.

Factors causing the neglect of the elderly that comes from the elderly and from care giver. Based on the high risk of elderly people who have decreased with high levels of physical dependence in getting the service trigger stress conditions so that the cause and opportunity for the elderly to get the behavior of neglect and exploitation. When needing help to meet the basic needs of everyday activities such as bathing, dressing, walking, eating, can trigger and cause stress on the care (Meiner & Lueckonette, 2006). Other risk factors that can trigger a waiver of neglect in elderly social isolation and dementia in elderly Koknitif disorder experienced by elderly become risk factor for elderly and can become trigger of ignorance occurrence to elderly. The elderly neglect factor from the care giver side is the burden factor that the family carries, in which the family is responsible for two generations of parents and children, can also be caused by stress due to financial difficulties in meeting the needs of family members that trigger ignorance behavior in the elderly .

5 CONCLUSIONS

Abandonment behaviors committed against the elderly are at greater risk for the elderly in conditions of physical and psychological decline. Family as primary care giver on elderly care. Abandonment experienced by the elderly is due to the elderly factor of physical and psychological deterioration of the elderly. Elderly with confusion, incontinence, weakness, physical and mental disability causes dependence on service providers (Maurier & Smith, 2005).

Based on the eight journals shows the factors of physical and psychological deterioration of the elderly as a cause of neglect is expected by the next researcher longer research time and validity and reliability of igniter measure upgraded so that the results obtained in more leverage

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PATIENT SATISFACTION USING HEALTH INSURANCE TO NURSE COMMUNICATION

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Keywords: Therapeutic Communication, Patient Satisfaction

Abstract: Therapeutic communication is a consciously planned, purposive and focused communication for the patient's healing. The results of preliminary study on 9 patients including 3 patients PBI not satisfied, 2 of 3 patients BPJS Non-PBI less satisfied and 2 of 3 patients General feel less satisfied. The objectives of the study were to analyze differences in patient satisfaction level in the implementation of nurse communication in patients with BPJS PBI, non-PBI and General. This study Used comparative. Variable of research waspatient satisfaction level in nurse communication implementation. population 136 respondents, sample 102 respondents. Technique sampling was proportionate random sampling, instrument used questionnaire. The statistical test used wallist cruciate test with $\alpha = 0{,}05$. The results of the study in the BPJS group PBI showed the majority of patients were not satisfied as much as 83.33%. In the Non-PBI BPJS group the majority of dissatisfied patients were 89.2%. In the general group showed> 50% said not satisfied as much as 65.9%. Wallis cruciate test results obtained Pvalue = $0{,}030 < \alpha = 0.05$, indicating there are differences in the level of patient satisfaction in the implementation of nurse therapeutic communication in patients BPJS PBI, non-PBI and general. It is expected that Irna-B Room nurse to improve the implementation of nurse communication in interaction with the patient in order to increase patient satisfaction. the hospital needs to provide education and training on therapeutic communication of nurses.

1 INTRODUCTION

Nurse is one of professions which focuses on personal treatment, family, and society so they can survive and still alive in optimal and quality condition until the end of their live. One of the proper effort that must be done by them as the way to fulfill the health patients' needs, as well as with other health workers in order to help solve the client's problem is communication. By communication, nurse can understand well the patients' feeling and explain the procedure of the nursing actions (Mundakir, 2013)

Therapeutik Communication is implemented by the nurse to keep their relationship and add the patients' self-confidence. Otherwise, if it is not be done by the nurse, it can bother the therapeutic relationship between the nurse and the patients and it will affect to the patient's dissatisfaction. Based on the previous study done by (Suryani, 2014), it has been said that the main factor of unsatisfaction of the patient was because of the therapeutic communicationin giving nursing care.

Based on the preliminary study which has been done to some patients in BPJS PBI, BPJS Non PBI, and public level that is the patients' satisfaction in Syamrabu Hospital Bangkalan, the Terapeutik communication has been gotten from questionnaire and interview were applied toward 9 patients such as 3 were PBI patients were not satisfied, 2 of 3 patients' BPJS Non PBI got less satisfaction and 2 of 3 patients of public class also got less satisfaction.

The lower level of the patients satisfaction toward the nurse's Therapeutik communication caused by several factors from many aspects such as internal factor as the client age, education, the length of working, knowledge, attitude, psychology factor and the patient itself. The second factor is external factor such as environment and the nurse' Therapeutik Communication (Asmuji, 2012). If the nurse cannot do the Terapeutik communication well, it can increase the number of unsatisfaction of

patients and most of the patints will be back home in un proper procedure.

To avoid the lower quality of health workers service (nurses), and more patient will go to another place, it would be very wise and appropriate, if a health care institution can improve the quality of service. One form is to improve the ability of good communication and appropriate for nurses (Arwani, 2002).

2 METHOD

This research is comparative study which has comparisons characteristic. The variable of this research is the patients' satisfaction degree toward the nurse's communication. The population of this research was all of the patients in BPJS PBI, BPJS Non PBI and public class in hospital. The number of the population is 136 patients. the sample was 102 patients by using Proportionate Random Sampling technique.

The instrument of this study was questionnaire. To test the hypotheses, the researcher used Statistic Test such as Kruskal Wallis with @=0,05

3 RESULT

Frequency Distribution of BPJS PBI Patient Satisfaction Rate

Table1Frequency distribution of respondents based onpatient satisfaction level of BPJS PBI

Level of Satisfaction	Frequency *F*	Percentage %
Very Satisfied	0	0
Satisfied	4	16,67
Not Satisfied	20	83,33
Very Dissatisfied	0	0
Total	24	100
Mean = 54, 17		

Based on Table 1 shows that the majority of patients BPJS PBI were not satisfied in the implementation of therapeutic communication of nurses in the Irna-B room of RSUD Syamrabu Bangkalan that is as many as 83.33%.

Frequency Distribution of BPJS Non-PBI Patient Satisfaction Rate

Table 2 Frequency distribution of respondents based on patient satisfaction level of BPJS Non-PBI

Level of Satisfaction	Frequency *F*	Percentage %
Very Satisfied	0	0
Satisfied	4	10,8
Not Satisfied	33	89,2
Very Dissatisfied	0	0,0
Total	37	100
Mean = 57,09		

Based on table 2 shows that the majority of patients BPJSNon-PBI were not satisfied in the implementation of therapeutic communication of nurses in the Irna-B room Syamrabu Bangkalan hospitals that is as many as 89.2%.

Frequency Distribution of General Patient Satisfaction Rate

Table 3 Frequency distribution of respondents based onpatient satisfaction level of general patient

.

Level of Satisfaction	Frequency *F*	Percentage %
Very Satisfied	2	4,8
Satisfied	12	29,3
Not Satisfied	27	65,9
Very Dissatisfied	0	0,0
Total	41	100,0
Mean =44,89		

Based on Table3 showed that> 50% of general patients were not satisfied in the implementation of therapeutic communication of nurses in the Irna-B room of RSUD Syamrabu Bangkalan that is as many as 65.9%.

Differences in Patient Satisfaction Level In Implementation Of Therapeutic Communication Of Nurses In Patients Bpjs Pbi, Bpjs Non-Pbi And General

The result of Wallis crucial test shows p value (0,030) <α (0,05). This means that Ho is rejected, which means there is a difference in the level of patient satisfaction in the implementation of therapeutic nurse communication in patients BPJS PBI, BPJS Non-PBI and GENERAL.

4 DISCUSSION

Patient Satisfaction Rate BPJS PBI

Based on table 1 shows that the majority of patients BPJS PBI not satisfied in the implementation of therapeutic communication nurses in the room Irna-B RSUD Syamrabu Bangkalan that is as much as 83.33%. From the results of the questionnaires it was found that most respondents said nurses never uttered greetings and mentioned the names of patients interacting with patients, most respondents said that nurses never introduced themselves at the beginning of interactions, and the majority of respondents said nurses never said goodbye when leaving the patient's room.

Respondents who stated still not satisfied in nurse therapeutic communication implementation because first impression of meeting between nurse and patient which show less attitude of mutual open especially attitude of nurse acceptance to patient arrival of care room. From the questionnaire results obtained most respondents say nurses do not say hello and mention the name of each patient interact with patients, most say nurses do not introduce themselves at the beginning of interaction. This is in accordance with the opinion (Suprapto, 2005) expressed satisfaction as the level of one's feelings after comparing the performance or the results he felt with expectations. Patient satisfaction of services provided by the service provider (hospital) will increase the confidence of the patient (community) on the performance and quality of the hospital. This will encourage the repeated use of the facility or will be the patient's primary choice for seeking medical help.

Patient Satisfaction Rate BPJS Non-PBI

Based on table 2 shows that the majority of patients Non-PBI BPJS not satisfied in the implementation of therapeutic communication nurses in Irna-B space Syamrabu Bangkalan RSUD as much as 89.2%.

Communication skills are critical skills that must be possessed by nurses, because communication is a dynamic process used to collect assessment data, provide education or health information, influence clients to apply it in life, show caring, provide comfort, foster self-esteem and appreciate client values. So, it can also be concluded that in nursing, communication is an integral part of nursing care. A nurse who communicates effectively will be better able to collect data, perform nursing actions (interventions), evaluate the implementation of interventions that have been made, make changes to improve health and prevent the occurrence of legal issues related to the nursing process.

Patient satisfaction is based on the implementation of therapeutic communication phase of work group in BPJSnon-PBI in RSUD Syamrabu Bangkalan got results almost 50% of respondents said Nurses almost never provided information clearly and easily understood about the disease suffered by patients, more than 50% once paid attention to client response after the action / procedure performed, and nearly 50% Nurses almost never come immediately when patients need service.

Patient Satisfaction Rate of General patient

Based on Table 3 showed that> 50% of GENERAL patients were not satisfied in the implementation of therapeutic communication of nurses in the Irna-B space of RSUD Syamrabu Bangkalan that was as much as 65.9%. Therapeutic communication is a communication that encourages and helps the client's healing process (Depkes RI, 1997). Northouse (1998) defines therapeutic communication as a nurse's ability or skill in interacting to help clients adapt to stress, overcome psychological disorders and learn how to relate or interact with others. Therapeutic communication is an interpersonal communication, meaning communication between people face-to-face that allows each participant to capture the reaction of others directly, both verbally and nonverbally (Mulyana, 2005). Therapeutic communication performed by the nurse is one of the factors that affect patient satisfaction.

Patient satisfaction based on therapeutic termination phase communication in RSUD Syamrabu Bangkalan still less, that was majority of respondents said nurse never leave goodbye when leaving patient room at termination phase execution. According to (Nugroho & Aryati, 2009), the termination phase is the final stage of therapeutic communication that aims to improve the function and ability of nurses to satisfy the needs of patients and achieve realistic professional goals. Respondents who were dissatisfied with the termination phase execution due to the majority of respondents said that the nurse never informs the action plan that will be done next and never inform the next meeting time. In addition, most respondents also said that nurses only occasionally gave patients the opportunity to decipher their perceptions or opinions. The nurse also sometimes did not leave before leaving the patient's room. The nurse's job at this stage is to conduct subjective evaluation by

asking the client's feelings after interacting with the nurse, contracting for the next meeting, and ending the activity in a good way.

Differences in Patient Satisfaction Rate of BPJS PBI, Non-PBI and GENERAL Patient

The result of Wallis crucial test shows p value (0,023) <α (0,05). This means that Ho is rejected, which means there is a difference in the level of patient satisfaction in the implementation of nurse therapeutic communication in patients BPJS PBI, Non-PBI BPJS and General patient

As submitted by the Social Security Administering Council (2014), which operates on 1 January 2014, nurses should not distinguish community services that run in-patient care in the 1st, 2nd and 3rd classes as they will get the same services. In the opinion of the respondents this dissatisfaction is because the first impression of meeting between nurses and patients who show less mutually open attitude, especially the attitude of nurses to the arrival of patients in the room of care. Whereas patient satisfaction of the service provided by the service provider (hospital) will increase patient trust (society) to the performance and quality of the hospital.

The result of the research showed the difference of patient satisfaction in the implementation of nurse therapeutic communication in BPJS PBI patient, Non-PBI and General BPJS. One of the influential in improving the quality of hospital services is health services provided by health workers in certain hospitals, especially in the room. Health care is any effort that is carried out individually or collectively in an organization to maintain and improve health, prevent and cure disease and restore the health of a person, family, group and community (Levely and Loomba (1973), quoted from Azwar, 1998). One that can be rated is the communication done by health personnel in the room. Therapeutic communication is a planned and done communication to help the client's healing or recovery. In the implementation of therapeutic communication, the nurse should not discriminate between patients, patient's age, sex even from the rank of patient.

5 CONCLUSION

The majority of patients with BPJS PBI feel dissatisfied with the implementation of therapeutic nurse communication in RSUD Syamrabu Bangkalan.

The majority of patients of BPJS Non-PBI feel dissatisfied with the implementation of nurse therapeutic communication in RSUD Syamrabu Bangkalan.

More than 50% of General patients feel dissatisfied with the implementation of therapeutic communication of nurses in RSUD Syamrabu Bangkalan.

There is a difference of patient satisfaction level to the implementation of therapeutic nurse communication in BPJS PBI, Non-PBI and General patient

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Efficacy of The Ginger on Chemotherapy-Induced Nausea and Vomiting (CINV): A Systematic Review

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Keywords: Zingiber officinale, ginger, CINV, nausea, vomiting, emesis, chemotherapy

Abstract: Background: Chemotherapy Induced Nausea-Vomiting (CINV) is a frequent side effect experienced by sufferers of malignant tumor undergoing chemotherapy. Ginger is one herb that has been used since many years and is naturally especially as antiemetic. This study aims to find out the effectiveness of ginger against nausea vomiting due to chemotherapy by systematic review and followed the PRISMA statement guidelines. Methods: Scopus, Science Direct, PubMed, and Springerlink database from January 2012 – December 2017. Articles identified by using search terms or keywords ('CINV' OR 'nausea' OR 'vomiting' OR 'emesis') AND (‘chemotherapy’) AND ('ginger' OR 'Zingiber officinale' OR 'rhizoma'). All included studies were access base on randomized controlled trial. Results: 14 out of 209 papers were including. Articles that have been reviewed results that ginger give benefits to reduce nausea vomiting due to chemotherapy showed a significant especially in acute phase. Conclusions: Nausea vomiting is a side effect of the chemotherapy modalities can be treated by ginger and used as evidance to justify of complementary therapies.

1 INTRODUCTION

Chemotherapy Induced Nausea-Vomiting (CINV) is a term used to describe the incidence of nausea, vomiting and a combination of both of the symptoms associated with the granting of cytotoxic chemotherapy (Marx *et al.*, 2016). CINV is a frequent side effect experienced by sufferers of malignant undergoing chemotherapy (Mizuno *et al.*, 2016). 70-80% of patients receiving chemotherapy experiencing CINV (Chase *et al.*, 2018). Nausea and vomiting are common symptoms that can weaken and cause a decrease in quality of life, dehydration, electrolyte imbalances, weight loss and delay the granting of chemotherapy (Davidson *et al.*, 2012; Kittelson, Elie and Pennypacker, 2015). Therefore nurses play an important role in the treatment of patients with CINV (Middleton and Lennan, 2011).

Pharmacological therapy in the form of 5-HT3 receptor antagonists and NK1 receptor antagonists have been widely used and is the first choice for treatment and prevention of CINV (Ranganath, Einhorn and Albany, 2015). Despite having been given antiemetic, 44.6% of patients experiencing nausea and/or vomiting during the 120 hours after given chemotherapy (Escobar *et al.*, 2015). Herbal therapy is one complementary therapy can be used as a supporting therapy for cancer patients undergoing chemotherapy. One of the plants and herbs that can be used are Ginger (*Zingiber officinale*) (Panahi *et al.*, 2012).

Ginger is one herb that has been used since many years and is naturally especially as antiemetic (Lete and Allué, 2016). Some research suggests that ginger effective at reducing nausea vomiting, motion sickness, seasickness, post surgery, as well as pregnancy (Lee and Shin, 2016; Koçak, Yücepur and Gökler, 2017; Kusumawardani *et al.*, 2018).

This study aims to find out the effectiveness of ginger on nausea vomiting due to chemotherapy.

2 METHODS

This systematic review followed the Preferred Reporting Item for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Liberati *et al.*, 2009).

Search strategy

Scopus, PubMed, ScienceDirect and Springerlink databases were searched for articles published from

January 2011 – December 2017. The search terms used were; ('CINV' OR 'nausea' OR 'vomiting' OR 'emesis') AND ('chemotherapy') AND ('ginger' OR '*Zingiber officinale*' OR 'rhizoma').

Eligibility Criteria

Types of studies

Random controlled trial and/or crossover studies

Types of participants

The main inclusion criteria entailed adult (18 years or older), patients receiving chemotherapy of any emetogenicity level.

Type of interventions

Ginger is used as the main and specific interventions to assess effectiveness against nausea and vomiting.

Type of outcomes measures

Primary outcomes is to assess the frequency and severity of nausea vomiting due to chemotherapy.

Study selection

The protocol standard for selecting research studies is suggested in the PRISMA method for systematic review followed by screening by removing duplicates, then three reviewers selecting titles, abstracts, and keywords, then deleting irrelevant quotes according to the selection criteria. Reviewers noted the reasons for choosing such research studies including selection of inclusion data. Selection of research studies that have been recorded by three reviewers and then compared to one another to be adjusted feasibility with the criteria set. Secondly, to minimize the risk of incorrect study entry in selection there are several research studies that have been applicable or can be applied in a review by one or two reviewers to be included in the next review stage. Full text of the articles is obtained if the title and abstract meet the inclusion criteria or if the feasibility study is clearly resolved by a joint discussion between the reviewers.

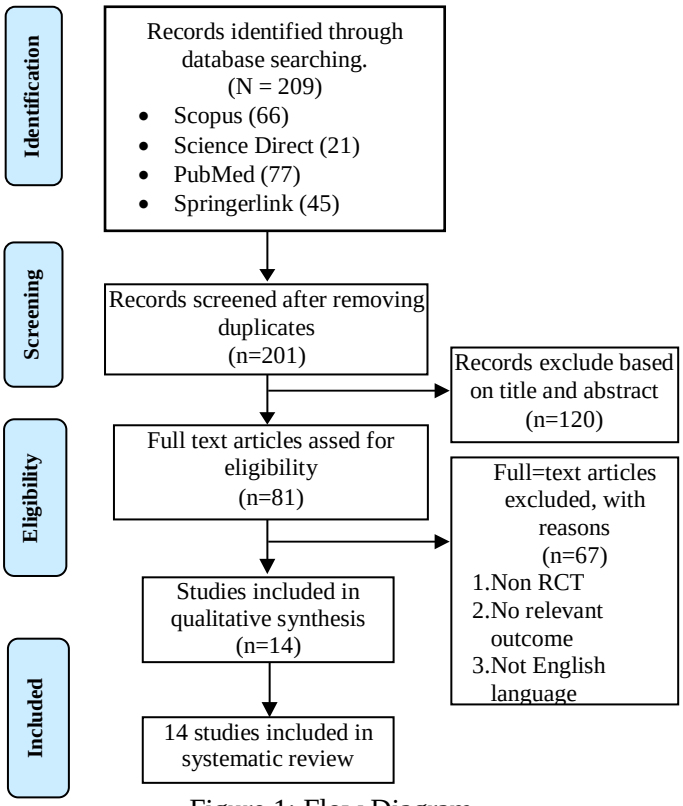

Figure 1: Flow Diagram

3 RESULTS

Literature search and study selection

A total of 14 studies were identified for inclusion in the review. The search of Scopus, PubMed, Science Direct and Springerlink databases provided a total of 209 citations. After adjusting for duplicates 201 remained. Of these, 120 studies were discarded because after reviewing the abstract it appeared that these papers clearly did not meet the criteria. The full text of the remaining 81 citations was examined in more detail. It appeared that 67 studies did not meet the inclusion criteria as described. See flow diagram Figure 1.

Study Characteristic

Methods

All 14 studies finally selected for review were randomized controlled trials published in English.

Table 1: Characteristic of included studies

No.	Study	Methods	Participants	Interventions	Control	Outcomes	Results
1	Anti-Emetic Effect of Ginger Powder Versus Placebo as an Add-On Therapy in Children and Young Adults Receiving High Emetogenic Chemotherapy (Pillai *et al.*, 2011).	Prospective, double-blind, randomized single.	Respondents were patients aged 8 - 21 years with bone cancer diagnoses who received chemotherapy with levels potential high emetogenic. The number of patients 60, divided into two groups (interaction and control), each of which amounted to 30 respondents.	Provision of ginger capsules. The dose of administration is determined by weight. The dose consist of 20 - 40 kg: 167 mg per capsule and 40 - 60 kg: 400 mg per capsule. All respondents received antiemetic therapy such as Ondansetron and Dexamethasone according to standard (4-8 mg).	Provision of starch powder capsule (placebo). The dose of administration is determined by weight. The weight 20- 40 kg: 167 mg per capsule and 40 - 60 kg: 400 mg per capsule.	Grades of nausea and vomiting as measured by Edmonton's Symptom Assessment Scale (ESAS) and National Cancer Institute (NCI) guidelines.	Ginger capsules effectively at reducing acute nausea in moderate severity ($p = 0.003$), acute vomiting ($p = 0.002$) and delayed nausea ($p = 0.001$), delayed vomiting ($p = 0.022$).
2	Effect of Ginger on Chemotherapy Induced Nausea and / or Vomiting in Cancer Patients (Alparslan *et al.*, 2012).	Randomized controlled trial.	Respondents were cancer patients who received chemotherapy at a hematology clinic numbering 45 and divided into 2 groups, Intervention group: 15 and control group: 30.	Ginger tablet 800 mg/day. Tablets are given in the morning and evening (@ 400 mg). Before being given ginger, respondents were given antiemetic protocol (Setron 3 mg through intravenous).	Antiemetic drugs according to protocol (Setron 3 mg via intravenous).	Nausea and/or Vomiting follow-up form.	Ginger is effective for reducing nausea and vomiting due to chemotherapy ($p < 0.05$).
3	Effect of Ginger on Acute and Delayed Chemotherapy - Induced Nausea and Vomiting: A Pilot, Randomized, Open-Label Clinical Trial (Panahi *et al.*, 2012).	Randomized, open-label, clinical trial.	Respondents were cancer patients in unit of Baqiyatallah Hospital Oncology which amounted to 100 respondents and divided into two groups, each of which amounted to 50 respondents.	Giving of ginger capsule 3 x 500 mg for 4 days and antiemetic regimen according to protocol (Granisetron and Dexamethasone).	Antiemetic regimens according to protocol (Granisetron and Dexamethasone).	Prevalence and severity of CINV. (Rhodes Index of Nausea, Vomiting, and Retching / RINVR).	Ginger may decrease the prevalence of nausea 6 - 24 h post chemotherapy but cannot reduce the prevalence and severity of acute or delayed phase vomiting.

No.	Study	Methods	Participants	Interventions	Control	Outcomes	Results
4	Ginger (Zingiber officinale) reduces acute chemotherapy-induced nausea: a URCC CCOP study of 576 patients (Ryan *et al.*, 2012).	Randomized controlled trial.	Respondents were cancer patients aged ≥18 years and had undergone 1 cycles of chemotherapy amounting to 576 respondents. Respondents were divided into 4 groups: a. The intervention group I (n: 134). b. Group of interventions II (n: 141). c. The intervention group III (n: 152). d. Control group (n: 149).	Giving for 6 days (2 times a day), starting at 3 days prior to chemotherapy. The dosage of ginger is divided into 3 types according to the group. Each respondent received antiemetic drugs according to the protocol (Antiemetic 5- HT 3 and Dexamethasone). Group of intervention I: ginger capsule 0,5 gr. Group of intervention II: ginger capsule 1.0 gr. Infection group III: ginger capsule 1.5 gr.	Provision of antiemetic drugs according to protocol (Antiemetic 5-HT 3 and Dexamethasone).	Average Nausea severity (NAv) and Maximum Nausea severity (NMx).	Giving of 0.5 gr - 1.0 gr significantly at reducing the severity of nausea due to chemotherapy in cancer patients ($p = 0.017$).
5	Effect of Herbal Therapy to Intensity Chemotherapy-Induced Nausea and Vomiting in Cancer Patients (Montazeri *et al.*, 2013).	Randomized cross-over clinical trial.	Respondents were cancer patients who had undergone at least 2 cycles of chemotherapy, a total of 44 respondents and divided into two groups (intervention and control), each of which amounted to 22 respondents.	Giving 4 x 250 mg ginger capsule . 2 capsules given 30 minutes before receiving chemotherapy drugs, 2 capsules given 6 hours after chemotherapy. Each respondent received antiemetic according to protocol 30 minutes before chemotherapy, i.e. 3 mg Grainestrone (Keitrile) and 8 mg Dexamethasone.	Antiemetic drugs according to protocol and placebo in the form of 250 mg of ineffective powder capsule (Chickpea powder).	Intensity of vomiting and the way of investigation, by Kortila Tools.	Ginger is more effective at reducing the frequency and intensity of nausea of vomiting due to chemotherapy than placebo.

No.	Study	Methods	Participants	Interventions	Control	Outcomes	Results
6	Can ginger ameliorate chemotherapy-induced nausea? Protocol of a randomized double-blind, placebo-controlled trial (Marx *et al.*, 2014).	Double-blinded randomized-controlled trial.	Respondents were chemotherapy patients who had a history of emetogenetic > 18 years old of 146 respondents and divided into two groups (intervention and control), each with 73 respondents.	Provision of 300 mg ginger capsules. Each capsule contains 5% gingerol, 15 mg active ingredient in gelatin capsule. Capsules are given 4 x 300 mg for 5 days starting on the first day of chemotherapy. Each patient is given antiemetic medication; 5HT 3 (Ondansetron) Antagonists, Corticosteroids (Dexamethasone), and NK1 receptor antagonists (Aprepitant).	The placebo capsule contains 300 mg of inactive/reacting material.	Rhodes Inventory of Nausea, Vomiting and Retching (INVR).	Ginger effective at reducing nausea vomiting due to chemotherapy.
7	Oral intake of ginger for chemotherapy-induced nausea and vomiting among women with breast cancer (Arslan and Ozdemir, 2015).	Randomized, controlled trial.	60 respondents who underwent outpatient at Oncology hospital in Turkey. Respondents were divided into two groups (intervention and control) of 30 respondents respectively.	Provision of ginger powder twice daily for 3 days. Ginger is given as much as 500 mg mixed into 1 tablespoon of yogurt. Each respondent received standard antiemetic drugs according to the protocol. 5-HT 3 receptor antagonists Palonosetron (Aloxi®), Dexamethasone (Decadron®), Antihistamine, And Ranitidine (Zantac®) administered by intravenous, and Aprepitant (Emend ®) administered orally.	Provision of standard antiemetic drugs.	Nausea severity was evaluated using a numeric scale with a severity.	The severity of nausea and the number of episodes of vomiting were lower in the intervention group than the control group ($p < 0.05$), but did not affect the retching period ($p > 0.05$).

No.	Study	Methods	Participants	Interventions	Control	Outcomes	Results
8	Effects of inhaled ginger aromatherapy on chemotherapy-induced nausea and vomiting and health-related quality of life of women with breast cancer (Lua, Salihah and Mazlan, 2015).	Single-blind, controlled, randomized cross-over study.	Respondents were cancer patients at the Sultanah Nur Zahirah (HSNZ) hospital and hospital King Zainab II, Malaysia, which is numbered 75 respondents. Respondents were divided into two groups. Intervention group (n: 38) and Control group (n: 37).	Giving ginger aromatherapy neck for 5 days (day and night). The necklace is 20 cm from the nose. Every 3 times a day, the aromatherapy necklace is brought under the nose and the respondent is asked to inhale deeply with duration 2 minutes for 3 periods. The aromatherapy necklace contains two drops of ginger essential oil.	Giving aroma-therapy necklace containing two drops of perfume ginger.	VAS nausea score, frequency of vomiting. Quality of life: HRQoL profile (EORTCQLQ-C30 scores).	Nausea score was significantly lower in the intervention group (ginger essential oil) than placebo during the acute phase ($p = 0.040$). There was no significant effect on the frequency of vomiting.
9	Efficacy of Ginger in Control of Chemotherapy Induced Nausea and Vomiting in Breast Cancer Patients Receiving Doxorubicin-Based Chemotherapy (Ansari *et al.*, 2015).	Randomized controlled trial.	Respondents were breast patients who received Doxorubicin chemotherapy as many as 150 respondents. Respondents were divided into two groups (intervention and control), each of which amounted to 75 respondents.	Giving 2 x 250 mg ginger capsule for 3 days. All respondents were given premedication therapy that is Dexamethasone 16 mg intravenous (IV), Aprepitant 125 mg orally and Granisetron 3 mg IV. Dexamethasone 8 mg oral and oral 80 mg Aprepitant continued for up to two days.	The placebo capsule contains 250 mg of starch powder.	Nausea and vomiting severity (Numeric Scale).	There was no significant difference between intervention and control groups, but in the intervention group there was a decrease in nausea score after the second day of chemotherapy and decreased severity of vomiting.

No.	Study	Methods	Participants	Interventions	Control	Outcomes	Results
10	Effect of Ginger and Chamomile on Nausea and Vomiting Caused by Chemotherapy in Iranian Women with Breast Cancer (Sanaati *et al.*, 2016).	Randomized, double-blind and clinical trial study.	Respondents are women with breast cancer amounted to 45 respondents. Respondents are divided into three groups, each numbering 15 respondents.	There are two intervention groups. Group A gets 2 x ginger capsule 500 mg. Intervention begins 5 days before up to 5 after chemotherapy. Group B gets the capsule Matricaria chamomilla 2 x 500 mg. Interventions begin to be given 5 days before up to 5 after chemotherapy. All respondents received the regimen Antiemetics of Dexamethasone, Metoclopramide and Aprepitant.	Group C (control) only received antiemetic regimens (Dexamethasone,Metoclopramide and Aprepitant).	Nausea and vomiting severity (Visual Analogue Scale/VAS).	Ginger and chamomile can reducing the frequency of vomiting. No difference which is significantly associated with vomiting between groups of ginger and Chamomile. Ginger is more significant at reducing the frequency of nausea than chamomile.
11	Efficacy of ginger for prophylaxis of chemotherapy-induced nausea and vomiting in breast cancer patients receiving Adriamycin-cyclophosphamide regimens: a randomized, double-blind, placebo-controlled, crossover study (Thamlikitkul, Srimuninnimit and Akewanlop, 2016).	Randomized, double-blind, placebo-controlled, crossover study.	Respondents were 34 and divided into 2 groups. The intervention group: (n = 19) and control group: (n = 15). Population obtained from Oncology clinic at Home Pain Siriraj. Respondents devoted to women ≥ 1 8 years with a diagnosis of breast cancer.	Ginger capsules 500 mg twice day for 5 days starting from day first in the chemotherapy cycle second. The first dose is given 30 minutes before chemotherapy. Ginger capsules are obtained from Government Pharmaceutical Organization in Thailand. Each capsule ginger contains 500 mg of dried ginger.	Placebo.	Nausea and vomiting severity (Visual Analogue Scale / VAS).	There is no significant difference among respondents given intervention ginger capsules and placebo on the occurrence of vomiting with certain severity, medication use, adherence chemotherapy, and effects side (p = 0,3).

No.	Study	Methods	Participants	Interventions	Control	Outcomes	Results
12	A randomized, double-blind, placebo-controlled, multicenter study of a ginger extract in the management of chemotherapy-induced nausea and vomiting (CINV) in patients receiving high dose cisplatin (Bossi *et al.*, 2017).	Randomized, double-blind, placebo-controlled, multicenter study.	Respondents numbered 244. Divided into 2 groups of treatment. Intervention group (n = 121) and control group (n = 123)	Gingular capsule ginger 40 mg. At the first and second intervention each patient is given 2 boxes. Each box consists of 8 blisters which correspond to 120 gelatin gel capsules containing vegetable oil (110 mg) and 40 mg ginger extract. Instructions for patients are consuming 2 capsules in the morning and 2 capsules at night with 150 ml of water.	Placebo.	Nausea and vomiting severity (visual analogue scale) and Functional Living Index Emesis (FLIE) questionnaires.	There was no significant difference in the effects of ginger in reducing the effects of nausea due to cisplatin as long as two cycles of chemotherapy, with no benefit in delay, anti-interfering and intercycle assessment, but there was a decrease in nausea score in female patients (p = 0.048) and in patients with Head Neck Cancer (p = 0.038).
13	A phase II randomized double-blind placebo-controlled study of 6-gingerol as an anti-emetic in solid tumor patients receiving moderately to highly emetogenic chemotherapy (Konmun *et al.*, 2017).	Multicenter randomized, double-blind, placebo-controlled.	Respondents were patients with a histologic diagnosis of solid tumors and aged ≥ 18 years. Respondents numbered 96 divided into two groups. Intervention group (n = 46) Control group (n = 48).	Provision of ginger capsules containing 5 mg 6-ginggerol 6-jaheol (1.4% ginger extract). Ginger capsules are given starting 3 days before chemotherapy up to 1 day after chemotherapy.	Placebo capsule containing diluent/binder (microcrystalline cellulose PH 102; Avicel PH 102) and Thixotropic thickening (colloidal silicon dioxide) to suit the weight of 6-gingerol capsules.	Numerical Rating Scale (NRS) using Edmonton's Symptom Assessment Scale (ESAS) The quality of life will be measured by the Functional Assessment of Cancer Therapy-General (FACT-G) instrument.	6 - Gingerol significantly increases overall CR level at CINV, appetite and quality of life of cancer patients undergoing to adjuvant stage III chemotherapy (p <0.001).

No.	Study	Methods	Participants	Interventions	Control	Outcomes	Results
14	The Effect of a Standardized Ginger Extract on Chemotherapy - Induced Nausea-Related Quality of Life in Patients Undergoing Moderately or Highly Emetogenic Chemotherapy: A Double Blind, Randomized, Placebo Controlled Trial (Marx *et al.*, 2017).	Double-blind, randomized placebo-controlled trial.	Respondents with 51 numbers were divided into two groups. The intervention group (n = 24) and the control group (n = 27).	Group I: Allocated to intervention. Participants followed three cycles of chemotherapy to evaluate the effect of intervention during the chemotherapy treatment period. For each cycle, the results were assessed 3 days before chemotherapy until 4 days post chemotherapy (i.e., for 7 days). Participants were asked to take capsules 4 times per day each meal, for 5 days per chemotherapy cycle. The capsules contain 300 mg of standard ginger extract an 15 mg of the ingredients active.	Placebo.	Functional Living Index Emesis 5 Day Recall (FLIE-5DR) and the Rhodes Inventory of Nausea, Vomiting and Retching (INVR).	Ginger is effective for reducing nausea and vomiting due to chemotherapy. There is no significant result in Cycle 2. In Cycle 3, global QoL ($p = 0.040$) and fatigue ($p = 0.013$) were significantly better in the intervention group compared with placebo.

Population

The included studies involved 1.801 participant. The main inclusion criteria entailed adult (18 years or older), receive a chemotherapy of any emetogenicity level (Marx *et al.*, 2014). Most of the participants were on combination chemotherapy regimens with moderately or highly-emetogenic, such as cisplatin and doxorubicin, docetaxel, epirubicin, cyclophosphamide, fluorouracil (Pillai *et al.*, 2011; Panahi *et al.*, 2012; Ansari *et al.*, 2015; Konmun *et al.*, 2017; Marx *et al.*, 2017). (Alparslan *et al.*, 2012; Ryan *et al.*, 2012; Arslan and Ozdemir, 2015; Lua, Salihah and Mazlan, 2015; Sanaati *et al.*, 2016; Thamlikitkul, Srimuninnimit and Akewanlop, 2016; Bossi *et al.*, 2017; Hayes *et al.*, 2017) lacked information regarding the chemotherapy agents and regimens.

Interventions

The form of the ginger treatment was encapsulated ginger, which contained ginger root powder (167 mg or 400 mg) (Pillai *et al.*, 2011), powdered and dried ginger root (300 mg or 500 mg) (Panahi *et al.*, 2012; Montazeri *et al.*, 2013; Marx *et al.*, 2014, 2017; Ansari *et al.*, 2015; Sanaati *et al.*, 2016; Thamlikitkul, Srimuninnimit and Akewanlop, 2016; Bossi *et al.*, 2017), The 6-gingerol capsules contained a ginger extract, referenced as 6-gingerol 5 mg (1.4% w/w of ginger extract) (Konmun *et al.*, 2017). Alparslan *et al.*, (2012) receive ginger tablets (800 mg). Purified liquid extract of ginger root (0.25 g) containing gingerols, zingerone, and shogaol (Ryan *et al.*, 2012). Participants received 500 mg powdered ginger, mixed with a spoonful of yogurt to make swallowing easier (Arslan and Ozdemir, 2015). Patients received 5-day aromatherapy treatment using either ginger essential oil (Lua, Salihah and Mazlan, 2015). All participant received standard nausea and vomiting-preventing medications (5-HT3 antagonist receptor and dexamethasone).

Outcomes

Nausea and vomiting frequency was evaluated using rating scale such as visual analog scales (Lua, Salihah and Mazlan, 2015; Sanaati *et al.*, 2016; Thamlikitkul, Srimuninnimit and Akewanlop, 2016; Bossi *et al.*, 2017), assigning scores to strain tool of intensity of vomiting (Montazeri *et al.*, 2013). Ryan *et al.*, (2012); Arslan and Ozdemir, (2015); Ansari *et al.*, (2015) were using numeric scale for severity of nausea and vomiting. Panahi *et al.*, (2012); Marx *et al.*, (2014, 2017) were using form of the Rhodes Inventory of Nausea, Vomiting and Retching (INVR). Grade of nausea and vomiting as measured by Edmonton's Symptom Assessment Scale (ESAS) (Pillai *et al.*, 2011; Konmun *et al.*, 2017).

Results of individual studies

The data of 3 of 14 articles in the review stated that there were no significant effects of the grant of the ginger against nausea vomiting of chemotherapy (Ansari *et al.*, 2015; Thamlikitkul, Srimuninnimit and Akewanlop, 2016; Bossi *et al.*, 2017).

Ginger can reduce the severity of nausea and vomiting in the acute phase (Pillai *et al.*, 2011; Arslan and Ozdemir, 2015) and reduce the frequency and intensity of nausea vomiting in the acute phase (Alparslan *et al.*, 2012; Panahi *et al.*, 2012; Ryan *et al.*, 2012; Montazeri *et al.*, 2013; Marx *et al.*, 2014; Arslan and Ozdemir, 2015; Lua, Salihah and Mazlan, 2015; Sanaati *et al.*, 2016; Konmun *et al.*, 2017). The two articles stated that ginger can also reduce the frequency and severity of nausea vomiting on a delayed phase (Pillai *et al.*, 2011; Marx *et al.*, 2017).

The majority of the studies mentioned ginger effectively and safely used to decrease nausea vomiting due to chemotherapy. (Arslan and Ozdemir, 2015; Konmun *et al.*, 2017) reported no side effects arising from the use of ginger.

4 DISCUSSION

Some research has examined the effect of ginger on control CINV gives different results, but the vast majority of researchers stated that ginger can decrease the frequency, intensity and severity of nausea and vomiting due to chemotherapy. Thamlikitkul, Srimuninnimit and Akewanlop, (2016); Bossi *et al.*, (2017) states that there is no significant difference between the groups given ginger and placebo at reducing nausea vomiting of chemotherapy. There are several things that can affect the results of the research-related effectiveness of ginger against nausea vomiting include characteristics of respondents, the regimen of chemotherapy, the use of antiemetic, preparation of capsules of ginger, ginger dose is given, and the length of the grant Ginger.

There are differences of opinion related to the influence of the ginger against CINV on acute phase or delay (delay). Ansari *et al.*, (2015) mention ginger more effectively decreases the nausea vomiting on a phase delay. Pillai *et al.*, (2011); Panahi *et al.*, (2012); Ryan *et al.*, (2012); Arslan and

Ozdemir, (2015); Lua, Salihah and Mazlan, (2015) stated that ginger effective at reducing nausea vomiting due to chemotherapy in acute phase.

The side effects of chemotherapy in the form of nausea vomiting can lead to heavy stress to the patient. Stimulates enterochromaffin cells chemotherapy agents in the digestive tract to release serotonin receptor triggers with serotonin. Receptor activation triggers a vagal afferent pathways active activates the vomiting Center and cause response throw up. The potential of the Emetic chemotherapy agent itself is the main stimulus against the nausea and vomiting caused by chemotherapy (Chemotherapy Induced Nausea and Vomiting/CINV).

5 CONCLUSIONS

This review explains that systematic intervention ginger potentially as effective therapy for nausea and vomiting. The urgency of use ginger as a therapy requires more investigation, but safe and can be tolerated well by the participants as a therapeutic modality nonfarmakologis.

Ginger is one of the effective herbal remedies to treat nausea and vomiting did not result in any side effects. Antiemetic activity on ginger obtained caused by elements of the gingerols and shogaols, both phenolic compounds. The content of 5-Hydroxytryptamine3 receptor antagonist on ginger who is also one of the cornerstone therapy antiemetic such as granisetron and ondansentron.

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The Effect Of Psychoeducation On Family Functions In Treating Schizophrenia Patients In Home: Systematic Review

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Keywords: Psychoeducation, Family Functions, Schizophrenia.

Abstract: Introduction: Schizophrenia is a group of psychotic reactions that affect various areas of individual function, including the function of thinking and communicating, accepting and interpreting reality, feeling and showing emotions and behaviors that are rationally acceptable. Schizophrenia does not only happen one day or two days but schizophrenia is a chronic disease that is very difficult to cure. Family is the most important factor of healing process of schizophrenia. One of the roles and functions of the family is to provide an affective function to meet the psychosocial needs of family members in giving affection. Therefore the function of the family should be good in the treatment of schizophrenic at home. Methods: The literature searches were conducted in major database such as ebsco host, proquest, scopus, sciencedirect, doaj, sagepub, medline, UNAIR journal ners and google scholar with time limits used are journals from January 2002 to February 2018. Result: A total of fifteen studies raised in this study all have almost the same goal of whether psychoeducation can affect family function in treating schizophrenic at home. From fifteen randomly selected respondents chose respondents. Conclusion: psychoeducation can improve the function of the family that is not optimal in the treatment of schizophrenia at home. The burden felt by the family is decreased so as to increase family support in schizophrenic patients in order to heal the patient faster.

1 INTRODUCTION

Schizophrenia is a group of psychotic reactions that affect various areas of the individual's function, including the function of thinking and communicating, accepting and interpreting reality, feeling and showing emotions and behaviors that are rationally acceptable (Stuart G. W and Laraia, 2005). Schizophrenia can be defined as a mental disorder syndrome that the sufferer is unable to properly assess the reality (Reality testing Ability / RTA) and poor self-understanding (Hawari, 2007). Based on the above definition can be concluded that schizophrenia is a disturbance of cognitive function, function of feeling and behavioral functions in everyday life.

According to (Hawari, 2007) stigma is the attitude of family and society that menggangap that if one family member suffers from schizophrenia is a disgrace for members of his family. Over the years there have been many forms of discrimination in society. Stigma in society is difficult to change. Therefore, as the immediate family of the sufferer should be able to provide higher support to the sufferer. Families with schizophrenic people have their own loads compared with physical illness.

According to the Basic Health Research in 2007 the prevalence of emotional mental disorder of the Indonesian population is 11.6% of the population. The result of basic health research in 2013 is 1.7 permil. In East Java 2.2 permil. The prevalence of the number of people with schizophrenia in Jombang increases from year to year. From 2015 as many as 1761 patients, in 2016 as many as 1984 patients, and 2017 as many as 2256 patients. Puskesmas with the highest number of patients with schizophrenia is Perak Puskesmas which increased from 2015 as many as 120 patients, in 2016 as many as 140 patients and in 2017 as many as 181 patients.

The problems that often occur in mental health are influenced by many factors in life such as stress, unemployment, violence, community conflicts, natural disasters, inability to overcome sources of stress can lead to an emotional mental disorder (Suerni, Keliat, & C.D, 2013). One of the roles and functions of the family is to provide affective

function to fulfill the psychosocial needs of family members in giving affection (Friedman, M.M, Bowden, O & Jones, 2010).

Family support is all the help given by family members so it will provide a sense of physical and psychological comfort in an individual who is feeling depressed or stressed. Family support is a process of relationship between the family and its social environment that can be accessed by the family that can be supportive and provide help to family members (Friedman, M.M, Bowden, O & Jones, 2010). According to Pender 2002 in (P.J.Bomar, 2004), the family support system is a support system provided by families to family members in order to maintain the social identity of family members, provide emotional support, material assistance, provide information and services, facilitate family members in create new social contacts with the community.

Family support and good family coping strongly support the healing of schizophrenics. Feelings of shame, burdened and do not care about the patient so far is still a major factor in the recurrence of people with schizophrenia. The number of people with schizophrenia from year to year increased a lot due to the lack of family support and family burden with the sufferer of schizophrenia.

One form of family function is to provide family support to family members who suffer from mental stability disorder. Crotty and Kulys 1986 in (Saundres, 2003), explains that schizophrenia patients support is an important mediator for family burdens, patients with support systems will reduce the burden of families when compared with those who do not get support. The source of family support refers to support that is seen as something accessible or held for the family, but family members see that supportive people are always ready to provide help and assistance if needed. Family support may include internal family support such as support from a husband or wife or support from siblings or external family support (Friedman, M.M, Bowden, O & Jones, 1998).

Psycho-education is the development and provision of information in the form of community education as information related to simple psychology or other information affecting the psychosocial well-being of the community. The provision of this information can memperguanakan various media and approaches. Psychoeducation is not a treatment, but it is a therapy designed to be part of a holistic treatment plan. Through psycho-education, knowledge of disease diagnosis, patient condition, prognosis etc. can be improved. Psychoeducation therapy contains elements of increased knowledge of disease concepts, recognition and teaching techniques to overcome the symptoms of behavioral aberrations, as well as increased support for patients. The components of the exercise can be in the form of communication skills, conflict resolution exercises, assertiveness training, exercises to overcome anxiety behavior (Rachmania, 2012). In psychoeducation there is a process of socialization and exchange of opinion for patients and professionals so as to contribute to the destigmatization of psychological disorders at risk to inhibit treatment (Supratiknya, 2011).

Psychoeducation about changes that occur during life and being open to others, and effective coping can help reduce anxiety, make feelings better, and can help solve problems, reduce depression and grow self-esteem. In reality psycho-education as a public service delivery movement in the field of psychological counseling has no meaningful date. According to Nelson Jones (Supratiknya, 2011).

2 METHODS

2.1 Design

Systematic reviews are used to review published journals that describe the benefits of psychoeducation given to families caring for schizophrenic at home. Inclusion and Exclusion Criteria

2.2 Study Type

This systematic review uses inclusion criteria which use quantitative and qualitative methods to evaluate the outcomes of psychoeducation implementation.

Participant Type

Family caring for schizophrenic at home.

Intervention *Type*

Psychoeducation benefits given to families who care for existing home-sophomore sufferers include:

2.2.1 Psychoeducation can increase the family motivation in supporting the treatment of the patient, increase the ability of the family in caring for schizophrenia at home, reduce family guilt, increase empathy family to schizophrenia, decrease emotional level of patient and improve the function of family of schizophrenia.

2.2.2 The methods used in existing research are Covers observations, interviews, surveys, and questionnaires.

2.2.3 Activities are carried out individually or in combination of one or two of the existing metods.

2.3 Search Literature Strategy

The strategy in searching the literature used is to search in ebsco host, proquest, scopus, sciencedirect, doaj, sagepub, medline, and google scholar with the time limit used is January 2002 until February 2018. By using keywords psychoeducation, family, Schizophrenia. The following jounals we use as references: (Gutiérrez-Maldonado, Caqueo-Urízar, & Kavanagh, 2005); (Bulut, Arslantaş, & Ferhan Dereboy, 2016); (Girón et al., 2015); (Öksüz, Karaca, Özaltın, & Ateş, 2017); (Cw Lam, Ng, & Tori, 2013); (Vaghee, Rezaei, Asgharipour, & Chamanzari, 2017); (Kate, Grover, Kulhara, & Nehra, 2013); (Lim & Ahn, 2003); (Magliano et al., 2002); (Chien, Chan, & Morrissey, 2007); (Caqueo-ur ı, 2006); (Caqueo- Urizar, 2013); (Suhita, Catharina, Basuki, & Yusuf, 2017); (Ngadiran, 2010); (Poegoeh & Hamidah, 2016).

2.4 Quality Study Assesment Method

Study quality study method used to examine the data of research results using 2 stages of validity (validity), reliability (reability) and Applicability (applicable).

2.5 How To Data Extraction

To compare the journals already obtained, the data are extracted using the author and the year of publication, design, research objectives, population, interventions, methods of implementation and outcomes to be achieved.

2.6 Data Synthesis

Synthesis of data using data from journal extraction which have been done then do conclusion.

3 RESULT

The family is the system closest to the individual and is the place of individual learning, developing values, beliefs, attitudes and behaviors (Keliat, 1995). In order for families to have an impact on individuals who are members of the family, it is expected family members can function and play a conducive role. (Friedman, M.M, Bowden, O & Jones, 1998) identifies 5 (five) family functions of affective function, socialization, care, economy and reproduction. Where all these functions must run if you want to recover from schizophrenia. Tomczyk (1999) says there are two therapies that need to be done on the family namely psychoeducation and systemic therapy family so that the family is able to care for the patient. Both aim to empower families to be able to care for patients. Family psychosis is one form of family intervention that is part of psychosocial therapy. The purpose of the psychoeducation program is to increase knowledge about the mental disorders of family members so that it is expected to decrease the recurrence rate, and improve the functioning of the family (Stuart G. W and Laraia, 2005).

Psychoeducation is influential in changing the functioning of families to support family members suffering from schizophrenia. it shows the functioning of the client's family of violent behavior, especially the affective function as the internal function of the family to meet the psychosocial needs of family members such as: mutual care, love, warmth and mutual support among family members (Friedman, M.M, Bowden, O & Jones, 1998).

The support forms a single family support unit, especially for family members who have health problems such as violent behavior issues with family support involvement in caring for family members with a history of violent behavior. Family support for clients of violent behavior is evidenced in caring for family members with a history of violent behavior.

Family support as a support system provided by the family in the face of family members problems. The family is the closest person and the most convenient place for the client's violent behavior. The family can improve the spirit and motivation to behave healthily by providing appropriate care and treatment. Family support is attitudes, actions and family acceptance of family members who experience violent behavior. family support embodied in the form of affection, trust, warmth, attention, mutual support and respect among family members. Family members who experience such violent behavior view that supportive people are always ready to provide help and assistance if necessary (Friedman, M.M, Bowden, O & Jones, 2010).

4 DISCUSSION

Schizophrenia is a group of psychotic reactions that affect various areas of the individual's function, including the function of thinking and communicating, accepting and interpreting reality, feeling and showing emotions and behaviors that are rationally acceptable (Stuart G. W and Laraia, 2005). Schizophrenia can be defined as a mental disorder syndrome that the sufferer is unable to properly assess the reality (Reality testing Ability / RTA) and poor self-understanding (Hawari, 2007). Based on the above definition can be concluded that schizophrenia is a disturbance of cognitive function, function of feeling and behavioral functions in everyday life.

Psycho-education is the development and provision of information in the form of community education as information related to simple psychology or other information affecting the psychosocial well-being of the community. The provision of this information can memperguanakan various media and approaches. Psychoeducation is not a treatment, but it is a therapy designed to be part of a holistic treatment plan. Through psycho-education, knowledge of disease diagnosis, patient condition, prognosis etc. can be improved. Psychoeducation therapy contains elements of increased knowledge of disease concepts, recognition and teaching techniques to overcome the symptoms of behavioral aberrations, as well as increased support for patients. The components of the exercise can be in the form of communication skills, conflict resolution exercises, assertiveness training, exercises to overcome anxiety behavior (Rachmania, 2012). Thus in psychoeducation occurs the process of socialization and exchange of opinion for patients, families and professionals so as to contribute to destigmatisasi psychological disorders at risk to inhibit treatment.

The focus of psycho-education is to educate participants about the challenges in life, to help participants develop sources of support in facing life's challenges, develop coping skills to face life's challenges, develop family support, reduce family burden by participants.

The purpose of psychoeducation is to increase knowledge for individuals and families so that it is expected to decrease anxiety levels and improve family functioning. Psychoeducation interventions are expected to increase the attainment of individual knowledge about the disease, teaching how to teach techniques in order to help them protect individuals by knowing behavioral symptoms and supporting individuals.

5 CONCLUSION

Psychoeducation has been implemented in several countries in the world, with the aim of improving family function in caring for schizophrenic at home. Some of these studies show that psychoeducation has a positive and effective impact on family function in treating schizophrenia at home, but in its application is also found there are still many shortcomings. In the future, it is expected that more similar research will be conducted, with longer implementation and follow-up time. If such intervention is successfully implemented then it is expected the cure rate of schizophrenia also increased it is also useful to establish families in caring for schizophrenic at home.

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Job Satisfaction on Nursing Staff at Hospital: A Systematic Review

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Keywords: Job satisfaction, nurse, quality of health

Abstract: Objective: summarizes the empirical research on job satisfaction on the nurse with the aim of improving the quality of health services. Method: review the article with a systematic review method that uses PICO method-based article search from four international databases reporting on nurses' job satisfaction. Result: from the search got 15 articles covering about nurse, job satisfaction, and quality of health service. Discussion: nursing work satisfaction can be influenced by work environment, organizational support, working conditions, work engagement, empowerment and commitment. Conclusions: this study provides a broad overview of job satisfaction on nurses focused on nurses working in hospitals.

1 INTRODUCTION

Nurse is one of the health workers who face the patient for 24 hours in providing health services. Nurses experience difficult professional conditions such as heavy work schedules and workloads and conditions of the infectious work environment (Ioannou et al. 2015). Nurses are often exposed to high stress and emotional states associated with working conditions such as severe patient conditions, critical and life-threatening patient conditions (Li et al. 2014). Job stress is one of the most important workplace health risks for employees, and job satisfaction has been considered as a crucial factor in the provision of high quality services and superior performance at hospitals (Trivellas, Reklitis, and Platis 2013).

Satisfied employees are closely related with organizational success and performance, leading job satisfaction to become a key employee attitude. Employees feel greater satisfaction when they have freedom and independence to make work-related decisions (Gözükara and Çolakoğlu 2016). Satisfied employees are considered the key components of organizations that strive for success (Berry, 1997). It is known that an organization becomes more efficient when it has more satisfied employees (Robbins & Judge, 2007). Satisfied nurses will show better performance, lower absenteeism and demonstrate high motivation in work (Baum and Kagan 2015).

Job satisfaction is one of the important things in the management of an organization. An organization can be successful by ensuring regularly about the satisfaction of their employees. In other words, the more employees of an organization feel satisfied the employee will be more happy to work on the organization and show good performance. The best hospital health services can be achieved if the nurses give their best performance. Therefore, the factors that can affect the work satisfaction of nurses is very important and need to be studied. Based on this the authors considered it necessary to do a systematic review or systematic review of some articles that discussed the factors that can affect the work satisfaction nurse.

2 METHODS

Preparation of this systematic review begins by doing a search of articles in accordance with the topic raised the factors that affect job satisfaction nurse. Article searches are performed from Google Scholar, Sage, Proquest, and Science Direct databases. Keywords used for the search of articles are: "job satisfaction", "nurse", AND "hospital". Search from the google scholar page using the keywords "job satisfaction" and "nurse".

The inclusion criteria used in this systematic review are: articles restricted from 2011-2018, research articles, theses, published theses and

dissertations, articles in English and Indonesian, and articles with nurse research respondents working in the Hospital.

3 RESULTS

Based on the searches that have been done with the keyword, got some articles accordingly. Some of these articles were then selected which could be included in this systematic review study. The process of filtering articles as listed in the image below. From the final process obtained 15 articles in accordance with the purpose of writing systematic review.

4 DISCUSSION

4.1 Work Environment

Research conducted at China Hospital reported that the work environment has an effect on job satisfaction. The results showed a low level of dissatisfaction with the nurse with a good working environment. In the dissatisfied nurses, most sources of dissatisfaction came from the amount of income (75.54%) and the lowest came from the aspect of self-reliance in work (12.45%) (Zhang et al. 2014).

A healthy working environment and relationships among peers in work are included in external factors of job satisfaction. In addition, this external factor can also be seen from the dissatisfaction with the income received by the nurse (Veličković et al. 2014). Discomfort in the workplace, such as the existence of bullying causes the level of job satisfaction to be low (Jaradat et al. 2016). The study conducted in Jordan reported results indicating a strong relationship between the work environment and work satisfaction (AbuAlRub et al. 2016).

4.2 Organizational Support

Organizational support is the support provided by health institution to nurses. Veličković et al. (2014) states that expectations of the leadership role are a reflection of the nurse's satisfaction with the management of the health institutions in which they work and how the management's attitude toward their work.

The form of transformational leadership has a strong and positive influence on empowerment so that it can improve job satisfaction nurse (Boamah et al. 2017). In another study stated that support from supervisors has a strong relationship with nurse job satisfaction (Pohl and Galletta 2017).

4.3 Work Engagement

Work Engagement has a positive and significant relationship with nurse job satisfaction (Orgambídez-Ramos and de Almeida 2017). In other studies also stated that at the individual level, work engagement has a positive relationship with job satisfaction (Pohl and Galletta 2017).

4.4 Work Condition

Nurses reported experiencing job satisfaction in terms of independence at work of 93.7% (Biegger et al. 2016). In a qualitative study, there are 2 main themes that affect job satisfaction, such as job recognition and employment opportunities in a professional (Tao et al. 2015). Other studies stated that work autonomy has a positive effect on nurse job satisfaction (Gözükara and Çolakoğlu 2016).

4.5 Empowerment and Commitment

The results of a study stated that structural empowerment and organizational commitment correlated significantly and positively to job satisfaction (Yang et al. 2014).

5 CONCLUSION

Job satisfaction nurses can be influenced by various factors. According to the review of the article in a systematic review conducted by the author, got 5 factors that affect job satisfaction, namely work environment, organizational support, working conditions, work engagement, empowerment and commitment.

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SHENMEN, NEIGUAN AND YONGQUAN ACUPOINTS TO IMPROVING SLEEP QUALITY OF HEMODIALYSIS PATIENTS: SYSTEMATIC REVIEW

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Keywords: Acupressure, Sleep Disorder, Insomnia, Sleep Quality, Hemodialysis

Abstract: Introduction: Sleep disorders are the most common problem and affected 15-30% Chronic Renal Failure patients with hemodialysis. Interventions to improve the quality of sleep were currently needed. Acupressure is one of intervention that can apply to improve sleep quality by releasing the neurological mediators to physical process, relaxes the muscles and encourages the body to relax, so the patient fall easily in sleeping conditions. Objective: This aims of the studies are evaluated the effectiveness of Shenmen, Neiguan and Yongquan acupoints to improving sleep quality of patient with hemodialysis. Method: Using electronic database including Scopus, ScienceDirect, ProQuest, SpringerLink, EBSCOhost and WilleyOnline with limited year used 2002-2017. Combining acupressure, sleep disorder, insomnia, sleep quality and hemodialysis as the search keywords 94 articles retrieved. Using matching keyword 15 journals determined to be systematic review. Results: Shenmen, Neiguan and Yongquan acupoints was effective in improving sleep quality of patient with Hemodialydis. Discussion: Shenmen, Neiguan and Yongquan acupoints can repair the Qi flows, increase and releasing neuro-transmitter, neurohormon, and serotonin, this effect can reduce perceptions of sleep disorders, relax the body's organs and increasing the desire of sleep. Conclusion: Shenmen, Neiguan and Yongquan effective as intervention to improving sleep quality of patient with hemodialysis.

1 BACKGROUND

End stage renal disease (ESRD) is one of the most serious health problems. The increased prevalence of ESRD has become a global threat and epidemic, this was because hemodialysis gave greatly affects to health, lifestyle and welfare of patients. Technological advances to development of current hemodialysis therapy have been able to increase life expectancy of patients. Hemodialysis is a costly, time-consuming therapy, the procedure should be done in several times a week and forever, and hemodialysis provides a variety of side effects that are very detrimental to health (Hogan *et al.*, 2017). Nurse must be sensitive in assessment, planning, intervention and patient education, those are urgently needed and important to deal with patients receiving hemodialysis therapy with all its complaints (Neyhart et al., 2010). Sleep disturbance is one of the most common complaints in hemodialysis patients.

Several studies have reported that sleep disturbance is a major comorbid problem and is thought to affect up to 15-30% of male adults and up to 5-15% of female adults (Peppard et al., 2013). This condition is characterized by recurrent obstruction of the upper airway during sleep and often causes oxygen desaturation, resulting in frequent waking, fragmented sleeping and excessive daytime sleepiness (Fonseca *et al.*, 2016). Acupressure is one of the interventions developed to overcome this condition.

Acupressure is a method of treatment that works to improve sleep by releasing a neurological mediator that regulates physical processes, encouraging the body to relax and improve sleep quality (Arab *et al.*, 2016). Massage on certain acupoints, such as in shenmen, neiguan and youngqquan are effective in improving sleep quality

and quality of life in intensive care (Chen *et al.*, 2012). In addition other research teams reported that there is a positive role of acupressure at the wrist and foot shenmen points in improving patient sleep quality (Nasiri, et al, 2011). The acupoint described above inspired researchers to collect evidence through systematic reviews of effectiveness at the shenmen, neiguan and youngquan acupoints in improving the patient's sleep quality with hemodialysis

2 METHOD

The systematic review source searchs uses electronic databases includes: Scopus, Science Direct, Proquest, Springer Link, Ebsco Host and Willey Online with limited year used 2002-2017 (15 years). Source search using the appropriate keywords that are contained in PICOT with boolean logic method, as shown in figure 1. Based on the search results, 94 journals retrieved, then 21 journals were selected based on matching keyword and determined 15 journals to do systematic review.

3 RESULTS

Research Design

In this systematic review, mostly study design used Randomized Controlled Trial (14 article), and descriptive observational (1 article). The most widely used research design is the Randomized Controlled Trial with the largest number of samples of 108 respondents.

Characteristics of Respondents

The number of samples ranged from 24 to 108 patients. In 12 journals the respondents were ESRD patients with hemodialysis, 2 journals of elderly patients undergoing intensive care, and 1 journal of patients with long-term care, who have experienced sleep disturbance or insomnia. The measuring tools to evaluate the quality of sleep is the Pittsburgh Sleep Quality Index (PSQI) that used in 12 journals and Stanford Sleepiness Scale (SSS), Athens Insomnia Scale (AIS-T), Insomnia Severity Index (ISI) eachother 1 journal.

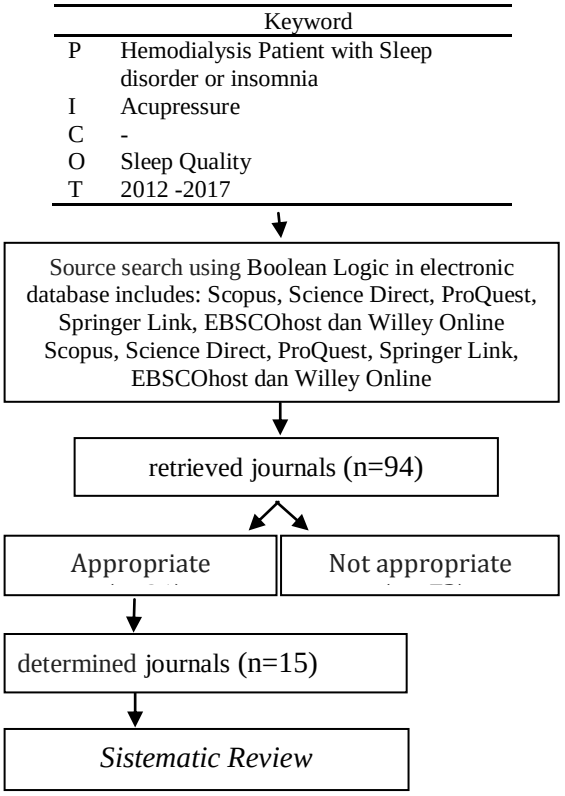

Figure 1: PICOT strategy and Booelan logic source search on electronic database

Acupressure Therapy

Acupressure is a traditional treatment technique from China, a non-invasive action that uses pressure and massage at the acupoints. Acupressure is an effective intervention to improve sleep quality in patients with hemodialysis who experience sleep disorders. Acupoint acupressure that is often used is the point of Shenmen (HT-7), Neiguan and Yongquang (K11) as shown in table 2 are effective acupoint and in several studies that used a combination of acupoint points above gave a maximum results to increase of respondents' sleep quality.

Clinical Effects in Sleep Quality Improvement

Based from the result studies to Improved sleep quality that found in 14 RCT studies and 1 observational study in this review, overall using a combination of acupoint (Shenmen, Neiguan and Yongquan) in improving patient sleep quality, the acupoint used consisted of at least 2 and a maximum of 4 acupoint. The length of time for intervention

was also relatively, in 11 intervention studies in the control group performed for 4 weeks, 2 studies for 8 weeks, and 1 study each 3 weeks and on the second day was treated intensive care room. Most of the results showed a significant value of the effectiveness of acupressure to improve sleep quality of hemodialysis patients who experience sleep disorders. There are four instruments used to measure sleep quality based on 15 studies reviewed: Pittsburgh Sleep Quality Index (PSQI), Stanford Sleepiness Scale (SSS), Athens Insomnia Scale (AIS-T) and Insomnia Severity Index (ISI).

4 DISCUSSION

Acupressure is part of complementary, non-invasive therapy that low risk and hasn't side effects to the patient (Shen *et al.*, 2017). Acupressure works by stimulating the balancing of life energy (qi), improve of health and comfort (Chen *et al.*, 2012). In traditional Chinese medicine theory, organ function depends on the flow of qi energy channel. This channel is called a "meridian". The Meridian connects between the internal and external parts of the body. The qi transmission is believed to sustain all organs in the body of the living creature and its bloodstream, thus allowing the body to function as a harmonious whole.

Acupoint is the point that located along the meridian line that serves to saved *qi*, react to pain or illness, and as a point of treatment. Acupressure practitioners use traditional Chinese medicine theory to determine where the meridian is and where the organ is experiencing pain. Then they use acupuncture points to determine the acupressure point and apply soft pressure applied manually with the fingertips to this acupuncture point, thus stimulating the flow of *qi* through the meridians and preventing / treating the disease (Ma, 2005; Hwang, 2004). In ancient Chinese medical literature identify more than 54 acupoint points associated with sleep disorders.

The manual acupressure technique consists of a manual gesture to push, rub, squeeze, squeeze, massage, or hold, and hold tightly. With this, acupressure produces physiological effects, reduces discomfort, improves feelings of well-being, and improves sleep (Sun, et al, 2010). Acupressure also improves blood circulation and *qi*, harmony of yin and yang, and secretion of neurotransmitters, thus maintaining the normal functioning of the human body and providing comfort. All acupressure effects mentioned above improve sleep quality.

Acupoints can improve the flow of *qi* and increase the release of neuro-transmitters and neurohormones, and thus decrease perception of sleep disorders. It may also increase the release of serotonin, make relaxes the body and improves sleep. Based on several studies that have been reviewed a significant difference in sleep quality score between acupressure group, false acupressure and control after intervention in PSQI global score ($p < 0.001$).

Some studies involve acupressure with massage given to patients 3 times a week for four weeks statistically significant ($p < 0.001$) in improving sleep quality. acupressure is thought to produce a therapeutic effect and reduce the levels of cortisol, norepinephrine and epinephrine by stimulating sympathy of the nervous system, thereby improving the patient's sleep quality and increasing energy and decreasing fatigue based on physical properties and psychological relaxation it provides (Unal & Balci Akpinar, 2016). Thus some evidence has shown that acupressure is an effective therapy for improving sleep quality in sleep-disordered hemodialysis patients.

Implications For Nursing Practices

Acupressure as the development of complementary therapy is very relevant to be chosen as an alternative intervention that can be applied by nurses to improve sleep quality in hemodialysis patients who experience sleep disorders. The use of a good combination of acupoint especially Shenmen, Neiguan and Yongquan or consisting of two to four points shows significant results in improved sleep quality in hemodialysis patients, patients with intensive care and long-term care. The use of acupressure as part of the intervention by the nurse allows the public to increase interest in the health services provided by the nurse. This very profitable because acupressure is a simple therapy, giving comfort, improving interpersonal relationships (nurse-patient), minimal side effects and efficient in financing.

Recommendation

Recommendations that can be submitted based on the results of systematic review for the profession of nursing:

Table 1 : Shenmen, Neiguan, and Yongquan acupoint to improve quality of sleep ESRD patient

Author	Acupoint		
	Shenmen	Neiguan	Yongquan
(Tsay, Rong and Lin, 2003)	√		√
	significant effective to improve quality of sleep ESRD patient		
(Nasiri, et el, 2011)	√	√	√
	significant effective to improve quality of sleep hemodialysis patient		
(Chen *et al.*, 2012)	√		√
	significant effective to improve quality of sleep in insomnia patient		
(Shariati, et al, 2012)	√		
	Combination with Li-4 and Sp-6 acupoint significant effective to improve quality of sleep hemodialysis patient		
(Shen *et al.*, 2017)	√	√	
	No significant statistically but score sleep disorder in intervention group lower than control group		
((Lai *et al.*, 2017)		√	√
	significant effective to improve quality of sleepin adult insomnia patient		
(Arab *et al.*, 2016)	√		
	significant effective to improve quality of sleep hemodialysis patient		
(Sun *et al.*, 2010)	√	√	√
	significant effective to improve quality of sleep ICU patients with insomnia		
(Zou *et al.*, 2015)	√		
	significant effective to improve quality of sleep hemodialysis patient		
(Wu, et al, 2014)	√		
	significant effective to improve quality of sleep hemodialysis patient		
(Thin, et a, 2014).	√		
	significant effective to improve quality of sleep hemodialysis patient		
(Yeung *et al.*, 2017)	√		√
	No significant statistically but score sleep disorder in intervention group lower than control group		
(Zheng, et al, 2014)	√		
	significant effective to improve quality of sleep hemodialysis in adult patient with insomnia		
(Zheng *et al.*, 2014)	√		
	Combination Taixi acupoint significant effective to improve quality of sleep in Hipertension patient with insomnia		
(Reza *et al.*, 2010)	√		√
	Combination with Sp-6 significant effective to improve quality of sleep in adult patient with insomnia		

1. Patients with hemodialysis should be equipped with modules or simple guidelines on the side effects of hemodialysis and its medical and complementary management. In order for patients to have a choice of solutions to various complaints of health problems they experience.
2. Complementary therapy (acupressure) in Shenmen, Neiguan and Yongquan or the other acupoints that can be applied by a nurse should be a policy consideration as one form of nursing interventions that can be applied in the room.
3. It is necessary to increase the knowledge of nurses in the development of complementary therapies as alternative therapy and medical therapy support through training programs, seminars, workshops andnursing research.

Limitations

The references used in this sitematic review have not been tested elsewhere or have been conducted in different places. The environment and perceptions of each individual whether clients, family and nurses greatly influence the success of the therapy given.

5 CONCLUSION

This systematic review aims to find evidence of the effectiveness acupoints of acupressure in improving sleep quality of patients undergoing hemodialysis. The findings suggest that Shenmen, Neiguan and Yongquan or combination of them and another acupoints has been shown to increase sleep quality in patients with hemodialysis in almost all previous studies.

Small sample size, short duration of intervention, and the absence of trials in different areas in being a limitation in evaluating the extent to which acupressure affects patient sleep quality. Further research is needed on the effectiveness of acupressure in improving sleep quality in larger sample groups and duration longer intervention.

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APPLICATION OF COGNITIVE THERAPY AND THOUGHT STOPPING THERAPY IN CLIENTS WITH DEPRESSION: SYSTEMATIC REVIEW

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Keyword: CT, TS, Cognitive Therapy, Thought Stopping Therapy, Depression

Abstract: Cognitive therapy is based on the cognitive model of emotion and one's behavior is influenced by the individual's perception of an event (Beck, 1995). Thought stopping therapy is one type of psychotherapy that emphasizes and enhances thinking ability. It also shows that each individual can have a different sense of being and have different ways of interpretation as well. Differences in perspective or interpretation are based on differences in core beliefs, a fundamental view of one's belief / belief, which is global, rigid and overgeneral (Beck, J.S, 1995). Core beliefs will continue to influence intermediate beliefs (attitudes, rules / expectations, assumptions) will then generate a mind / image / shadow or a real word there is a person's mind called auto mind. Depression is a common mental health problem especially in the setting of primary care services, which until now remains a challenge for the health world to continue doing research. Depression is also a considerable contribution can be considered as The Global Burden of Disease, and according to WHO depression will be the most important disease by 2030.From literature studies conducted, found 15 articles that discuss about Cognitive Terapy and Thought Stopping Therapy in clients with depression. There are 12 articles that discuss about Cognitive Therapy given to clients with depression and provide a significant effect that can reduce depression. There are 3 articles that explain about Thought Stopping Therapy is given to clients with depression that can reduce depression in the client. The results of all these therapies were found to be effective for lowering depression scores. Therefore, research on depression therapy with a methodological approach is needed to generalize in all depression groups.

1 BACKGROUND

Cognitive therapy is based on the cognitive model of emotion and one's behavior is influenced by the individual's perception of an event (Beck, 1995). Something that the individual feels will relate to how he or she interprets and thinks about the event. The statement indicates that it is not an event that shapes a person's feelings, but how he or she thinks of events. It also shows that each individual can have a different sense of being and have different ways of interpretation as well. Differences in perspective or interpretation are based on differences in core beliefs, a fundamental view of one's belief / belief, which is global, rigid and overgeneral (Beck, J.S, 1995). Core beliefs will continue to influence intermediate beliefs (attitudes, rules / expectations, assumptions) will then generate a mind / image / shadow or words that there is a real thought someone called auto mind. The process will result in different ways of thinking, feeling / emotion and behavior in each individual against the perceived stimulus. The above reviews show different responses

Townsend (2009) states that cognitive therapy is one type of psychotherapy based on pathological mental processes so that the focus of treatment is the modification of distortion of mind and maladaptive behavior. Cognitive therapy is a process of identifying or recognizing negative and destructive thoughts that can lead to low self-esteem and persistent depression (Boyd & Nihart, 1998). Understanding above implies that cognitive therapy is a therapy that focuses on changing the way thinking or perception of the client so that negative thoughts can be transformed into positive thoughts. If the client has positive thoughts then the

client is expected to be more adaptive in overcoming every event that happened. It also means that negative feelings or emotions and negative behaviors due to anxiety and depression due to cancer can be slowly eliminated to be replaced with positive thoughts and behaviors.

Thought Stopping Therapy was developed by Joseph Wolpe in 1990 (Townsend, 2009) which emphasizes. That mind control is essential for healthy mental development. A disturbing and anxious mind can result in a person being unproductive and experiencing psychological discomfort. The mind that causes this anxiety can eventually result in a maladaptive behavior. The condition shows that the focus of therapy is to control negative thoughts so as to reduce discomfort and anxiety.

Thought stopping therapy is one type of psychotherapy that emphasizes and enhances thinking ability. This therapy is part of behavioral behavior therapy that can be used to help clients change the thinking process (Videbeck, 2008). Laraia (2009) explains that mind cessation therapy as a process of stopping disturbing thoughts. Cessation therapy is a technique used to minimize distress due to unwanted thoughts (O'Neill & Whittal, 2002). It was concluded that mind cessation therapy is a trained way to stop harassing or undesirable thoughts.

Depression is a common mental health problem, especially in the setting of primary care services, which remains to be a challenge for the health world to continue doing research. Depression is also a considerable contribution to consider as The Global Burden of Disease, and according to WHO depression will be a disease most importantly in 2030. The prevalence of depression depends on the method and diagnostic criteria used at the time of the study. In the United States in 2012 as many as 6.9% of the age of 18 years or older (approximately 16 million people) suffered at least one episode of depression in one year. (SAMHSA, 2013 in Towsend, 2015). During their lifetime, about 21% of women and 13% of men will experience clinical depression. This is what some researchers call depression as "The Common cold of psychiatric disorders "And the current generation as the" age of melancholia "(Townsend, 2015) .In Indonesia based Basic Health Research Results (Riskesdas) in 2013 that the prevalence of emotional mental disorders such as depression and anxiety by 6% (about 14 million) for the age of 15 years and over. (Center for Public Communication Secretariat General Ministry of Health, 2014).

Many studies have been done that are related to depression problems, both about the causal factors, the relationship of depression with other health problems, depression with genetics, depression in some groups in the community and therapies to reduce the occurrence of depression.Therefore to see in detail about the problem of depression including risk factors, depression in various communities, as well as any therapy that has ever been done, so we try to approach with systematic review. The purpose of this systematic review approach is: 1) to identify risk factors and causes of depression in various groups in the community, 2) to examine the relationship of depression with other health problems, and 3) to review the therapies that have been done

In the theory of depression explained that a person is said to be depressed when physical activity decreases, thinking very slowly and followed by mood swings. A depressed person has a negative thinking about himself, of the future, and their memory becomes weak, and difficulty in making decisions.

According to Suryantha Chandra (2002: 8), depression is a form of mood disorder that affects a person's personality. Depression is also a synonymous feeling with feelings of sadness, moodiness, resentment, unhappiness and suffering. Individuals generally use the term depression to refer to a state or atmosphere that involves sadness, resentment, lack of self-worth, and lack of energy. Individuals who suffer from depression have decreased physical activity, thought very slowly, decreased self-esteem, lost enthusiasm and interest, extreme tiredness, insomnia, or physical disorders such as headaches, indigestion, chest tightness, suicidal desire (John & James , 1990: 2).

In this systematic review aims to determine the effect and benefits of Cognitive Therapy and Thought Stopping Therapy against depression levels.

2 METHOD

The first step in writing this systematic review is to formulate the PICOT Framework. The population is patients who experience anxiety and depression. The intervention is that all clients who are depressed by using Cognitive Therapy and Thought Stopping Therapy, the comparison is another type of thrapy used to reduce anxiety and depression and outcomes are the effects of Cognitive Therapy and Thought Stopping Therapy on clients with depression. So it can be formulated in the research question is, how the influence of Cognitive Therapy and Thought Stopping Therapy dihelahap depression level?

Next is the search for scientific articles. The article search is done using Ebsco electronic database, science direct, google scholar, and Proquest. The search of this article is limited to English and Bahasa Indonesia articles published from 2005 to 2017. Searches are conducted from September to December 2017. The keyword

combinations used in article search are: CT, TS, Cognitive Terapy, Thought Stopping Therapy, Depression.

However, at the time of selection of inclusion and exclusion criteria is determined before the start of literature search. The inclusion criteria are: (a) the main research articles that deal with Cognitive Terapy and Thought Stopping Therapy on clients with depression (b) articles that are abstract and full text. The exclusion criteria are (a) articles that are not in English and Indonesian (b) articles that do not contain abstracts. The article chosen by the researcher is first by reviewing the search keyword in accordance with the search on the electronic data base, then determine whether the inclusion criteria is reached, followed by a review of the full version text.

3 RESULTS

From literature studies conducted, found 15 articles that discuss about Cognitive Terapy and Thought Stopping Therapy in clients with depression. There are 12 articles that discuss about Cognitive Therapy given to clients with depression and provide a significant effect that can reduce depression. There are 3 articles that explain about Thought Stopping Therapy is given to clients with depression that can reduce depression in the client. Thus, the second terpi can reduce the depression on the client.

4 DISCUSSION

Townsend (2009) states that cognitive therapy is one type of psychotherapy based on pathological mental processes so that the focus of treatment is the modification of distortion of mind and maladaptive behavior. Cognitive therapy is a process of identifying or recognizing negative and destructive thoughts that can lead to low self-esteem and persistent depression (Boyd & Nihart, 1998). Understanding above implies that cognitive therapy is a therapy that focuses on changing the way thinking or perception of the client so that negative thoughts can be transformed into positive thoughts. If the client has positive thoughts then the client is expected to be more adaptive in overcoming every event that happened.

Thought Stopping Therapy Stopping is one type of psychotherapy that emphasizes and enhances thinking ability. This therapy is part of behavioral behavior therapy that can be used to help clients change the thinking process (Videbeck, 2008). Laraia (2009) explains that mind cessation therapy as a process of stopping disturbing thoughts.

Depression is a part of mood disorder, namely mood swings / mood swings that result in changes in performing tasks and roles that should be done (Stuart, 2009). Mood refers to a pleasant psychological feeling, on the contrary that may increase or decrease. When experiencing something less Improved mood usually occurs when a person experiences, something pleasant can lead to feelings of "down" or depression (Nevid, Rathus & Greene, 2008). Mood changes to maintain a balance of feelings and a person's response to the events experienced. Townsend (2009) defines depression as a mood change (natural feeling) expressed in feelings of sadness, despair and pessimism. According to DSM IV-TR, depression can be classified as major depression disorder and dysthimic disorder.

In the use of Cognitive Terapy and Thought Stopping Therapy give a significant impact on the 15 articles so it is in need of this therapy to deal with clients with depression disorder. This therapy can also be given in all age groups to address the problem of client depression. This therapy provides an indication for use in dealing with client depression. But from several studies illustrate that the need for continuous research. Where is the permasalhan that is in the sampling that may still be in the category of less and the time required so that the need for continuous research and can provide more valid results.

5 CONCLUSIONS

Although there has been a lot of research about depression but has not yet answered the problem of increasing depression in society. As for therapy on depression is still around Cognitive Terapy and Thought Stopping Therapy. The results of all these therapies were found to be effective for lowering depression scores. Therefore, research on depression therapy with a methodological approach is needed to generalize in all depression groups.

From all the above articles reviewed show that Cognitive Terapy and Thought Stopping Therapy greatly provide a significant impact to reduce the problem of client depression. However there are some articles that recommend to do research again.

Author	Title	Research purposes	Results measurement	Conclusion Main
Jeffrey R, 2017	Initial Steps to inform selection of continuation kognitif terapi or Fluoxetine for higher risk	Acute-phase cognitive therapy responders (A-CT) for major depressive disorder (MDD) often recur or	On the patient's pre-survival characteristics) resulted in the reduction of relapse or absolute recurrence Risk by	A-CT risk responders can reduce the risk of relapse of MDD and recurrence substantially.

Author	Title	Research purposes	Results measurement	Conclusion Main
	responders to kognitif terapi for recurrent Major depressive disorder	recurrence, but the advanced phase of cognitive therapy (C-CT) or fluoxetine reduced the risk in some of our patients Tested Moderator composite effect of C-CT prevention versus fluoxetine to inform advanced treatment selection.	16-21% compared with other non-optimal treatment. Although the results of this novel requires replication	
Jürgen Hoyer, 2017	Manualized kognitif terapi versus cognitive-behavioral treatmentas-Usual for social anxiety disorder in routine practice: A clusterrandomized Controlled trial	This study tested the effectiveness of manualized cognitive therapy (mCT) after Clark-Wells approach versus cognitive-behavioral-non-manualized-as usual (CBTAU) treatment for social Anxiety disorder (SAD) in a routine exercise	Patients in both groups showed significant decrease in SAD severity after treatment (d ¼ 1.91 [MCT] and d ¼ 1.80 [CBTAU], group effect size, intent to treat analysis, LSAS observer ratings),	The current trial confirms the high effectiveness of CBTAU and mCT for SAD when practicable
Lotte H.J.M, 2017	Exploring mechanisms of change in cognitif terapi and Interpersonal psychotherapy for adult depression .	This study explores the temporal relationship between changes in the five causal mechanisms of the candidate. And changes in depressive symptoms in random comparison of individualized Cognitive Therapy (CT) and Interpersonal Psychotherapy (IPT) for adult depression.	Patient shows Improvements on all sizes. There is no differential effect on the pre-post-treatment changes observed between the two conditions, however, changes in interpersonal functions occur more rapidly in IPT. There is little empirical support for theoretical change models in CT and IPT.	Further research should pay particular attention to the timing of assessment and variance in the patient
Emma Warnock-Parkes, 2017	Seeing Is Believing: Using Video Feedback in kognitif terapi for Social Anxiety Disorder	A more realistic impression of how they look to others, and this is associated with a significant increase in social anxiety	Ninety-eight percent of patients Shows that they find something better than they expect after seeing their social interaction video	Video feedback Strategies have evolved to help SAD patients cope with a range of possible processing biases
Jane Harley, 2014	Bridging the Gap between kognitif terapi and Acceptance and Commitment Therapy (ACT)	This discussion paper will briefly review the similarities and differences	Cognitive Therapy and Acceptance and Commitment Therapy (ACT) which has been described as part of the 'third wave	Cognitive Therapy and Acceptance and Commitment Therapy (ACT) which has been described as part of the 'third wave' Or 'third generation' from cognitive behavioral therapy. Current views on theoretical and technical similarities
Abby D. Adler, 2015	What Changes in kognitif terapi for Depression? An Examination of kognitif terapi Skills and Maladaptive Beliefs	This study examines the cognitive and fundamental abilities Maladaptive beliefs among patients treated with cognition Therapy (CT) for depression	Results show That the degree of decreased symptoms between patients	Results show That the degree of decreased symptoms between patients Participate in CT is related to changes in patients. The acquisition of coping skills requires deliberate effort and Reflective thinking, but not related to depletion
Nicholas R. Forand,2016	Positive extreme responding after kognitif terapi for depression: Correlates and potential mechanisms	It has been associated with recurrent depression after cognitive therapy (CT)	The results show two potential mechanisms connecting PER for relapse: cognitive limitations and coping deficits / cognitive avoidance	The results show two potential mechanisms connecting PER for relapse: cognitive limitations and coping deficits /

Author	Title	Research purposes	Results measurement	Conclusion Main
				Cognitive avoidance
Nik Rosila Nik Yaacob, 2013	kognitif terapi Approach From Islamic Psycho-Spiritual Conception	The purpose of this paper is to highlight the cognitive therapy approach of psycho-spiritual conception of Islam.	Cognitive therapy is about how an individual thinks, processes and evaluates such problems in a way that can help him calm down and reduce his inner tension.	In conclusion, cognitive therapy is about how individuals think, process and Evaluate such a problem in a way that can help it calm down and reduce the inner tension.
Gerard E. Brudera, 2017	A Quick Behavioral Dichotic Word Test Is Prognostic For Clinical Response To kognitif terapi For Depression: A Replication Study	to see if someone will benefit from cognitive therapy (CT) for depression.	The right ear patient has an advantage Greater than average for healthy control has an 81% response rate to CT, whereas those with a lower performance than mean for control have a 46% response rate.	The dominance of strong left hemisphere languages, may be better at utilizing cognitive processes and left critical frontotemporal areas for the success of CT for depression
Karim Babayi Nadinloyi, 2013	Efficacy Of kognitif terapi In The Treatment Of Test Anxiety	This study examines the efficacy of cognitive therapy in Reducing test anxiety.	Analysis of one-way variance shows significant differences between the experimental group and the control group in Indonesia The anxiety test variable The Tuky test shows that cognitive therapy is effective in reducing test anxiety.	Demonstrate that cognitive therapy is more effective in reducing test anxiety in introverted students
Johs D., 1977	Effect Of Thought-Stopping On Thoughts, Mood And Corrugator Emg In Depressed Patients*	The immediate effect of thought-stopping is applied to the thinking of depression	The result increases the likelihood that Stopping the mind may be slightly different in reducing the frequency of the unwanted mind.	EMG Corrugators are significantly associated with spontaneous depressive frequencies
Makram Samaan, 1975	Thought-Stopping And Flooding In A Case Of Hallucinations, Obsessions, And Homicidalsuicidal Behavior	Thought stop is used to overcome hearing and visual Hallucinations; And floods to quell thoughts that produce chronic fear, depressive behavior	Finally there is mutual reinforcement training to reciprocally establish family interpersonal relationships	Follow-up for 20 months did not show any relapse.
Ann Hackmann And Carole Mclean	A Comparison Of Flooding And Thought Stopping In The Treatment Of Obsessional Neurosis	thinking stopped over in obsessive patients Neurosis, in cross-over design.	A valuable clinical finding is that considerable improvements occur after only eight outpatient sessions	A valuable clinical finding is that considerable improvements occur after only eight outpatient sessions

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Effectiveness of Therapeutic Non-operative Management of Wound Healing in Diabetic Foot Ulcer: A Systematic Review

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Keywords: Non-operative management, wound healing, diabetic foot ulcer.

Abstract: Background: Therapeutic non-operative management is an important part in healing the wounds of diabetic foot ulcer but the most effective methode among this remain questionable. This study aims to identify effective intervention to treat diabetic foot ulcer with therapeutic non-operative management by systematic review and followed the PRISMA statetment guidelines. Methods: Scopus, PubMed, and Science Direct database from 2012 – 2018 were search for the relevant keyword. All included studies were access base on (1) random controled trial, (2) case-control studies and (3) cohort studies. Results: 19 out of 1651 papers were including. Two articles suggest that advanced biologic therapy, the bioengineered living cellular construct (BLCC) of human fibroblast-derived dermal subtitution (HFDS) and advanced skin substitution using grafix have a significant. Five articles reported electrophysical therapy has significant. Two articles reported hyperbaric oxygen therapy (HBOT) had a significant and one article reported no effect. Five articles state that the NPWT has a significant influence on wound healing. Three studies reported that TCC resulted in a statistically significant to be an effective treatment of diabetic foot ulcers. Conclusions: NPWT should as promising therapeutic non-operative management in treating diabetic foot ulcer. Additional further randomized control trial design study needed to strengthen the finding.

1 BACKGROUND

Diabetes mellitus is not infectious disease issues figure high incidence of its victims and diabetes mellitus treatment if not done properly will cause complications of diabetes mellitus consisting of acute complications include Diabetic Ketoacidosis, hyperosmolar non ketotik, and hypoglycemia (Perkeni, 2011). Neuropathy is one of the complications that occur in the nervous system disorders of the foot and alirah peripheral blood which is early onset of diabetic foot ulcer (Waspadji, 2006). Patients with diabetes mellitus will evolve into a dibetic foot ulcer (DFU) is estimated to be 15-25% associated with venous insufficiency, neuropathy and peripheral artery damage and only about 24% of the wounds healed after 12 weeks of therapy, this causes ALOS lengthwise in the hospital, the costs incurred by the patient as well as the increased burden of the Government against health coverage also increases (Lavery, 2014). The treatment process for the DFU into a challenge for effective health workforce craft made proper wound care management to shorten the healing time and prevent further complications since DFU (Frykberg *et al.*, 2017).

Prevelention of diabetes mellitus there are an estimated 382 million people living with diabetes in the world and in the year 2035 that number an estimated 592 million people stepped on the rise (International Diabetes Federation, 2014). Sufferers of diabetes mellitus a number of 382 million people, 175 million of them have not been terdiagnois, so that threatened developing progressively and unidentified become unwitting and complications and without any prevention of sufferers (Kemenkes RI , 2014). The prevalence in Indonesia there are around 7% of total population total population number of 258 million people have diabetes mellitus (World Health Organization, 2016).

The impact of diabetic foot ulcer treatments that are not exactly very influential towards the quality of life, productivity, employment, depression due to the amputation to death. Risk factors as causes of DFU one is lack of management to prevention therapies that have not been appropriately and has not been used. DFU therapy can be done with the operative management and non-operative management (Cychosz, 2016).

Over recent decades, the significance of related research the healing of wounds in diabetics with non-operative management of theraputic many do, some non-operative management strategies include such Advanced Biologics Therapy, Hyperbaric Oxygen Therapy, Electrophysical Therapy (HBOT), Negative Pressure Wound Therapy (NPWT), and the Total Contact Casting (TCC), the therapy is found in

all the review literary review Cychosz (2016) related preventive and therapeutic strategies for diabetic foot ulcer, but there has been no sistematic review that discusses the effectiveness and excellence in the use of the therapy as a whole on the healing process of wounds so medical personnel can compare pengguaan therapy to each other so that right for granted. The purpose of this review is the sistematic to know the effectiveness of non-operative management therapy therapeutic against healing in diabetic foot ulcer (DFU).

2 METHODS

This systematic review followed the Preferred Reporting Item for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Liberati *et al.*, 2009).

Search strategy

Scopus, PubMed and Science Direct databases were searched for articles published from 2012 – 2018. The strategy had eight components which were combined: (1) non-operative management OR (2) negative pressure wound therapy OR (3) hyperbaric oxygen therapy OR (4) total contact casting OR (5) advanced biology therapy OR (6) electrophysical therapy AND (7) wound healing AND (8) diabetic foot ulcer.

Eligibility Criteria

Types of studies

(1) random controlled trial, (2) case-control studies and (3) cohort studies design were included.

Types of participants

The main inclusion criteria entailed adult (18 years or older), with a type I or type II diabetes.

Type of interventions

Any non-operative management for the treatment of diabetic foot ulcer was eligible. No studies were excluded on the basis of the comparator/ control group used.

Type of outcomes measures

Primary outcomes of interest were any measure of wound healing. The timing of outcome measures was variable.

Study selection

The protocol standard for selecting research studies is suggested in the PRISMA method for systematic review followed by screening by removing duplicates, then three reviewers selecting titles, abstracts, and keywords, then deleting irrelevant quotes according to the selection criteria. Reviewers noted the reasons for choosing such research studies including selection of inclusion inclusion data. Selection of research studies that have been recorded by three reviewers and then compared to one another to be adjusted feasibility with the criteria set. Secondly, to minimize the risk of incorrect study entry in selection there are several research studies that have been applicable or can be applied in a review by one or two reviewers to be included in the next review stage. Full text of the articles is obtained if the title and abstract meet the inclusion criteria or if the feasibility study is clearly resolved by a joint discussion between the reviewers.

3 RESULTS

Literature search and study selection

A total of 19 studies were identified for inclusion in the review. The search of Scopus, PubMed and Science Direct databases provided a total of 1651 citations. After adjusting for duplicates 863 remained. Of these, 595 studies were discarded because after reviewing the abstract it appeared that these papers clearly did not meet the criteria. The full text of the remaining 268 citations was examined in more detail. It appeared that 250 studies did not meet the inclusion criteria as described. See flow diagram Figure 1.

Study Characteristic

Methods

19 studies finally selected for review were eight randomized controlled trial, eight cohort studies, and three case-control studies design.

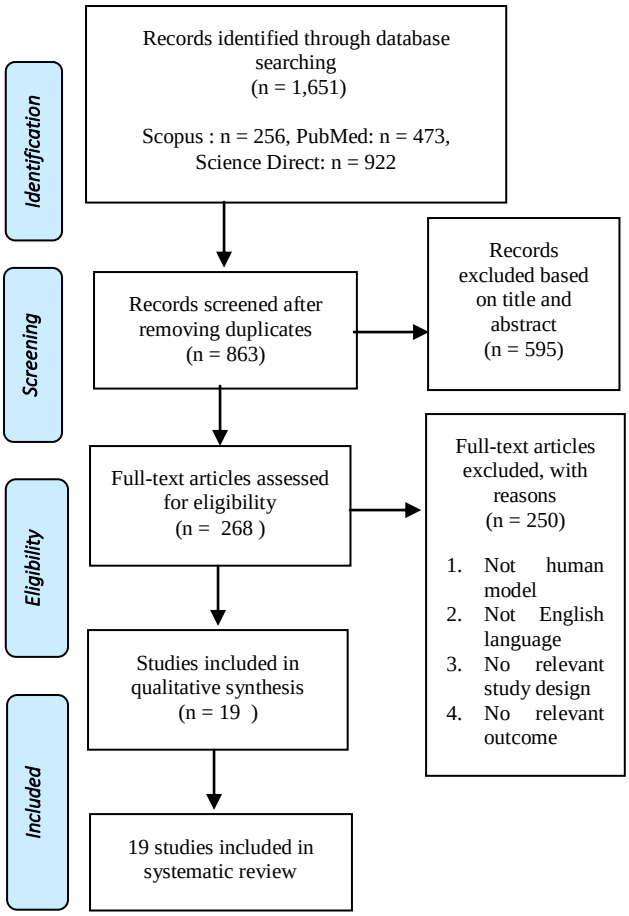

Figure 1: Flow Diagram

Population

The included studies involved 2.304 participant. The main inclusion criteria entailed adult (18 years or older), with a type I or type II diabetes.

Intervention

Table 1 represents the characteristics and content of the interventions of the 19 studies.

Three studies evaluated Hyperbaric Oxygen Therapy/HBO (Fedorko *et al.*, 2016; Chen *et al.*, 2017; Hayes *et al.*, 2017). Five studies evaluated Negative-Pressure Wound Therapy/ NPWT(Matsuzaki and Kishi, 2016; Kaushik *et al.*, 2017; Mendame Ehya *et al.*, 2017; Wang *et al.*, 2017; Yang *et al.*, 2017). Three studies evaluated Total Contact Casting/ TCC (Kashefsky and Marston, 2012; Arnold and Marmolejo, 2017; Merheb *et al.*, 2017). Two studies evaluated Advanced Behaviour Therapy/ ABT (Lavery *et al.*, 2014; Rice *et al.*, 2015). Five studies evaluated Electrophysical Therapy (Keyl *et al.*, 2013; Liani *et al.*, 2014; Omar *et al.*, 2014; Asadi *et al.*, 2015; Wirsing *et al.*, 2015).

Outcomes

In all studies the primary outcome assessed was wound healing. The timing of outcome measures was variable and could include monthly investigations, evaluations every three months or a single final evaluation.

Results of individual studies

Advanced Biologic Therapy

Two articles suggest that advanced biologic therapy, the Bioengineered living cellular construct (BLCC) of Human Fibroblast-derived dermal substitution (HFDS) and advanced skin substitution using Grafix have a significant effect on wound healing.

Lavery *et al.*, (2014) reported that grafix can improve wound healing, shorten healing time and reduce complications. (Rice *et al.*, 2015) reported that BLCC and HFDS can accelerate wound healing and lead to reduced maintenance costs.

Electrophysical Therapy

Five articles reported Electrophysical Therapy has significant effect on wound healing.

Asadi *et al.*, (2015) reported that a cathode-direct current can increase skin temperature and accelerate wound closure or reduce injury to DFU ischemia by comparison of study groups showing significance at higher skin-temperature changes than in placebo groups in three sessions and and reduction of injured areas (52.68%) compared to the placebo group (38.39%). Keyl *et al.*, (2013) suggest that electrical stimulation for sciatic nerve motor responses is increased in patients with DFU gangrene. Liani *et al.*, (2014) reported that the Pulsating Electrostatic Field technique has influenced metabolic processes and accelerated wound healing in foot ulcers with type 2 diabetes. Wirsing *et al.*, (2015) reported that Wireless Micro Current Stimulation (WMCS) technology significantly accelerated progress on wound healing and reduce the occurrence of expansion on the surface of the wound with wound healing achieved for 3 months in aetiologically difficult to recover patients. WMCS offers advantages over electrical stimulation because it is contactless, pain free from being easy to use

Hyperbaric Oxygen Therapy (HBOT)

Two articles reported Hyperbaric Oxygen Therapy (HBOT) had a significant effect on wound healing, and one article reported no effect.

Chen et al. (2017) reported that hyperbaric oxygen therapy can significantly improve the inflammatory index, blood flow and quality of life. Hayes et al. (2017) suggest hyperbaric therapy may reduce ulcers by 51% and pain reduction. Fedorko et al. (2016) reported that there is no significant influence on decreasing the risk of amputation and wound healing.

Negative Pressure Wound Therapy (NPWT)

Five articles state that the NPWT has a significant influence on wound healing.

Matsuzaki and Kishi (2016) reported that NPWT can accelerate wound healing time after debridement with an average of 31.3 days. Yang et al. (2017) reported that NPWT can increase protein and cFN and TGF-β1 levels compared with Advanced Moist Wound Therapy consisting of hydrogels, alginates, and dressings. Wang et al. (2017) reported that NPWT may decrease TNF-α, IL-6, iNOS, IkB-α and NF-κB P65 expression, increase ATF-3 levels, and provide anti-inflammatory effects by suppressing pro-inflammatory enzymes and cytokines as a result inhibition of Ikb-α and the activation of ATF-3, which can prevent the activation of the NF-κB pathway in diabetic foot wounds and cause rapid injury to improve over treatment with debridement. Mendame Ehya et al. (2017) reported NPWT reduces expenditures accumulated flap, reduces pain shorten wound healing time with good aesthetics, good mobility and satisfactory therapeutic results. Kaushik et al. (2017) reported that NPWT accelerates the wound healing period compared with gauze dressing.

Total Contact Casting (TCC)

Three studies reported that TCC resulted in a statistically significant to be an effective treatment of diabetic foot ulcers.

Arnold and Marmolejo (2017) reported there are similar healing rates and reduced rates of iatrogenic ulceration, amputation, recurrent ulceration were attained and an 85.6% healing rate was achieved with use of a prefabricated roll-on TCC. Kashefsky and Marston (2012) reported the percentage of wound healing using TCC at 75% complete and non-recurrent ulcer coverage during one year of follow-up and no surgery. Merheb et al. (2017) reported the average time of wound healing with TCC is 23.7 ± 16.3 days.

4 DISCUSSION

A systematic review is to find out about the effectiveness of the therapeutic management of non-operative against the wound healing in diabetic foot ulcer. The articles used to use heterogeneous research design. There are several related findings of various interventions concerning the advantage or disadvantage of some kind of intervention against the process of wound healing that is composed of several phases, and in this case the intervention of NPWT potentially as a treatment effective for wound healing in diabetic foot ulcer which will be discussed in detail as follows.

Diabetic foot ulcer treatment outcomes remains a challenge related effectiveness of treatment. Intervention or treatment should be assessed or reviewed, so that less proof of effectiveness of interventions should be avoided. Review update results Cychosz (2016), a literary review that discusses about strategies of preventive and therapeutic for diabetic foot ulcer management with operative or non-operative. The review contained an assessment of interventions that have advantages or effective in the process of wound healing at every phase. Wound healing there are three important phases include inflammatory phase, proliferasi, and remodelling. Inflammatory phase of wound healing is a process until the fifth day, acute inflammation occurs in 24-48 the first hour after injury. The process of epitalisation were formed then undergo constricting and reaction accompanied by the release and activate hemostase cytokines which act for the occurrence of cemoktasis retrofil, macrophages, mast cells, endothelial cells and fibrolas which are then This inflammatory reaction produces exsudation fluid (Ekaputra, 2013). In the inflammatory phase in NPWT have advantages and effective because of the application of the negative pressure can stimulate the activity of the cells in the wound, the migration of cells, eliminate excess fluid cuts, and decrease edema (Borgquist, 2011). In accordance with the results of the review of research studies conducted by Wang (2017) explained that NPWT enhances wound healing of diabetes due to inflammation of the soft and dense matrix cells are deposited. NPWT significantly lowered expression of TNF-α, IL-6 and iNOS (all $P < 0.05$). The results of PCR blotting and real-time PCR showed that NPWT decreases the level of IkB-α and NF-κB P65 and raise the level of ATF-3 (all $P < 0.05$) and can also provide anti-inflammatory effect with emphasis pro-inflammatory enzymes and cytokines due to inhibition of IkB-α and activation of ATF-3, which can prevent the activation of NF-κB pathways on

diabetic foot wounds and cause wounds quickly improved (Wang, 2017).

Compared to the four other interventions, such as advanced Biologics intervention therapy that has a weakness in the inflammation phase as it cannot reduce the exudate on the wound. Advanced Biologics therapy is a therapy of skin grafting on the wound the granting of appropriate research studies by Lavery (2014) that describes the advanced skin grafix substitution on diabetic foot. There are also similar things in therapy ESWT (extracorporeal shock wave therapy) is to respond to electrical stimulation of nerves, therapeutic research study conducted by Omar (2014) explained that ESWT therapy can improve perfusion and not on inflammatory processes. The next therapy HBOT only gives oxygen on peripheral, in accordance with the research study conducted by Fedorko (2016) that the results of the review describes the granting of hyperbaric oxygen therapy did not significantly effect against a decreased risk of amputation on the client with a diabetic foot ulcer ($p = 0.846$). Total contact casting is also a therapy that is designed to protect the ulcer by reducing pressure on the wounds, according to the research study by Arnold (2017) the results of the rate of healing using the TCC roll-on prefabricated reach 85%.

The second phase, i.e. poliferasi, this phase began on granulation, contraction of wounds and epitelisasi (Ekaputra, 2013). NPWT in it also have an important role in which excellence in improving growth of granulation. Yang (2017) that compares with NPWT AMWT therapy/advance moist wound therapy with hydrogel and alginates drassing as the control group, the results raise the levels of protein and NPWT cFN and TGF-β1 as compared to the control group (P. 01 < both), cFN and TGF-β1 granulation tissue through which so speed healing of wounds of diabetic foot.

Phases of remodeling is the last and longest phase in the process of wound healing. The dynamic processes occurring in the form of remodeling of collagen, scar maturation and wound contraction. This phase lasts from 3 weeks to 2 years. End of this healing grated ripe wounds obtained which has 80% of the strength of the normal skin (Ekaputra,2013). Advantages of the intervention research studies described in NPWT Mendame (2017) that there is a statistically significant difference in clinical endpoints in two groups ($p < 0.001$; $p < 0.05$). VAC combining perforating applications flap, flap accumulation reduce spending, reduce pain shorten the time healing wounds with the aesthetics of good, good mobility and therapeutic results are satisfactory.

Limitations

There are some potential limitations related to this systematic review. (1) Heterogeneity of study design. (2) What we considered as primary outcomes (wound healing) was not always the same as in the original study.

5 CONCLUSIONS

This review explains that systematic intervention NPWT potentially as effective therapy for DFU compared four other interventions such as advanced Biologics electrophysical therapy, therapy, HBOT, and total contact casting.

Wound infections generally produce higher levels of exudate causes damage and localized edema. NPWT can reduce the bacterial load bed sores (Moues, 2004), besides NPWT also able to take excess fluid cuts and not only reduce the edema but also improve local blood flow and nutrients on the wound. The flow of new blood is able to reduce the formation of anti-inflammatory mediators such as metalloproteinase, which lose adhesion proteins needed to repair wounds. Clinical trial on diabetic foot wounds showed excellence in producing NPWT granulation with than conventional dressings. NPWT also induces angiogenesis and vascular proliferation, further systemic endothelial cells mobilize NPWT progenitor (EPCs) which is a marker of the healing and repair. Design studies with randomized controlled trial is needed to strengthen the results of systematic.

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EFFECT OF PROGRESSIVE MUSCLE RELAXATION TECHNIQUES TO BLOOD GLUCOSE LEVELS ON PATIENTS WITH TYPE 2 DIABETES MELITUS ; SYSTEMATIC REVIEW

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Keywords: Diabetes Mellitus Type 2,DM, Relaxation, Progressive Muscle Relaxation, PMR, Physical Exercise, Stress management, Health-related Quality of Life

Abstract: Introduction: Type 2 DM is one of the most common chronic diseases that cause death and disability worldwide. Type 2 diabetes has a major impact on society and the health system. People with type 2 diabetes during the year will experience physical and psychological disorders that can increase stress. Stress that occurs will increase the secretion of adrenal hormone and cortisol hormone resulting in increased glucose. Progressive Muscle Relaxation (PMR) is a relaxation technique involving breathing and muscle stretching. This technique is proven to relieve stress. Patients learn to tighten and relax muscles regularly. thus reducing stress and affecting the decrease in glucose. Objective: This systematic review to determine the effect of Progressive Muscle Relaxation technique on the reduction of blood glucose in patients with type 2 diabetes mellitus. Method: Source search using Database: Scopus, Proquest, Science Direct, PubMed and Sage limited in 2012 - 2017. Obtained 15 journals that fit the criteria. Results: Based on the review conducted, the systematic review of articles or journals states that Progressive Muscle Relaxation can lower blood glucose levels in patients with type 2 diabetes mellitus. Conclusion: Progressive Muscle Relaxation interventions influence the decrease in blood sugar levels in patients with diabetes mellitus.

1 BACKGROUND

Diabetes mellitus is a chronic disease characterized by blood sugar levels due to either a lack of insulin or resistance to insulin Approximately 230 million people in the worldwide suffer from diabetes in 2010. The global figure of people with diabetes is projected to increase to 333 million on 2025, and 430 million on 2030. As prevelance of diabetes have increased to a epidemic in the worldwide, vascular complications, Nowadays Diabetes has become one of the most challenging health problems. A relatively small proportion (10%) of patients who suffer from diabetes melitus have type 1 diabetes or insulin dependent. However, majority of diabetics are dependent on insulin and capable, at least initially, to produce the hormone. This type of diabetes mellitus (diabetes mellitus) is called type 2 diabetes (Rochette et al., 2014)

A person who has suffered from diabetes mellitus is more than a year will experience physical and psychological disorders. This physical and psychological disruption will cause stress. Stress in patients with diabetes mellitus include heavy stress because stress will be experienced lifetime. Stress will activate the secretion of hormones adrenaline and cortisol. The hormone adrenaline causes the release of glycogen in the liver into sugar and the hormone cortisol antagonist to insulin release. Secretion of hormones adrenaline and cortisol hormone causes increased sugar in the blood vessels so that there hyperglycemia(Rochette et al., 2014),

Control of Diabetes Mellitus are well demonstrated with a normal fasting blood glucose level is 80-125 mg / dL. Physical exercise can keep fit, lose weight and improve insulin sensitivity, so it will improve the control of blood sugar. In addition to physical exercise, relaxation is effective in increasing the absorption of insulin and improves circulation leading to a drop in blood sugar levels (Rochette et al., 2014),

Various nursing actions have been carried out and developed and applied to the patient, one with *progressive muscle relaxation* (PMR). Based on the

background of the purpose of this study was to determine the effectiveness of physical exercises and progressive muscle relaxation (PMR) to decrease fasting blood sugar levels in people with Type 2 diabetes.

2 METHOD

The scope of the literature is the use of either a combination or single technique relaxation intervention. The use of relaxation techniques in question is via inhalation and topical. Aromatherapy is used to clients who suffer from Diabetes Mellitus. Literature studied is speaking English, Chinese and Spanish in order to multiply the amount of literature. The database used in the literature search was Scopus, Proquest, ScienceDirect, PubMed by limiting keyword "Relaxation" AND "Diabetes Mellitus"the search is performed with a limit of an article in2012-2016. Additional sources used are Sage Journal.

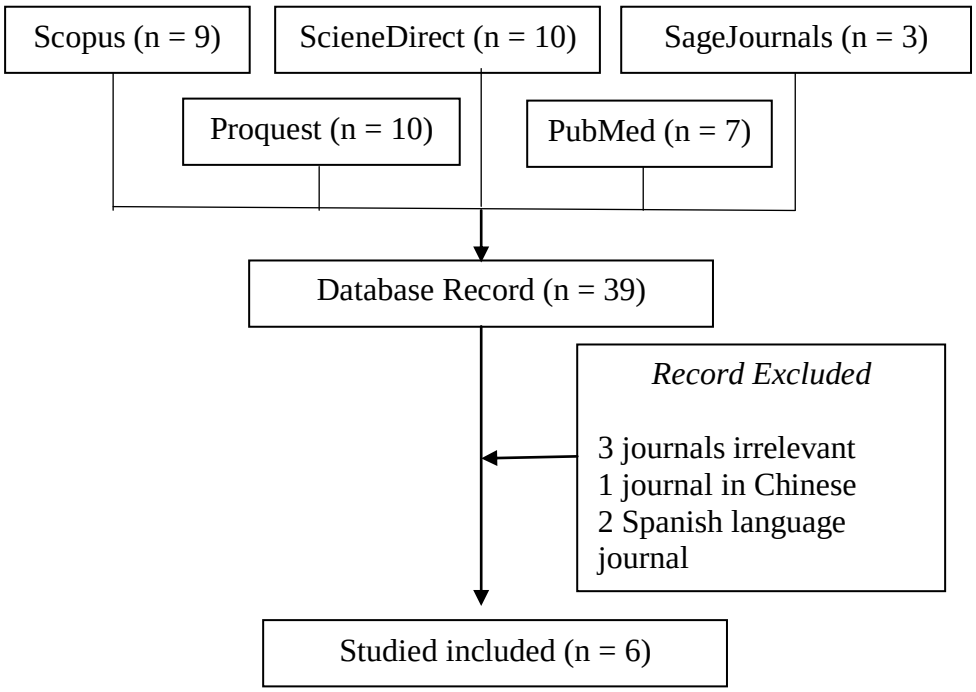

Figure 1: PICOT strategy and Booelan logic source search on electronic database

Data extraction and appraisal

Data Extraction designed using the primary criteria of the framework Greenhalgh. Components that are taken are of interest, the design of the study population (sample size, characteristics and methods ofrecruitment), interventions such as relaxation techniques, the outcome measures, method of data collection, and analysis of results. Criteria of article which is related to the quality and validity were evaluated with a focus on the sample size, allocation of clients and needs and factorbias.Data extraction is done by one reviewer and checked by a second reviewer.

3 RESULT

Articles research found as many as five journals published from 2012 up to 2016. The research conducted in various countries with diverse methods. The research method which was found in the study is a randomized controlled clinical trial (n = 3), Quasi-randomized (n = 1), Prospective and cross sectionalfeatures (n = 1), Prospective randomized control study (n = 1), Quasi-experimentalone group pretest-posttest design (n = 1), parallel group randomized controlled study (n = 1), and Single group pre-*post design* (N = 1). The

study design the most widely used is the Randomized Controlled Trial with the highest number of samples are 124 respondents.

Relaxation techniques are non-pharmaceutical interventions are well used to solve problems in patients with Diabetes Mellitus. Relaxation techniques which are used in the study as the intervention is Progressive Muscle Relaxation (PMR). But some techniques Progressive Muscle Relaxation (PMR) in combining music and education.

The most effective method is the provision of progressive muscle relaxation action is combined with massages administration, education and relaxation therapy by using CD is the largest and siginfikan interventionwas successful in providing therapy to clients. Intervention which is conducted by these researchers can reduce blood sugar levels in patients with diabetes mellitus.

Table 1. Analysis of Instruments Progressive Muscle Relaxation (PMR)

components instruments	PMR	
	stretching muscles	Deep Breathing
HbA1c	√	√
HRQOL	√	√
NES	√	√
Stress management	√	√
Decreased Glucose	√	√
Score grading	5	5

Table 1 shows the results of that intervention Relaxation can lower blood glucose. Chronic stress tends to make people happy with sweet foods to boost brain serotonin levels of fat, which has a calming effect while to relieve the stress. But glucose and fat is dangerous for those who are at risk of diabetes mellitus. Stress can increase blood glucose content because stress stimulates the endocrine organ to issue ephinefrin, ephinefrin has a very strong effect in causing glikoneogenesis process in the liver, so it will release large amounts of glucose into the bloodstream in a few minutes. This is causing an increase in blood glucose levels when stress or strain. Some things that cause blood sugar to rise, ie lack of exercise, increasing the amount of food consumed, increasing stress and emotional factors, weight gain and age, as well as the effects of drug treatments, such as steroids. Sedentary lifestyle is associated with an increased risk for high blood sugar and diabetes. In people with diabetes, exercise reduces blood sugar levels. Exercise also reduces cardiovascular complications due to diabetes, including high blood pressure, heart disease, and inflammation, One technique that has proven coping effectively cope with stress disorders, namely relaxation. Relaxation techniques can reduce blood sugar levels in patients with stress reduction.

Table 2. PICOT

No	Title	Population	Study Design	Intervention	Comparison	Outcome	Time
1	*The effect of progressive muscle relaxation on glycated hemoglobin and health-related quality of life in Patients with type 2 diabetes mellitus.* (Tahereh Naja fi Ghezeljeh, et al, 2016)	65 patients with diabetes mellitus in Firoozgar Hospital, Tehran, Ira	*randomized controlled clinical trial*	PMR training Jacobson with 3 stages: 1. Explaining breathing techniques and stretching techniques and muscle toning. 2. Patients perform the appropriate procedure 3. Providing education, pamphlets and CD training	Patient group received only conventional pembandng care.	There is no significant difference in terms of HbA1c levels and HRQOL scores between the two PMR groups and the control group 12 weeks after the intervention. However, in the PMR group, the intervention caused a significant reduction in HbA1c levels and an increase in the total score and psychosocial HRQOL significantly. PMR does not have a	12 weeks

No	Title	Population	Study Design	Intervention	Comparison	Outcome	Time
				(PMR engineering measures)		significant impact on HbA1c levels and HRQOL in patients with type 2 diabetes mellitus.	
2	*Implementation of a stress management program in outpatients with type 2 diabetes mellitus.* (Efi Kolovero, et al, 2014)	53 patients with Type 2 Diabetes Mellitus	*Parallel group, randomized, controlled trial*	1. Provide information on research objectives and provide written approval 2. questionnaire 3. Ask the patient to practice diaphragmatic breathing techniques and PMR 4. Sharing the training CD (steps diaphragmatic breathing techniques and PMR) 5. Ask the patient at home melakukankembali 6. Evaluating the results of the patient over the phone	*glycemic control*	Application of simple techniques as RB-PMR, at low cost, does not require a long time and is highly considered as an additional non-pharmaceutical treatments are cost-effective for patients with type 2 diabetes.	8 weeks
3	*Education, progressive muscle relaxation therapy, and exercise for the treatment of night eating syndrome*(Jill on S. Vander Wal, et al, 2015)	A total of 44 participants with SEN 2	randomized controlled clinical trial	1. Participants receive a percentage of education 2. Participants are led to do PMR 3. Participants are given a CD or audio file 4. Participants were given a prescription for walking at a moderate pace 15 minutes seharai for 5 weeks 5. Participants were given a notebook to evaluate yourself	Given education and progressive muscle relaxation therapy	Night eating syndrome (NES) is a circadian rhythm disorder in which food intake is shifted into the middle of the night, and can disturb sleep. Model biobehavioral NES said the results of a genetic predisposition, coupled with stress, causing an increase in the reuptake of serotonin, thereby dampen the circadian rhythm and reduced satiety. Biobehavioral using the model as a guide, we developed a brief behavioral intervention, consisting of information about SEN, healthy eating, and the importance of sleep and hygiene, coupled with exercise and use of	1-3 weeks

No	Title	Population	Study Design	Intervention	Comparison	Outcome	Time
						relaxation Therapy before sleeping, efficacious in the treatment of SEN.	
4	*Measuring possible effect on health-related quality of life by tactile massage or relaxation in Patients with type 2 diabetes* (Per E. Wandell, et al, 2012)	A total of 44 participants with Type 2 Diabetes Mellitus patients	*Quasi-randomized, parallel group*	1. Providing a CD of relaxation techniques and soft music 2. Patients demonstrating tactics or relaxation massage techniques in accordance with the guidelines CD	Oral anti-diabetic treatment	Mechanical stress reliever with CD TM or limited relaxation showed no major effect on patients with diabetes mellitus type 2, however, in the group of patients with higher perceived stress may show a benefit with this type of non-pharmaceutical treatment	10 weeks
5	*Relaxation Response induces transcriptome Temporal Changes in Energy Metabolism, Insulin secretion and Inflammatory Pathways* (Manoj K. Bhasin, et al, 2014)	A total of 52 participants who are already getting exercise RR and who do not get the exercise RR	*Prospective and cross-sectional features*	1. measure transcriptome in peripheral blood before and after exercise RR 2. listen RR-eliciting	Participants who do not get the exercise RR	RR elicitation, especially after long-term practice, can generate health benefits downstream by improving mitochondrial energy production and utilization and thus increase resilience through upregulation of mitochondrial ATPase and insulin function. Resilience mitochondria can also be promoted by RR-induced downregulation of NF-kB related upstream and downstream targets that reduce stress.	8 weeks
6	*Impact of a Concomitant Relaxation Technique Intervention on M edical and Health Behaviors in Patients Treated for Type 2 Diabetes mellitus*(Yuko Katada, 2014)	A total of 49 participants. With 24 in the control group and 25 in the intervention group in patients with type 2 diabetes mellitus during treatment	*experimental*	1. Interviews at the beginning of the baseline 2. Closing eyes 3. Muscle stretching techniques 4. Doing breathing techniques 5. interview at the end of the baseline	-	There are significant differences in the physical index (the concentration of salivary amylase, blood pressure, heart rate) and the relaxation scale between pre-intervention and post-intervention. Stable HbA1c level for intervention in a better range than with the previous year. PMR omissions with breathing techniques and stretching for the treatment of type 2 diabetes mellitus to improve self-control and stress management.	6 months

4 DISCUSSION

Generally all journals do review gives the results of that action can reduce stress relaxation which can lower blood glucose. Relaxation techniques gained the most effective and progressive good show is progressive muscle relaxation (PMR), is considered as a method of relieving stress and lowering blood sugar levels in patients with diabetes mellitus type 2. On the intervention of progressive muscle relaxation (PMR) patients learn to tighten and merileksasikan muscles regularly and after intervention PMR, the muscles become completely relaxed, can menbuat reduced stress and lower blood sugar levels. Some studies have also done other techniques, to measure progressive muscle relaxation (PMR) coupled with the provision of massage, education,and has shown that both methods have an effect on HRQOL and reduced blood sugar levels in patients with Type 2 Diabetes Mellitus Fluctuations in blood glucose, diet and exercise limitation, cacatfisik and development of vascular disorders known as factors that influence diabetes, suggesting the disease is closely linked to the level of stress. In addition, the daily management of diabetes mellitus can cause high levels of stress, and stress continue to cause anxiety and depression in these patients. It should be noted that the body responds to stress by releasing hormones that counteract the effects of insulin, leading to insulin resistance. Stress leads to eat more and exercise less. And berhubungandengan poor quality of life and health perception. Health related quality of life (HRQOL) refers to the level of social welfare, physical and emotional in patients undergoing medical treatment. A number of studies have reported lower HRQOL in patients with type 2 diabetes mellitus compared to healthy people. One of the main factors that affect HRQOL in these patients is the psychological stress due to constant self-management. Therefore, reduce diabetes-related type of difficulty likely to be an important predictive factor for improving HRQOL in patients with Diabetes Mellitus Type 2. Education also has an important role to improve the level of HRQOL in patients with Type 2 Diabetes Mellitus A number of studies have reported lower HRQOL in patients with type 2 diabetes mellitus compared to healthy people. One of the main factors that affect HRQOL in these patients is the psychological stress due to constant self-management. Therefore, reduce diabetes-related type of difficulty likely to be an important predictive factor for improving HRQOL in patients with Diabetes Mellitus Type 2. Education also has an important role to improve the level of HRQOL in patients with Type 2 Diabetes Mellitus A number of studies have reported lower HRQOL in patients with type 2 diabetes mellitus compared to healthy people. One of the main factors that affect HRQOL in these patients is the psychological stress due to constant self-management. Therefore, reduce diabetes-related type of difficulty likely to be an important predictive factor for improving HRQOL in patients with Diabetes Mellitus Type 2. Education also has an important role to improve the level of HRQOL in patients with Type 2 Diabetes Mellitus(Ghezeljeh Najafi et al., 2017),

(Koloverou et al., 2014) declared one of the stress management techniques of the most popular is progressive muscle relaxation (PMR), which combines both physical and mental components. Knowledge of relaxation breathing (RB) is typically diperlukanuntuk proper application. According to research data, the combination of these techniques (RB-PMR) with others (bio feed back, guided imagery, CBT) has been shown beneficial effects in reducing stress levels, despite the positive metabolic action has not been proven. It can be concluded that inadequate and the results of several studies are available, particularly regarding the effects of these techniques on glycemic control. While there is still no systematic review of randomized clinical trials that have used PMR-RB to improve glikemic control in patients with type 2 diabetes mellitus.

(Vander Wal et al., 2015) say the results supported the role of education and relaxation in behavioral treatment of SEN.According to the model biobehavioral NES, is a disorder that results from a genetic predisposition, coupled with stress, causing an increase in the reuptake of serotonin, thereby dampen the circadian rhythm and reduced satiety. Biobehavioral using the model as a guide, we developed a brief behavioral intervention, consisting of information about SEN, healthy eating, and the importance of sleep and hygiene, coupled with exercise and use of relaxation. Used as a treatment before going to bed, and efficacious in the treatment of SEN.

Quality of life related to health (HRQOL) is an important concept, cover a wide range of human experience. HRQOL in subjects with diabetes has been proven to be quite affected, compared with the other subjects with chronic disease, and is influenced by different factors, with cardiovascular disease and non-vascular as the strongest predictor. Stress can be an important factor for the development of type 2 diabetes mellitus, through the

hypothalamic arousal syndrome, including the activation of hypothalamic pituitary adrenal axis parallel and central sympathetic nervous system, through the metabolic syndrome, including central obesity and insulin resistance. So, it is so natural to think that stress reduction techniques may be useful for the treatment of type 2 diabetes and a positive effect on HRQOL.(Wandell et al., 2012),

(Bhasin et al., 2013)Stating the relaxation response (RR) is a state opposite to the psychological stress or flight response. The results of rigorous research shows the ability of the mind body interventions to reduce chronic stress and improve health through the induction of RR. Several studies have also reported that RR elicitation is effective therapeutic intervention to counter the adverse clinical effects of stress in patients with diabetes mellitus. The purpose of this study was to determine the relaxation response intervention in the energy metabolism, mitochondrial function, insulin secretion and stress related pathways. This study shows that RR elicitation, especially after long-term practice, can generate health benefits by improving mitochondrial energy production and utilization and thus increase resilience through upregulation of mitochondrial ATPase and insulin function. Resilience mitochondria can also be promoted by RR-induced downregulation of NF-k Bassociated that reduces stress.

(Yuko Katada, 2014)Once breathing PMR has been practiced, the general decline seen in systolic blood pressure after performing the technique, and a significant decline seen in pulse after 1-2 months of the intervention. Salivary amylase value indicates that the relaxation response is usually acquired, except for some data. Among the subjective response, a feeling of relaxation increased significantly by 6 months, indicating that relaxation techniques with breathing techniques PMR. Relaxation techniques began to be adopted normally in daily life and used properly in some places. Every patient encounter stressful situations every day-to-day life. The use of breathing techniques when performed daily PMR is expected to reduce the body burden sustained tension and reduce the occurrence of emotional instability. Stability of physiological and subjective produced by relaxation also improve the ability to cope with stress in daily life. These findings suggest that the technique is effective as a means of self-control and can indirectly reduce blood glucose levels in patients with Type 2 Diabetes.

Nursing Implication for practice and Recommendation

Nurses in providing nursing services should apply relaxation techniques as a way to cope with stress can lower blood glucose levels in patients with Diabetes Mellitus. Nurses can also train patients how to perform relaxation techniques that can be used directly when required. This relaxation technique is also an intervention at an affordable cost. This relaxation technique is simple and can be done mandiri.Teknik relaxation can also be incorporated into non-farmakologi.Teknik relaxation therapy can be used as SOP and SAK so that it becomes an intervention for nurses.

Limitation

References that have been collected in this review sitematic not tested elsewhere or do research in different places. Good perception of each individual client, family and caregivers greatly influence the success of a given therapy as well as a winning environment action. Language literature searches were hampered because there is one article that uses a language other than English dankendala resources in translating English into Indonesian. The discussion is still used in the form of Relaxation in general to deal with problems in patients with diabetes mellitus.

5 CONCLUSION

Systematic review This aims to find evidence of the effect of relaxation techniques on blood sugar levels in patients with diabetes mellitus. Literature searches based on relevance and then evaluate the quality of literature.Temuan show that intervention can be applied to patients with diabetes mellitus in Indonesia in addition also needs attention be paid on the value of blood sugar levels, quality of life, patterns of physical activity and diet of the patient. Based on these studies the most effective method is the provision of progressive muscle relaxation action combined with massages administration, education and relaxation therapy by using a CD. Tiindakan conducted by these researchers can reduce blood sugar levels in patients with diabetes mellitus. But the weakness of the methodology, small sample size, short duration.

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DESCRIPTION OF FACTORS AFFECTING ANXIETY ON END STAGE RENAL DISEASE PATIENTS WHICH THE HEMODIALYSIS AT LAVALETTE HOSPITAL IN MALANG

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Keywords: End Stage Renal Disease, Anxiety, Age, Long Undergoing Hemodialisys, Gender

Abstract: ESRD (End Stage Renal Disease) is a chronic renal function disorder that is progressive and irreversible. To be able to optimize the function of the body it is often necessary hemodialysis action, peritoneal dialysis or renal transplantation. Problems often encountered end stage renal disease patients undergoing hemodialysis there is anxiety that affects the healing process of the disease. The purpose of this study was to determine the description of the factors that affect patient anxiety End Stage Renal Disease who undergoing hemodialysis at Lavalette Hospital Malang. The design of this study is descriptive quantitative. The sample in this study was End Stage renal Disease (ESRD) patients who undergoing hemodialysis according to inclusion and exclusion criteria of 98 patients, selected using purposive sampling with pre-post control grup design. The results of the study found that age factor of 44.9% with a range of 56-65 years, type factor sex of 53% were male, long undergoing hemodialysis factor of 59.2 % between 1-2 years and education factor as much as 57.1% with high school education. The condition of anxiety in hemodialysis patients is related to sex, age, long undergoing of hemodialysis and patient education.

1 INTRODUCTION

The End Stage Renal Disease event is currently rising in the world and being a hanging issue, the case is increasing every year. CKD stage 5 patients are known as *End Stage Renal Disease* (ESRD) in order to optimize their body condition so hemodialysis, peritoneal dialysis or renal transplant (Korevaar, JC; Jansen, MAM; Merkus, MP; Dekker and EW; Krediet, 2010). Can be notarized End Stage Renal Disease if GFR <15 mL / min , patients with ESRD are in need of special attention, the support of people around is strongly influenced by the quality of life of ESRD patients undergoing hemodialysis (Olagunju, Campbell and Adeyemi, 2015).

The signs and symptoms of ESRD patients are difficult to identify in some cases are anxiety. ESRD patients undergoing hemodialysis experiencing problems such as weakness 71%, pruritus 55%, constipation (53%), anorexia (49%), pain (47%), sleep disorders (44%) and anxiety (38%) (Murtagh, Addington-Hall and Higginson, 2007).

Prevalence of CKD according to Riskesdas 2013 population of CKD age> 15 years age is 0.2%. Prevalence increases with age, province with highest prevalence is Central Sulawesi at 0.5% followed by Aceh, Gorontalo and North Sulawesi respectively 0.4% (Pusat Data dan Informasi Kemenkes RI, 2017). According to research (Thin *et al.*, 2015), found the phenomenon of 12% to 15% of patients who experience anxiety while undergoing hemodialysis at a hospital in Selanggor, Malaysia.

Regular Hemodialysis (HD) patients are defined as patients with chronic renal failure who undergoing hemodialysis therapy 2 or 3 times a week, and at least 3 months have undergone hemodialysis (Kamaluddin and Rahayu, 2009). This patient experiences anxiety during hemodialysis. The high rate of anxiety affects the patient's ESRD while undergoing hemodialysis.

Anxiety is an unclear and widespread concern about feelings of uncertainty and empowerment (Smeltzer, S. C., 2009).

The results of preliminary study conducted in RS x Malang from 10 respondents in Unit Hemodialisa, got 8 people (80%) experiencing anxiety. Patients

claim to experience anxiety when going through hemodialysis, insomnia, anxiety, increased blood pressure and others. 2 respondents (20%) said they were accustomed to undergoing hemodialysis and resigned in living the rest of their lives. The number of factors that affect the anxiety of patients who are undergoing hemodialysis is very diverse and affect the health of patients , so this becomes a consideration to examine the description of factors that affect the anxiety patients ESRD. The purpose of this research is to know the description of the factors that affect the anxiety of ESRD patients undergoing hemodialysis in Lavalette Hospital Malang City.

2 METHODS

The research design used in this study is descriptive quantitative with the population are patients who undergoing hemodialysis in Lavalette Hospital Malang as many as 306 patients. The number of samples in this study amounted to 98 patients undergoing hemodialysis and in accordance with inclusion and exclusion criteria. Inclusion criteria in this study are regular HD patients twice a week, morning shift, patients are not crowded, willing to be respondents in the study. Exclusion criteria for this study is patients undergoing bed rest, patients undergoing hemodialysis with psychiatric or mental disorders, rowdy and uncooperative patients, patients entering the ICU and patients die. The sampling technique used in this research is purposive sampling with pre-post control grup design. The research instrument used in this study is a *Zung Self-Rating Anxiety Scale* (ZSRAS) questionnaire.

3 RESULTS

Characteristics of Respondents

Age

The following table describes the age description of respondents, namely:

Table 3. 1: Description of the life of patients undergoing hemodialysis in HD Unit Lavalette Hospital Malang in February 2018

Characteristics of Respondents	Frequency (person)	Percentage (%)
26-35 years old	6	6,1%
36-45 years old	9	9,2 %
46-55 years old	30	30,6%
56-65 years old	44	44,9%
>65 years old	9	9,2%
Total	98	100

Primary Source 2018

The age of ESRD patients who underwent the highest hemodialysis age of 56-65 years and the lowest age of 26-35 years.

Gender

The following table sets forth the description of the respondents sex, which are:

Table 3.2 : Description of the sex of patients undergoing hemodialysis in HD Unit of Lavalette Hospital of Malang City in February 2018

Characteristics of Respondents	Frequency (people)	Percentage (%)
Man	53	54.1%
Women	46	46.9%
Total	98	100

Primary Source 2018

Gender respondents mostly male sex many as 53 people (54.1%).

Long Undergoing Hemodialysis

The following table describes the old description of undergoing hemodialysis, which is:

Table 3.3 : The old description of patients undergoing hemodialysis in February 2018

Characteristics of Respondents	Frequency (year)	Percentage (%)
<1 year	10	10.2%
1-2 years	58	59.2%
3-5 years	12	12.2%
> 5 years	18	18.4%
Total	98	100

Primary Source 2018

Most of the long-term patients undergoing hemodialysis are 1-2 years old and lowest <1 year.

Education

The following table describes the educational description of the patients undergoing hemodialysis in HD Unit of Lavalette Hospital of Malang City, which are :

Table 3.4: description of it i have education in patients undergoing hemodialysis in HD Unit Malang Lavalette Hospital in February 2018

Characteristics of Respondents	Frequency (year)	Percentage (%)
Elementary School	2	2%
Junior high school	8	8.2%
Senior High School	56	57.1%
University	32	32.7%
Total	98	100

Primary Source 2018

Most of the education of ESRD patients undergoing hemodialysis in HD Unit at Lavalette Hospital are high school graduates as many as 56 people (57.1%) and the lowest education of patients is Elementary school (2%).

Variable

Characteristics of respondents based on anxiety levels

Table 3. 5: Description of respondents based on anxiety level with questionnaire Zung Self-Rating Anxiety Scale (ZRAS) in February 2018

Characteristics of Respondents	Frequency (year)	Percentage (%)
Worry		
Light	12	12.2
Medium	36	36.7
Weight	50	51.0
Total	98	100

Primary Source 2018

Most patients who undergoing hemodialysis with severe anxiety 51%, moderate anxiety 36.7% and mild anxiety of 12.2%.

4 DISCUSSION

The result of the research found that based on data of table 3.1 characteristic of patient age who undergo h emodialisa that is age categorized based on MOH, 2009 among others 17-25 years as 0 %, age 26-35 years as much as 6.1 % , age 36-45 years 9.2%, age 46-55 years 30.6%, age 56-65 years as many as 44.9 and age> 65 years 9.2%. At the age of 56-65 years is the age of old adults to the elderly where the decline in the function of the body cells began, the older a person then tends to deny the problems faced and feel not as fresh as before, so at that age more anxiety is felt this is comparable to that disclosed (Sudoyo A, 2009). In old age, decision making will experience obstacles so that this will affect the process of treatment it also affects the level of anxiety in undergoing hemodialis.

The results obtained data in Table 3.2 that male sex more hemodialisys compared with women. According to research conducted by Wartilisna mentions that men often suffer from systemic diseases (Diabetes mellitus, glomerulonephotics, hypertension) and hereditary hereditary family history (Babakal, 2015). In the data retrieval of men more anxious than women because women are accustomed to more to tell what felt than men, men will get a schedule of hemodialysis experiencing sleep disturbances, indigestion, anxiety so that the next day when undergoing HD get increased vital signs.

The results obtained data in Table 3.3 that long undergoing hemodialisa 1-2 years. In the long range undergo hemodialysis between 1 to 2 years where the patient still feels anxiety. Patients are still unable to accept themselves with hemodialysis routine. This is in accordance with research conducted by (Befly F. Tokala, Lisbeth F. J kandou, 2015) said that chronic disease is very stressful and can make patients experience psychological problems. Long undergoing hemodialysis impacts on patient anxiety. Some patients feel psychosocial problems, anxiety, depression, social isolation, loneliness, helplessness and despair.

Demographic data obtained from the results of research says that the level of education in patients undergoing hemodialysis was an effect on the anxiety experienced by patients. Patients with low levels of education are more anxious than college education, this is in line with the theory that with the high education of science and knowledge of the disease experienced will be more and more. The higher the education the patient has, the experience that has been experienced and the good self-concept will make the individual more appropriate in taking a decision so that this minimize the anxiety of the patient both with the disease and hemodialysis process become routine. Knowledge has made the patient able to overcome problems and understand about the disease process (Kamaluddin and Rahayu, 2009). The results of this study are supported by the theory that where knowledge or cognitive is a very important domain in the formation of an action, the behavior based on knowledge will be more inherent than the not based on knowledge (Notoadmodjo, 1985).

The results obtained data on anxiety in patients undergoing hemodialysis when distributed questionnaires *Zung Self-Rating Anxiety Scale*

(ZRAS) patients with mild anxiety as much as 12 , 2 %, moderate anxiety 36 , 7 %, and patients with severe anxiety as much as 51.0%. This may imply that the majority of patients anxiety, there is influence of age, gender, education and long hemodialysis. This right also suits the study that anxiety is also influenced by age and duration of hemodialysis, family support is also important (Befly F. Tokala, Lisbeth F. J kandou, 2015)

The disadvantage of this study is to obtain only a small sample. This study only describes the factors effect to anxiety patients who undergo hemodialysis ESRD without looking for relationships characteristics of respondents with anxiety levels in ESRD patients undergoing hemodialysis at Lavalette Hospital Malang.

Score based *Zung Self-Rating Anxiety Scale* can cause wrong because some of the symptoms that there is a natural process of aging and there are some point questions in the questionnaire *Zung Self-Rating Anxiety Scale* which is things that are often experienced when undergoing hemodialysis.

5 CONCLUSION

The level of anxiety in patients undergoing hemodialysis is affected by age, sex, long duration of hemodialysis and patient education. Anxiety levels in patients undergoing hemodialysis are influenced by how the patient is undergoing therapy . In patients who have recently undergone hemodialysis in getting data that is the level of anxiety be rat because at the beginning of the period 1-2 years undergoing hemodialisa patients feel despair and can not undergo routine as usual. After several times hemodialysis patients began to adapt well and the level of anxiety began to decrease to moderate and mild.

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The Use Aromatherapy For Symptom Management In Hemodialysis: A Systematic Review

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Keywords: Aromatherapy, Hemodialysis, Patient, Chronic Kidney Disease, Complementary Therapy

Abstract: Patients undergoing hemodialysis may suffered from various complication symptoms associated with chronic kidney disease, such as problem in sleep quality, fatigue, pruritus, pain, anxiety and depression. Aromatherapy was a complementary therapy, which benefits from essential oils to manage some problems related to hemodialysis. The aim of this study was to explain the effect of aromatherapy to various symptoms on hemodialysis patient. We searched for 13 research articles that met the inclusion criteria. The articles consist of Randomized Controlled Trials (RCTs) and Quasi Experiments from several database sources such as Scopus, ScienceDirect, PubMed and Pro-Quest with the last 10 years time limitation (from 2009 to 2018). The findings of this review reported benefit use of aromatherapy especially aromatherapy lavender, citrus aroma and damask rose could increase comfort, decreased fatigue level, reduced the pain of fistula needle insertion, improved sleep quality, reduced uremic pruritus, decreased anxiety and depression in patients undergoing hemodialysis. Although results of the studies presented aromatherapy as a complementary therapy, had positive impact to overcome symptom with no adverse effect on hemodialysis patients, it could not be determined that there is sufficient evidence to conclude its effectiveness as a non-pharmacological approach to the reduction of hemodialysis complication symptom.

1 INTRODUCTION

Chronic renal failure is a progressive, irreversible kidney disorder in which the body's ability to maintain liquid and electrolytes is lost; it is considered a major problem in the health system, and is one of the leading causes of death and inability worldwide. The number of patients with end stage renal failure is on the rise. The prevalence of chronic renal failure is 242 cases per one million people and this increases 8% annually worldwide(Dehghanmehr *et al.*, 2017). These patients suffer from many other medical conditions and different problems (Bagheri-Nesami *et al.*, 2016).

Hemodialysis (HD) treatment which is one of the most commonly used treatments in the treatment of CRF patients increase the life expectancy of individuals and reduces the mortality and also raises intense physical and psychological. Common psychological effects include depression and stress (Tayebi *et al.*, 2015), anxiety(Tayebi *et al.*, 2015 ; Dattatraya, 2012 ; Dehghanmehr *et al.*, 2017), fatigue (Bicer, 2017 ; Balouchi *et al.*, 2016 ; Muz and Taşcı, 2017), sleep disorder (Lenjan, 2014) Other common complications of physical condition include nausea, vomiting, headache(Biçer, Ünsal and Demir, 2015) and pruritus (Ozkan and Ulusoy, 2011; Cürcani and Tan, 2014; Abdelghfar *et al.*, 2017).

Hemodialysis nurse should assess patients in a holistic way and should help in line with their requirements. Nurses should be able to notice complications and symptoms which may occur in patients. They should be guiding in applying necessary drugs or non-drug therapies with other health professionals and should implement the necessary nursing care (Wang and Che, 2012).
Complementary medicine and herbal medicine have developed globally, and these new treatments have gained a special status and value. Nurses in over 30 countries are licensed to use complementary medicine therapies, such as aromatherapy, in nursing care (Dehghanmehr *et al.*, 2017) The administrations can be performed in order to minimize various symptoms of patients undergoing hemodialysis (Bicer, 2017). The aim of

this study was to explain the effect of aromatherapy in various symptoms hemodialysis patient.

2 METHOD

This systemic review consist of Randomized Controlled Trials (RCTs) and Quasi Experiments from several database sources such as Scopus, ScienceDirect, PubMed and Pro-Quest with the last 10 years time limitation (from 2009 to 2018). The keywords used are Aromatherapy, Hemodialysis, Chronic Kidney Disease and Complementary Therapy. The inclusion criteria are set to limit the scope of the systematic review. The inclusion criteria of this systematic review include the research using the essential aromatherapy of lavender or mixture, the sample consists of at least 25 people, the sample age of at least 25 years, the final stages undergoing hemodialysis therapy 2 times a week

Table 1 Inclusion chriteria

Design
* Randomized Control Trial (RCT)
* Quasi-Experimental Design
Population
* Chronic Renal Failure Patients with Hemodialysis
2-3 times a week
Intervention
* Aromatherapy Inhalation
* Aromatherapy Topical
Outcomes measured
* Anxiety
* Fatigue
* Quality
* Depression
* Headache
* Insertion Fistula pain
* Pruritus
* Restless Leg Syndrome (RLS)
Comparation
* Aromatherapy Intervention Versus No Treatment
* Aromatherapy Intervention Versus Placebo

3 RESULT

Description of the Subjects

The first step in the preparation of this sytematic review is the identification of 168 journals that have been collected from various databases based on the reviewer's defined keywords. The journals are selected according to predetermined inclusion criteria

Intervention

Control

Eleven studies of Randomized Control Trials (RCTs have different comparison groups) Some studies compare the effectiveness of one aroma therapy with others, give flasebo aromatherapy, given only daily treatment, and the remaining two Quasi-Experimental Designs do not use a comparison group

Intervention group

The interventions in this review consisted of inhaled aromatherapy and aromatherapy massages. The description of the intervention described in Table 1.

Selection of Essential Oils

The essential oils used in this study are pure essential oils, diluted, or in a mixture of two or more essential oils of a certain ratio. Pure essential oils or diluted by the researchers are lavender oil, citrus oil and rose oil damask. But some researchers also combine several essential oils as well as a mixture of lavender with sweet orange oil, rosemary, sunflower oil, mint, sweet almonds, and jojoba oil.

Inhalation Aromatherapy

Seven of the thirteen researchers in this review chose inhaled aromatherapy. The aromatherapy inhalation technique used in this study is intended to provide psychological effects on patients, such as relieving anxiety (Tayebi *et al.*, 2015 ; Dattatraya, 2012 ; Dehghanmehr *et al.*, 2017), depression, reducing fatigue (Bicer, 2017; Balouchi *et al.*, 2016 ; Muz and Taşcı, 2017) and improving sleep quality (Tayebi *et al.*, 2015).

Aromatherapy Massage

Aromatherapy massage is a combination of aromatherapy and massage that offers the health benefits of both therapies and commonly used by healthy individuals(Ali *et al.*, 2015). Aromatherapy massage used to relieve headache(Biçer, Ünsal and Demir, 2015), fistula pain insertion(Bagheri-Nesami *et al.*, 2014)(Ghods *et al.*, 2015), reduce Restless Leg Syndrome (Hashemi, Hajbagheri and Aghajani, 2015) and relieve pruritus (Ozkan and Ulusoy, 2011)(Cürcani and Tan, 2014)(Abdelghfar *et al.*, 2017) in hemodylysis patients.

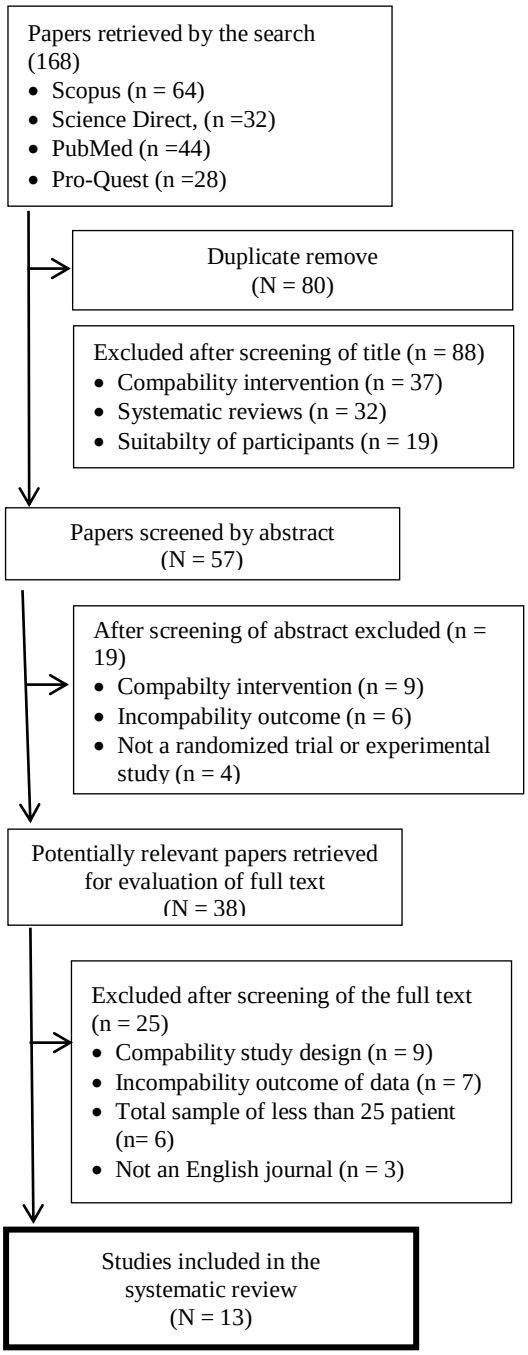

Figure 1: Flow of studies through the review.

Administration Protocol

Inhalation Aromatherapy

Although using the same techniques, there are differences in the research protocols in these journals. The main difference is the distance between the sources of aromatherapy and the subject's nose. In one study, subjects were asked to inhale the essential oil cotton right in front of their nostrils. In another study, aromatherapy was inhaled about 30 cm from the subject's nose or dropped on the participant's collar. the volume of essential oil used ranges from 1-3 drops. while the exposure time for the scent ranges from 5 to 20 minutes. the frequency of inhalation for anxiety, depression and fatique is given 2-3 a week according to hemodialysis time, while to assess the quality of sleep done every day. The duration of the study varied, between 2 to 4 weeks.

Massage Aromatherapy

The difference in aromatherapy massage intervention is the frequency of administration. On the pruritus symptom, The use of grape seed, almond, or jojoba oil in pure vegetable**.** oil during massage has been shown to have wonderful effects. This is also known as healing touch of massage therapy. In all study, All the participants had a skin test before undergoing massage with the oil to make sure they were not allergic to the oil like edema, itching, redness and rash (Cürcani and Tan, 2014) (Abdelghfar *et al.*, 2017) (Shahgholian *et al.*, 2010) (Bagheri-Nesami *et al.*, 2014)

The use of aromatherapy topical oil by applying 1-2 drops of aromatherapy by using palms in the itch area. Aromatherapy containers at home and smeared twice daily (in the morning and evening) for 2 weeks (Abdelghfar *et al.*, 2017) (Shahgholian *et al.*, 2010)

Patients in experimental group received a six-week aromatherapy during dialysis sessions three times a week for a period of 7–15 minutes for each region of the pruritus (not applied to the arm with fistula). To that end, in the study, aromatherapy was applied for six weeks. lavender, tea tree, almond and jojoba oils are mixed and used for therapeutic purposes (Cürcani and Tan, 2014)**.** For needle insertion, pain in both literature was measured use VAS pain intensity in both groups after each intervention for a total of three times in week.(Bagheri-Nesami *et al.*, 2014). In headaches severty and Restless Leg Syndrome, Massage are given lasted three days a week for three weeks and with a total of nine sessions in line with massage-application protocol and each session lasted ten minutes

Efficacy of Aromatherapy

Inhalation Aromatherapy

Three out of 6 studies evaluating the effect of inhalation aromatherapy reported beneficial effects to decrease fatique symptoms in the subjects. Sevil Bicer (2013) found that lavender essential oil was

found to decrease the average fatique score using the Brief Fatigue Inventory of the score before 42.92 ± 13.23 to 19.52.

Another study, Gamze Muz (2017) found a decrease in fatique by using Visual Analogue Scale (VAS) for fatigue and Piper fatigue scale. He also found that inhalation of lavender and rosemary aromatherapy can improve sleep quality by using the Pittsburgh Sleep Quality Index (PSQI) (<0.05). Abbas Balouchi (2016) once compared the effects of lavender and orange oil in reducing fatique in hemodialysis patients. Findings were indicative of higher effectiveness of orange extract compared to lavender extract on fatigue in hemodialysis patients.

Three studies evaluated the effect of inhalation Inhaling combination of 5% lavender essential oil and sweet almond essential oil in anxiety. Fatemeh Kiani (2016) found significant difference between state and trait anxiety marks -13.86 ± 6.91 before examined groups to -6.04 ± 5.35 after intervention (P=0.001) (Dattatraya, 2012)

Same like her, Farzaneh Barati (2016) show that there any different between subject before rosemary aromatherapy intervention (State anxiety 47.47± 7.6) and after 4 week treatment (Trait anxiety 49.56 ± 13.8 to 37.1± 6.5 and 42.9 ± 10.1 (P < 0.001) (Dehghanmehr et al., 2017)

Alireza Kasra Dehkordi (2016) also comparing the effect of Damask Rose Essential Oil on Depression, Anxiety, and Stress. the result of his study are Aromatherapy can reduce depression, anxiety, and stress in hemodialysis patients (P <0.05)(Tayebi et al., 2015)

Massage Aromatherapy.

Three out of 7 studies show the effect of Massage Aromatheraphy on decrease the pruritus on hemodialysis patient symptom. Nahid Shahgholian (2010) Applying a combine of peppermint essential oil and sunflower essential oil on pruritus skin and he found difference value before and after aromatherapy using (t = 5.81, p = 0,000). Shadia Zaghlol Abdelghfar (2017) also found the highly statistical significant difference before and after aromatherapy intervention (7.40 ± 1.18 to 5.85 ±1.69) with value p < 0.001(Abdelghfar et al., 2017)

Mehtap Cu¨ rcani (2014) using pruritus score scale and laboratory parameters regarding the pruritus To determine the effect of aromatherapy on pruritus observed in haemodialysis patients. The experimental group's mean post-test pruritus scores (7.20 ± 3.14) were found to be lower than that of control group patients (10.00 ± 2.47), and a highly significant difference was found between the groups (p < 0.001). In the between-groups comparisons of experimental and control group's laboratory parameters, the experimental group's post-test blood urea nitrogen levels (118.26 ± 36.76) were found to be lower than that of control group patients (138.80 ± 48.69), and the between-groups difference was found to be statistically significant (p < 0.05) (Cürcani and Tan, 2014)

Pain in hemodialysis patients is one of the most commonly seen problems. It is established that 50%. of hemodialysis patients mainly undergo headache. Aromatherapy massage can reduce the severity of headache on three week p<0.001 (Biçer, Ünsal and Demir, 2015)

Patients undergoing hemodialysis experience anxiety and pain related to the insertion of hemodialysis needles, estimated 320 times in total per year. The pain experienced is mostly caused by needle insertion into a fistula. According to the study conducted by Masoumeh et al. and Ali et al Lavender aromatherapy may be an effective technique to reduce pain following needle insertion into a fistula in hemodialysis patients (Bagheri-Nesami et al., 2014)

Restless legs syndrome (RLS) disorders are common among patients undergoing dialysis for end-stage renal disease (Zadeh Saraji *et al.*, 2016). The most frequently reported causes of secondary RLS are iron deficiency, neurological lesion on a peripheral nerve or the spinal cord, uremia, and medications, which are frequent medical problems among patients with chronic renal disease (Hashemi, Hajbagheri and Aghajani, 2015). Determine the effects of massage with lavender oil on RLS symptoms in hemodialysis patients by using lavender oil and control group received routine care for three weeks. At the end of study, the mean RLS score significantly decreased in the intervention group, while this score remained relatively un-changed in the control group (12.41 ± 5.49 vs. 23.23 ± 4.52, P < 0.0001) (Hashemi, Hajbagheri and Aghajani, 2015)

Table 1. Description of the interventions and protocols used in the selected studies.

No.	Problem	Design	Subject	Intervention	Comparison	Mean±SD (p value)	Time
1	Fatigue	Randomized Control Trial (RCT)	30 samples	Group 1 inhaling orange essential oil Group 2 inhaling lavender essential oil	Group 2 inhaling orange extract Group 1 inhaling lavender extract	Orange was more effective than lavender in reducing fatigue (P=0.012) * Paired t-test	3 times a week (For 4 weeks)
2	Sleep quality and fatigue level	Randomized Control Trial (RCT)	62 samples	Patients inhaling the aromatherapy (combine of sweet orange essential oil and sweet lavender essential oil (1: 1)	Standard HD treatment	Aromatherapy increased sleep quality and decrease fatique compared to the control group (p<0.05)	2 times a week (for 4 weeks)
3	Fatigue Level	Randomized Control Trial (RCT)	50 samples	Inhaling of lavender essential oil and rosemary essential oil (3: 3)	Daily care	Aromatherapy Group • BFI mean score 42.92 ±13.23 to 19.52 ± 6.7 • VAS 7.16 ± 1.54 to 3.04 ± 1.39 (p < 0.05). Control group • BFI mean score 46.32 ±10.56 to 45.08 ±11.88 • VAS 7.56 ± 1.08 to 6.60 ± 1.25 (p> 0.05) * Student t test	3 times a week (for 1 week)
4	Depression, Anxiety, and Stress	Randomized Control Trial (RCT)	56 samples.	Inhaling of damask rose oil 2%	Daily care	Aromatherapy can reduce depression, anxiety, and stress in hemodialysis patients (P <0.05) * independent t test	2 times a week (For 4 weeks)
5	Anxiety	Randomized Control Trial (RCT)	70 samples	Inhaling combination of 5% lavender essential oil and sweet almond essential oil	Daily care	Level and trait anxiety -13.86 ± 6.91 to -6.04 ± 5.35 (P=0.001) * Independent t test	2 times a week (For 4 weeks)
6	Anxiety	Randomized Control Trial (RCT)	46 sample	Inhaled rose water aromatherapy	No Intervention	Before and After 4 weeks intervenstion State anxiety 47.47 ± 7.6 to 37.1± 6.5 Trait anxiety	2-3 times (for 4 weeks)

						49.56 ± 13.8 to 42.9 ± 10.1 (P < 0.001) *One-Way ANOVA	
7	Headache Severity	Randomized Control Trial (RCT)	50 samples	Aromatherapy massage **Facial Area**	Daily care	Aromatherapy massage can reduce the severity of headache on three week p<0.001 * independent t test	3 times a week (For 3 weeks)
8	Pain needle insertion into a fistula	Randomized Control Trial (RCT)	46 samples	inhaling lavender essential oil and almond essential oil 10%	Inhaling the scent of lavender teraphy flacebo	• Score before the intervention was 3.78 ± 0.24 and 4.16 ± 0.32 (p= 0.35) • After three sessions was 2.36 ± 0.25 and 3.43 ± 0.31 (p = 0.009) *Paired t-test	3 times a week (for 1 week)
9	Pruritus	Randomized Control Trial (RCT)	80 samples	applying a combination of aromatherapy lavender, tea, almond and jojoba essential oil on pruritus skin	Daily care	Post-test pruritus scores • Intervention group 7,20 ± 3,14 • Control group 10,00 ± 2,47 (p < 0.001) Post-test nitrogen levels • Intervention group (118,26 ± 36,76) • Control group (138.80 ± 48.69) (p < 0.05) *independent t-test.	3 times a week (For 6 weeks)
10	Uremic Pruritus	Quasi-Experimental Design (pretest-posttest control group design One)	30 samples	Applying a combine of peppermint essential oil and sunflower essential oil on pruritus skin	-	The difference before and after aromatherapy using (t = 5.81, p = 0,000).	twice a day (for 2 weeks)
11	Pruritus	Quasi-Experimental Design	24 samples	Applying a combination of lavender and mint essential oil 5% on pruritus skin	-	Pruritus score before intervention 7.40 ± 1.18 after intervention 5.85 ±1.69) (p < 0.001)	3 times a week (for 2 weeks)

						*Paired t-test	
12	Pain needle insertion into a fistula	Randomized Control Trial (RCT)	34 samples	The topical application of 100% lavender essential oil	1. No Interventio n 2. Placebo (with water)	• Topical lavender 2.91 ± 1.69 • Flacebo 4.18 ± 1.66 (p = 0.001) • No intervention 4.59 ± 2.02 *Paired t-test	3 times a week (for one week)
13	Restless Leg Syndrome	Randomized Control Trial (RCT)	59 samples	Masasse lavender essential oil (1.5%) on patient leg	Daily care	intervention group before 22.41 ± 7.67 After 22.90 ± 4.38 (P = 0.76) Control group Before 12.4 ± 5.49 After 23.23 ± 4.52 (p < 0.0001) *Paired t-test	3 times a week (For 3 weeks)

4 DISCUSSION

Effectiveness of Inhalation Aromatherapy

In the present systematic review, 6 out of 13 studies used inhalation therapy as a modality of aromatherapy Inhalation of essential oils has given rise to olfactory aromatherapy, where simple inhalation has resulted in enhanced emotional wellness, calmness, relaxation or rejuvenation of the human body. The release of stress is welded with pleasurable scents which unlock odor memories. Essential oils are complemented to medical treatment and can never be taken as a replacement for it

Aromatherapy Massage

Aromatherapy massage is another modality employed in 8 out of the 12 studies selected in which 5 studies showed positive effect of the intervention. Aromatherapy massage is a combination of aromatherapy and massage that offers the health benefits of both therapies and is commonly used by healthy individuals particularly for stress management.

The use of grape seed, almond, or jojoba oil in pure vegetable oil during massage has been shown to have wonderful effects. This is also known as healing touch of massage therapy. Massage is typically relaxing and enjoyable for people experiencing many types of pain. In addition to the physical benefits associated with aromatherapy, apleasant scentmayplay a key role inpatient satisfaction. Most participants who received aromatherapy treatment had the benefit of special treatment sessions outside of normal treatment protocol (Lakhan, Sheafer and Tepper, 2016)

Fatique

Fatigue is the most common health problems in these patients, and 60-97% of patients suffer from fatigue (Manuscript, 2014). Fatigue is defined by reduced physical and mental capacity in the patient, which is a permanent feeling and cause a feeling of fatigue that is not resolved with rest. Lee et al. (2007) classified fatigue in hemodialysis patients into three integral areas of physical, emotional and cognitive fatigue. They believed that physiological factors (anemia, malnutrition, uremia, hemodialysis inadequacy, lack of physical activity, drugs' side effects and psychological factors including depression, anxiety, sleep disorders) and socio-demographic factors (age, sex, race, education, marital status, job and treatment-related factors) affect the feeling of fatigue in patients.The first-line of treatment of psychiatric disorders in hemodialysis patients is drug treatment; however, the hypnotic drugs-induced sleep is an abnormal sleep. These drugs disrupt normal sleep periods. Many hypnotic drugs reduce nerve function and may create safety hazards for patients They are associated with side effects and high costs, and their prescription is not a nursing responsibility (Balouchi *et al.*, 2016)

Despite the improvements in hemodialysis therapy, complications, which have non-ignorable frequency and are important at the extent to be life threatening, also emerge. When literature is examined, fatigue is found to be among the most frequent chronic complications affecting daily living function and quality of life in individuals with CRF.

Fatigue negatively affects working, making use of spare times, nutritional habits, sexual activity, getting pleasure out of life, and family and friend relationships of patients undergoing HD. Fatigue is an important problem concerning health care team because it has negative effects on individuals in terms of physical, social, and psychological aspects. In order to prevent fatigue symptom to affect individuals negatively, it is possible to cope with this symptom efficiently by assessing the fatigue and planning activities appropriate to individual (Bicer, 2017)

Anxiety

Anxiety is a common psychological problem in patients**.** with end-stage renal disease ; it consists of unpleasant mental feelings, worry, and ambiguous tension along with physical symptoms such as perspiration, headache, restlessness, and heart palpitations. Normal anxiety can be rescuable. However, sometimes anxiety becomes escalated and changes into a mental disorder; such patients suffer from excessive anxiety (Tayebi *et al.*, 2015)

In a study performed on dialysis patients, inhalation of the orange oil has proven effective in reducing hemodialysis patients' anxiety without significant side effects (Tayebi *et al.*, 2015)

Depression

Depression is reported as the largest health concern in the 21st century. About 350 million people are currently suffering from depression. Major depressive disorder has been projected to be the highest cause of years of life lived with disability by 2030. The prevalence of depression has increased dramatically at a global level and one million people with depression commit suicide yearly. In USA, an annual economic loss around USD 210 billion is associated with depression, which is one of the diseases with highest economic burden (Greenberg *et al.*, 2015). Depressive symptoms include feelings of guilt, sadness, worthlessness and desperation, inability to experience pleasure, changes in appetite and sleep patterns, lack of energy, poor concentration and memory, motor retardation, fatigue, and recurrent suicidal and death ideation which are experienced for more than 2 weeks (Sánchez-Vidaña *et al.*, 2017)

Stress

Stress has both physiological and psychological effects and can negatively impact patients' treatment and recovery(Manuscript, 2012). Aside from the stress that accompanies illness, hospitalization is a stressful life event that brings about changes in one's daily life and the activities that they engage in. Consequently, patients often encounter psychological and social stress

The intervention was aroma inhalation of lavender were chosen for their chemical properties and potential ability to reduce stress(Tayebi *et al.*, 2015). Lavender and clary sage oils contain linalyl acetate. Linalyl acetate has been shown to decrease blood pressure, heart rate and respiratory rate, and decrease salivary cortisol and CgA concentrations (Seol et al., 2013; Toda & Morimoto, 2008). Research has also revealed that lavender and clary sage oils act on neurotransmitters in the brain (Sangwin, 2016)

Sleep Quality

Sleep is a basic human need, and maintaining good sleep quality is extremely important in preserving a healthy lifestyle (Harding and Feldman, 2008). Intensive care unit patients may result in problems such as decreased cognitive function, irritability, aggression, and disruptions in the sleep-wake cycle, which are associated with symptoms of disorientation and are reported to lead to the development of hemodialysis patient syndrome. There is a high correlation between stress and sleep quality; therefore, there is an urgent demand for nursing intervention to decrease stress and increase sleep quality(Cho, Lee and Hur, 2017)

Pruritus

Pruritus and skin dryness are currently the main cutaneous presentations of kidney disease patients undergoing hemodialysis (Shahgholian *et al.*, 2010) The intensity and spatial distribution of pruritus vary significantly over time and patients are affected to a varying degree throughout the duration of renal disease.

The intensity of uremic pruritus ranges from sporadic discomfort to complete restlessness during day and night time(Mettang *et al.*, 2015). Uremic pruritus has significant effect on physical,

social and psychological status for most of patients undergoing hemodialysis. Mechanical skin damage as a result of continuous scratching with excoriations, superimposed infections and chronic lesions in the skin occurred which cause sleeping disturbances that cause chronic fatigue, are associated with disturbances of day and night rhythm and they had a negative influence on mental and physical capacity. Uremic pruritus has influence on social relation and work productivity, and also, has effect on mood and cause depression and anxiety (Abdelghfar *et al.*, 2017)

Because of the poorly understood pathophysiological mechanisms of uraemic pruritus, the treatments for this condition have largely been empirical, and no treatment has been shown to have sufficient efficacy and safety (Cürcani and Tan, 2014)

Headache Severity

Pain in hemodialysis patients is one of the most commonly seen problems. It is established that 50% of hemodialysis patients mainly undergo headache (Manuscript and Magnitude, 2013)The most important characteristic of the headache is that it starts during hemodialysis and ends within 24 hours following hemodialysis. Headache may be caused by the possibility that large amount of change in liquid and electrolyte balance leads to changes in blood brain barrier and vascular volume of venous area. Pain management requires a multidisciplinary approach. This multidisciplinary treatment approach requires use of complementary and alternative treatments. Aromatherapy massages are among the complementary methods and are effective upon the pain control (Biçer, Ünsal and Demir, 2015)

Pain needle insertion

Dialysis vascular access is one of the key challenges in dialysis units. Patients undergoing hemodialysis experience anxiety and pain related to the insertion of hemodialysis needles, estimated 320 times in total per year (Brkovic, Burilovic and Puljak, 2016). The pain experienced is mostly caused by needle insertion into a fistula, precipitating a considerable amount of discomfort and stress in hemodialysis patients. When the pain is well managed, patients more readily accept needle insertion into their fistula, thereby improving their quality of life.. Although needle insertion into a fistula causes less pain after the first 3 months, this pain reduction is not significant. Since patients' comfort during hemodialysis (Bagheri-Nesami *et al.*, 2014) is necessary for their long-term compliance with the treatment, it is necessary to find pain-relieving methods for hemodialysis patients. The results of a study conducted in 2008 showedthat hemodialysis patients collectively suffer from needlepain, which is one of the factors causing patients over 65years to give up hemodialysis (Ghods *et al.*, 2015).

Restless legs syndrome (RL)

Restless legs syndrome (RLS) is a neurological disorder characterized by uncomfortable sensation of paresthesia in legs that subsequently causes involuntary and continuous movement of the lower limbs, especially at rest (Rafie *et al.*, 2016)

Patients with chronic renal insufficiency who undergo hemodialysis may commonly encounter various complications including RLS, which might be experienced frequently. Approximately 20 - 80% of hemodialysis patients experience RLS, while its prevalence in general population is 2 to 15%(Manuscript, 2013). International restless leg syndrome study group has identified four main criteria for diagnosis of RLS including: a) urge to move the legs, usually accompanied by discomfort in legs, b) start or exacerbation of symptoms at rest or after inactivity, c) complete or partial relief of symptoms by activity, d) emergence of symptoms only at night or exacerbation of symptoms in the evening and night (Hashemi, Hajbagheri and Aghajani, 2015)

The most frequently reported causes of secondary RLS are iron deficiency, neurological lesion on a peripheral nerve or the spinal cord, uremia, and medications, which are frequent medical problems among patients with chronic renal disease (Kim *et al.*, 2008).

Massage therapy, as a well-known traditional remedy, induces a feeling of health and sense of well-being and therefore has gained popularity.
The active ingredients of essential oil of lavender can quickly be absorbed through skin and their sedative, antidepressant, and muscular relaxant effects, as well as their positive effects on the quality of sleep and feeling of wellbeing have been shown (Hashemi, Hajbagheri and Aghajani, 2015).

Clinical Recommendation

When using inhalation aromatherapy, inclusion of a pretest is important to ensure that subjects have adequate olfactory function before the commencement of the treatment. Furthermore, a longer exposure time and higher number of sessions should be considered in the inhalation

aromatherapy treatment since positive results were observed when a higher number of sessions and longer exposure times were used. Based on the protocols presented fromthe included studies, at least 8 sessions in the treatment are needed to assess the effectiveness of aromatherapy massage and beneficial effects to relieve depressive symptoms. In addition, it is suggested to apply aromatherapy massage treatment once or twice per week.

5 CONCLUSIONS

In the overall analysis carried out, aromatherapy showed potential to be used as an effective therapeutic option for the relief of depressive symptoms in a wide variety of subjects. review reported benefit use of aromatherapy especially aromatherapy lavender, citrus aroma and damask rose could increase comfort, decreased fatigue level, reduced the pain of fistula needle insertion, improved sleep quality, reduced uremic pruritus, decreased anxiety and depression in patients undergoing hemodialysis.

Although results of the studies presented aromatherapy as a complementaryt therapy, had positive impact to overcome symptom with no adverse effect on hemodialysis patients, it could not be determined that there is sufficient evidence to conclude its effectiveness as a non-pharmacological approach to the reduction of hemodialysis complication symptom.

Limitations

This study only contains the effects of aromatherapy on common complaints are often perceived hemodialysis patients with limited literature sources. we need to add another literature to further strengthen the results of the review. need special reviews from other studies that can clarify the effect on each variable. especially variable fatigue, anxiety, stress, depression, sleep quality, pain, pruritus and restless leg syndrome.

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The Correlation Between Nursing Therapeutic Communication With Patient Satisfaction

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Keywords: nursing therapeutic communication with patient satisfaction

Abstract: Therapeutic communication is a communication carried out for therapeutic purposes, where the nurse seeks to enable the client to solve his or her own problems and problems with others or the environment (Priyanto, 2012). The purpose of the research is to know the correlation Between Nursing Therapeutic Communication With Patient Satisfaction In Asoka Room Waluyo Jati Hospital Kraksaan Probolinggo.The research method used is correlational analytic method with cross sectional approach (Nursalam, 2009). The sample in this research are 40 respondents by using purposive sampling then spread the questionnaire. Then the data is analized using SPSS 16 For windows starts by using spearman rank. The results of therapeutic communication with patient satisfaction. It was found that most therapeutic nurse communication was enough 18 (45,0%) and patient satisfaction was the most satisfied category was 31 (77,5%). The correlation test results obtained that the value of $\rho = 0.041$, with a significant level of 0.05 ($p \leq 0.05$) so it can be stated that H1 accepted, which means there is a relationship between nurse therapeutic communication with the level of patient satisfaction. Therapeutic nurse communication is very influential toward patient satisfaction, because if therapeutic communication nurse is good then patient satisfaction will be obtained.

1 BACKGROUND

Understanding the needs and wishes of the patient are important things that affect patient satisfaction. Patient satisfaction is defined as a feeling of patients is expected to be the size of the nursing process, which can be measured with the patient's experience (Abri Balushi, 2013).

Communication therapeutics including interpersonal communication is communication between people face-to-face allows each participant capture reactions of others directly, both verbally and non-verbally. Communications therapeutic or interpersonal communication is conscious and aims to focus its activities in the patient's recovery, and a professional communication which leads to the goal of healing the patient (Electrical 2012).

Based on the journal entitled "Patient Centered Communication in the Associated With Positive Therapiutic allience" by Rafael Zambelli Pinto et al 2012 explained that effective communication is an essential skill that must be mastered in clinical practice to improve the quality and efficiency of care. It is known that communication is not just rely on what is said, but also on the manner or style in which it is expressed, combining interaction between verbal and non-verbal. Therefore, when learning how to exchange messages occur in meeting the practitioner-patient communication factors that must be investigated is the style of interaction (for example, a soft, information, and emotional support), verbal behavior (eg, greetings, early - late, and encourage questions) and non-verbal behavior (eg, facial expressions and gestures) skills (Pinto et al, 2012).

Based on research Bleich, Ozaltin & Murray (2009), published by the World Health Organization said that throughout the United States and the European consumer satisfaction plays an increasingly important role in the quality of nursing and health care reform. However, research on patient satisfaction is measured and defined by two things: focus, the research focused on patients' satisfaction with the quality and type of health care

you receive, the more focus on the satisfaction of the people in the system of public health (WHO, 2009). Based on research by 82% in the service table entry, while 81% were satisfied with the preparation room at the time of entry. Services nursing satisfied 80% of people, while 92% were satisfied with the explanation of the disease and treatment by a doctor. The behavior of nurses and doctors are satisfied 92% and 93% of people (Kotler, 2009).

Indonesian Ministry of Health (MOH) in 2009 showed that there were no complaints about the dissatisfaction of the nursing care of patients. The average obtained from several hospitals in Indonesia showed that 67% of patients who complain of dissatisfaction in receipt of nursing care. The survey research Citizen Report Card (CRC) by the Indonesian Corruption Watch (ICW) (2010), which takes care patients of 738 patients in 23 hospitals (Public and Private). The survey was conducted in five major cities in Indonesia and found a 9-point problems, one of which is as much as 65.4% of the patients complained of the attitude of nurses who are less friendly, less sympathetic and rarely smiles (Kotler, 2009).

2 METHODS

The research design used in this research is the study design and analytical correlation with cross sectional approach. In this study, analysis of therapeutic communication nurse to patient satisfaction in in Asoka Room of RSUD Waluyo Jati Kraksaan – Probolinggo.

In this study population is whole - average patient in the inpatient unit in Asoka Room of RSUD Waluyo Jati Kraksaan – Probolinggo in May by 45 votes.

In this study, using a sample of criteria including the criteria for inclusion and exclusion criteria, sample is patient in in Asoka Room of RSUD Waluyo Jati Kraksaan – Probolinggo Teak age> 13 years of 40 patients.

The research was conducted by purposive sampling technique. The independent variable in this study is communication therapeutic nurse. The dependent variable in this study is satisfaction. The study was conducted on 29 - 31 May 2017.

3 RESULTS

Table 1 : Distribution of respondents by age in patient wards of in Asoka Room of RSUD Waluyo Jati Kraksaan – Probolinggo May 2017.

Age (years)	Percentage (%)
14-22	2.5
23-30	12.5
31-38	37.5
39-46	30.0
47-54	5.0
55-60	12.5
Total	100.0

Based on table 1 above it was found that the age of majority is the age of 31-38 years by 15 respondents (37.5%) and 39-46 years of age by 12 respondents (30%) and aged 23-30 years and 55-60 years of 6 respondents (15.0%) and 47-54 years of age by 2 respondents (5%) and the last age 14-22 years of 1 respondent (2.5%)

Table 2 : Distribution of respondents by sex in space Inpatient Hospital Asoka Waluyo Jati Kraksaan May 2017.

Sex	Percentage (%)
Male	52.5
Woman	47.5
Total	100.0

Based on table 2 above it was found that sex is the most man of 21 respondents (52.5%).

Table 3 : Distribution by marital status

Marriage Statue	Percentage (%)
Not Married	12.5
Married	87.5
Total	100.0

Based on table 3 above it was found that marital status is married to the most of the 35 respondents (87.5%).

Table 4 : Distribution of respondents work

Job	Percentage (%)
Worker Housewife	42.5
Farmer	25.0
Private	10.0
Entrepreneur	7.5
PNS	15.0
Total	100.0

Based on table 4 above it was found that work is the most Housewife of 17 respondents (42.5%).

Table 5 : Distribution of therapeutic communication

Therapeutic Communication Nurse	Percentage (%)
Less	12.5
Enough	45.0
Good	42.5
Total	100.0

According to table 5 above obtained, therapeutic communication nurse largest category is pretty much as 18 respondents (45.0%).

Table 6 : Distribution of patient satisfaction

Patient Satisfaction	Percentage (%)
Quite satisfied	22.5
Satisfied	77.5
Total	100.0

According to table 6 above are obtained, patient satisfaction is the highest category of 31 respondents are satisfied (77.5%).

Table 7 : Distribution of communication therapeutic nurse with patient satisfaction

Communication Therapeutic	Patient Satisfaction		
	Quite Satisfied	Satisfied	Total
	%	%	%
Less	2	10	12
Enough	2	43	45
Good	18	25	43
Total	22	78	100

N = 40 $\rho = 0.041$ $\alpha = 0.05$

Based on table 7 above, some data most categories of therapeutic communication nurse with patient satisfaction is communication therapeutic nurse satisfaction and patient enough to satisfy as much as 17 respondents (43%).

Based on the results of the statistical analysis Spearman Rank with the help of software program SPSS for Windows, from the test results showed that the correlation value $\rho = 0.041$, with a significant level of 0.05 ($p \leq 0.05$) so it can be stated that H1 is accepted, it means that there is a relationship communication between therapeutic nurses with patient satisfaction.

4 DISCUSSION

Most of the patients in the ward Asoka Hospital Waluyo Jati Kraksaan aged 31-45 years by 25 respondents (62.5%) the older the person the more

mature way of thinking. Then they can tell which communication a good nurse and nurse where communication is poor. They can also give opinions on how to nurse communication in space Asoka and how they communicate.

Most of the work in the patient room Inpatient Hospital Asoka Waluyo Jati is Kraksaan Housewife (IRT) of 17 respondents (42.5%). Work patients influential in determining patient satisfaction. The better job the patient, the higher the service desired by the patient. Therefore, nurses must provide care as quickly as possible and in accordance with standard operating procedures to all patients, so that satisfaction is reached.

From the research that has been done, when the communication therapeutic nurse both the patient satisfaction will be obtained. Therefore, along with the development of the times may therapeutic communication nurse can be used in accordance with the standards and performing well, and the nurse work better and be retained in order to improve patient satisfaction with the services provided by nurses.

5 CONCLUSIONS

There is a relationship therapeutic communication nurse with patient satisfaction in Asoka Room of RSUD Waluyo Jati Kraksaan – Probolinggo.

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CERVICAL CANCER SCREENING BARRIERS AMONG WOMEN IN DEVELOPING COUNTRIES: A SYSTEMATIC REVIEW

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Keyword: Barrier, Cervical Cancer Screening, Developing Country.

Abstract: Background: Cervical cancer is one of the most serious problem in woman's life. Estimated that more than one million women worldwide have cervical cancer. In developing countries 12 percent of all cancer cases is cervical cancer. Screening is the most proven method to prevent cervical cancer. The aim of this review was to determine the barriers that prevent women from undergoing cervical cancer screening in developing countries. Method: We searched the two major databases, PubMed and ProQuest. This review included for papers published in English up to 2013 until 2018, with keywords: "barrier", and "cervical screening", or "Pap smear", or "cervical control", combined with (ie. AND) "developing country". Results: from 851 studies, finally 16 included for review. Seven from sixteen studies are cross sectional, seven qualitative study, one descriptive study and one is integrative review. Conclusion: There are some barriers that prevent women's participation cervical cancer screening, such as personality, religious culture, and health facility. Most studies found that the barrier that prevents women from cervical cancer screening are personal factors such as fear, anxiety, embarrassment, shame.

1 INTRODUCTION

Cervical cancer is one of the most serious problem in woman's life. Estimated that more than one million women worldwide have cervical cancer. In developing countries 12 percent of all cancer cases is cervical cancer. Screening is the most proven method to prevent cervical cancer. Cervical cancer is an important public health problem for adult women in developing countries in South and Central America, sub-Saharan Africa, and south and south-east Asia, where it is the most or second most common cancer among women. Approximately 70% of the global burden of cervical cancer is in developing countries (Compaore et al., 2016). For example in Turkey, it is the third most common type of cancer among gynecological cancers, with an incidence of 4.5 cases per 100000 (Cetisli, Top, & Işık, 2016).

Cervical cancer can detected in early stage and can be cure medically. Because the period of cancer cell formation takes a long time, therefore early detection is consider very important to prevent the formation of cancer cells. One of cervical cancer screening is Pap smear. In developing countries have long used pap smear method, in addition to the relatively affordable price, pap smear is a method that is effective enough to detect abnormalities of female reproductive organs. The incidence of cancer is decreasing in developed countries. However, in developing countries, cervical cancer is still a serious problem for the government. This is due to a variety of factors including in terms of health services, poor screening programs, personality issues (lack of knowledge, lack of awareness, fear, anxiety, embarrassment, shame, etc), cultural and religious cultural issues, and other problems that hinder women to screen for cervical cancer (Cetisli et al., 2016).

The aim of this systematic review is was to determine the barriers that prevent women from undergoing cervical cancer screening in developing countries.

2 METHOD

We searched the two major databases, PubMed and ProQuest. This review included for papers published in English up to 2013 until 2018. Medical subject headings or text word used in the searches were "barrier", and "cervical screening", or “Pap smear“, or ”cervical control“, combined with (ie. AND) ”developing country”. The extraction from PubMed and ProQuest was restricted to original studies and systematic review that focused barriers cervical cancer screening with women living in developing countries.

Search Strategy

The study findings are using ProQuest and Pubmed, with keywords: "barrier", "cervical screening", "Pap smear", "cervical control", "developing country".

Data extraction

The selected papers were reviewed according to PICO framework and the following papers were extracted in a compilation table: general information about study (title of papers, first author’s name, year of publication, and study design); information about the study population (genre, and sample size); information about study instrument and intervention; information about the study outcome (barriers that affect women do not screening), and information the place where the study was done (developing countries).

Assessment of the Studies

Eligibility

The following inclusion criteria were considered: 1) Women were living in developing countries; 2) Papers were published between 2013 until 2018; 3) Papers in English. This systematic review are qualitative or quantitative research that addresses the barrier for women to perform cervical cancer screening in terms of personal, cultural and religious cultures, as well as in terms of health facilities in developing countries.

Selected studies had assessed by study design, selection bias, data analysis, and data collection method. From those items, each item was rated as “weak”, “moderate”, or “strong”. As concequence, the study would be “high quality” if three of them were strong, with no weak. If there was only one weak, study would be “moderate quality”, and if there were more than one items rated weak, the study would be “low quality”.

3 RESULT

Included Studies

Seven from sixteen studies are cross sectional, seven qualitative study, one descriptive study and one is integrative review. Studies selected for this review obtained by American Association for Cancer Education (Compaore et al., 2016), Icahn School of Medicine at Mount Sinai, New York, United States (Aharon, Calderon, Solari, Alarcon, & Zunt, 2017), Center for Global Health, National Cancer Institute, Bethesda, MD, USA (Harford, 2015), Izmir Katip Celebi University, Faculty of Health Sciences, Izmir, Turkey (Cetisli et al., 2016), BioMed Central (Dhendup & Tshering, 2014), Department of Public Health Sciences, Queen’s University, Kingston, Ontario, Canada (Cunningham et al., 2015), Clinical Journal of Oncology Nursing (Lee, Kang, & Ju, 2016), Nursing and Midwifery Care Research Centre (Kohan, Mohammadi, Mostafavi, & Gholami, 2016), Maternity Unit, Kumba District Hospital, Cameroon (Asonganyi et al., 2013), College of Nursing and Public Health, Adelphi University, Garden City, NY, USA (McFarland, Gueldner, & Mogobe, 2016), Department of Disease Control and Environmental Health, School of Public Health, College of Health Sciences, Makerere University, Uganda (Ndejjo, Mukama, Kiguli, & Musoke, 2017), Department of Gynecology and Obstetrics, Tongji Hospital, Wuhan (Jia et al., 2013), Gaziosmanpasa University Tokat Health High School (Kıssal & Beşer, 2014), Department of Community Medicine, Bharati Vidyapeeth Deemed University Medical College, India (Kadam, Dhobale, Gore, & Tripathi, 2014), Department of Geography, Western University, Canada (Kangmennaang, Thogarapalli, Mkandawire, & Luginaah, 2015), Division of Cancer Prevention and Control, Epidemiology and Applied Research Branch, Centers for Disease Control and Prevention, USA (Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017), Women’s Health Research Program and Biostatistics Unit, School of Public Health and Preventive Medicine, Monash University, Australia (Islam, Bell, Billah, Hossain, & Davis, 2015).

Quality Assessment

Eight studies rated “weak” in study design because were cross sectional, one study is

"moderate", because it was an integrative review, and seven studies rated "strong" because were qualitative. Nine studies rated "moderate" in data collection method because based on surveys, and seven studies rated "strong". Four studies rated "strong" in selections bias because had representative samples and twelve studies rated "moderate". All studies rated "strong" in analysis conformity

Study Characteristic

Table 1: Study Characteristic

No	Tittle	Study Design	Sample	Instrument/ intervention	Outcome	Place
1	Compaore et al., 2016	Cross-sectional study	351 respondents	Questionnaire In depth interview	Personality	Burkina Faso
2	Cetisli et al., 2016	Descriptive study	210 respondents	Questionnaire (Health Belief Model Scale) Interview	Facility Personality	Turkey
3	Dhendup & Tshering, 2014	Cross-sectional study	559 respondents	Questionnaire	Personality	Bhutan
4	Cunningham et al., 2015	Cross-sectional study	303 rural and 272 urban dwelling women	Questionnaire	Facility	Tanzania.
5	Kohan et al., 2016	Qualitative study	17 respondents	In depth interview Questionnaire	Facility	Iran
6	McFarland et al., 2016	The integrative review	224 articles	CINAHL, PubMed, MEDLINE, ProQuest, and PsycINFO	Personality Facility	Sub-Saharan
7	Ndejjo et al., 2017	Qualitative study	119 respondents	Questionnaire Group discussions Key informant interviews	Personality Socioeconomic	Uganda
8	Jia et al., 2013	Cross-sectional study	5936 respondents	Questionnaire Face to face interviews	Personality .	China
9	Amos D Mwaka, 2013	Qualitative study	10 women and 5 men	Key informant interviews	Personality Facility	Uganda
10	Kıssal & Beşer, 2014	Qualitative study	21 women	In depth interviews	Personality Facility	Turkey
11	Modibbo et al., 2016	Qualitative study	27 Christian and 22 Muslim women	In person interview Focus Group Discussions (FGDs)	Religion Facility Personality	Nigerian
12	Teng et al., 2014	Cross-sectional,	6 key-informant	Interviews FGDs	Personality Stigma	Uganda

		qualitative study	health workers and 16 local women,			
13	Kadam et al., 2014	Cross-Sectional study	281 women	Questionnaire Home visit	Personality	India
14	Kangmennaang et al., 2015	Hierarchical binary logit regression models	6542 women	Namibia Demographic and Health Survei	Personality	Namibia
15	Buchanan Lunsford et al., 2017	Qualitative study	60 women and 40 male partner	Focus Group Discussion (FGDs)	Socioeconomic Personality Religious or cultural beliefs Facility	Kenya
16	Islam et al., 2015	Cross-sectional study	1,590 respondents	Questionnaire	Personality	Banglades

4 DISCUSSION

From the review of selected journals, several barriers have been found that cause women not to screen for cervical cancer in developing countries and we try to conclude that it is a matter of health facilities, from personal, cultural, religious and other factors.

Health facility

Cervical cancer is the most common cancer in women in developing countries, this caused by the lack of regulation in the early phase of cervical cancer (screening). There are several issues, ranging from difficulty in reaching health facilities (Cetisli et al., 2016) to health resource problems.

The first is barriers of the existence of health facilities. Some respondents stated that one of the obstacles he had to do the screening was the location of the facilities far enough and costly enough. For people living in rural areas in developing countries difficulties in terms of financing in order to screening. They have to travel a great distance and in some cases they have to go through a difficult path than women living in urban areas, this is due to unequal health facilities (Amos D Mwaka, 2013; Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017). Another barrier is in terms of travel time. A woman intending to take her time to travel in order to screen, must be willing to give up her job and family responsibilities (Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017).

In some regions of the developing world, the availability of geneticists is also a barrier. For example according to a study conducted at Gulu Hospital, Uganda, there is no gynecologist as a decision maker (Amos D Mwaka, 2013). This related to the results of screening that takes a long time. It can sometimes take months to get results from screening (Amos D Mwaka, 2013). This can lead to a decrease in the interest of the community (women) to screen. Currently in developing countries, there has been screening at each community health service center that aims to keep people from traveling long distances to get health services. Public health service centers organized by the government are the people's preferred choice for finding sources of information and health checks on mild cases. However, the presence of students who undergo educational practices into consideration of the public to check the health status, especially women who want to find information or undergo examination related reproductive function. Women from capable families who wish to consult reproductive health prefer to check in private clinics rather than community health centers, the reason being in the clinic is not a place for educational practice and may be consulted personally by a specialist. This related to privacy (Kohan et al., 2016).

The second barier is in terms of health personnel resources. In developing countries, public health service centers are the first choice for people to obtain information and health measures. Therefore, public health service workers have a level of stressor that tends to be higher than private service centers due to the number of client arrivals. This has an impact on the performance of health workers to be less friendly in dealing with clients. (Kohan et al., 2016). Gender of a health worker who performs

screening is also a consideration for screening for cervical cancer (Modibbo et al., 2016). A woman who checks reproductive function prefers to be examine by female health workers rather than male, this is related to privacy and religious beliefs. Mistakes in providing information by health care providers to clients are also important in terms of providing women with the right knowledge.

Another barrier that usually arises in the connection of health resources with cervical cancer screening is the encouragement to the community both men and women, this support can be counseling using media that is easily found or obtained by the community. Study conducted by Melissa S Cunningham with the results, more than half (67%) of respondents did not know that there is cervical cancer screening. This indicates a lack of equitable information on cervical cancer prevention (Cunningham et al., 2015). Health support aims to increase knowledge about the importance of cervical cancer management.

Personality

Lack of knowledge and lack of awareness are key barriers in the presence of cervical cancer screening in developing countries (Compaore et al., 2016; Aharon et al., 2017; Dareng et al., 2015; Kadam et al., 2014; Islam, Bell, Billah, Hossain, & Davis, 2015). Many studies are conduct in developing countries regarding the level of knowledge and awareness of screening. This caused by many factors, one of which is the level of education and area of residence. Research conducted by Salomon Compaore, which discusses the level of knowledge about cervical cancer screening. Obtained level of knowledge about cervical cancer screening of urban community (41,5%) better than society living in rural (17%). Respondents who had had cervical cancer screening tended to have higher knowledge and had better jobs than those who did not screen, and most of those screened were women living in urban settings.

Study in Tanzania found a level of knowledge about cervical cancer screening is lower in rural areas than women in urban areas. Research conducted by Neha Tripathi in India states, only 30% of respondents know about cervical cancer screening, the rest answered did not know and felt does not require screening cervical cancer (Kadam et al., 2014). The level of education also affects a woman doing cervical cancer screening. A study in Ghana found a higher screening rate in college students (Compaore et al., 2016).

The other barrier is the client feeling embarrassed. In this case it can be said that a woman may feel embarrassed by the public's view or the negative stigma of reproductive disease (Teng et al., 2014; Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017) and ashamed of the screening process itself (Dhendup & Tshering, 2014; Amos D Mwaka, 2013; Kıssal & Beşer, 2014; Teng et al., 2014; Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017). In general, people argue that a woman who gets cervical cancer caused by deviant behavior

The screening process is also the reason why women do not screen, as they are required to show their vital organs to other people, especially with male health workers. Respondents tend to feel ashamed to provide information about complaints or screening for cervical cancer if with male health officers (Dhendup & Tshering, 2014). It is also associated with the issue of decency (Dareng et al., 2015). Shaikh and Hatcher suggest private health services should be more effective than public services in developing countries because of the availability of personal care for illnesses and problems that can lead to stigmatization in the community (Goss et al., 2013; Kohan, Mohammadi, Mostafavi, & Gholami, 2016).

In some studies also mentioned that they do not require screening for cervical cancer because they feel no risk of cervical cancer (Dhendup & Tshering, 2014; McFarland, Gueldner, & Mogobe, 2016). For example study conducted Tshering Dhendup (Dhendup & Tshering, 2014). More than half of respondents said they did not require cervical cancer screening.

Another obstacle is that women are usually afraid of screening (Dhendup & Tshering, 2014; Ndejjo et al., 2017; Dareng et al., 2015; Teng et al., 2014; Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017). Although they are at risk for cervical cancer, they prefer not to know their reproductive health rather than having to bear the burden with positive test results (Dareng et al., 2015). This can lead stigma of society if they get a positive examination result (Teng et al., 2014). Another thing women fear if they get a positive result is the rejection of their spouse or partner. For single women they are afraid the screening process can cause damage to their vital organs (Buchanan Lunsford et al., 2017).

Fears related to receiving positive screening results were considered potential barriers by both men and women. These include not knowing what to do next if found to have cervical cancer; not being

able to pay for treatment; psychological effects; and being stigmatized by their spouse, family, and community. Some of these findings are consistent with those from a study of Kenyan leaders and parents, who reported that diseases affecting genital regions of the body can be associated with shame and stigma (Harford, 2015). They are also fear of contracting another diseases caused by procedure in the screening process (Buchanan Lunsford et al., 2017).

Socioeconomic

In general, reported barriers to cervical cancer screening were similar among rural and urban women. Similar to findings from other studies in developing countries the primary barrier to being screened was not knowing that preventative screening tests existed, along with socioeconomic factors (Compaore et al., 2016; Cunningham et al., 2015; McFarland et al., 2016; Ndejjo et al., 2017; Kangmennaang et al., 2015; Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017)

This can be attributed to the distance of health facilities far enough and the costs they must spend in order to get cervical cancer screening. An example is Caprivi, Namibia, which is still low cervical cancer screening. Geographically, Namibia is a large country that raises the question of physical access to health care especially in areas like Caprivi, which are remote and impoverished. This may explained why women from this region are less likely to screening. In many of the poor and remote areas of Namibia, the population (41%) must travel within 5 km to reach the nearest health facility (Kangmennaang et al., 2015).

In another studies, money is one of the reasons why they do not screen. Most respondents stated that screening is too expensive and if there are free screening services, they still have to pay for administrative fees or other expenses (Buchanan Lunsford et al., 2017). Although not everyone in developing countries has low economic levels, the fact that financial factors are still a barrier to cervical cancer screening.

Culture and religion

Developing countries have varied cultural and religious variations. Some women expressed that they did not go for the test because screening is against their cultural and religious beliefs (McFarland et al., 2016; Dareng et al., 2015; Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017). Other women held religious values and beliefs that did not encourage them to expose their bodies to men (i.e., physicians) other than their husbands (McFarland et al., 2016). The results of Focus Group Discussion (FGDs) conducted by Fatima Isa Modibbo in Nigeria, the respondents stated the norm of cultural decency as a barrier to screening cervical cancer; However, participants in the Muslim FGDs were strictly not to screen for cervical cancer on the grounds of religious belief (Dareng et al., 2015).

Community stigma

Cervical cancer is associated with deviant sexual behavior that makes poor public opinion of women with the disease. The community's negative stigma about cervical cancer can be a barrier for women to screen for cervical cancer (Teng et al., 2014; Buchanan Lunsford, Ragan, Lee Smith, Saraiya, & Aketch, 2017).

5 CONCLUSION

There are some barriers that prevent women's participation cervical cancer screening, such as personality, religious culture, and health facility. Most studies found that the barrier that prevents women from cervical cancer screening are personal factors such as fear, anxiety, embarrassment, shame.

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PRECEPTORSHIP PROGRAM TO THE ACHIEVEMENT OF NEW NURSING COMPETENCY: SYSTEMATIC REVIEW

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Keywords: Preceptorship, new nurse competence

Abstract: Introduction: This paper presented a preceptorship program for the achievement of new nurse competencies. The nurse is one of the professions in the world of health. As a service profssion must be professional, so nurses must have competencies that meet the standards of nursing practice. New nurses face difficulties / problems when entering the workforce. The problem is related to the main tasks and functions that must be done. Main duties and functions include lack of confidence in giving nursing care, inability to make decisions in critical moments, minimal clinical knowledge, dependence on senior nurses in performing tasks, relationships with colleagues, stress with work environment and communication problems with the doctor. Methods: The literature searches were conducted in several major databases such as proquest, sciencedirect, doaj, sagepub, medline, and google scholar with time limits used from January 2008 to December 2018. Results: A total of fifteen studies raised in this study, the same is how to implement preceptorship in improving the competence of new nurses in each population. From the fifteen researchers chose respondents at random. Conclusion: Preceptorship guidance methods can guide new nurses when entering new work environments, develop confidence and help solve problems encounteredduringorientation.

1 BACKGROUND

Nurses are one of the professions in the world of health. As a profession, of course, the services must be professional, so nurses must have competencies that meet the standards of nursing practice. In performing the actions nurses will collaborate between professions to provide services to patients, as well as attention to ethical codes and moral professions so that people receive quality nursing services and care (Dermawan, 2012)

New graduates face difficulties / problems when entering the workforce (Douglas, 1992). The problem is related to the main tasks and functions (tupoksi) that must be done so that affect the performance (Proulx&Boucier, 2008). The results of Proulx&Boucier (2008) study in Maftukhah (2017) addressed the problems of new nurses during work during the trainees related to tupoksi such as lack of confidence in providing nursing care, inability to make critical decisions, lack of clinical knowledge, senior nurses in performing tasks, relationships with colleagues, stressors with work environment and communication problems with doctors. Having a new nurse featuring professional performance is highly expected by every hospital. The new nurse is a nurse who is entering a new experience that was not previously experienced. The first few months are a challenging and stressful time for new nurses (Saragih, 2011). The new nurse needs a process of adaptation and a guidance program from the hospital. This program is very helpful for new nurses to master the functions and responsibilities of their work so they feel satisfied to his profession, as quoted by Steward (2006) that satisfaction will prevent new nurses from leaving the organization.

Several studies of the relevance of new nurses' abilities relate to different hospital orientation programs. The result of Harianja 2014 study of orientation program has an effect on the improvement of new nurse competence and influence to the improvement of performance. Steward 2000 says that through an orientation program bring new prawat get new experience. The new nurse will obtain information, guidance, and skill mastery. This guidance program will help new nurses master their job functions and

responsibilities.
The most common approach taken by health organizations in assisting new nurses is the preceptorship program. Program preceptorship is used as a tool of socialization and orientation. Model preceptorship as one of the methods of staff recruitment. Access to organizational knowledge and clinical practice can be predicted by new nurses, so discussions between preceptor and preceptee are needed to provide current practice in clinical settings in the hope that the preceptee will have the same capability as the preceptor (Nursalam, 2008). Preceptor is a nurse who teaches, provides guidance, can inspire colleagues, role models, and support the growth and development of individuals (trainees) for a period of time with the objective of socializing trainees in their new roles (Nursalam, 2008).

The results of a study of preceptee perceptions that the preceptorship program is highly valued by the preceptee (85%). Preceptor plays a positive role in terms of reducing stress, preceptorship has a positive impact on deep preceptee dalam hal pengembangan keterampilan komunikasi, keterampilan klinik, peran, pengembangan pribadi dan profesional (Marks-Maran et al., 2013). Preceptorship sangat membantu dalam proses transisi atau kesempatan untuk meningkatkan kompetensi keterampilan perawat baru dalam mempersiapkan mereka memasuki dunia kerja dengan aman (Gould-johnson, 2015). Preceptorship dapat meningkatkan kompetensi, menambah pengalaman belajar, memberikan tantangan bagi individu, dan meningkatkan tekhnikal dan teori (Kantar, 2012).

Anik Maftukhah (2017) melakukan penelitian dengan judul program orientasi perawat baru berbasis kompetensi mengacu pada akreditasi rumah sakit versi 2012. Hasil dari penelitian ini yaitu kompetensi interpersonal 3,58;3,80;3,89 artinya kompeten. Kompetensi teknik 2,74;2,92;2,89 dan kompetensi berpikir kritis 2,89;2,83;3,19 artinya kompeten membutuhkan supervisi.

(Saragih, 2011) melakukan penelitian dengan judul hubungan program *preceptorship* dan karateristik perawat dengan proses adaptasi perawat baru di PKSC, RSB, dan RSPI. Hasil dari penelitian ini yaitu variabel berhubungan dengan proses adaptasi dimana nilai p< 0,05 adalah *self efficacy*, lama kerja dan konflik.

Pelatihan *preceptorship* untuk meningkatkan adaptasi perawat baru di RS. Hasil dari penelitian ini yaitu secara statistik menunjukkan kemampuan adaptasi perawat baru pada kelompok intervensi lebih meningkat secara bermakna dibandingkan kelompok kontrol.

Beberapa penelitian diatas menunjukkan bahwa program *preceptorship* sangat membantu dalam proses transisi atau kesempatan untuk meningkatkan kompetensi keterampilan perawat baru dalam mempersiapkan mereka memasuki dunia kerja dengan aman. Berdasarkan penelitian di *the University of Newcastle* pada perawat baru mengaku stres dalam beradaptasi yaitu komunikasi yang kurang dengan tim kesehatan dalam pekerjaan barunya.

2 METHOD

Design

The research design used in this research is quasy experiment. The design of this study was divided into treatment groups and control groups. stematic review is used to review published journals about the preceptorship program on achieving new nurse competencies.

The population in this study were all new nurses. The sample in this study that met the inclusion criteria was a new nurse who worked <one year.

Study Type

This systematic review uses inclusion criteria which use quantitative methods to evaluate outcomes from the implementation of the *preceptorship* program.

Intervention Type

Methods of implementation of pre-existing *preceptorship* programs include: Performed by preceptor / CE to guide the new nurse.

Covers quasi-experimental methods, observations, checklists, in-depth interviews and directed discussions, implementation of preceptorship programs with *pre test* and *post test*.

Search Literature Strategy

The strategy in searching the literature used is to search in proquest, sciencedirect, doaj, sagepub, medline, and google scholar with the time limit used is January 2008 to December 2018. By using keywords preceptorship, new nurse competence.

Quality Study Assessment Method

Study quality study method used to examine the data of research results using 2 stages of validity (validity), reliability (keajegan) and Applicability (applicable).

How to Data Extraction

To compare between the journals already obtained then the data is extracted by using author and year of publication, design, research objectives,

population, intervention, method of implementation and outcome to be achieved.

Data Synthesis

The synthesis of data using data from the extraction of journals that have been done then dilakukuan inference.

3 RESULTS

Program preceptorship to the achievement of new nurse competence during the current orientation of many factors influenced among others is the new nurse's competence Inpatient room, individual factors nurses and factors from outside ie the organization in this case is the Hospital. The competence of new nurse supervisors during the orientation period must be competent according to the standard of hospital competence. Specifically, a preceptorship program is needed to improve the competence of nurses. From the results of research that has been done to get the result that after the method of guidance in the preceptorship, there will be an increase in quality in implementing competence or in the improvement of nursing skills. In the systematic review of this research, the results obtained are:

a. Characteristics of Respondents

Respondents of the implementation of preceptorship in the four journals are nurses, nursing students who will graduate, Nurse Fresh Graduate, pediatric nurse.

b. Implementation of preceptorship methods

Preceptorship is one of the guiding motions for learning and teaching that uses nurses as role models to assist an individual in self-development, skills improvement and to help develop a nursing care plan that has been made. The implementation of the preceptorship model reviewed in this research journal is carried out at least within 1month of nurses is guided by preceptorship method by preceptor / CE that has been appointed then will be seen the impact of the implementation of preceptorship method to increase the competence of new nurses during the orientation period to one year.

c. Advantages and Disadvantages of Journal

Research The obtained journal is a search result by limiting the preceptorship on the new nurse. The journal obtained has a population of executing nurses or fresh graduates (Fresh Graduate). Of the 5 journals that are obtained are also less specific for each implementation of preceptorship using various methods. Should the implementation of coaching have a standard or criteria yangingin achieved and measuring instruments used clearly. Critical Appraisal Quality The study was conducted by the author himself so that the results obtained still depend on the subjectivity of the author.

4 DISCUSSION

The preceptorship program includes orientation, classroom learning, professional transition sessions, clinical / rotational learning exchanges, individual preceptor evaluation / orientation / clinical guidance (Yonge *et al.*, 2013). The ratio used is a formal one-to-one relationship between a preceptor and a new nurse (preceptee) who is assigned to assist the new nurse in order to adapt and play her new role (CNA, 2004).

This relationship is evaluative and hierarchical, which involves a lot of time and aims to improve professional functions for the more junior and professional quality of service monitoring (Dilworth et al., 2013). Thus the preceptorship can be summed up as a part of the function guidance that serves to improve performance, daily tasks and competencies to improve the quality of nursing services.

Preceptorship has a purpose

1. Macro that involves the development of nurses in beroganisasi. Preceptorship is used as a socialization and orientation so that the discussion between preceptor and preceptee will have the same capability as the preceptor.
2. Micro is helping the transition from learning to the practitioner, reducing the impact as reality shock and facilitating the individual to develop from the new environment encountered.

5 CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Compliance of professional officers (nurses) is the extent to which the behavior of a nurse in accordance with provisions that have been given the leadership of nurses or the hospital (Niven, 2002).

Nurses as one of the health workers in the hospital plays an important role in efforts to achieve goals and objectives of the organizational unit. The performance of the nurse is actually the same as the work achievement in the company. Nurses want to measure their performance based on objective standards that are open and can be communicated. If nurses are noticed and rewarded until the award is superior, they will be more motivated to achieve

achievement at a higher level (Faizin and Winarsih, 2008).

Recommendation

The hospital can develop a preceptorship program that focuses on new nurses so as to evaluate the competence of new nurses during the three-month orientation period, six months to one year by making improvements, the nurse must maintain a quality competence and improve nurse performance in accordance with agreed standards.

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PARENTING THE TEEN : A REVIEW OF PARENTS' ROLE IN PREVENTING PROBLEMATIC BEHAVIOR OF ADOLESCENT

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Keywords: parent, interaction, role, adolescent, problem behavior.

Abstract: Adolescents' risky behavior such as high-risk sexual behavior, delinquency, antisocial, drug use, low self-esteem, and academic failure are related to poor family function, especially interaction with parents. The aim of this study is to see the relationship between interaction of parent and adolescent in adolescent's behavior. Methods: The key words used were related to the family included "parent," "monitoring," "parental warmth," "parent-child relationship," "parental support," "parenting styles" and "family". Journal articles search were done electronically using multiple databases, namely: DOAJ, Sage, Proquest, Medline, Google Scholar, Science Direct and Elsierver. Limitation year used was 5 years (2012 -2017). From the results obtained ten literatures selected of journal articles from 2037 journal articles found. Result: Ten studies raised in this study were all cross-sectional design. Combined findings of this study provided support for the interaction of parents interaction to adolescents' behaviour. Conclusion: Effective parenting during adolescence has been needed to decrease risk behavior due to peers influence. However, parents must balance the need for adolescent structure and supervision with adolescents' growing need for independence. Parenting styles with both warmth and effective discipline, have consistenly been linked to positive adolescence well-being and lower levels of adolescence risky behavior.

1 BACKGROUND

Adolescence is a developmental period marked by considerable change, including puberty, cognitive development, identity exploration, and the development of autonomy (Smetana, CampioneBarr, & Metzger, 2006). As adolescence progresses, youth tend to spend less time with their family and more time with their peers (Smetana et al., 2006) yet strong family relationships have been associated with reduced risk for a host of youth problems, ranging from substance use to delinquency, risky sexual behavior, and youth depression (Greenberg & Lippold, 2013). Parents have a critical influence on reducing youth risk taking even though adolescence as youth become more peer-focused (Steinberg & Silk, 2002). Juggling this amount of simultaneous change presents significant challenges, and it is therefore not surprising that during this period, adolescents are at increased vulnerability to psychological problem (Doremus-Fitzwater, Varlinskaya, & Spear, 2010; McLaughlin & King, 2014; Negriff & Susman, 2011). In addition, risk taking during adolescence tends to increase, leading to increased rates of binge drinking, risky sexual activity, and crime (Steinberg, 2007).

Given its critical role, the family is often a key target of efforts to improve youth outcomes after the emergence of problems, such as behavioral or mental health issues. That is parents can mobilize their capabilities to prevent the emergence of youth problems thereby promoting healthy development over the life course of youth (Van Ryzin, Kumpfer, Fosco, & Greenberg, 2016).

Four parenting styles have been known as the balance of control and warmth: authoritarian (low warmth, high control), authoritative (high warmth and control), permissive (high warmth and low control), and neglecting (low warmth and control) (Maccoby & Martin, 1983). Parents commonly aim to prevent their adolescent from engaging in risky activities. Parental monitoring-one aspect of the control dimension-has been defined as a set of parenting behaviors that involves attention to track of adolescent whereabouts, activities, and friendships (Dishion & McMahon, 1998). For example, parents can demand to be informed by

setting monitoring rules, which is known as parental control.

A number of studies have emerged over the years examining the connection between the family and adolescence behavior. However, the absence of a literature review that synthesizes existing research on the connection between the family and adolescence behavior is notable. A review of the evidence on the relation between specific parenting strategies and adolescence behavior is important, since this might offer concrete guidance on gaps in knowledge as well as intervention strategies.

2 METHOD

2.1 Goals of the study

The goal of the present study is to review the existing literature on parental influence (i.e., parental warmth and parental monitoring) on adolescent behavior.

2.2. Search strategies and inclusion criteria

Systematic reviews of the literature take a variety of forms and use methods depending on the purpose for the review (Bem, 1995; Marsh, Angell, Andrews, & Curry, 2012). We searched the literature for relevant studies using keywords that relate to risk behavior, as well as parenting, and limited the focus to youth between the ages of 10 and 18. Terms related to the family included "parent," "monitoring," "parental warmth," "parent-child relationship," "parental support," "parenting styles" and "family." We searched for articles published prior to June 2017. The age range was incorporated into the search by including such terms as "teen," "youth," and "adolescent". Related publications were obtained with computer database search in Science Direct, PsycInfo, PubMed, SCOPUS, Medline and Google Scholar. Year limitation used was from 2012 to 2017. From 2037 articles obtained, the article's inclusion criteria were: 1) parent-adolescent interaction; 2) samples were adolescent; 3) articles' design was cross-sectional. Titles and abstracts of all articles were reviewed and for articles that appeared relevant, the full text version was retrieved and evaluated for inclusion in the review. Articles were included in the review if they were peer-reviewed, the full text was available, if they explored the relation between family related variables and adolescent behavior, and were written in English.

3 RESULT

Parents' parenting style of autonomy support and psychological control between adolescents' school performance in China was conducted by Qian Wang, et al (2012). Wang took these 341 respondents, all of them were adolescents. In his research, significant interactions were found between parents' socialization goals and adolescents' grades in predicting parenting behaviors. When adolescents were doing well at school, the stronger parents' endorsement of self-development socialization goals, the greater their autonomy support and the lesser their psychological control, and vice versa. when adolescents were doing poorly at school, regardless of parents' socialization goals, their autonomy support was relatively low and their psychological control was relatively high.

Tara M. Chaplin et.al (2012), also conducted research with parents and adolescents about their conflict interactions between adolescent alcohol use. The purpose of the study was to observe parenting behaviors (support, structure, criticism) and adolescents' physiological and emotional responses to parent–adolescent interactions to examine associations with adolescent alcohol use. From 58 sample of adolescents and parents, Findings suggest that heightened emotional and physiological responses to parent–adolescent conflict interactions in youth may be one pathway by which parenting is associated with adolescent alcohol use and risk for abuse.

The relationship between the role of parent-adolescent interaction with adolescents' behavior was also corroborated by research conducted by Vanphanom Sychareun, et al (2013). Sychareun conducts research aimed to provide descriptive information about the influence of peers and parent–youth interactions on young people's sexual behaviours. Survey of 1200 adolescents (females and males) found that female respondents who felt highly connected to their mothers were less likely to engage in sexual activity than those who felt less connected. Further, males appear to have much greater closeness with their mothers and fathers than females.

Some studies also noted the linked of parent-adolescent interaction and adolescent behavior on adolescent internet addiction. These studies include research by Jian Xu, et.al (2014). In the study Xu made a survey of 5122 adolescents from 16 high schools via stratified-random sampling in Shanghai.

Self-reported and anonymous questionnaires were used to assess parent-adolescent interaction. Her study found that the quality of parent-adolescent relationship or communication was closely associated with the development of AIA (Adolescent Internet Addiction), and maternal factors were more significantly associated with development of AIA than paternal factors. Family social-economic status moderated adolescent internet-use levels but not the development of AIA.

The studies performed by Melissa A. Lippold, et.al (2014) aimed to investigate whether and how day-to-day consistency in positive parent–child interactions was linked to youth depressive symptoms, risky behavior, and physical health. Participants were 129 adolescent whose parents were employed in the IT division of a Fortune 500 company. The results revealed that revealed that, controlling for cross-day mean levels of positive parent–child interactions, older (but not younger) adolescents who experienced more consistency in positive interactions with parents had fewer depressive and physical health symptoms (e.g., colds, flu).

Marie C. Haverfield & Theiss (2016) studied about parental communication of responsiveness and control as predictors of adolescents' emotional and behavioral aimed to examines how features of interpersonal communication between parents and their children facilitate the resilience of children of alcoholic parents versus nonalcoholic parents. From parent–adolescent dyads (30 families of alcoholics, 30 families of nonalcoholics) found that parental responsiveness was positively associated with emotion regulation, and parental control was negatively associated with emotion regulation and positively associated with impulsivity on adolescents.

Subsequent research on the relationship of parental influence to adolescents' behavior was performed by Lourah M. Kelly, et al (2017). Kelly took a survey of 117 adolescents and confirmed that parental monitoring was associated with lower frequency of adolescent alcohol use, even after controlling for the three risk factors. Significant interactions were found between parental monitoring and both adolescent and parental depressed mood. Parental monitoring had significant protective effects against drinking frequency among adolescents with higher levels of depressed mood, but not among adolescents with lower levels of depressed mood. By contrast, parental monitoring only had protective effects among those parents with lower levels of depressed mood. Parental problematic alcohol use did not affect the relationship between parental monitoring and adolescent alcohol use.

Some studies also noted the linked of parent-adolescent interaction and adolescent behavior on bullying. Study by Tia Panfile Murphy, et al (2017) examined the interplay between parent attachment and peer attachment as factors related to roles (bullying involvement, defending a victim, and outsider) during bullying. One-hundred forty-eight adolescents. completed surveys about parent and peer attachment and roles during bullying. Findings indicated that greater attachment security to parents and peers was associated with less involvement in bullying and greater defending of victims (ps < .05).

Silva & Calheiros (2017) conducted study of interparental conflict and adolescents' self-representations as mediated by their perceived relationships with parents. Three hundred and sixty adolescents participate on the survey. Study foud the correlations were in line with the theoretically expected pattern of relationships: interparental conflict showed significant negative correlations with adolescents' perceptions of support in their relationship with both their mother and father.

Subsequent research of the relationship between the role of parent-adolescent interaction with adolescents' behavior was also conducted by Margraf & Pinquart (2017) in their study of maternal responsiveness and control on change in externalising behavior problems. Their study compared 124 adolescents from special schools for students with emotional and behavioural disturbances (EBDs) and 133 regular schooled adolescents with regard to their perceived maternal behavior. An interaction effect of school type and parenting behaviour on externalising behaviour was found. Maternal warmth/support predicted a decrease and maternal strict control an increase in subsequent problem behavior only for adolescents from special schools.

4 DISCUSSION

Effective parenting during adolescence has been linked to many positive adolescence outcomes, including lower levels of adolescents' risky behavior and mental health problems (Greenberg & Lippold, 2013). Consistent with the FAAR model and Family Resilience Framework (Patterson, 2002; Walsh, 2002), parent-adolescent relationships that are warm, nurturing, and supportive have been associated with lower levels of antisocial behavior in

adolescence, such as hostility and aggression towards others, as well as delinquency, substance use, and depression. In contrast, harsh and hostile parenting during adolescence has been linked to increased risk for these behaviors (Bornstein, 2006). However, parents must balance the need for adolescent structure and supervision with adolescents' growing need for independence. Parenting styles with both warmth and effective discipline, have consistenly been linked to positive adolescence well-being and lower levels of adolescence risky behavior (Baumrind, 2013).

5 CONCLUSIONS

Adolescence is a developmental period marked by considerable change, including puberty, cognitive development, identity exploration, and the development of autonomy. As adolescence progresses, youth tend to spend more time with their peers yet strong family relationships have been associated with reduced risk for a host of youth problems, ranging from substance use to delinquency, risky sexual behavior, and youth depression. Thus, effective parenting during adolescence has been needed to decrease risk behavior due to peers influence. However, parents must balance the need for adolescent structure and supervision with adolescents' growing need for independence. Parenting styles with both warmth and effective discipline, have consistenly been linked to positive adolescence well-being and lower levels of adolescence risky behavior.

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THE DEVELOPMENT OF THE UKS HOLISTIC PROGRAM IN PREVENTING AGGRESSIVE BEHAVIOR AND LOW SELF ESTEEM IN ELEMENTARY SCHOOL

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Keywords: mental health school services, aggressive behavior, and low self-esteem

Abstract: Background: The child may unconsciously use passive-aggressive strategies for various motives such as in obtaining freedom, maintaining dependence, masking a low sense of self-esteem and masking anxiety. One of the impact of aggressive behavior and low self esteem in elementary school children is children unable to socialize with other children, so the academic field will also decrease. The Holistic UKS Program is indispensable in the prevention of aggressive behavior and low self-esteem of children. It is one of the UKS basic school development programs in improving the biological, psychological, social and spiritual health of the school children. Method: The design that done in this writing is sytematic review. Using 15 journals 2010-2017. Data sources get from PubMed, ScienceDirect, Google shcolar. The apprasial study uses the Joanna Briggs Institute (JBI) Critical Appraisal. Result: physical and mental health services in primary schools have a significant effect on aggressive behavioral changes and low self-esteem in primary school-aged children. Conclussions: Many countries have implemented school health services both physically and mentally. This can have an effect on the promotion and preventive efforts of primary school age children. It is therefore expected that in Indonesia the School Health Program program is able to provide programs Holistik.

1 INTRODUCTION

Aggressive behavior in children of school age are considered normal behavior in the age range 7-12 years. At this age children are expected to acquire basic knowledge considered essential in children's adjustment when adulthood. According Kurniadami, when school-age children fail so often encountered anger and anxiety reactions. Besides this, the man already had the aggressive behavior of the baby, continued the pre-school, school age, adolescents and adults. During the school, aggressive behavior can become chronic kenakala as a teenager. Aggressive behavior of children at the age of 8 years can be seen how aggressively the child as an adult (Holmes, 2013).

In addition to aggressive behavior, self-esteem was also very influential in terms of the level of socialization of children of school age. The tendency of aggressive behavior by peers can lead to low self-esteem in children. It can worsen the condition of children in terms of learning, and socializing on their peers. So that their mental health clinic and school children can minimize aggressive behavior and low self-esteem of children of school age. As an educational institution, the school has a role and strategic position in health promotion efforts both in terms of a clean and healthy living behavior maupu children's mental health.

The frequency of violent and aggressive behavior among elementary school students is quite high. It was found that the boy has a violent and aggressive behavior more often than girls (Z.Kabasakal, 2010). This is because primary school children have not been able to aspire anger. (U. Tosun, 2014). Boys as much as 2,627 children (91 percent) and girls 252 children (9 percent). During this time, the crimes committed by children only considered the police as juvenile delinquency and child. Whereas in some cases have resulted in death. If this is not immediately addressed, the crimes committed by a child next year will be more widespread and pose a more complex problem. In a research conducted

NGO *Plan International* and the *International Center for Research on Women* (ICRW), which was released early March 2015 showed astonishing facts related to violence against children in schools. There are 84% of children in Indonesia have experienced violence in school. The figure was higher than the trend in the region of 70%. This research was conducted in five Asian countries, namely Vietnam, Cambodia, Nepal, Pakistan, and Indonesia, which were taken from Jakarta and Serang, Banten. The survey was taken in October 2013 to March 2014, involving nine thousand students aged 12-17 years, teachers, principals, parents, and representatives of NGOs. In addition, data from the UN agency for children (UNICEF) said, 1 in 3 girls and 1 in 4 boys in Indonesia violence. This data shows the violence in Indonesia is more common in girls.

In the journal showed that schools using SBHC (physical health clinics) and MHS (mental health of children) as much as 70% more qualified. It can be seen that the behavior and health of children better. Because with the MHS school their early detection efforts in tackling the metal health of children. (Laron, Joanne, Claire, and Susan, 2017). In addition to the mental health and social services in schools can identify problems found in students both individual and social problems so as to assist schools in determining and developing mental health programs and social services for children. (Zewditu & Nancy, 2017). So the importance of the mental health program in primary schools.

Clinical questions posed by the phenomenon of the above are: (P) Clients school-age children with anxiety, aggressive, low self esteem, (I) health clinic and mental, (C) Programs clinic mentally healthy, and (O) Behavior olds school.

Objectives

Knowing the effectiveness of the programs the clinic healthy and soul on the prevention of aggressive behavior and low self-esteem of children of school age

Research questions

Based on the above background, obtained a research question, "how the effectiveness of the programs the clinic healthy and soul on the prevention of aggressive behavior and low self-esteem school-age children?

2 METHOD

Design

Done in this paper is *sytematic*review. Effect of healthy programs and mental clinic on the prevention of aggressive behavior and low self-esteem of children of school age will be reviewed, including how sampling and variables measured.searches *Database* and *screening* iuris articles carried by the reviewer to follow the terms in fulfilling the inclusion criteria.

Criteria Inclusion and exclusion

1) Type Study

Publication of the research results is sought in *systematic review* is a research that provides intervention in the sample with the approach of *randomized controlled trials* (RCTs) of 7 articles, Quesi experiment 6 articles, case control and case series study

2) Type partiscipant/ respondents (population)

Systematic review focuses on the results of research conducted on school-age children who experience anxiety, aggression, low self-esteem.

3) Intervention types

Interventionthat will be explored in a *systematic review of* the programs are school-based, both physically and mentally with a wide range of school-based programs to change behavior. This review compares berbasic school programs, both physically and mentally.

4) Type of *outcomes* measured

Outcome were measured school-age children's behavior changes that include anxiety, stress, aggression, low self-esteem.

Criteria for exclusion

Type of research is not included in this review was the research conducted on pre-school, adolescents and adults. The review also did not include the type of research that uses pharmacological intervention without modification of school-based programs.

Search Strategy The literature

Systematic reviews on this dilaksanan by searching article publication on *the* database:PubMed, ScienceDirect, Highware, Google shcolar and Sage journal by using the keyword*"clinichealthy and soul"* or *"aggression" or "Low Self-esteem"*

Based on the search by ScienceDirect, the articles obtained as many as 998, PubMed sebanyk 33 articles, of Hihgwire as many as 311 articles and scolar google search as much as 8560 article, then identified based on the similarity title and came up with as many as 53 articles. A total of 43 articles was issued for not complying with the inclusion criteria so that the article that reviews the number 15 for subsequent analysis quality. Literaur search

restricted to the issue of 2009- 2018 which can be accessed *full text* in pdf format.

Study Quality Assessment Method

Articlesin accordance with the criteria and then analyzed using *tool appaisal critical* an appropriateto the RCT research results, Quasi-experimental, case control and case series. Seven of the reviews using the approach RCT that has a level of evidence Ib (according to the National Institute for Clinical Excellence (NICE).

Table 1: Level Evidence Based National Institute for Clinical Excellence (NICE)

Level	Evidence
Ia	Evidence from systematic review and meta-analysis of randomised controlled trials
Ib	evidence from at least one randomised controlled trial
IIa	evidence from at least one controlled study without randomisation
IIb	evidence from at least one other type of quasi-experimental study
III	evidence from non-experimental descriptive studies, such as comparative studies, correlation studies and case control studies
IV	evidence from expert committee reports or opinions and/or clinical experience of expected authorities

Assessment carried out by one person, that a reviewer using a measuring instrument *Joanna Briggs Institute*(JBI) *critical*Appraisal.the data have been analyzed and then extracted and synthesized in accordance with the purpose. Table *critical appraisal* is attached (appendix 1).

Method Data Extraction

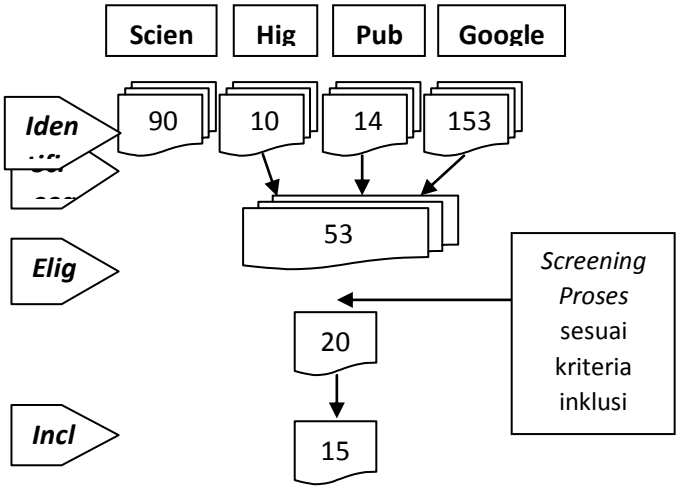
Data were obtained from the literature that met the inclusion criteria, then commissioned to review one by one by means arranged in a table to facilitate the review process. the table contains the author's name, years of research, methods or the study design, sample and sampling techniques, data analysis, clinical findings, and results of critical appraisal. the extraction process is done one person, yatu reviewer. the process of data extraction attached (appendix 2).

Synthesis of Data

SystematicRevie w is based on characteristics of the study inclusion criteria, namely the study of school-age children, with the intervention approach to school-based programs, most of the studies have a minimum level of EBP Ib, Full text, Pages 2009-2018 year, English-language journal, International juornal. Variables in the study of school-based programs, both physically and mentally, aggression and low self esteem. The selection process is determined in accordance with article inclusion criteria. The process of collecting data using a data extraction method with the approach PICO*(Population,intervension, Compare,*Outcame).Articles made extraction of data such as *Citation, Design / Method, Population, (Sample / setting), Intervention, Compare / Control, Data Analysis, Follow Up, Outcome (Finding), Appraisal worth to practice, and the level of Evidence Base Practice.* The method used to criticize the journal article that used to use the Instrument *Joanna Briggs Institute*(JBI) *Critical*Appraisal,this instrument identifies literature through *screening questions* after a pass through the *screening questions* can only proceed through the *Detailed*Questions.The method for reducing biases in the *Systematic* study'sReview.

Synthesis of data is done in a narrative by grouping data extraction similar results in accordance with the results to be measured. Data already collected and searched and discussed the advantages and disadvantages to draw conclusions.

3 RESULT AND DISCUSSION



A total of fifteen studies on the effect of the programs in the clinic healthy and mentally school based on school-age children found after synthesis in accordance with the criteria of the study and will be conducted in-depth analysis*(criticalthingking)*to get the best evidence in the school-based programs to change the behavior of both school-age children who experience aggression, anxiety, stress and low self*esteem.* Quality articles were reviewed from 15 article 7 of them have *Level Evidence Base Practice* (EBP) 1b namely RCT. RCT is a study with the highest quality for experimental research. The results of the research literature has a high kridebilitas to the systematic process of research and the results are to be believed.

The results of the review of the fifteen studies found almost the same in the determination of respondents to the inclusion criteria and ekluasi. Inclusion criteria included: age 7-12 years old clients, the clients are healthy both physically and mentally, and the client is willing to follow intervention by completing the informed consent. Criteria for exclusion include: clients with severe mental disorders such as psychosis, bipolar disorder, clients with drug and alcohol abuse.

The results of the All-Gyeong et al, (2015) entitled"TheEffects of Mind subtraction Meditation on Depression, Social Anxiety, Aggression, and salivary Cortisol Levels of Elementary School Children in South Korea" is a study with a design quasy experiment with the controls. The study was conducted on 52 respondents. 26 respondents in the intervention group was given 8 weeks (4 times a week for 30 minutes) meditation program. While 26 respondents held only control group pretest and post-test only. Outcame expected was the respondent can show improvement in anxiety, aggression. Results of school-age children depression scale CDI experienced a significant level of P <0.81 (0.898). Results of social anxiety using the Social Anxiety Scale for Children experience a significant level of P <0.87 (0.937). Aggression was measured by using BPAQ (Aggression Questionnaire) is not significant P <0.91 (0.88). In the salivary cortisol levels increased so that it can be said the physical stress level increases. This study has shown that meditation is helpful in improving the mental health status of primary school students in terms of social anxiety, aggression, and cortisol levels.

Weiss, Margaret et al, (2012) in his research entitled*"Arandomized controlled trial of CBT therapy for adults with ADHD with and without medication"*. The study involved 436 intraprofesional team members enter school. Collaboration SMH underlying success of the program, as in other school health services. The result is a significant increase in academic, school problem prevention, improving the quality of human resources.

4 CONCLUSIONS

From some of *the reviews* research on school-based programs, it can be concluded that the therapy is very effective to be applied by health workers especially nurses to intervene independently to school age children. It is expected that with this program, children tehindar of garesif behavior and low self esteem.

ACKNOWLEDGEMENTS

Systematic review of the eleven studies in accordance with the criteria for inclusion suggests that school-based programs can overcome the good behavior of anxiety, stress, low self-esteem, aggression and other behavioral mental health. In addition to the service mentally, physically also strongly support the academic level of primary school age children.

Of the eleven articles in a review of eight using RCT designs, two journals with quasi experiment, and one case-control journal, and case series. Most of the articles obtained megalami significant improvement results from changes in the behavior of primary school age children.

The conclusion of the review explained that much needed development programs, school-based services both physically and mentally so as to prevent their aggressive behavior and low self-esteem of children of school age.

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Preparatory Intervention to Reduce Anxiety in Patient who will Undergo Endoscopy: A Systematic Review

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Keywords: Preparatory intervention, endoscopy, anxiety

Abstract: Background: Endoscopy is a diagnosis method to examine gastrointestinal system disorder. Being worry about the procedure, environment, and result itself can cause an anxiety in patient. Patient's ability to adapt with all the things in endoscopy is importantly required to support examination. Anxiety will cause bad effect in patient. Comprehensive nursing intervention has to be given to reduce that anxiety. The objective of this systematic review was to compare the preparatory interventions given to endoscopy patient. Method: Articles were found in some databases such as Scopus, Science Direct, and PUBMED. The framework were (1) Preparatory Intervention identification in literature, (2) Identify the most relevant articles based on title and abstract, (3) Get full text literatures, (4) Classify the preparatory interventions. Result: The preparatory interventions found were (1) Hypnosis, (2) Aromatherapy, (3) Psychologycal preparation (4) Health Education, preparatory education (6) Giving information using various media (7) Information and behavioral training. Conclusion: Hypnosis, Health Education, Psychological preparation, Aromatherapy, Information and behavioral training, effective communication were preparatory intervention which can reduce the anxiety level of patient who undergo endoscopy.

1 BACKGROUND

Diagnostic methods that must be performed for patients often cause anxiety. Patients as individuals who are in the teribble condition also still need a sense of comfort during receiving treatment. Nurses as the part of health service have a big role in this. Endoscopic examination often provides anxious feelings and situations to the patient regarding preparations, procedures and the environment. As a nurse must be able to provide intervention so that patients are able to perform the perceived anxiety management during endoscopic examination.

Endoscopy is a diagnostic method of diagnosis for gastrointestinal (McQuaid KR, 2008). Endoscopic examination can be performed to detect abnormalities in Upper Gastrointestinal Tract and Lower Gastrointestinal called Colonoscopy.

Detection The most commonly encountered cases in endoscopic examination are for the detection of gastric or intestinal cancers, as well as abnormalities that patients complain of such as vomiting blood, Melena, dyspepsia, dysphagia, discomfort in the abdominal, change of bowel habit, , and even to detect any ingested foreign body / corpus alienum, or ingested toxic substances.

Patients who will perform endoscopic examination of the upper gastrointestinal tract or commonly referred to as gastroscopy or EGD. Anxiety is often felt by patients who will undergo endoscopic examination. Patients need adequate information about the benefits, discomforts and how to reduce perceived anxiety. (Maguire, Walsh, & Little, 2004). Drossman et al states that anxiety in patients undergoing endoscopic treatment can be divided into 4 categories: (1) sensory discomfort (eg pain, needle, tool), (2) examination result (fear of cancer diagnosis), (3) discomfort (examples of insufficient sedation, lack of knowledge of the procedure), (4) Other things (eg Fear of doctors, see frightening procedures, unfamiliar environment).

Endoscopic examination conducted in Indonesia often does not use anesthesia. From some studies mentioned that in some countries do not use anesthesia in patients who will undergo endoscopic measures for reasons of increased cost. In addition to cost reasons, the use of anesthesia has risks: such as suppression of circulation, respiratory depression, long conscious recurrence and anteretograde

amnesia. Therefore, nurses need to provide comprehensive preparatory intervention to reduce anxiety in patients undergoing endoscopic action so that the examination is more effective.

2 METHODS

The method used in this systematic review begins with the selection of topics, then determined keywords to search the journal using English through several databases such as Scopus, Science direct, and PUBMED. Journals were selected for review based on studies that fit the inclusion criteria. The inclusion criteria in this systematic review are journals discussing preparatory intervention in patients undergoing endoscopic examination, Double Blind Clinical Trial Research, Case Study, Case Report, Prospective Randomized Control Design, Randomized Control Trial, Experimental Quasi, Prospective Experimental design, a Two group Pre test Post test Prospective quasi experimental, Prospective Randomized trial, study cohort. Researchers analyzed some of the literature obtained up to 15 selected journals for systematic review. The 15 journals are then scrutinized, analyzed and evaluated. Then performed systematic review in accordance with the Critical Appraisal results that have been done before.

3 RESULTS

Based on the results of the study of the 15 selected journals, there were several types of preparatory intervention to decrease the anxiety of patients undergoing endoscopic examination.

The research selected in this review is 3 journals using quasi experimental research design, 1 journal using double blind clinical trial, 2 journals using RCT research design, 1 journal case study, 1 journal case report, 1 prospective randomized controlled design journal, 1 prospective journal experimental design, 2 prospective experimental journals, 1 prospective quasi experimental journal, 1 cohort study journal a double randomization design.

Preparatory Intervention

Undergoing examination can provide a stressful situation and stess for the patient. When patients are scheduled for endoscopic examination, the patient has imagined unpleasant things. (Toomey, Corrigan, Singh, Nessim, & Balfe, 2015). The anxiety experienced by the patient can be generated because the patient is not informed about procedures, benefits, side effects, and things that may occur during endoscopic examination. Preparatory interventions that can be done include by providing cognitive intervention and patient behavior (Hackett, Hons, Lane, & Mccarthy, n.d.). Various studies were conducted to find out effective preparatory interventions to decrease anxiety in patients undergoing endoscopic action. Several types of preparatory intervention used in the 15 journals in this review include:

Hypnosis

Hypnosis is the first technique successfully used in the modern era for surgical anesthesia (Drouet & Chedeau, 2017). Hypnosis has the same effect to reduce pain and anxiety, as many specialists claim, Hypnosis can also improve the healing process (Izanloo et al., 2015). Hypnosis applied to patients undergoing endoscopic treatment will provide a more relaxed situation so that patients are more prepared and able to adapt to procedures, officers and the environment.

Aromatherapy

Aromatherapy is a natural technique used for health and beauty by using essential oils extracted from natural plants that can overcome psychosocial distress by inhalation (Hozumi et al., 2017).

Effective Communication Endoscopic

Endoscopic examination that is done often leads to a bad experience for the patient. Lack of knowledge, images of pain, fear of results, and all unpleasant things, gives rise to high anxiety for the patient (Toomey et al., 2015). The role of nurses in providing information clearly and vividly about anything related to endoscopic examination with effective communication will help the patient to overcome the anxiety experienced during endoscopic examination.

Information and Behavioral Training

Information related to endoscopy and cognitive/behavioral interventions in patients undergoing endoscopic treatment is essential. Research on specific behavioral training interventions has not been done. A much-conducted study of cognitive / behavioral interventions to reduce anxiety in patients undergoing endoscopic action is by relaxation, distraction, and visualization. (Maguire et al., 2004).

4 DISCUSSION

The development of community knowledge will be increasingly affecting the provision of health services. Nurses as one of the part health service have an important role in realizing quality service.

The endoscopic nurse has the responsibility to provide nursing care to the patient, who is safe, comfortable and accountable. Endoscopic examination which often has a negative image in the community as one of the scary acts presents its own challenge for the endoscopic nurse to provide nursing care that can manage of Anxiety and pain.

From the systematic review that has been done it can be seen that there are some effective interventions to reduce anxiety in patients. Of the 15 journals reviewed by 3 journals discussing hypnosis and of the three showed significant results that hypnosis could be chosen as an intervention to reduce anxiety of the patient. By doing hypnosis the patient can be given a positive suggestion that the endoscopic action is done for the cure of the patient, so that the patient is not focused on the perceived pain. However, to implement hypnosis requires special skills so that endoscopic nurses must attend the training.

From several journals also discusses the provision of interventions in the form of health education, cognitive, behavioral, combined with the provision of information and psychological preparation (Lee et al., 2012). From the study it was mentioned that the provision of health education which is the provision of information with a combination of cognitive and behavioral can decrease the level of anxiety in patients undergoing endoscopic action (Hackett et al., N.d.)

The application of preparatory intervention to decrease Anxiety in patients undergoing endoscopy should be performed as an effort to provide quality, humanist and holistic nursing care. The model of the selected interventory preparation can be adapted to the situation and condition of the patient and the nurse's ability to perform. This is in line with the efforts of nurses to support a complete program of public health degree improvement.

The endoscopic nurse must understand the patient's characteristics by always running the nursing process. Assessment should be carried out thoroughly and in detail before, immediately and after action. From the results of nurse assessment can identify problems faced by patients including how the views and knowledge of patients associated with endoscopic examination. It is aimed at knowing the patient's readiness in undergoing action. From the results of the assessment, the nurse is able to analyze and determine which nursing interventions are appropriate to apply, which of course is adjusted to the existing capabilities and facilities.

Nursing orders in the form of modalities, cognitive, behavioral, and information can be applied in the provision of nursing care in the field of endoscopy in Indonesia.

5 CONCLUSIONS

All the journals evaluated the effect of preparatory intervention to decrease anxiety in patients undergoing endoscopic action. Each journal evaluates interventions that may decrease Anxiety in the patient, as well as increase patient satisfaction with action. The sample used was> 18 years old, and included gastroscopy and colonoscopy measures.

Based on the study of 15 selected journals indicated that an effective and applicable preparatory intervention to decrease anxiety in patients undergoing endoscopy is Hypnosis, aromatherapy, psychological preparation, combinations of information and behavioral training, effective communication, health education. The application of this intervention must necessarily be accompanied by an improvement in the nurse's ability to provide this intervention appropriately.

Based on a study of 15 journals on preparatory intervention to decrease anxiety in patients undergoing endoscopic action it was found that there were 5 journals that showed insignificant statistical results. 5 journals that do not show significant results have the same intervention characteristics that is, provide the material preparation intervention of endoscopic measures using the material in writing, orally, or by using Audio, video, video tape, verbal or combination media in between.

The five insignificant research journals were studies conducted by (Xiaolian, Xiaolin, & Lan, 2015), (Hewett, 2005), (Luo, 2012), (Arabul et al., 2013)). 5 journals that do not show significant results have the same characteristics of providing information either written or by media or verbally or combinations of them but do not provide intervention to cognitive and behavioral patients.

This result is in contrast to the other 10 journals which suggest that providing cognitive and behavioral interventions of patients, providing treatment modalities or combined with information or education may decrease anxiety experienced in patients undergoing endoscopy. Interventions that can be done include hypnosis, aromatherapy, health

education, provision of information and training behavior, and effective communication.

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Differences In The Level Of Knowledge After Health Education On The Handling Of Dysmenorrhoea In Teenager Women In SMP Muhammadiyah 4 Surabaya

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Keywords: Dysmenorrhoea, Knowledge, Health Education, Teenage Women.

Abstract: Dysmenorrhoea is a reproductive health problem experienced by teenage women. The incidence of dysmenorrhea is around 50% among reproductive age. This study aims to determine the level of knowledge of juvenile girls SMP Muhammadiyah 4 Surabaya after health education. The research design was conducted using an experimental pre-designed one-group pre-post test design. Sample in this study amounted to 36 respondents taken through simple random sampling technique. Data collection instruments are questionnaire of demographic data and knowledge level of dysmenorrhoea handling. Data analysis using Wilcoxon Statistic Test p <0.05. Result of research Level of knowledge of respondents after health education on handling of dysmenorrhoea 32 respondents (89%) good knowledge level, 4 respondents (11%) enough knowledge level, 0 respondents (0%) less knowledge level. Based on statistical test using Wilcoxon Sign Test with significant level obtained p value = 0,000. This shows that p ≤ 0,05 which means there is a significant difference between the level of knowledge before and after the health education. The results of this study is expected to give insight in building health promotion, especially education for reproductive health in teenager women.

1 INTRODUCTION

Dysmenorrhoea is painful during menstruation, with a feeling of cramping and centralized in the lower abdomen (Sarwono, 2011). Dysmenorrhoea usually occurs in adolescence after some time experiencing menarce. Adolescence is a period of transition where the level of curiosity is very high to find identity (Kusmira, 2011), Therefore in adolescence is needed a guidance in the level of knowledge in maintaining the reproductive system Knowledge is a known related to the learning process, knowledge is the result from know and this happens after people melakuka sensing of a particular object, most of human knowledge is influenced by the eyes and ears (Notoatmodjo, 2012).

Adolescence is a period of guidance in the level of knowledge by through health education. Health education is any effort planned to influence others, so they do what the educator or health promoter hopes to do. Women who are menstruating every month have dysmenorrhoea as much as 50% and 10% have severe symptoms that require bed rest, international reports of dysmenorrhoea prevalence is very high and 50% of young women experience dimenorea throughout the reproductive years. The incidence of dysmenorrhea in Indonesia is 107.673 (64.25%), consisting of 59,671 people (54.89%) suffering from primary dysmenorrhoea and 9,496 people (9.36%) having secondary dysmenorrhoea (healthy info, 2010). The incidence of dysmenorrhea in Indonesia is 107.673 (64.25%), consisting of 59,671 people (54.89%) suffering from primary dysmenorrhoea and 9,496 people (9.36%) having secondary dysmenorrhoea (healthy info, 2010). Lack of knowledge in the treatment of dysmenorrhea can have an impact on the activities or activities of women, especially adolescents. Dysmenorrhea prevents women from performing normally and requires prescription. This situation causes a decrease in the quality of life of women, for example dysmenorrhea can not concentrate in learning and learning motivation decreases because of perceived pain (Suraya, 2014). Therefore, it is important that the health education of students on the handling of dysmenorrhoea, given the health education, the

adolescent knowledge will increase, the adolescent will be better prepared when knowing the menstruation cycle will arrive so that the quality of life will be better not to be obstructed to enter school and daily activities .

2 METHODS

The research design used in this study used pre-experimental design with one-group pre-post test design, which in this study made measurement or observation twice that before (pretest) conducted health education to handling dysmenorrhoea and after (post-test) done health education on the handling of dysmenorrhoea in grade VIII students of SMP 4 Muhammadiyah Surabaya. The population of all students of class VIII SMP 4 Muhammadiyah Surabaya who had menstruation amounted to 40 people.

Sampling technique use Probability sampling with simple random sampling approach. Sample Most students of grade VIII SMP 4 Muhammadiyah Surabaya amounted to 36 people. Data analysis with use of Wilcoxon Statistic Test ($p < 0.05$). Data was collected on 13 December 2017. After initial observation, the researcher gave health education at SMP Muhammadiyah 4 Surabaya by lecture method. This study was conducted in the hall room with the number of respondents as many as 40 female students were collected into one with the provision of health education as much as 1 time.

Researchers describe the material about the treatment of dysmenorrhoea for 45 minutes consisting of understanding dysmenorrhoea, causes of dysmenorrhoea, signs and symptoms of dysmenorrhoea, prevention of dysmenorrhoea, and handling dysmenorrhea. After completion of post intervention data collection.

3 RESULTS

The results of this study include demographic data and special data research.

Table 1: Characteristics based on age of girls in grade VIII SMP Muhammadiyah 4 Surabaya, December 13, 2017 (n = 36)

Age (year)	Percentage (%)
12-13	55,6
13-14	36,1
14-15	8,3
	100

Table 1 shows that of 36 respondents of junior high school students of SMP Muhammadiyah 4 Surabaya, 20 respondents (55.6%) were 12-13 years old, 13 respondents (36.1%) were 13-14 years old, 3 respondents (3.8%) were 14-15 years old.

Table 2: Characteristics based on activities by girls of class VIII SMP Muhammadiyah 4 Surabaya, December 13, 2017 (n = 36).

Activities	Percentage (%)
Flag Raisers	5,6
scout	30,6
Basketball	58,3
Volleyball	5,6
	100

Table 2 shows that from 36 respondents of junior high school students of Muhammadiyah 4 Surabaya, 21 respondents (58.3%) followed basketball, 11 respondents (30.6%) followed scout activities, 2 respondents (5.6%) followed flag raisers activities, 2 respondents (5.6%) following volleyball

Table 3: Characteristics of respondents based Level of Knowledge Before Health Education in juvenile girls of SMP Muhammadiyah 4 Surabaya on December 13, 2017 (n = 36)

Level of Knowledge	Percentage (%)
Good	10
Enaugt	71
less	19
	100

Table 4: Characteristics of respondents based on the level of knowledge after health education on handling dysmenorrhoea in young women SMP Muhammadiyah 4 Surabaya on December 13, 2017 (n = 36).

Level of Knowledge	Percentage (%)
Good	89
Enaugt	11
less	0
	100

Table 4 shows that the level of knowledge of 36 respondents of junior high school students of SMP Muhammadiyah 4 Surabaya after health education on handling of dysmenorrhoea, 32 respondents

(89%) good knowledge level, 4 respondents (11%) knowledge level enough. So the average level of knowledge of junior high school students of Muhammadiyah Surabaya after doing health education is good

Table 5: Characteristics of respondents based on different levels of knowledge after health education on handling dysmenorrhoea in adolescent girls SMP Muhammadiyah 4 Surabaya on December 13 (n = 36).

Level of knowledge	Pretest (%)	Posttest (%)
Good	10	89
Enaugt	71	11
less	19	0
Wilcoxon Signed Test test p = 0,000 <0,05		

Table can be seen that the level of knowledge before the health education, 4 respondents (10%) good knowledge level, 25 respondents (71%) enough knowledg e level, 7 respondents (19%) less knowledge level. The level of knowledge of adolescents after health education 32 respondents (89%), 4 respondents (11%) sufficient level of knowledge, and the level of knowledge less becomes non-existent. Test statistic using Wilcoxon Sign Test with significant level obtained p value = 0,000. This indicates that $p \leq 0,05$ meaning that there is significant difference of mean score of knowledge level before and after health education.

4 DISCUSSION

Knowledge Level of Junior High School Students of Muhammadiyah 4 Surabaya Before Health Education

The table shows that the level of knowledge of young women prior to health education is divided into three categories namely good, enough, less. The result of analysis shows the knowledge level of 36 respondents, 24 respondents (67%) enough knowledge level.

Factors affecting the level of knowledge are the level of education, occupation, age, information, environmental factors, and socio-cultural. This sufficient knowledge is influenced by previous dysmenorrhoeal experience, where respondents who suffer from dysmenorrhoea are as many as 28 respondents (77.8%). This data is supported by crosstab results between special data (pre test) with adolescents with dysmenorrhoea who stated that 18 respondents (64.3%) of 28 respondents (100%) who suffer from dysmenorrhoea enough knowledge category.

(Notoatmodjo, 2010) reveals that one way humans acquire knowledge through personal experience, personal experience can be used as an effort to gain knowledge. Based on the results of crosstab above category enough as much as 18 respondents (64.3%) who experienced dysmenorrhoea. The researchers concluded that the average level of adolescent knowledge is sufficiently influenced by the personal experience they experienced in the past suffering from dysmenorrhoea. the more experience a person gains, the better the knowledge level. Experience can affect the level of knowledge of respondents, because personal experience associated with what has been and is experienced to shape and affect our appreciation of the stimulus.

Knowledge of Responden in SMP Muhammadiyah 4 Surabaya After Health Education

The results showed that the level of knowledge of young women after health education. The result of analysis shows that the number of respondents before the previous level of health education knowledge of some of the knowledge base of respondent category enough. After doing health education level of adolescent knowledge of most good category.

The level of knowledge of 36 respondents, 32 respondents (89%) with the level of knowledge of good category. The results of this study indicate that most of the adolescent girls of class VIII SMP Muhammadiyah 4 Surabaya after health education in good category, this proves that health education intervention can improve students' knowledge about handling dysmenorrhoea. This study is in line with the study (Alfarisy, 2013) on "The effectiveness of health education on increasing the knowledge of adolescents about the impact of smoking in SMAN 1 Kampar Utara can be concluded that health education has a significant effect on changes in adolescent knowledge about the impact of cigarette hazard. Results of crosstab of special data (post test) with the data of respondents experiencing dysmenorrhoea as follows. Of 28 respondents (100%) who experienced dysmenorrhoea, 24 respondents (85.7%) good category knowledge level.

This research is in line with the theory (Notoatmodjo, 2007) suggests that health education is essentially an activity or an attempt to convey

health messages to people, groups or individuals. Increased knowledge is an indicator of health education conducted. In the end the knowledge is expected to affect its behavior. In other words, the existence of health education can bring changes both in terms of cognitive, attitudinal, and target behavior. Based on the above data the researcher concludes that there is a change of knowledge level of this good category influenced by the existence of health education given by lecture method and more focus on handling of dysmenorrhoeal so that there is a significant change of level of knowledge

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Differences in the level of knowledge of juvenile girls SMP Muhammadiyah 4 Surabaya before and after medical education on handling dysmenorrhoea

Cross tabulation results between before and after health education. Significant results obtained (p = 0,000) which means p value <0,05 hence can be concluded Ho rejected and Ha accepted that there is difference of knowledge level before and after giving health education to handling dysmenorrhoea.

The results of this study are in line with the study (Alfarisy, 2013) on the effectiveness of health education on increasing the knowledge of adolescents about the impact of smoking in SMAN 1 Kampar Utara It can be concluded that health education has a significant effect, this is shown from the results of stasis test by using independent sample test with p value 0.000 or p <0,05 to change level of adolescent knowledge about impact of cigarette hazard. Notoatmodjo (2007) suggests health education is an activity or learning process to develop or improve certain skills so that the goals of health education that can stand alone. The level of education can affect a person's mindset and digestibility towards the information received. The higher the education level of a person, the higher the information can be absorbed and the height of information absorbed affects the level of knowledge, and vice versa.

(Notoatmodjo, 2007) suggests an important step in health education is to create messages tailored to the target including in media selection, intensity and duration of message delivery. Submission of information is influenced by the methods and media used in which the methods and media delivery of information can have a significant effect on knowledge improvement, information delivery methods is one factor that influences an optimal information delivery results. The health education provided incorporates the latest complementary therapies that have been studied. Such as the use of soy milk and herbal therapy. In the study Budiarti, A., (2016) states there is an effect of giving herbal therapy with a decrease in the scale of dysmenorrhoea pain. Similarly, research conducted by Budiarti, A., & Wulandari, R.N., (2015) which states there is influence of soy milk to decrease the scale of dysmenorrhoea pain.

5 CONCLUSIONS

1. The level of knowledge of teenage girls of class VIII SMP Muhammadiyah 4 Surabaya before the health education is mostly enough categories.
2. The level of knowledge of girls of class VIII SMP Muhammadiyah 4 Surabaya after health education almost entirely good category
3. There is a difference between the level of knowledge before and after the health education on the handling of dysmenorrhoea.

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The Effectiveness of Slow Deep Breathing to Decrease Blood Pressure in Hypertension: a Systematic Review

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Keywords: Slow deep breathing, blood pressure, hypertension, systematic review

Abstract: hypertension is a disorder of the circulatory system and lifelong condition that requires ongoing treatment after the blood pressure is under control. The prevalence of hypertension continues to increase each year. Slow deep breathing is a non-pharmacological action for people with hypertension. This systematic review was performed to assess changes blood pressure during exercise. The literature search used predefined keywords through several electronic databases such as Scopus, ProQuest, SpringerLink, and Science Direct. The initial search retrieved 353 studies that were potentially relevant, and 18 studies were selected for review. Result showed that slow deep breathing exercise can decrease blood pressure. These study result could be a reference to health workers and hypertension education needs to be considered as one of the interventions in hypertension patients.

1 INTRODUCTION

According to the World Health Organization, approximately 22 % of adults aged 18 and over have raised blood pressure (Mahtani *et al.*, 2016). Hypertension can also lead to other diseases such as stroke, myocardial infarction, heart failure, chronic kidney disease, continuous atherosclerosis and dementia (memory loss) (Gupta, 2014).

The main cause of hypertension is the imbalance of the autonomous role. The imbalance is characterized by the onset of hypertension to sustained hypertension. Baroreflex is also one of the mechaisms associated with hypertension. However, if baroreflex is compromides, it will suppress the increase in sympathetic activity. So it can arise hypertension (Joseph *et al.*, 2005).

Irregular eating patterns, obesity or overweight, less physical activity and smoking are always associated with the development of hypertension and make health worse. Patients with 140/90 mmHg are recommended to change lifestyle as the first stage of hypertension management (Mahtani *et al.*, 2016). Hypertension is considered a major risk factor for the incidence of morbidity (rates of illness) and mortality of the cardiovascular system. Antihypertensive drugs are drugs that can reduce the risk of such morbidity and mortality (Grossman *et al.*, 2001).

Although many pharmacological treatments are provided, the patient's blood pressure remains uncontrolled so the need for nonpharmacologic therapy is essential in addition to or substitutes for pharmacological therapy (Cernes and Zimlichman, 2017).

There are several studies that show that breathing can decrease respiratory rates, breathing patterns, and high blood pressure for example doing slow breathing exercises (Kaushik *et al.*, 2006).

Deep slow breathing also plays a role in the cardiovascular system, respiration and sympathetic nervous activity. Breathing is done regularly and slowly can reduce blood pressure so this exercise is very suitable in the choice of therapy management. Meditation and yoga are two of the few practices that have been accepted in various circles as complementary hypertension therapy (Mahtani *et al.*, 2016).

Breathing in effectively reduces heart rate in patients with essential hypertension and may also affect patients with gynecology and cardiac abdominal surgery (Hayama and Inoue, 2012).

The conclusion of the real role of slow and regular breathing is a very good component in relaxation exercises and can lower blood pressure slowly and sustainably (Grossman *et al.*, 2001). Slow and regular breathing exercises can lower high blood pressure (Schein *et al.*, 2001).

2 METHODS

The literature search used predefined keywords that are slow deep breathing, blood pressure, hypertension and systematic review, thorugh several electronic databases such as Scopus, ProQuest, SpringerLink, and Science Direct. Randomized, controlled trials, case-control, and quasi experimental studies were included.

Selection Criteria

1. A Spesific vocational program that affects people with hypertension.
2. All subjects who were diagnosed with hypertension and moderate disease.
3. Interventions of slow deep breathing to improve blood pressure.

Data Source

The title and abstract of this articles that are in the search, are screened for their relevance. The complete required articles for further evaluation according to predetermined criteria.

Eligibility Criteria

The systematic review eligibility criteria include all interventions that investigate the effect of slow deep breathing exercises on adult patients (ages over 18 years) with hypertension (systole ≥ 140 mmHg and diastole ≥ 90 mmHg). In line with previous reviews, deep breathing exercises are non-pharmacological treatments that qualify and are included in this study. This study has no gender, time and language restrictions imposed. Studied involving therapy or breathing exercises in other combinations with other interventions are included.

3 RESULTS

Search articles in the Scopus, Proquest and Science Direct, with keywords slow deep breathing, blood pressure, hypertension and systematic review. A total of 2337 articles (22 scopus, 1197 Proquest, and 118 Science Direct). A total of 353 articles in abstract review. The eliminated another 328 articles that do not fit the topic, into 25 articles. 25 articles are screened to take articles that fit the criteria. Obtained 18 journals according to criteria.

4 DISCUSSION

From the overall study showed that significantly slow and deep breath From the overall study showed that significantly slow and deep breathing in lowering blood pressure in patients with hypertension.

Slow deep breathing techniques were found in the study (Gupta, 2014), muscle relaxation and deep breathing exercises, significantly affected the systolic blood pressure reduction in 40 patients with hypertension.

Slow breathing with BIM (Breathe with Interactive Music) tools, affects rapid and significantly reduce systolic and diastolic blood pressure in patients with hypertension (Grossman *et al.*, 2001). Slow breathing exercises at the rate of 6 breaths/min, performed half an hour daily for 4 weeks decreased spontaneous respiratory rate and MAP (Mean Arterial Pressure) significantly. This study was conducted on healthy individuals (Nagarajan, 2014).

A role of baroreflex in changing up and down blood pressure. This process begins when the active echanoreseptor responds to an increase in tidal volume and inhibits the sympathetic flow of skeletal muscle vessels resulting in vasodilation resulting in decreased peripheral resistance and decreased blood pressure. Baroreflex is very important role against hypertension (Joseph *et al.*, 2005; Reyes Del Paso *et al.*, 2006). In addition, slow and effective deep breathing techniques are performed not only in patients with hypertension but in cancer patients undergoing chemotherapy (Hayama and Inoue, 2012). Breathing exercises with device guidance reduced systolic and diastolic blood pressure at 5,5 / 3,6 mmHg ($p < 0,05$ for diastolic blood pressure) and mean blood pressure of 5,4 / 3,2 mmHg ($p < 0,001$ for systolic and diastolic blood pressure). That is breathing exercises done at home, more effective than patients should visit to the doctor to do this exercise (Meles *et al.*, 2004). Slow breathing also significantly decreased systolic blood pressure in the intervention (37 patients essesntial hypertension) group at 1 month follow-up visit (125 mmHg; $p < 0,05$) (Modesti *et al.*, 2015). Blood pressure measurements should be more careful such as manual and automatic blood pressure measurements. Because this will affect the result of blood pressure measurements should be strictly controlled and careful in order to provide the best accuracy value (Zheng, Giovannini and Murray, 2012).

The implication of these findings is that breathing exercises can control central cardiovascular so as to affect a positive pressor response to muscle contraction throughout the body (David, Science and Jones, 2015). Then regular slow-breathing exercise can lower systolic blood pressure significantly (Anderson, McNeely and Windham, 2010).

The results obtained also from slow breathing is a significant decrease in heart rate, respiratory rate and diastolic blood pressure in one hundred patients of essential hypertension (Kaushik *et al.*, 2006; Zheng *et al*., 2012). A drop in diastolic blood pressure is also present in the group of devices after the intervention of the group that only listens to the Walkman (Schein *et al.*, 2001).

Slow breathing of the BRS (Baroreflex Sensitivity) reduces sympathetic tones and blood pressure. Apparently, RESPERATE provides good benefits and patients with hypertension can be done at home every day for 15 minutes. Hoewever, patients are expected to be independent of this therapy without the need for coaches (Cernes and Zimlichman, 2017). Deep breathing done also by healthy subjects, can lower blood pressure in short-term intervention (Herakova *et al.*, 2017). Device-guided respiration can also lower systolic blood pressure in twenty one patients with hypertension and patients have problem with obstructive sleep apnea (Bertisch *et al.*, 2011).

5 CONCLUSIONS

The effects of slow deep breathing in everyday life vary and depend on individual ability. We demonstrated that slow deep breathing may produce clinically meaningful changes in systolic and diastolic blood pressure in patients with hypertension. thus, this technique can be used in people with hypertension to reduce or lower high blood pressure.

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EFFECTIVENESS SOCIAL SKILLS TRAINING WITH PEERS PROGRAMS FOR INDIVIDUALS AUTISM SPECTRUM DISORDER: A SYSTEMATIC REVIEW

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Abstract: Social skills are adaptable skills that enable the individual to get along with friends. Social skills are important for developing relationships, resolving, resolving conflicts, and encouraging self-reliance, otherwise less social skills can lead to unhealthy social relationships, inability to resolve interpersonal conflicts, and social isolation. Decreasing social skills is a major characteristic of individuals with ASD. The purpose of this article was to evaluate the effectiveness of social skills training groups on PEERS programe to increasing social skills individuals with ASD. The keywords to databased search was "social skills training, social skills intervension, PEERS, Autism Spectrum Disorder". According to the journal article that already found and reviewed from Google Scholar, Proques and Science Direct. This search is limited from 2009 to 2017. Most of the journals in this review indicate that social skills training based on a group of PEERS can be intervention in order to improve social skills individuals with Autism Spectum Disorder. Social Skills Training interventions on the PEERS program can be used to increasing social skills and self-supporting individuals with ASD.

1 INTRODUCTION

Autism Spectrum Disorder (ASD) is described as a disorder of neurodevelopmental that affects brain chemistry and/or structure of the brain (Harvard Medical School, 1997) and is characterized by a deficit persistent in social communication and social interaction in some context, and patterns of behavior, interests, and activity limitations (Erena et al, 2015). Deficits in reciprocity, social emotional, deficits in communikative behavior used for social interaction and deficits in developing, maintaining, and understanding the relationship are a major problem in person with ASD (American Psychiatric Association, 2013). The effect of such adverse social intetraktion deficits can occur in children to adults (McCoy et al, 2016).

Social deficits and a poor quality of friendship is the common areas of decreased person with ASD. Specific social deficiencies in individuals with ASD often include poor social communication, impaired social cognition, and a lack of understanding of social cues (Laugeson et al, 2012). Individuals with ASD exhibit social deficits such as inadequate non verbal behaviour including eye contac, gestures, posture, and facial expressions, this due to lack of emotional social reciprocity, lack of empathy, limited interaction with peers, and lack of interest in social interaction, lack of mutual concern which is the major point in socialization (Erena et al, 2015). A person with ASD may also experience social problems, communication and interaction in everyday life, and more often than with their normal development. Therefore, appropriate interventions is very important to use to improve communication skills and social interaction of individuals with ASD. Treatment using the method of demonstration, role play, social coaching and performance feedback during a workout.

Social skills training are often used at this time and become a popular method to help individuals ASD adapt to their social environment (Laugeson et al, 2012). Social skills group are instructional arrangement, although the minimum indicated in the

existing literature, social skills groups can be used in intensive behavioral intervention in individuals with ASD. This approach brings together a group of individuals with ASD who meet one or more times a week to learn and practice social behavior with aech other with the help of the facilitator (Plavnick et al, 2015).

One intervention group-based social skills training that proved effective is Program for the Education and Enrichment of Relational Skills (PEERS), a program of social skills in teenagers ASD assisted by parents. Learning based training principles of friendship child. Interventions is done 90 minutes each week for 12-14 weeks (Laugeson & Frankel, 2010). Parents and teens attend concurrent sessions, in different places.

Didactic lessons include (a) the ability to speak, including verbal and nonverbal forms of communication; (b) forms of electronic communication, including phone calls, text messages, instant messages, e-mail, and online safety; (c) develop a network of friends, including identifying peer groups and extracurricular activities for the source of potential friends; (d) the appropriate use of humor, including learning to pay attention to the feedback of humor than others; (e) the entry peer strategies, including how to join in the conversation with other teens; (f) peer exit strategy, including how to assess receptivity over the peer entry and what to do when this attempt failed; (g) the behavior of the host / guest is good for get-togethers, including how to organize a successful meeting with friends; (h) good sportsmanship, including how to behave appropriately during games and sports; (i) strategies for dealing with temptations, including differentiating tempting embarrassing feedback and handle verbal wriggling through the use of appropriate behavioral response; (j) deal with bullying, including cyberbullying identify coping strategies and physical threats from others; (k) to change its reputation, including a long-term strategy to change the bad reputation; (l) settle the argument with a friend, includes specific steps for solving disagreements; and (m) to manage rumors and gossip, including behavioral strategies to minimize the damage caused by gossip (Laugeson & Frankel, 2010).

2 METHODS

This review production with found journal articles with PICO framework, the study population is individuals with ASD, intervention research is SST with PEERS program. The keywords of "social skills training, social skills intervension, PEERS, Autism Spectrum Disorder". A literature search was conducted in some major databases such us Google Scholar, Proquest and Science Direct. Year limitation used was from 2009 until 2017.

From the results obtained 20 journals, and selected eight journals that meet the inclusion and exclusion criteria. The articles inclusian criteria were: 1) RCT study design, 2) the treatment given is *SST* with PEERS program, 3) the sample is teens and young adults with ASD, from the journal subsequently elected to do the review.

The parameters used to determine the social skills such us: *Kaufman Brief Intelligence Test-Second Edition (kbit-2; Kaufman & Kaufman, 2005), the Vineland Adaptive Behavior Scales-Second Edition, Survey Form (Vineland-II; Sparrow, Balla, & Cicchetti, 2005), Social Communication Questionnaire (SCQ; Rutter, Bailey, & Lord, 2003), the Social Skills Rating System (SSRS; Gresham & Elliott, 1990), the Social Responsiveness Scale (SRS; Constantino, 2005), The Quality of Play Questionnaire (QPQ; Frankel & Mintz, 2011), Test of Adolescent Social Skills Knowledge (TASSK; Laugeson & Frankel, 2010), Friendships and Interventions Interview (FII; see Appendices A and B).*

3 RESULTS

Laugeson et al, 2009 in a study performed on 30 autistic adolescents aged 13-17 years. Respondents were randomly divided into two groups, the treatment group (n = 17), and wait for the control group (n = 16), each group consists of about 7 participants. *Program for the Education and Enrichment of Relational Skills* (PEERS) consisted of 12 sessions of 90 minutes per session for 12 weeks, where parents and teens attend concurrent sessions. Measurements were performed pre and post at week 1 and week 12. The control group was waiting to do after completion of the treatment groups at week 12.

Result the interaction of treatment conditions in the treatment group, there are three scales of measurement in adolescents showed significant results that [TASSK, $F(1.31) = 30.62$, $p < 0.0001$; QPQ Host, $F(1.31) = 9.42$, $p < 0.025$; FQS, $F(1.31) = 4.38$, $p < 0.05$], and one scale of measurement for the elderly [SSRS Social Skills, $F(1.31) = 4.24$, $p < 0.05$], and approached significance for the two outcome measures parents (SSRS Problem Behavior

and QPQ Guest, p's > 0:10). Newman Kuels post-hoc test (winer 1971) treatment group improved significantly on the knowledge of social skills on a scale TASSK (q3 = 17.76, p < 0.01), whereas no Delayed Treatment Control Group (q3 = 2.11, ns). Significant improvements to the get-togethers hosted treatment group (q3 = 9:37, p < 0:01), while the Delayed Treatment Control group did not (q3 = 2.23, ns). Friendship quality to decrease significantly in the Delayed Treatment Control Group (q3 = 3.80, p < 0.05), whereas the increase in the average quality of friendship between treatment groups was not significant (q3 = 2.11, ns).

Time Interaction treatment conditions for social skills SSRS scale is a scale of parents who reported reaching significance [F (1.31) = 4.24, p < 0.05]. Post-hoc test to make sure that the treatment group improved significantly on the social skills of parents (q2 = 7.23, p < 0.01), whereas no Delayed Treatment Control group (q2 = 1.44, ns).

Study Gantman et al, 2012, using a randomized controlled design (RCT), which aims to test effectivennes evidence-based interventions social skills with peers programs, with 17 young adult participants ASD aged 18-23 years, 12 men and 5 women. All present and stay with their caregivers.

This study was conducted under the auspices of The Help Group-UCLA Autism Research Alliance. By using the coin toss 10 participants start the treatment and 9 participants wait after 14 weeks of treatment. The treatment group in value at the beginning and end of the treatment, while the control group for the second Evalution done at the first session of the intervention (after a waiting period of 14 weeks). UCLA PEERS program consists of 14 weekly sessions of 90 minutes. Adults and caregivers attend separate concurrent sessions led by a licensed clinical psychologist.

MANOVA Results of measurement results indicate a multivariate main effect of group differences. The treatment group (TX) increased significantly more than the Delayed Treatment Control group (Wilks' Lambda = 0.34; F (1, 16) = 4.27, p < .02]. On starve young adults showed a significant value in the total score group TX than DTC: social and emotional loneliness as measured by the Selsa [F (1, 16) = 4.73, p < .05]; knowledge of social skills measured by TYASSK [F (1, 16) = 17.03 , p <.01]. Reports from service providers about sisial function also showed a significant improvement post treatment with a total score of SRS [F (1, 16) = 5.17, p < .04]; social skills as measure by SSRS [F (1, 16) = 10:28, p < .01]; and empathy as measured by the EQ [F (1, 16) = 4.93, p < .04]

Laugeson et al, 2012 studies with the aim of knowing the efficacy and durability of Peers Program, social skills group intervention that helped parents to adolescents with high function with ASD, 28 high school teenagers with ASD aged 12-17 years, 23 men and 5 women. Were randomly divided into treatment groups (n = 14) and control groups waiting (n = 14).

MANOVA test on parent report the treatment group showed greater improvement in social skills of adolescents overall than the control group: SSRS-scale P [mean SD = .71; F (1,26) = 3.40, p < .01], Cooperation [F (1,26) = 2.99, p < .01], Statement [F (1,26) = 2.62, p < .01), and Responsibilities [F (1,26) = 2.50, p < .02).

Parents in the treatment group also reported a reduction in symptoms was significantly greater ASD associated with a social response to the SRS-P (mean SD = 11.54) than parents in Delayed Treatment Control group [mean SD = 1.43; F (1,18) = 2.98, p < .01]. SRS-P subscale analysis showed a significant improvement in the field of Social Awareness [F (1,18) = 2.67, p < .02], Social Cognition [F (1,18) = 2.47, p < .02) , Social Communication [F (1,18) = 3.21, p < .01), Social Motivation [F (1,18) = 2.09, p <.05], and decreased Autistic [F (1,18) = 2.06, p < .05].

From parental report showed a significant increase in the scale QPQ-P (mean SD = 1.57) compared Delayed Treatment Control group [mean SD = 0.21, F (1,26) = 2.60, p < .01]. QPQ-A also showed greater improvements in the treatment group (mean SD = 4.43) compared with Delayed Treatment Control group (mean SD = 0.29, t (26) = 2.23, p < . 03). The significant increase in knowledge of social skills on TASSK-R was also observed in the treatment group (mean SD = 9.14) versus Delayed Treatment Control group [mean SD = .71; F (1, 26) = 8.56, p < .01].

Results of follow-up analysis showed that treatment gains maintained for at T3 treatment groups for all outcome measures except SRS-P subscale Social Cognition. Reports of the overall social function in SSRS-P showed a significant improvement in the Social Skills Scale between T1 and T3 [F (1,11) = -4.02, p <.01].

Mandelberg et al, 2014 in a study of 53 adolescents with ASD and the their parents. adolescents aged 12-18 years, 43 males and 10 females. Step assessment consists of the distribution of questionnaires to parents and teens as well as interviews semistructure for parents. Quesionere

completed online using a web-based data collection sites, while for the interview with parents using the phone. In particular, the friendship and intervention information for interview (FLL; project developed) and social skills assessment system (SSRS; Gresham & Elliot, 1990) were collected from parents by telephone. Approval parents and teens through the telephone, being the right incentive to participate, the family received a gift card for $ 20.

The measurement was performed three times (T1, t2, and T3). T1 collected baseline (prior to receiving treatment Peers), posttest assessed after completion of action (T2). Long-term follow-up data on the 1-5 year (T3), with an average of 29 months of follow up. Activities carried out by a group of about 8-11 teenagers upper middle class and who expressed a desire to establish friendships. The group led by a licensed clinical psychologist with previous experience training social skills in adolescents with ASD.

The main objective of this study was to detect a difference, three different time points, the ability of social skills (scores Social Skills Total SSRS, score SRS total), frequency of problem behavior (scale of Problem Behavior SSRS), frequency-togethers (QPQ), and knowledge of teen social skills (TASSK). Subscales on SSR and SRS are not included in the analysis to avoid the calculation of amplifier power. To determine whether the sample selection factors affecting long-term outcomes, t test for independent samples was used to compare baseline differences between study participants completed flow (completers) with those who are in the initial study but did not complete the current study (Noncompleters). Since the objective of this study was to monitor changes in value during different time periods, variance analysis in one direction repeatedly (ANOVA) was performed to detect differences at three different time points in the complete data set of all participants

Results showed the scale Social Skills Rating System problem behaviors scale, the Social Responsiveness Scale total and subscales, Quality of Play Questionnaire frequency of get-togethers, Test of Adolescent Social Skills Knowledge yields increased significantly at T2 and T3 than T1 with $p < 0.05$, overall this intervention is effective in improving ASD teenage friendship skills. And most of the improvement can be maintained on a long-term follow up to 1-5 years of treatment. Adolescent Social Skills Knowledge Test. Results T2 and T3 are significantly improved compared to T1, $p < 0.05$. The conclusion of this study indicate Peers intervention, the treatment group of evidence-based social skills, help the elderly, effectively increasing friendship of adolescents with ASD.

Schohl et al, 2014 with studies aimed at improving the quality of friendships and social skills in adolescents with ASD. 58 participants with 47 respondents aged 11-16 years men and 11 women were randomized to the control group and the treatment group. Peers program which refers to Laugeson 2009. Intervention guide PEERS 90 minutes given once a week for 14 weeks. Parents and teens attend separate and concurrent sessions where they learn how to make and maintain friends and apply the rules that are taught. Participants were randomly divided into two groups: the treatment group ($n = 34$), and wait for the control group ($n = 19$).

MANOVA test results revealed that the main effect of a significant group in the combined variable teens and parents, Wilks' Lambda = 0.41; $F(1, 56) = 4.39$, $p < 0.001$. The main effect for Time is also significant, Wilks Lambda = 0.17, $F(1, 56) = 16.68$, $p < 0.001$. However, the main effect is qualified by the interaction of a significant group by time, Wilks' Lambda = 0.19; $F(1, 56) = 13.54$, $p < 0.001$. Besides Intu, group interaction was also significant at four measurement results in adolescents: TASSK $p < 0.001$, QSA-AR p, 0.01, SIAS $p < 0.01$, and two measurements in the elderly: SRS $p < 0.01$, and SSRS problem behavior $p < 0.05$.

Paired t-test analysis results showed the experimental group significantly increased the level of knowledge about the concepts and skills of friendships with peers TASSK scale ($p < 0.001$), QSQ-AR ($p < 0.001$), a decrease in social anxiety with SIAS ($p < 0.005$). From the reports of parents in signifiakan decrease in the symptoms of autism, scale SRS $p < 0.001$, the symptoms of the problem behavior SSRS-P ($p < 0.050$ compared to the control group.

Overall the results revealed, compared with the waiting list group, a group of experimental treatments significantly improve their knowledge about the concept of peers and social friendship, an increase in the willingness to come together, and decreased levels of social anxiety, the symptoms of autism and their problems.

Yoo et al, 2014 in his study aimed to test the feasibility and effectiveness of the treatment of peers Korean version to increase social skills through controlled trials randomized (RCT). the English version of Manual Medicine peers (Laugeson & Frankel, 2010) was translated into Korean and reviewed by 21 professionals mental health of children. items identified culturally sensitive survey

of 447 middle school students, and the material has been modified. participants termasu k 47 adolescents aged between 12 and 18 years with a diagnosis of ASD and intelligence quotient (IQ) ≥ 65. Adolescents who qualified were randomly assigned to a treatment group (TG) or delayed treatment control group (delayed treatment control group / CG). The primary outcome measure included questionnaires and direct observations to evaluate the power and social issues that are directly related to ASD.

Secondary outcome measure includes a scale for symptoms of depression, anxiety and other behavioral problems. The scale of assessment for symptoms of depression and anxiety of parents checked to detect changes in psychosocial functioning Peers parents during treatment. Independent samples t test showed no significant difference at the beginning of TG and CG condition with respect to age (14.04 ± 1.64 and 13.54 ± 1.50 years), IQ (99.39 ± 18.09 and 100, 67 ± 16.97), parental education, socioeconomic status, or ASD symptoms ($p < 0.05$).

Results for the results of treatment showed that the TG showed a significant increase in the value of the interaction domain and social interaction on the Autism Diagnostic Observation Schedule, interpersonal relations and a play / recreation at the score subdomain of scale Vineland Adaptive Behavior Scale (p's < 0.01), the score of knowledge social skills Adolescent social skills Knowledge Test Revised ($p < 0.01$), and decreased symptoms of depression in the Child depression Inventory after treatment ($p < 0.05$).

Analysis of the results of the parents showed a significant reduction in the anxiety state of the mother in TG after controlling for potential confounding variables ($p < 0.05$). Regardless of differences in culture and language, social skills intervention PEERS apparently efficacious for adolescents with ASD in Korean culture with a simple adjustment. In the RCT, participants who received treatment Peers showed a significant increase in knowledge of social skills, interpersonal skills, and the skills to play / fun, as well as a decrease in symptoms of depression and symptoms of ASD. This study is one of the few cross-cultural validation trial of evidence-based treatment that has been established for adolescents with ASD.

Laugeson et al, 2014 with a study conducted on 73 high school students with ASD with their parents and teachers. The objective of this study was to investigate the effectiveness of PEERS as a school-facilitated curriculum facilitated by teachers on improving social skills, social responses and peer skills, measured through teachers, parents, and self-report.

Participants receive social skills training with PEERS. Instructions are given daily by class teacher and teacher aide for 14 weeks. The assessment uses the measured questionnaire on (T1) before receiving treatment, T2 after completion of treatment.

The results showed that in the PEERS treatment group there was a significant increase in control group: in social skills knowledge (TASSK: mean DS = 0.00; F (1, 71) = 61.70, p <.001, d = 1.88) QPQ scale [mean DS = -1.42; F (1.71) = 6.46, p <.02, d = 0.59]; assessments from teachers increased significantly on: SRS scale [mean DS = 0.56; F (1.71) = 7.55, p <.01, d = -0.63].

Overall, the results show that compared to the control group the participants of the PEERS treatment group increased significantly in their social function.

Laugeson et al, 2015 on research that aims to know the effectiveness of social skills with peers programs conducted in adolescents with ASD with randomized controlled design, 22 young adults aged 18-24 years, were randomly conducted on 12 respondents treatment group (TX) and 10 control group waiting (DTC). Intervention is given 16 sessions for 90 minutes a week. Research focuses on establishing and maintaining friendships, maintain and develop romantic relationships, manage conflict and rejection by their peers. Keterapilan lession taught in a way didactic, demonstration, role play, exercise behavior, and chores.

Participants were recruited from clinics help Group and UCLA peers. Diagnosis using caregiver report ASD (Baron-Cohen et al, 2001). Of the 22 participants, 17 completed all phases of the study (TX = 9 and DTC = 8). Among the group TX, 12 participants completed the initial test (T1), 10 completed the 16-week treatment and post-test (T2), and 9 completed the 16 week follow-up assessment (T3). In the DTC group, 10 participants completed the initial assessment 1 (T1) and baseline 2 (T2), and 8 completed the 16-week treatment with follow-up tests (T3) and follow-up of 16 weeks (T4).

The test results showed a main effect Multivariate MANOVA there is a difference between the two groups. TX group increased significantly than group DTC [Wilks' Lambda = 0.14; F (5, 11) = 12:43, p < 0 .001]. total score shows the measurement results for the group increased than DTC TX: knowledge of social skills TASSK scale increased significantly in TX [F (1, 16) = 27.13, p < 0 .001, d = 2.57], scale QSQ [F (1 ,

16) = 6.35, p < .03, d = 0.92]. Service providers report on the social function also showed improvement post-treatment were significant at the group TX through DTC group for social responses as measured by the total score of the SRS [F (1, 16) = 7.44, p < .02, d = 1 , 32]; social skills as measure by SSRS [F (1, 16) = 6.12, p <.03, d = 1.23]; and QSQ [F (1, 16) = 31.40, p < .001, d = 1.76].

Follow-up of 16 weeks of treatment effect was evaluated by two-tailed paired samples T tests (T1-T3). Results of follow-up analysis showed gains treatment outcome was maintained at TX group on all measures except QSQ scale and subscale SSRS.

4 DISCCUSION

A systematic review of eight studies that fit the inclusion and exclusion criteria illustrates that PEERS programs conducted in adolescents and adults with ASD overall have a significant effect on their changing social skills. The average individual with an ASD after a PEERS intervention program was given a significant increase in social skills.

Research Gantman et al 2012, Schohl Kirsten A. 2014, Mandelberg, 2014, Laugeson et al 2012, intervention PEERS program conducted as much as 14 sessions for 90 minutes, conducted every week, TASSK measurement scale, QPQ, QSQ, used to know skills improvement social outcomes in adolescents with ASD, whereas the measurement scales used in older adults or adolescent counselors with ASD use SRS, SSRS, QPQ, TASSK.

Eight studies using the PEERS program as an intervention, 6 studies were conducted using pre and post measurements and 2 follow up studies and long-term follow-up results. Major improvements can be maintained in long-term follow-up to 1-5 years of care for the Social Skills scala Rating System problem behavior scale, Social Responsiveness Scale total and subscales, Quality of Play Questionnaire frequency of get-togethers, Test of Adolescent Social Skills Knowledge. In addition to providing improvements in the scale of social skills the PEERS program can also lower anxiety scales. Schohl Kirsten A. 2014 study showed an anxiety reduction result with SIAS measurement scale (p <0.005). Eight studies on systematic reviews used the control group as a comparison, whereby overall a significant improvement in social skills score was compared with the control group.

5 CONCLUSIONS

Deficits social function is the main characteristic of individuals with ASD. Various psychological therapy done a lot to help increase the social competence of a person with ASD, but few evidence-based interventions that focus on improving their social competence. Social skills with peers is an intervention method manualized assisted parents. The treatment was done for 90 minutes each week for 12-14 weeks, with follow-up

Overall, the review results showed that adolescents and young adults with ASD received social skills with PEERS method to significantly improve their knowledge of social skills, social responsiveness, and social skills overall in the field of social communication, social cognition, social awareness, social motivation, assertions, cooperation, and responsibility, while reducing autistic behavior and increase the frequency of peer interaction. Independent teacher assessment showed significant improvement in social skills and the assertion of a pre-test to follow-up assessment. And most of the behavioral improvement was maintained until the follow-up is done.

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CAREGIVER EXPERIENCES OF SCHIZOPHRENIA PATIENTS WITH SELF CARE DEFICIT: A SYSTEMATIC REVIEW

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Keywords: caregivers, schizophrenia, experience, self care

Abstract: Caring for individuals with schizophrenia is a demanding task that impacts all aspects in families, particularly primary family caregivers. Given that families are vital to patient recovery, it is important to help primary family caregivers improve their daily living activities. The two main objectives of the systematic review were to identify articles outlining the experience of caring for a person with schizophrenia and secondly to identify articles concerning factors that affect caregiver with schizophrenia. Targeted literature searches were conducted in Scopus, Sciencedirect and PUBMED, using a combination of keywords. They were searched for period from 2012 until 2018. These findings suggest that caregiver experience in treating schizophrenia includes challenges of care, support, and future care concerns. While affecting the increase of self care that is age, sex, job, personality, family relationship, economy, onset and ability of self care. The family has the function to preserve and maintain the health (health care function) for family members who suffer from a disease. We identified experiences as improving patient self-care behavior. Factors sociodemografi, personality, economy, onset and ability of caregiver need support and support from family and health officer.

1 INTRODUCTION

Schizophrenia is a disease that is disturbing and distressing for patients and their families (Wai-Tong Chien et al, 2004). A study showed that a heavy burden on the family in caring for family members with schizophrenia because the family needs is replaced by the patient.

Studies in Asia indicate that about 70% of people with schizophrenia live with their families and depend on family members for care provision (Chan & Yu, 2004; Sethabouppha & Kane, 2005). Suhita (2016) in his dissertation states that families who care for patients with schizophrenia experiencing anxiety and confusion in caring for a family member suffering from schizophrenia. Some families who care for patients with schizophrenia are older people, who prefer and protect the healthy family members rather than family members of schizophrenia, some families are not ready to become caregivers for relatives with schizophrenia (Yang et al., 2017). Other research found a family with a person with schizophrenia (ODS) have difficulty in maintaining them,

Disturbance in the process of thought resulting in decreased self-care wishes. Some self-care deficit problem in patients with mental disorders such as disorders of personal hygiene, inability ornate, inability to eat / drink with self-contained, self elimination difficulties, this will require the help of family or other people to solve it (Keliat, 2010).

The family has an important role as the presence of people with schizophrenia in their families. Family support, treatment is relatively long, with the risk of recurrence (relapse) if psikofarmaka disconnected (Suhita, 2016). Caregivers are individuals, mostly family members of patients, who spend the most time caring for patients, providing support, and check medicines and other aspects of daily life of patients.

2 METHODS

This review was informed by three database searches: Scopus, ScienceDirect and PUBMED, using a combination of keywords. They were searched for the period from 2012 until 2018. Search terms included: caregiver or family members AND schizophrenia experience, family caregiver AND schizophrenia. Studies were included that focused on caregiver outcomes, the data collected from caregivers of Patients (of any age). Studies were excluded that caregivers recruited from out-patient settings or at home. A total of 25 journals are consistent with this theme. Literature with descriptive research design, qualitative, phenomenology and RCT.

3 RESULTS

Characteristics of caregiver

Caregiver characteristics presented in this article include age, gender, education level, occupation, relationship with the patient. On the characteristics of a family member with schizophrenia is a long illness. Overall caregiver is an adult as between the age of 17-65 years. Most of them are closely related to people with schizophrenia in their family-usually a spouse, parent or child (Wai-Tong Chien et al, 2004)

Experience

Parenting experience gained in schizophrenic patients that caregiver characteristics of women experience more burden than men, parents, especially mothers, had more of a burden than a spouse or other family members (Yanling Zhou et al, 2016)

More than a third of family caregivers report high levels of perceived burdens and difficulties facing their child or spouse disease (Alejandra Caqueo-Uríza et al, 2017). One of the most important aspects in response to the caregiver is the knowledge about schizophrenia. A negative perception relatives disease has been associated with high patient distress, shows the value of the assessment and understanding of adaptation caregiver to schizophrenia (Alejandra Caqueo-Uríza et al, 2017).

Different family environment affects families coping strategies used during episodes of acute schizophrenia. It can related with relapse episodes in the future and of course as a whole and the results of the disorder. attitudes towards patients. Psychosocial burden, level of social support, stigma experienced by family, financial condition.

Parents reported severe psychological distress when their child is diagnosed with schizophrenia, their deep sense of loss, followed by a reception. It arises because of feelings of love and responsibility of parents bore the meaning of concern in children with schizophrenia. Strategies and resources that assist caregivers in treating schizophrenia is an antipsychotic medication, social support, communication, fixed activity, knowledge, spirituality and adopt a positive attitude. The presence of a positive attitude is very important in the role of the participant as a nanny. Chang & Horrocks (2006) who also confirmed that adopt positive behaviors and attitudes that are important for the caregiver role as parents (Mc Auliffe et al, 2014).

Caregivers experienced emotional disturbance when a family member they become aggressive or abusive to them or their friends. This study reveals the challenges of the psychosocial, emotional, economic, physical and experienced nurses in caring for their relatives who suffer from mental illness.

The majority of caregivers are women who are psychologically distressed as a result of the great responsibility they face when caring for a family member sikzofrenia. Poor emotional impulse can lead to depression which would have a negative impact on family (Ayuurebobi Ae-Ngibise, 2015)

Table 1. Review of Journal

The title, name of the researcher	Design, Sample, variable	Result
Experiences of stigma and discrimination faced by family caregivers of people with schizophrenia in India. Mirja Koschorke, 2017	Quantitative, Qualitative 282 caregiver age 16-60 years, dx ICD 10 schizophrenia, caregiver Family	The impact of stigma on the lives of families, need planning and intervention care for families. The interview describes the caregiver with stigma, the impact on relationships and emotional well-being is very high; blame experiences, comments and avoidance of others,
The experience of caregivers of people living with serious mental disorders: a study from rural Ghana Ayuurebobi Kenneth et al, 2015	qualitative 75 caregiver	Caregivers reporting burden, financial, social exclusion, emotion, depression, and a lack of time for other social responsibilities
Experiences and Influencing factors of caregivers of Patients with mental disorders Huang et al, 2014	Survey 139 caregivers	ECI score influenced age, gender, occupation, relationships with patients, caregivers economic status, and the first onset and patient self-care ability
Experiences of caring for a sibling with schizophrenia in a Chinese context: A neglected issue Cheng-I Yang, 2016	Descriptive, qualitative 10 caregiver	Step into a caregiver; parenting challenges; Support; and worry about future care.
Relationship between Mental Health and	cross sectional	significant care burden associated with mental health outcomes directly. personality, coping style, and family functions affect

Burden Among Primary Caregivers of Outpatients with Schizophrenia Yu Wenjun, 2018	355 primary caregivers	caregiver burden and mental health caregiver parents experiencing higher caregiver burden personality (extraversion / introversion and psychoticism) no direct impact on caregiver burden, but it has a direct effect on the functioning of the family, family function affects mental health as a result of caregiver burden
The Adaptation Model Of Caregiver In Treating Family Members With Schizophrenia In Kediri, East Java Melda Byba Suhita, 2017	cross-sectional design with nature explanatory research 135 respondents\ Schizophrenia, caregiver, adaptation	The results Showed caregiver self esteem (-0.25 <0.05), community resources (0.24 <0.05), self-efficacy (0:22> 0.05), caregiver coping effort (12:17 <0.05), and the perception of caregivers about the family situation at this time (0:19 <0.05), the which means that adaptation of caregiver in treating Patients with schizophrenia is influenced by the characteristics of the family items, namely community resources, self-efficacy, coping caregiver effort, self-esteem and perception of family caregiver to the conditions experienced at this time.
Family experiences of caring among caregivers of schizophrenia Patients Mohamad et al, 2013	- 154 caregiver	negative votes; the patient's young age, unemployment, income and low skills. Positive assessment: are married, have a skill, fixed income and urban residents. Life skills a strong predictor of the positive and negative ratings
Female Families' Experiences of Caring for Persons With Schizophrenia. Eriko Mizuno, 2013	- 11 family caregivers	Family experiences, perceptions and family relations, family burden, family attitudes, and knowledge of family
Effect of living with Patients on caregiver burden of individuals with Schizophrenia in China. Yanling Zhou et al, 2016	Comparative 243 respondents Living caregiver burden with Schizophrenia	living with a caregiver explained 6.7%, 8.3% and 6.7% of the variance in distress, disrupted routines and helpfulness. Living with patients is a strong correlation of the increased burden experienced by caregivers
The experiences of carers in Taiwanese culture who have long-term schizophrenia in their families: a phenomenological study. Huang et al, 2009	phenomenological qualitative 10 cargivers	the burden of care (helping clients disease, lack of support professional and family conflict), the emotional burden (sad, worried and scared) and coping strategies (strategies prevention of cognitive and religion).
Emotions, Ideas and Experiences of Caregivers of Patients With Schizophrenia About "Family to Family Support Program" Bademli, 2015	phenomenological method 20 caregivers. Living caregiver burden with Schizophrenia	positive attitude to feelings, stress reduction family support. ideas, emotions, and experiences of caregivers
Parents experience of living with and caring for an adult son or daughter with schizophrenia at home in Ireland: a qualitative study Mc Auliffe et al, 2014	descriptive qualitative	The psychological trauma of a parent (caregiver), caring activities, coping with enduring illness Feelings of love and taste the responsibility of creating awareness in schizophrenia. Family-centered approach at the core of the plan of care
A randomized controlled trial of a mutual support group for family caregivers of Patients with schizophrenia. Wai-Tong Chien et al, 2004	randomized controlled trial (RCT) 48 caregivers. Family caregivers; schizophrenia	support group interventions can overcome / reduce the burden and distress (identifying problems parenting and problem-solving techniques). The experimental group showed a significant decrease in the duration of re-hospitalization of patients at 3 months compared with the control group.
The effects of group psychoeducational program on family burden in caregivers of Iranian Patients with schizophrenia. M. Fallahi Khoshknab	randomized-controlled trial design 71 caregivers psychoeducational caregivers	Caregivers who receive psycho-intervention intervention do not suffer from heavy family burden anymore. Because of the inorganic enhanced as intervention groups Psychoeducative programs could be useful

et all, 2013		
Understanding the complex family experiences Of Behavioral Family Therapy Brendan et al, 2016	qualitative research 40 of participants (20 patient, 20 caregiver	The most frequently associated with the open sharing information component about BFT and discussion of their family member's illness and a greater understanding of both mental illness
Family Support Mental Disorder Patients Treated With Health Promotion Model Approach Nirwan et all, 2016	*cross sectional study*, 72 families of patients with mental disorders family support, mental disorders	Family perception of the benefits, the ability to care for patients and interpersonal factors have a significant influence on the support of family, while the family's perception of barriers, daily activities and situational factors do not have a significant influence of family support in the treatment of mental patients
Correlates of caregiving burden in schizophrenia: A cross-sectional, comparative analysis from India. Stanley, 2017	Quantitative cross-sectional 75 caregivers Caregiver burden, coping strategies that come into play, as well as social support	a high level of load, low social support, and poor tackle on caregivers

4 DISCUSSION

Schizophrenia is a severe mental disorder. This disorder is characterized by positive symptoms such as talks chaotic, delusions, hallucinations, impaired cognitive and perception, negative symptoms such as avolition (declining interest and encouragement), reduced desire to talk and poor contents of the conversation, show flat affect, and interrupted relations personal. Schizophrenia is a disease in parts of the brain that lead to persistent and serious psychotic behavior, concrete thinking, and difficulty in information processing, interpersonal relationships, and solve the problem (Stuart, 2006).

The family is the unit closest to the patient, and is a "primary caregivers" for patients. Families must have an adaptive coping in overcoming or dealing with schizophrenia to determine how or the necessary care of patients at home. The family has the function to preserve and maintain the health (health care function) for family members who suffer from a disease. Stress that gave rise to the expression of emotion from the care giver will affect the way care giver in providing care for patients with schizophrenia (Suhita, 2017)

Involvement of all family members, including siblings, in the treatment plan for people with schizophrenia, and provide psycho-education appropriate for all family members to reduce not only the tension and stress of parenting today, but also anxiety about the future care (Cheng-I Yang, 2016)

5 CONCLUSIONS

We identified experiences as improving patient self-care behavior. Factors sociodemografi, personality, economy, onset and ability of caregivers need support and support from family and health officer. Social support from the government and society to the caretakers will be very helpful in maintaining and improving the care of a caregiver to family members with schizophrenia (Ayuurebobi Ae-Ngibise, 2015)

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English for Nursing Strategies to Encourage Students Achievement in Speaking Skill

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Keywords: English for Nursing, Students' Achievement, Speaking Skill

Abstract: Introduction: English is one of the international languages that are used by many people in the world and in many areas of everyday life. One of the goals of the English for nursing is to encourage students in understanding and able to speak English when she/ he continue his study in other country. Method: This study used descriptive method with the data collection used two instruments, they were: questionnaire and speaking test. The questionnaire used to know the supporting details of data from the students. Speaking test was given to know the ability of students in speaking English, it used by the drama that played by the students. Result: the frequency distribution from speaking test of students was 75, it did not recommend to replay the learning process because 85% students already got above 60 and the hypothesis of English for nursing strategies to gain the students' achievement was good, and it was accepted well. Discussion: The strategies of teaching and learning English for nursing material to the 5th grade of Stikes Pemkab Jombang students in the academic year 2017/ 2018 was good and they have good score in speaking English.

1 INTRODUCTION

English is one of the international languages that are used by many people in the world and in many areas of everyday life. Therefore, using English is the easiest way to communicate with people from other countries about many aspects in human life such as technology, economy, social, and politics. For Indonesia, English is a foreign language.

English is a complex material, it is concluded speaking, reading, writing and listening. Master all of the skill need a big effort to combine the four skills. Understanding and comprehending spoken language is fundamentally an inferential process (Rost, 2013). Vocabulary is one of the mayors important in learning English, someone will able to speak English well if he/ she know the vocabularies very well. English is as an international language; the Indonesian students should understand and can speak English fluently. The increasing of vocabulary based on the motivation and the condition that support the students. Language is *not* something that comes in "nicely packaged units" and that it certainly *is* "a multiple, complex, and kaleidoscopic phenomenon."

One of the goals of the English for nursing is to encourage students in understanding and able to speak English when she/ he continue his study in other country. The students are supported by giving the basic and nursing vocabularies. The communication of teachers – students plays an important role in the improvement of the teaching and learning strategies because it helps them to catch the goal of each other (Hoque, 2009)

The Strategy of teaching English for nursing is complicated, it need more effort to increase the students' motivation to learn English. The students must have a big attention and focus when they learn English. The teacher's must have a different ways of reaching academic achievement that more accessible to improve the individual learning styles that help teacher's information (Brady, 2013). Teacher also has a unique method to create the effort learning and give a right method that student's need. Strategy is a specific attack that we made on a given problem. It is the moment by moment techniques that we employ to solve problems posed by second language input and output.

2 METHOD

This study used descriptive method with the data collection used two instruments, they were:

questionnaire and speaking test. The questionnaire used to know the supporting details of data from the students. It was given to analyze the strategies that already given by the students were effective or not. Speaking test was given to know the ability of students in speaking English, it used by the drama that played by the students. Students were motivated to follow the strategies of teaching and learning, that is Students Center. To improve the motivation of students (Brown, 2007), the strategies (video, role play, group discussion) were given in this study. This test used video playing that have been made by the students.

The data that gained by speaking test was analyzed by mean and standard deviation. After getting the result, the researcher made the distribution of score 0,100, then determine the limitation score of students' achievement based on the scoring criteria.

A = Very good = 81 – 100 %
B = Good = 61 – 80 %
C = Enough = 41 – 60 %
D = Less = 21 – 40 %
E = Least = 0 – 20 %

The population of this study was students in 5th grade of Stikes Pemkab Jombang. Population was taken the class A with the total number as many as 35 students.

The sample that used in this study was random sampling. The researcher took the population randomly to become a respondent that made a role play using speaking test and answer the question from questionnaire.

3 RESULT

The Questionnaire was given to the 5th grade students at Wednesday, 22nd November 2018. All of the students followed the process. The items of questionnaire were 11 items, and the questions about the process and strategy of teaching and learning process. The kinds of question were yes/ no question.

On the other hand, the speaking test was held at 20th - 22nd November 2018, they made a drama and it was recorded in the compact disc, then the teacher scored it after they collected the disc. The teacher scored the video by seeing the pronunciation and grammatical error.

The teaching and learning process of English for nursing strategies would show the data which gain from questionnaire, the data was concluded the activity of English for nursing strategy, the problems of English for nursing strategy and the effective strategy in teaching English for nursing.

The statements of the activity of English for nursing strategy was describe in the table below:

Table 1: English Activity

No	Description	Total	Percentage
1	Yes	20	55%
2	No	15	45%

The table showed that 55% students agree with the activity to increase the speaking skill, and 45% disagree with the speaking skill activity that ever given in the classroom

Table 2: The problems of teaching strategy

No	Description	Total	Percentage
1	Yes	15	45%
2	No	20	55%

The table described that 45 students faced many problems in learning English for nursing and 55% did not find any significant problems.

Table 3: The effective strategy of teaching and learning English for nursing

No	Description	Total	Percentage
1	Yes	20	55%
2	No	15	45%

The last table described that 55% percent students agree that the strategy was effective to play in the classroom to increase the speaking ability.

The speaking test

Past study explained that *speaking* is the activity that included the process communication of foreign language because they afraid to have a mistake (Brady, 2013; Latha, 2012). The speaking test was held by 35 students that were divided by 7 groups. The test result as many as 35 students, the average of scored used with the formula of Mean, so that it gained the students' scored:

- 10% (3 students) of respondent got 90
- 25% (9 students) got 80
- 50% (17 students) got 75
- 15% (6 students) got 60.

The scoring test above showed that 85% students got the score above 60, hence 15% of students got 60 for speaking result test. It means that 85% students stayed in a good and best categorized based on the classification of scoring category that used in the study. On the other hand, 15% of students had low scoring. Finally, it could be concluded that based on the frequency distribution from speaking test of students was 75. Based on the result of

students' achievement, it did not recommend replaying the teaching and learning process because 85% students already got above 60. This result had agreement between teaching strategies and academic achievement of student in the teaching and learning process (Tulbure, 2012)

Finally, the hypothesis of English for nursing strategies to gain the students' achievement was good, and it was accepted well. It was same with the study that conducted by (Fayombo, 2015). Different teaching strategies to accommodate different style and promote students' acadmic achievement.

4 CONCLUSION

The strategies of teaching and learning English for nursing material to the 5th grade of Stikes Pemkab Jombang students in the academic year 2017/ 2018 was good and they have good score in speaking English.

The ability of students in speaking English improved constantly, they able to speak English either in the classroom or in their daily life. There were any supporting aspects such as students' interest, motivation, and the materials of English for nursing. Harmer said that whatever the teachers teach and the students learn about the target language, they reflect the target language to their mother tongue and vice versa (Harmer, 1983).

5 SUGGESTION

Learning Process is giving the information in different ways, hence the teachers should be active to support the students' understanding. English for nursing material needs many supporting aspects not only the strategies but also the method of students learning materials. The teacher should be creative to create the best strategy, such as role play or drama to increase the students speaking ability.

Beside the strategies, they need to understand the four skills that support those strategies. They are reading, speaking, writing, and listening which are the important understanding material. Those four skills should be mastered to every student who has to able speaking English very well.

For the future researcher, it hoped that this article can be a source to complete the article. It can help them to support their research and their article.

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Self-Management Education Program for Reduce Blood Glucose Type 2 Diabetes Mellitus: A Systematic Review

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Keywords: Self-management, Education, Reduce Blood Glucose and Diabetes Mellitus.

Abstract: Background: Type 2 DM prevalence continues to increase each year. The high number of sufferers of type 2 DM is correlated with changes in lifestyle that is unhealthy in effect conferring on the community. It's need for managed care comprehensive and self-management program. This study aims to identify the influence of self-management education program in reduce blood sugar of type 2 DM. Methods: Data retrieved from ProQuest, Scopus, CINAHL, EBSCO, and Pubmed. Search articles using keywords self-management, self-care, education, glycemic control and diabetes mellitus. The selection of articles using the following criteria: (1) Randomized Controlled Trial (RCT); (2) Published between the years 2010-2017; (3) Article using english language; (4) Focuses on self-management education and diabetes mellitus. Result: As much as 3,036 articles found, then performed a selection of articles and obtained 15 scientific articles that match the criteria specified reply. On the process of the analysis of the articles found four forms of methods used in self-management education program, namely self-management education-based individuals, families, groups and technology. Conclusions: Self-management education program significantly influential in reduce blood sugar levels of type 2 DM client. Most potential methods that can be used in self-management education program are technology-based.

1 BACKGROUND

Diabetes mellitus (DM) type 2 is one of the largest chronic health problems worldwide (Oliopoulus, 2011). The prevalence of type 2 diabetes has increased annually (Wichit *et al.*, 2016). The high number of people with type 2 diabetes is associated with unhealthy lifestyle changes in the community, thus affecting the uncontrolled blood glucose levels. It is necessary to have comprehensive and continuous self-care management (Murray *et al.*, 2017).

It is estimated that from 90% (382 million) in 2013 the world population is experiencing type 2 diabetes. The estimate has increased to 9% (592 million) people with type 2 diabetes by 2035 (Murray *et al.*, 2017). Riset Kesehatan Dasar (RISKESDAS) in 2013 the number of DM patients in Indonesia has increased from 2007 to 2013 by 1.1% to 2.1% of the total population of Indonesia (Ministry of Health, 2014).

Uncontrolled blood glucose levels are a major cause of complications and increased mortality due to DM (Fisher *et al.*, 2011). It is predicted that the incidence of complications (microvascular and macrovascular) continues to increase. The higher incidence of complications affects the clinical and economic burden for diabetics, so long-term treatment models are particularly appropriate in treating cases of diabetes mellitus (Oliopoulus, 2011).

Diabetes self-management education is an ongoing program that combines the knowledge, skills, and abilities needed for individual self-care with diabetes mellitus, as well as activities that assist a person in applying and maintaining the behavior needed to manage himself thoroughly and continuously, so that this program can prevent the onset and development of DM complications, so that type 2 DM patients are expected to perform self-care regularly and independently every day (Murray *et al.*, 2017; Surucu, 2017).

Self-management education programs can be provided in a variety of methods. The most important part of the core component should not be abandoned. There are seven core components according to the American Association of Diabetes Educators (AADE) that must be present in any self-

management education program (1) self-monitoring of blood glucose; (2) medication adherence; (3) healthy food; (4) physical activity; (5) reduce risk factors; (6) positive coping / psychological stress control; and (7) problem solving (Yeary *et al.*, 2017).

Several scientific articles on self-management education program in reducing the blood glucose level of published DM type 2 clients. The methods used in self-management education programs also vary, one of which is self-management education based on individuals, families, groups and technology. Therefore, a systematic review is needed to identify the effectiveness of the self-management education program in reducing the blood glucose level of type 2 DM patients. The study in this systematic review is interested in examining the "How does the influence of self-management education program on blood sugar decrease of diabetess melitus type 2?"

2 METHODS

This research uses systematic review design, with research question "How is the influence of self-management education program to decrease blood sugar of diabetess mellitus type 2 patient?" Data obtained from ProQuest, Scopus, EBSCO, CINAHL, Pubmed and Sciece Direct database. Literature review are conducted using self-management, self-care, education, glycemic control and diabetes mellitus keywords. The selection of articles is determined by the following inclusion criteria: (1) the article uses a Randomized Controlled Trial (RCT) design; (2) articles published between to 2010-2017; (3) articles published in English; (4) articles focusing on self-management and diabetes mellitus; (5) articles on nursing. Exclusion criteria used are: (1) scientific articles that discuss education in general is not about self-management; (2) the sample used is not a DM type 2 client.

3 RESULT

Study Design

As many as 3,036 articles were found, the results came from four databases: 952 articles in ProQuest, 608 articles in Scopus, 652 articles on EBSCO CINAHL, 360 articles in Pudmed and 464 articles in Sciece Direct. The result of article selection according to the inclusion criteria of 15 articles, then given the serial number and done article analysis to facilitate the review process. There are four methods used in self-management education programs: self-management education based on individual, family, group, and technology. All research articles are prepared using Randomized Controlled Trial (RCT) research design.

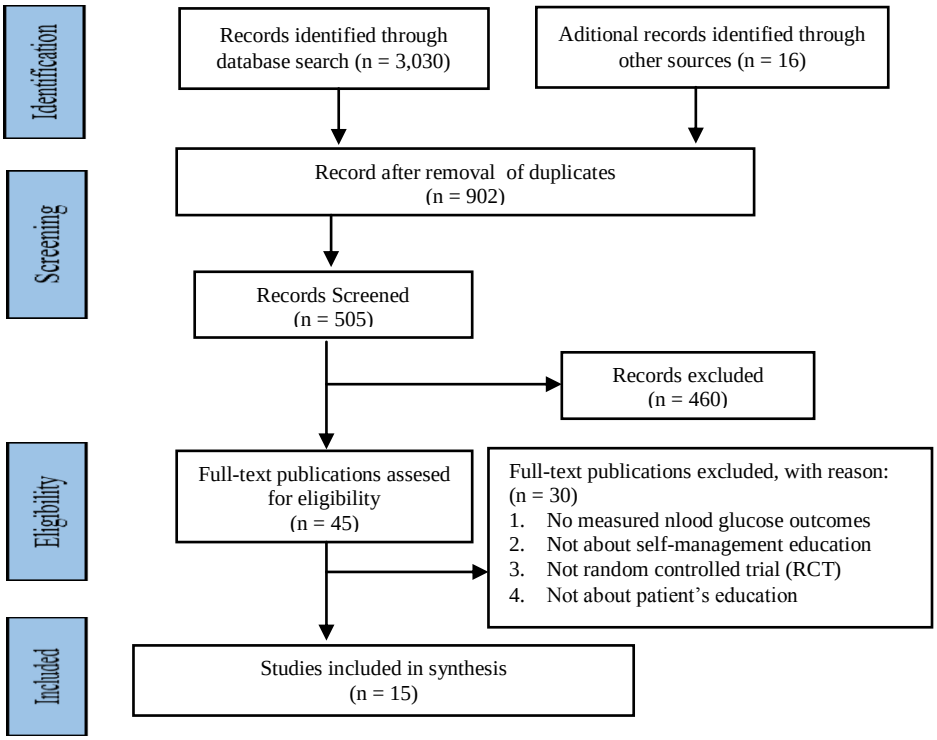

Figure 1: Paper selection step

Characteristics of Participant

In this systematic review of the 15 studies is about all populations were DM type 2 clients, the number of samples varied between 56-483 DM type 2 clients. The age of respondents taken in the study was ≥18 years. The research was conducted in various parts of the world including Asia, Middle East, Europe, Australia, and America.

Methods of Self-management Education Program

In this systematic review of 15 articles reviewed there are four methods used in the Self-Management Education Program based on individuals, families, groups, and technology. Most of the methods used on the basis of technology are 8 articles (Iljaž *et al.*, 2017) (Kerfoot *et al.*, 2017) (Shelagh, Russell and Kenneth, 2010) (Or and Tao, 2016) (Murray *et al.*, 2017) (Oliopoulus, 2011) (Williams *et al.*, 2012). Self-management education program with individual-based methods of 3 articles (Yeary *et al.*, 2017) (Scavini *et al.*, 2013) (Surucu, 2017). The self-management education program using the family-based method is 3 (Fiallo-scharer *et al.*, 2017) (Yeary *et al.*, 2017) (Wichit *et al.*, 2016) and self-management education program with group-based method 1 article (Hill-briggs *et al.*, no date)

In the self-management education program using time-based method used during the intervention is 3 months, with follow-up activities at 6 months and 9 months. The advantage of this method is significant in lowering HbA1c with P = 0.002 (P <0.05). In addition, other positive effects of this method are able to improve treatment compliance, improve knowledge, improve problem solving, and improve self-care activities of DM type 2 clients. Statistically all these advantages can be proven significantly with the value of P on all components P <0.05. However, there are also some disadvantages of this method that require greater costs in the training process and it is more difficult to match the right time among respondents in forming a group (Hill-briggs *et al.*, no date).

In the family-based self-management education program, from the three articles obtained, the time spent in the intervention process is 2-9 months, with a follow up of 6-12 months. The advantages of this method is the support of the family during the intervention process that has an impact on the increasing self-efficacy and self-care management of DM type 2 clients. However at the HbA1c value, the three articles show a statistically not so significant decline. In the intervention group between pretest and posttest there was a significant decrease in HbA1c value of P <0.05. When compared to posttest HbA1c values between intervention groups and

control group posttest, no significant decrease occurred, with P> 0.05.

In individual-based self-management education programs, the three articles obtained during the intervention period are 6-12 months. No follow up during the research process. The advantage of this method is that the time in the implementation of the intervention is more flexible and the education can focus more on each respondent. In addition, it can improve self-agency (P = 0.093, P <0.05) and self-care activies (P = 0.018, P <0.05) DM type 2 clients (Scavini *et al.*, 2013; Surucu, 2017; Yeary *et al.*, 2017).

In addition to the advantages there are also disadvantages of this individual-based method of the three articles obtained all the research showed statistically significant results in lowering blood sugar DM Type 2 clients. The quantitative value of HbA1 in the intervention group (pre-test and post-test) there was a decrease, but statistically between the intervention group and the control group there was no significant decrease in HbA1c with P> 0.05.

In the self-management education program using technology-based methods, the time spent during the intervention of the 8 articles obtained was mostly 2-3 months, with follow-up activities at 6, 9, and 12 months. The advantage of this method is that of the 8 articles obtained most (6 articles) are statistically significant in lowering HbA1c levels (P <0.05), 2 articles indicate significant values in the pretest and post-test intervention groups only. As comparison of post-test value with control group HbA1c value did not show significant value P> 0.05. Another advantage of this method is that the method is effective in improving self-efficacy, improving quality of life, controlling systolic blood pressure and improving self-care activities of DM type 2 clients, clients with long distances can still be reached, time efficiency, monitoring process of respondents easier to monitor, and more cost-efficient. The disadvantage of this study is that respondents who are unable to operate the technology of the intervention implementation process will be more difficult and in remote areas, with minimal network signals, this method will be difficult to implement (Greenwood *et al.*, 2017; Fisher *et al.*, 2011).

Table 1. Description and Paper Analyze

No	Name, Country, and Years	Design	Number of Sampel	Duration (Months)	*Follow Up* (Bulan)	Research's Subject and Intervention method	Research's Subject and Control's group	Outcomes
1	(Greenwood *et al*., 2017). Slovenia	RCT (2 groups)	120	2	6 12	▪ Individual ▪ Daily care + e-Diabetes application (Telemonitoring and Web-based interventions) containing diabetes self-management	▪ Individual ▪ Daily care	Statistically significant can decreasing HbA1c Power 80% (P = 0.005, β = -0.384) (P <0.05)
2	Rosanna Fiallo-Scharer *et al*. USA 2017	RCT (2 groups)	214	9	12	▪ Individual + family ▪ Daily care + *Family-centered self-management education* with approach ACE (*Achieving, Connecting resources, Empowering families*)	▪ Individual ▪ Daily care	Significantly controlling blood sugar HbA1c (P <0.05)
3	Karen Hye-cheon Kim Yeary *et al*. USA 2017	RCT (2 groups)	240	2	6 12	▪ Individual + family ▪ *Family model + diabetes self-management education*	▪ Individual ▪ *Standard diabetes self-management education*	Significant results improve blood sugar control Power 80% Moderate magnitude at 0.5 P <0.05 Approximately 0.5% change in HbA1c, Standard deviation 1.5%
4	Nutchanath Wichit *et al.* Thailand 2016	RCT (2 groups)	140	3	-	▪ Individual + family ▪ Daily care + *Family-oriented self-management program* (health education classes, group discussions, home visits)	▪ Individual ▪ Daily care	Statistically significant in improving Diabetes Self-efficacy (P <0.05); and improve Self-management (P <0.05); However it is also not significant in lowering HbA1c (P = 0.2) (P> 0.05) And it does not improve Quality of life (P = 0.2) (P> 0.05)
5	Lawrence Fisher *et al*. USA 2012	RCT (2 groups)	483	12	-	▪ Individual ▪ Daily care + *Intent-to-treat (ITT) and per-protocol (PP) self-management education*	▪ Individual ▪ Daily care	The quantitative value of HbA1 in the intervention group (pretest-post-test) was decreased, but statistically when compared between the intervention group and the control group there was no significant decrease in HbA1c with P> 0.05)

6	Charlene C. Quinn *et al.* 2011 Maryland	RCT (2 groups)	163	3	6 9 12	▪ Individual ▪ Daily care + *Mobile and web-based self-management patient coaching system and provider decision support*	▪ Individual ▪ Daily care	Statistically significant in decreasing nilai HbA1c with difference value 1.9% -0.7% = 1.2%, P = 0.001 (P <0.05)
7	Marina scavini Italy 2011	RCT (2 groups)	100	12	-	▪ Individual ▪ Kegiatan sehari-hari + *intensive SMBG management*	▪ Individual ▪ Daily care	The quantitative value of HbA1 in the intervention group (pretest-post-test) was decreased, but statistically between the intervention group and the control group there was no significant decrease in HbA1c with P> 0.05.
8	B. Price Kerfoot Boston, MA 2017	RCT (2 groups)	456	6	12	▪ Groups ▪ Daily care + *Online team-based game delivering diabetes self-management education (DSME) via e-mail or mobile application (app) + Booklet on Civics*	▪ Groups ▪ Daily care + *Online team-based game on Civics + Booklet-based diabetes self-management education*	Statistically significant in reducing HbA1c with values (-8 mmol / mol [95% CI-10 to -7] and -5 mmol / mol [95% CI -7 to -3], P = 0.048) (P <0.05)
9	Felicia Hill-Briggs *et al.* USA 2011	RCT (2 groups)	56	3	6 9	▪ Groups ▪ Daily care + *Problem-Solving-Based Diabetes Self-Management Training*	▪ Individual ▪ Daily care	Statistically significant lower HbA1c value with difference value -0.72% - -0.57, P = 0.02 (P <0.05) Statistically significant also can improve medication adherence with value β = -0.13%, P = 0.04 (P <0.05) as well as on knowledge P <0.05 (P <0.05); problem-solving P = 0.01 (P <0.05); and self-management behaviors P = 0.04 (P <0.05)
10	Shelgh A. Mulvaney *et al.* Tannessee 2010	RCT (2 groups)	72	3	-	▪ Individual ▪ Daily care + *Interned-based self-management*	▪ Individual ▪ Daily care	The quantitative value of HbA1 in the intervention group (pretest-post-test) was decreased, but statistically between the intervention group and the control group there was no significant decrease in HbA1c with d = -0.28, P = 0.27 (P> 0.05)

11	Calvin Or & Da Tao China 2016	RCT (2 groups)	63	3	-	▪ Individual ▪ Daily care + *A patient-centered, tablet computer-based self-monitoring system*	▪ Individual ▪ Daily care	The quantitative value of HbA1 in the intervention group (pretest-post-test) was decreased, but statistically between the intervention group and the control group there was no significant decrease in HbA1c with P> 0.05 Statistically significant in lowering systolic blood pressure with p value = 0.043 (P <0.05)
12	Hamdiye Arda Surucu Iet al. Turki 2017	RCT (2 groups)	139	6	-	▪ Individual ▪ Daily care + *Diabetes self-management education based on Self-Care Deficit Nursing Theory* (SCDNT)	▪ Individual ▪ Daily care	The quantitative value of HbA1 in the intervention group (pretest-post-test) was decreased, but statistically when compared between the intervention group and the control group there was no significant decrease in HbA1c with P = 0.973 (P> 0.05) Statistically significant in increasing self-care agency with P = 0.093 (P <0.05), as well as on self-care activities with P = 0.018 (P <0.05)
13	Elizabeth Murray *et al*. UK 2017	RCT (2 groups)	374	3	12	▪ Individual ▪ Daily care + *Web-based self-management programme*	▪ Individual ▪ Daily care	Statistically significant in lowering HbA1c level with mean difference value -0.24%; 95% CI -0.44 to -0.049; P = 0.014 (P <0.05)
14	Elizabeth A. Walker *et al.* USA 2011	RCT (2 groups)	526	2	12	▪ Individual ▪ Daily care + *Telephonic-based self-management education* (HE diberikan melalui telepon, minimal 6 kali dalam satu bulan)	▪ Individual ▪ Daily care + *Print-based self-management education*	Statistically significant in decreasing HbA1c value (the difference in HbA1c was 0.40% (95% CI 0.10-0.70, P = 0.009) (P <0.05) but may improve treatment adherence P = 0.005 (P <0.05)
15	Emily D Williams *et al*. Australia 2012	RCT (2 groups)	120	6	-	▪ Individual ▪ Daily care + *Interactive telephone-delivered management intervention (TLC (Telephone-Linked Care) Diabetes program*	▪ Individual ▪ Daily care	Statistically significant in decreasing HbA1c with difference value 8.7% -7.9% = 0.8%, P = 0.002 (P <0.05); But it can improve the quality of life (Mental) with difference value 48.7% -51.7% = 3%, P = 0.007 (P <0.05)

4 DISCUSSION

In the results of this systematic review analysis, showed that self-management education significantly influence in lowering blood sugar DM type 2 clients. Of the 4 methods used in the 15 articles that have been analyzed. The method of self-management education based on technology is the most potential method in lowering blood sugar DM type 2 clients. This is because, the number of technology-based method adoption is the most widely, amounted to 8 articles. In addition, the quality of measurement using statistical analysis of the results of this method is very significant when compared with other methods with the value of P is mostly P <0.05. The results of comparison between pre-test and post-test in the intervention group all showed significant results with P <0.05. Similar results also occurred in the comparison between control group post-test and post-test of the intervention group, all statistical results showed a value of P <0.05, meaning that the intervention-based self-management education program was statistically significant in reducing the blood sugar value of DM type 2 clients According to several studies that have been reviewed using technology-based methods, in addition to the output obtained in the form of a decrease in HbA1c value, other advantages derived from this method are technology-based methods are also effective in improving self-efficacy, improving quality of life, controlling systolic blood pressure and improve self-care activities DM type 2 clients, clients with long distances can still be within range, time efficiency, monitoring process of respondents more easily monitored, and more cost-efficient.

The use of this technology-based method should be adjusted to the location or area of the respondent related to the availability of telecommunication networks and the ability of the respondents in operating a technology or electronic goods.

In the use of methods other than technology-based self-management based education, individuals, families and, the group obtained results that are not as good as the use of technology-based methods. In addition, there are some drawbacks obtained from the use of methods other than technology that is the time of the nurses in the research process longer, the distance between respondents sometimes far so that takes a lot of time, the cost of printing equipment and materials are expensive, the collection time of respondents in the form of groups that hard to equate and more difficult to monitor intervention programs over the long term.

Nursing Implication for Practice

Research that has been analyzed in this systematic review is the implementation of self-management education program in lowering blood sugar DM type 2 clients. The results obtained that the self-management education program using a technology-based method is the most effective method in lowering blood sugar DM Type 2 clients Based on the results of this study, it can be used as an alternative choice by nurses, especially Community Health Nursing in determining the most effective method used in the process of health education in the community. Currently, developments in the world of technology is growing, so a nurse should be more professional in developing nursing science that is adjusted with the times. The existence of assistance from the technology side, it is expected that one of nurse's duties as an educator, especially in promotive and preventive activities (primary, secondary, and tertiary), can run more effectively and produce maximum output. So the morbidity and mortality rates caused by type 2 diabetes mellitus can be decreased.

5 CONCLUSION

Self-management education program significantly influences in lowering blood sugar level of type 2 DM client. The most effective method used in self-management education program is technology based. It is hoped that technology-based self-management education programs can be used by nurses in the application of health education to DM type 2 clients in the wider community and can be applied to other chronic diseases, so that morbidity and mortality can be reduced.

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Effect of Oral Hygiene in Improving The Health of Elderly People : A Systematic Review

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Keywords: Oral hygiene, in Elderly

Abstract: Introduction: Oral hygiene is very important in maintaining systemic infection in the elderly who have health problems such as stroke, diabetes mellitus, osteoporosis, and others. Oral hygiene can be maintained by regular oral hygiene in both healthy and sick conditions. Some conditions that may affect oral hygiene in elderly include socio-economic status, in improving oral health in elderly interventions can be done, among others, with oral mechanical and modern hygiene. Aim: systematic review to explain oral hygiene practices in the elderly towards improving heath of the elderly, by studying related factors and analyzing interventions that can improve oral hygiene practice. Methods: This writing using systematic review design. The data used are obtained from ProQuest and Science direct. Search done using keyword oral hygiene, in elderly. Result: of the 1229 articles obtained were then screened according to the criteria and only 15 articles were used, the research includes hospitals, nursing homes and communities. Articles obtained by RCT and Crosssectional design. Conclusion: The practice of oral hygiene in the elderly is influenced by several factors, several modifications of intervention are needed to improve oral hygiene and oral hygiene practices. Oral hygiene is associated with the quality of life of the elderly.

1 INTRODUCTION

The elderly has been increasing in recent years around the world. Problems faced by the elderly in addition to health problems in general, a very common occurrence of oral health. Tooth loss, caries, periodontal, and other health problems are interrelate. Elderly people who require care have poor oral hygiene, this may increase the risk of ischemic disease such as aspiration of pneumonia and septicemia, and may increase dental caries (Nishiyama *et al.*, 2010). Elderly who suffer from diseases such as stroke, diabetes mellitus, osteoporosis require more intensive mouth hygiene treatment

The practice of oral hygiene of elderly in some conditions is still very low. Modification of interventions with technology is necessary to improve the practice of oral hygiene. Toothbrush modification or toothpaste content, can improve oral health in the elderly.

Oral hygiene can be performed by dental professionals and nurses. The role of nurses in health promotion of oral and dental hygiene is often a role model and support for oral hygiene intervention systems.

2 METHOD

Limits

Limitations of published literature in 2010 to 2017 are in proQuest and direct science, with the topic of oral hygiene in lansiran by RCT and cross sectional methods.

Systematic Approach To Finding Literature

Literature search through proQuest and science direct in November 2017 to February 2018. Published articles about oral hygiene in the elderly. The selected method is research with Randomized Controlled Trial (RCT) and cross sectional. Non-english articles are issued. Which meet the criteria of the original article and review summary

Search Method

Searching Topics and abstracts for publications containing the word: oral hygiene, in elderly, RCT, cross sectional. operator used in the proquet by connecting words eg, oral hygiene with oral care, oral health. Elderly with old people

Critical Appraisal And Synthesis

Selected articles viewed titles, abstracts, methods, and results. The appropriate articles are then analyzed, if they meet the criteria will be discussed. Articles that meet the criteria are further analyzed and synthesized. The list of articles is in figure 1. Study the articles met the inclusion criteria, articles with oral hygiene studies in the elderly in hospitals and nursing homes. With stroke, diabetes mellitus, osteoporosais, or are undergoing dental treatment. Results from the study are published in English.

Of the 792 search results in proquest, 20 articles were taken. Then viewed in full text match title, abstract, and result with topic desired reviewer. However only 12 met the inclusion criteria. Whereas 438 search results in scienece direct only 4 meet the inclusion criteria.

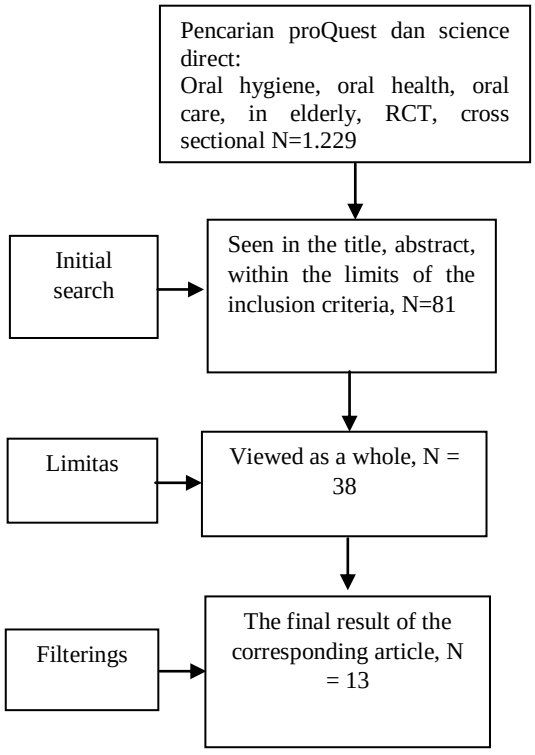

Figure 1: Journal Search Algoritm.

3 RESULT

VLCR and PMMA

After 6, 12, 24 months of significant plaque adhesion was higher with VLCR than in PMMA, tissue reactions were comparable between the two groups. And the average number of treatment sessions in patients after 24 months 50% higher VLCR than in PMMA. Good oral hygiene is necessary in denture patients with VLCR (Schwindling *et al.*, 2014).

Supervision of Mouth Treatment

When compared to the average score of dental plaque and dentures for 6 months of intervention, 0.43 or 30% lower plaque scores on the teeth. And 0.38 or 20% lower on plaque scores on dentures (van der Putten *et al*., 2013)

Use of Chlorhyxidine

The prevalence of oral yeast decreased significantly in the intervention group at 6 months of observation (P, .05). Significant decreases were observed in the prevalence of Staphylococcus aureus, significant aerobic and facultative gram-negative.

A decrease was observed in the prevalence of Staphylococcus aureus (P, .01) and gram-negative aerobic and facultative bacilli. Candida albicans and Klebsiella pneumonia are prominent pathogens found. The Kluyvera strain has also been isolated from this group. Oral hygiene with 0.1% Chlorhyxidine has been shown to be effective in reducing pathogen oprtunitis in the mouth (Ab Malik *et al.*, 2017).

Survival of ART with CT in Preventing Dental Caries in The Elderly

In the ART and CT group after two years, the ART group showed similar survival to the CT group, meaning there was no statistically significant difference between ART and CT. However, ART can be a more cost-effective way of providing dental care to elderly people in nursing homes (Da Mata *et al.*, 2015).

Oral Care with Respect to The Quality of Life of Patients With Stroke

The effectiveness of oral hygiene to improve oral health and health with respect to quality of life (OHRQoL and HRQoL) in stroke patients

receiving rehabilitation. Respondents were randomized to (1) conventional oral hygiene programs (COHCP) and oral hygiene instructions, (2) Modern oral hygiene programs (AOHCP), 0.2% Chlorhexidine mouthwash, and oral hygiene instructions. After 3 months observation, respondents who received AOHCP significantly improved HRQoL ($p < 0.001$).

The Relationship of Economic Status (SES) to Dental Caries (DMFT)

Bivariate analysis showed a significant relationship between socioeconomic status with dental caries in elderly. They with low socioeconomic have poor oral health. Elderly with low socioeconomic tend to have diet. Behavior, and awareness of oral hygiene is also low

The Relationship Between Subjective Oral Health Status and Lifestyle

The ability to chew a person is influenced by several factors, among others, the number of teeth, stress, eating habits, oral health. The remaining teeth in the elderly were significantly correlated with smoking and drinking. In this study the subjective chewing ability is closely related to the elderly lifestyle.

Risk of Pneumonia with Proper Oral Hygiene in Patients with Dysphagia

Aspiration of pneumonia in patients with dysphagia is strongly influenced by the patient's oral hygiene. Sleep care before sleeping in people with dysphagia is very important to do.

Table 1: List of Used as Material Reviews

Author	Years	Study Focus	Source
Yoshihide N, et al	2010	Effect mucosal care on oral pathogen	Science direct
Sonia S, et al	2014	Oral health related quality of life	ProQuest
Franz S, et al	2014	Complete denture	ProQuest
Normaliza Ab, et al	2017	Prevalence of oral opportunistic pathogens in stroke	Science direct
Gert-Jan van der P, et al	2012	Supervised implementation	ProQuest
Virginia P dan Cindy K	2015	Oral care to hospital	ProQuest
Buket A, et al	2011	Socioeconomic status, oral hygiene practices, oral health status and stomatitis	Science direct
Milos P, et al	2017	Oral health with the quality of life of the elderly	ProQuest
Shun te Huang, et al	2017	Risk of aspiration of pneumonia	Science direct
Linyang W	2017	The relationship between socio-economic status with dental caries	ProQuest
Mayu Yamane, et al	2016	oral health relations with quality of life, subjective symptoms, clinical status	ProQuest
Nathali S, et al	2017	The relationship between systematic disease, periodontal index, and whole phenomena	ProQuest
Mashami Y, et al	2013	The relationship of oral health status to lifestyle	ProQuest

4 DISCUSSION

The findings in this review that modification of oral hygiene interventions with the use of technology can improve oral health in the elderly. In some cases Oral hygiene is aimed at genuine dental care and dentures of the elderly and is associated with an elderly quality of life

Low socioeconomic status can affect oral health in the elderly. This can be attributed to educational status, behavior, awareness of oral health. Those with low socioeconomic status tend to have low education, a diet that tends to be less healthy. In addition to the socioeconomic status of oral health of the elderly is also influenced by lifestyle. Those who smoked and drank more potentially had poorer toothpastes and dental caries

Oral hygiene may affect the risk of aspiration pneumonia in the elderly with dysphagia undergoing home treatment using nasogastric tube feeding.

This review contributes in explaining the oral hygiene practices of the elderly living in hospitals, nursing homes, and communities. By comparing several interventions that can improve oral health. As well as examine several factors that could be

associated with oral hygiene and oral health practices.

5 CONCLUSION

Oral hygiene in elderly is influenced by several factors including socio-economic status, oral hygiene practice (Wang *et al.*, 2017), elderly residence (Evren *et al.*, 2011), supervise the implementation of oral hygiene (van der Putten *et al.*, 2013), lifestyle (Yoshioka *et al.*, 2013) and application of technology (Dai *et al.*, 2017). Modern oral hygiene also helps reduce aspiration risk in stroke patients. Oral hygiene in elderly people with stroke can reduce the risk of pneumonia. In some studies also found oral hygiene benefits to prevent the presence of bacteria and dental caries. Elderly with good oral health can maintain the number of teeth so that the ability to chew well. So the nutritional needs of the elderly remain well met. Furthermore, oral health can improve the health of the elderly that affects the quality of life of the elderly itself.

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A Systematic Review of Outcomes of Self Management Education on Self Efficacy and Behavior in Cronic Disease

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Keywords: Self Management Education, Cronic Disease, Self Efficacy, Behavior

Abstract : Background: Chronic illness is one of the most contagious diseases spread around the world, such as Tuberculosis, Diabetes Mellitus, asthma, COPD, arthritis, and so on. The treatment of chronic disease requires high adherence to achieve healing. Meanwhile, there is a lot of non-compliance of patients due to the low self efficacy and behavior of cronic disease patients. One way to improve the self efficacy and behavior of patients is to provide self management education. The purpose of making systematic review results of self management education used in the evaluation of self efficacy and behavior in chronic diseases such as Diabetes Mellitus, asthma, arthritis and others. Systematic search methods are performed in the MEDLINE, EMBASE, CINAHL, and PsyCINFO databases. Methods: Studies that to knowing outcomes of self management on the efficacy and behavior in cronic disease. Data synthesis and descriptive analysis were used for outcome assessment. Results: Most of the research journals suggest that the self-administered group of education in patients with significant chronic diseases improves self efficacy and behavior. Conclusion: Self management education can be a useful solution to improve self efficacy and patient behavior.

1 INTRODUCTION

Chronic illness is a worldwide disease and a public health problem because of high morbidity and mortality. The World Health Organization estimates that chronic illness accounts for 49% of the total global burden of disease. This is because the treatment is long and is needed adherence from the sufferer. Along with the increasing prevalence of chronic disease, treatment in addition to its emphasis on treatment, now focuses on empowering patients to be actively involved in the treatment of chronic diseases. However, the self efficacy and behavior of patients in managing the disease is still low. This makes the level of complexity of chronic disease problems become higher.

Treatment and treatment of chronic diseases is a long process that requires a strategy in managing the disease. The sooner a patient can know the illness, the better it is for him to implement a self-management program. In order for this to happen, the patient must obtain information so that the patient's self efficacy and behavior in self-care can be improved (Bourbeau, 2013). This self efficacy and behavior includes knowledge, the ability of the patient to make decisions about his or her health, the patient's self-efficacy, the patient's active participation in care, awareness in health promotion, control behavior and medication adherence. The self-management interventions help patients acquire and train the skills they need to perform certain medical disease regimens, guide changes in health behaviors and provide emotional support to enable patients to control their illness.

One way to improve patient self efficacy and behavior is to provide health education. The results of a study showed that educational provision significantly improves self efficacy (Stellefson, 2012). Several studies have shown that health education especially about self management is effective to improve quality of life, reduce hospitalization rate, improve patient's knowledge, decrease exacerbation complication, and decrease symptoms of breathlessness. (Monteagudo, 2013).

Self management education teaches people with chronic conditions that include knowledge, skills and motivation to make decisions, and increase their capacity and confidence to apply self-care skills in everyday life.

Factors that may affect self management education include healthcare workers, individual patient abilities, patient motivation for learning and change, patient culture, patient literacy rate, family support and health care workers and available resources. Conventional or ordinary treatments alone are not sufficient to be administered to patients with the disease. The combination of usual care and self management education is needed to improve the patient's skills in managing the disease (Efraimsson, 2009).

The goal of health education is to help the individual achieve an optimal level of health through his own actions. Providing education is one of the important functions of nurses in meeting patients' needs for information. The nurse's responsibility is to bridge the gap between the patient's knowledge and the patient's need for information to achieve optimal health. Patient education is done for various purposes such as improving patient's health, preventing illness and injury, improving or restoring health, improving patient's coping ability to health problems such as self efficacy and behavior. Education focuses on the patient's ability to perform healthy behaviors. The ability of patients to care for themselves can be improved through effective education.

2 METHODS

Design

The design of this study is a systematic review of Quantitative Evidence formulated to collect relevant quantitative studies. Systematic study of this review by using Joanna Briggs Institute as a Quantitative Systematic Review (The Joanna Briggs Institute, 2014). Joanna Briggs Institute's method guides the making as a guide to the article selection process, search strategy, eligibility criteria, and information from a research data analysis.

Inclusion and Exclusion Criteria

Establishment of inclusion and exclusion criteria focuses on quantitative methods approach as needed in quantitative research. Eligible studies illustrate the results of self management education against self efficacy and behavior in chronic diseases. Language eligibility criterion with abstract language criterion minimum use English. Publications are considered to be tracked from 2007-2017. Further inclusion group criteria are groups with adult category participants and are not limited to gender.

Search Strategy

The search strategy is carried out in accordance with the Critical Skills Assessment (CASP) guidance guidelines relating to the quantitative assessment of evidence. we search the electronic database Scopus, Medline, Proquest, Elsevier, Science Direct, CINAHL, Jtor, Sage Journal, Wiley Library Online, SpringerLink, EBSCO host, provide Oxford Academic Journal Identify key articles and Identify keywords by adjusting key concepts: 1. People with chronic disease, 2. Self efficacy 3. Behavior 4. Self management education. Our keywords search for quotes and full articles, including title, abstract, text, and reference information. Next translate keywords in English to find relevant articles in electronic databases. And finally, to filter using CASP to determine the articles skipped for further review according to the topic. The complete search strategy is limited to the last 11 years between 2007-2017.

Study Selection

Study selection of choosing a study are used to remove titles, abstracts, and duplicate quotes. First, filter all relevant data based on the contents of the article. Secondly, the full text of all articles after first-level screening is an independent assessment of relevance.

Quality Assessment

Assessment of the quality of articles to be reviewed using a CASP quantitative valuation tool. (CASP). There are 10 different questions that consider the results of quantitative studies, the validity of the study, and the usefulness. CASP helps reviewers to check whether a study meets the criteria in 10 questions by choosing "yes", "no" or "not now" from each question. Scores on a scale of 10 for each article reviewed are based on how many "yes" answers in scores and yes scores above 7 or more refer to excellent article quality. The purpose of this quality assessment is to provide high-quality reviews based on existing topics.

Data Extraction

Review the data used to review the literature that discloses the results of self management education on self efficacy and behavior in people with chronic diseases. The following steps:

1) Identify studies using relevant databases by using additional characteristics of keyword studies: authors, publication years, study designs, study types and sample characteristics.

2) Use the provisions of the inclusion and exclusion criteria to narrow the focus.
3) Extraction of data on research characteristics (reference details, population, determination, objectives or study objectives, methods, methods of data collection and analysis).
4) Identify major themes and subthemes, including author's description and labels, and all illustrated quotes.

3 RESULT

Most of the 24 studies examined the effectiveness of self-management education interventions in Diabetes Mellitus, asthma, COPD, heart failure and epilepsy. From all research, more than 48 variables are seen, especially variables about self efficacy and behavior.Self efficacy seen from 9 peneltiian. The results obtained vary greatly. Most of these showed self-efficacy improvement after being given self-management education.

A research with Retrospective design (cross sectional) study self management education in 2119 respondents. Results indicate Age, education level, income and diet modification significantly more likely to be associated with DSME acceptance. Compliance in treatment indicates compliance although less than optimal (Jun Wu, 2008). Research with Randomized control led trial design. The sample of 52 patients with COPD (26 intervention groups and 26 in the control group) showed that self management education significantly improved the self efficacy and quality of life assessed by SGRQ (Efraimsson, 2008).

Provision of self management education can improve the self efficacy of the patient so that the management of chronic diseases can be optimal. To improve the management of the disease independently that can be done by the nurse is to provide self-management education in patients during the hospital treatment properly.

Patient behavior was seen from 15 studies. The results obtained vary. Most show improved behavior after self-administered education. Self Management Education is a process undertaken to enhance the knowledge, skills and abilities of patients to perform self-care (Funnell, et al, 2008 and educate patients on self-care strategies to optimize health, prevent complications, and improve quality life (Sidani S, et al., 2009) .The approach of self management education begins with the assessment of learning needs, setting goals, intervening patients and ending with evaluation.The learning objectives are prepared together between patients and officers will facilitate the acceptance of education given, because patients feel are highly appreciated and know their need for learning so that self efficacy will increase and patients are motivated.

4 DISCUSSION

In the self-management education program, patients learn effective ways to manage the condition of the disease and help in living a healthier life. Self management of each chronic illness has a different way, but its purpose is to assist in managing and making decisions about how to have a healthier life. From various studies show that self management education helps improve self efficacy and behavior for a healthier life so as to reduce symptoms and improve quality of life.

5 CONCLUTION

This systematic review of a variety of quantitative studies that provide a collection from the information perspective on the outcome of self management education on self efficacy and behavior in people with chronic diseases. It provides very diverse information and has some similarities. Individuals with chronic disease have significant results in the provision of self management education against self efficacy and behavior. The diverse results of forming individuals with chronic illness have varying perspectives and attitudes in the healing process. Each individual with a chronic illness represents that each individual has different results.

This review extends and deepens our understanding of the results of self management education so as to provide implications for field practice in dealing with individuals with chronic diseases in different ways. These results provide a clear picture of the current knowledge base and identify where some of the elements of understanding are well supported by the literature and elsewhere. This information may be useful to support further research. It is crucial that health care workers consider the interventions to be administered, use them to improve patient-centered patient empowerment and accelerate the healing of patients with chronic diseases.

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The Effect Of Psychoeducation On Family Functions In Treating Schizophrenia Patients In Home: Systematic Review

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Keywords: Psychoeducation, Family Functions, Schizophrenia.

Abstract: Introduction: Schizophrenia is a group of psychotic reactions that affect various areas of individual function, including the function of thinking and communicating, accepting and interpreting reality, feeling and showing emotions and behaviors that are rationally acceptable. Schizophrenia does not only happen one day or two days but schizophrenia is a chronic disease that is very difficult to cure. Family is the most important factor of healing process of schizophrenia. One of the roles and functions of the family is to provide an affective function to meet the psychosocial needs of family members in giving affection. Therefore the function of the family should be good in the treatment of schizophrenic at home. Methods: The literature searches were conducted in major database such as ebsco host, proquest, scopus, sciencedirect, doaj, sagepub, medline, UNAIR journal ners and google scholar with time limits used are journals from January 2002 to February 2018. Result: A total of fifteen studies raised in this study all have almost the same goal of whether psychoeducation can affect family function in treating schizophrenic at home. From fifteen randomly selected respondents chose respondents. Conclusion: psychoeducation can improve the function of the family that is not optimal in the treatment of schizophrenia at home. The burden felt by the family is decreased so as to increase family support in schizophrenic patients in order to heal the patient faster.

1 INTRODUCTION

Schizophrenia is a group of psychotic reactions that affect various areas of the individual's function, including the function of thinking and communicating, accepting and interpreting reality, feeling and showing emotions and behaviors that are rationally acceptable (Stuart G. W and Laraia, 2005). Schizophrenia can be defined as a mental disorder syndrome that the sufferer is unable to properly assess the reality (Reality testing Ability / RTA) and poor self-understanding (Hawari, 2007). Based on the above definition can be concluded that schizophrenia is a disturbance of cognitive function, function of feeling and behavioral functions in everyday life.

According to (Hawari, 2007) stigma is the attitude of family and society that menggangap that if one family member suffers from schizophrenia is a disgrace for members of his family. Over the years there have been many forms of discrimination in society. Stigma in society is difficult to change. Therefore, as the immediate family of the sufferer should be able to provide higher support to the sufferer. Families with schizophrenic people have their own loads compared with physical illness.

According to the Basic Health Research in 2007 the prevalence of emotional mental disorder of the Indonesian population is 11.6% of the population. The result of basic health research in 2013 is 1.7 permil. In East Java 2.2 permil. The prevalence of the number of people with schizophrenia in Jombang increases from year to year. From 2015 as many as 1761 patients, in 2016 as many as 1984 patients, and 2017 as many as 2256 patients. Puskesmas with the highest number of patients with schizophrenia is Perak Puskesmas which increased from 2015 as many as 120 patients, in 2016 as many as 140 patients and in 2017 as many as 181 patients.

The problems that often occur in mental health are influenced by many factors in life such as stress, unemployment, violence, community conflicts, natural disasters, inability to overcome sources of stress can lead to an emotional mental disorder (Suerni, Keliat, & C.D, 2013). One of the roles and functions of the family is to provide affective function to fulfill the psychosocial needs of family members in giving affection (Friedman, M.M, Bowden, O & Jones, 2010).

Family support is all the help given by family members so it will provide a sense of physical and psychological comfort in an individual who is feeling depressed or stressed. Family support is a process of relationship between the family and its social environment that can be accessed by the family that can be supportive and provide help to family members (Friedman, M.M, Bowden, O & Jones, 2010). According to Pender 2002 in (P.J.Bomar, 2004), the family support system is a support system provided by families to family members in order to maintain the social identity of family members, provide emotional support, material assistance, provide information and services, facilitate family members in create new social contacts with the community.

Family support and good family coping strongly support the healing of schizophrenics. Feelings of shame, burdened and do not care about the patient so far is still a major factor in the recurrence of people with schizophrenia. The number of people with schizophrenia from year to year increased a lot due to the lack of family support and family burden with the sufferer of schizophrenia.

One form of family function is to provide family support to family members who suffer from mental stability disorder. Crotty and Kulys 1986 in (Saundres, 2003), explains that schizophrenia patients support is an important mediator for family burdens, patients with support systems will reduce the burden of families when compared with those who do not get support. The source of family support refers to support that is seen as something accessible or held for the family, but family members see that supportive people are always ready to provide help and assistance if needed. Family support may include internal family support such as support from a husband or wife or support from siblings or external family support (Friedman, M.M, Bowden, O & Jones, 1998).

Psycho-education is the development and provision of information in the form of community education as information related to simple psychology or other information affecting the psychosocial well-being of the community. The provision of this information can memperguanakan various media and approaches. Psychoeducation is not a treatment, but it is a therapy designed to be part of a holistic treatment plan. Through psycho-education, knowledge of disease diagnosis, patient condition, prognosis etc. can be improved. Psychoeducation therapy contains elements of increased knowledge of disease concepts, recognition and teaching techniques to overcome the symptoms of behavioral aberrations, as well as increased support for patients. The components of the exercise can be in the form of communication skills, conflict resolution exercises, assertiveness training, exercises to overcome anxiety behavior (Rachmania, 2012). In psychoeducation there is a process of socialization and exchange of opinion for patients and professionals so as to contribute to the destigmatization of psychological disorders at risk to inhibit treatment (Supratiknya, 2011).

Psychoeducation about changes that occur during life and being open to others, and effective coping can help reduce anxiety, make feelings better, and can help solve problems, reduce depression and grow self-esteem. In reality psycho-education as a public service delivery movement in the field of psychological counseling has no meaningful date. According to Nelson Jones (Supratiknya, 2011).

2 METHODS

Design

Systematic reviews are used to review published journals that describe the benefits of psychoeducation given to families caring for schizophrenic at home. Inclusion and Exclusion Criteria

Study Type

This systematic review uses inclusion criteria which use quantitative and qualitative methods to evaluate the outcomes of psychoeducation implementation.

Participant Type

Family caring for schizophrenic at home.

Intervention Type

Psychoeducation benefits given to families who care for existing home-sophomore sufferers include:

Psychoeducation can increase the family motivation in supporting the treatment of the patient,

increase the ability of the family in caring for schizophrenia at home, reduce family guilt, increase empathy family to schizophrenia, decrease emotional level of patient and improve the function of family of schizophrenia.

The methods used in existing research are Covers observations, interviews, surveys, and questionnaires.

Activities are carried out individually or in combination of one or two of the existing metods.

Search Literature Strategy

The strategy in searching the literature used is to search in ebsco host, proquest, scopus, sciencedirect, doaj, sagepub, medline, and google scholar with the time limit used is January 2002 until February 2018. By using keywords psychoeducation, family, Schizophrenia. The following jounals we use as references: (Gutiérrez-Maldonado, Caqueo-Urízar, & Kavanagh, 2005); (Bulut, Arslantaş, & Ferhan Dereboy, 2016); (Girón et al., 2015); (Öksüz, Karaca, Özaltın, & Ateş, 2017); (Cw Lam, Ng, & Tori, 2013); (Vaghee, Rezaei, Asgharipour, & Chamanzari, 2017); (Kate, Grover, Kulhara, & Nehra, 2013); (Lim & Ahn, 2003); (Magliano et al., 2002); (Chien, Chan, & Morrissey, 2007); (Caqueo-urı, 2006); (Caqueo- Urizar, 2013); (Suhita, Catharina, Basuki, & Yusuf, 2017); (Ngadiran, 2010); (Poegoeh & Hamidah, 2016).

Quality Study Assesment Method

Study quality study method used to examine the data of research results using 2 stages of validity (validity), reliability (reability) and Applicability (applicable).

How To Data Extraction

To compare the journals already obtained, the data are extracted using the author and the year of publication, design, research objectives, population, interventions, methods of implementation and outcomes to be achieved.

Data Synthesis

Synthesis of data using data from journal extraction which have been done then do conclusion.

3 RESULT

The family is the system closest to the individual and is the place of individual learning, developing values, beliefs, attitudes and behaviors (Keliat, 1995). In order for families to have an impact on individuals who are members of the family, it is expected family members can function and play a conducive role. (Friedman, M.M, Bowden, O & Jones, 1998) identifies 5 (five) family functions of affective function, socialization, care, economy and reproduction. Where all these functions must run if you want to recover from schizophrenia. Tomczyk (1999) says there are two therapies that need to be done on the family namely psychoeducation and systemic therapy family so that the family is able to care for the patient. Both aim to empower families to be able to care for patients. Family psychosis is one form of family intervention that is part of psychosocial therapy. The purpose of the psychoeducation program is to increase knowledge about the mental disorders of family members so that it is expected to decrease the recurrence rate, and improve the functioning of the family (Stuart G. W and Laraia, 2005).

Psychoeducation is influential in changing the functioning of families to support family members suffering from schizophrenia. it shows the functioning of the client's family of violent behavior, especially the affective function as the internal function of the family to meet the psychosocial needs of family members such as: mutual care, love, warmth and mutual support among family members (Friedman, M.M, Bowden, O & Jones, 1998).

The support forms a single family support unit, especially for family members who have health problems such as violent behavior issues with family support involvement in caring for family members with a history of violent behavior. Family support for clients of violent behavior is evidenced in caring for family members with a history of violent behavior.

Family support as a support system provided by the family in the face of family members problems. The family is the closest person and the most convenient place for the client's violent behavior. The family can improve the spirit and motivation to behave healthily by providing appropriate care and treatment. Family support is attitudes, actions and family acceptance of family members who experience violent behavior. family support embodied in the form of affection, trust, warmth, attention, mutual support and respect among family members. Family members who experience such violent behavior view that supportive people are always ready to provide help and assistance if necessary (Friedman, M.M, Bowden, O & Jones, 2010).

4 DISCUSSION

Schizophrenia is a group of psychotic reactions that affect various areas of the individual's function, including the function of thinking and communicating, accepting and interpreting reality, feeling and showing emotions and behaviors that are rationally acceptable (Stuart G. W and Laraia, 2005). Schizophrenia can be defined as a mental disorder syndrome that the sufferer is unable to properly assess the reality (Reality testing Ability / RTA) and poor self-understanding (Hawari, 2007). Based on the above definition can be concluded that schizophrenia is a disturbance of cognitive function, function of feeling and behavioral functions in everyday life.

Psycho-education is the development and provision of information in the form of community education as information related to simple psychology or other information affecting the psychosocial well-being of the community. The provision of this information can memperguanakan various media and approaches. Psychoeducation is not a treatment, but it is a therapy designed to be part of a holistic treatment plan. Through psycho-education, knowledge of disease diagnosis, patient condition, prognosis etc. can be improved. Psychoeducation therapy contains elements of increased knowledge of disease concepts, recognition and teaching techniques to overcome the symptoms of behavioral aberrations, as well as increased support for patients. The components of the exercise can be in the form of communication skills, conflict resolution exercises, assertiveness training, exercises to overcome anxiety behavior (Rachmania, 2012). Thus in psychoeducation occurs the process of socialization and exchange of opinion for patients, families and professionals so as to contribute to destigmatisasi psychological disorders at risk to inhibit treatment.

The focus of psycho-education is to educate participants about the challenges in life, to help participants develop sources of support in facing life's challenges, develop coping skills to face life's challenges, develop family support, reduce family burden by participants.

The purpose of psychoeducation is to increase knowledge for individuals and families so that it is expected to decrease anxiety levels and improve family functioning. Psychoeducation interventions are expected to increase the attainment of individual knowledge about the disease, teaching how to teach techniques in order to help them protect individuals by knowing behavioral symptoms and supporting individuals.

5 CONCLUSION

Psychoeducation has been implemented in several countries in the world, with the aim of improving family function in caring for schizophrenic at home. Some of these studies show that psychoeducation has a positive and effective impact on family function in treating schizophrenia at home, but in its application is also found there are still many shortcomings. In the future, it is expected that more similar research will be conducted, with longer implementation and follow-up time. If such intervention is successfully implemented then it is expected the cure rate of schizophrenia also increased it is also useful to establish families in caring for schizophrenic at home.

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FASTER LEARNING ORGANIZATION (FLO) MODEL IN DEVELOPING HEALTH PROFESSIONAL SKILL IN THE HOSPITAL

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Keywords: Faster Learning Organization (FLO), nursing, skill development

Abstract: Background. The performance of nurses in providing holistic nursing care has not well-implemented. A survey conducted in RS Siti Khodijah on the periode of June 2014 showed that the nursing service mainly focused on the biological services that reached at 80%, while the data services on the psychological, social and spiritual were relatively low. Various models to improve the performance of service organizations have been implemented. However, the application of Faster Learning Organization (FLO) model in healthcare organizations has limited. The purpose of this study was to develop a strategy of FLO model for the skill development. Method. This study used quasi experiment with non randomized pretest-posttest control group design. The population were all nurses in Siti Khodijah Hospital. Sampling technique used was total sampling for 117 nurses. Data were collected through questionnaires. Analysis of data used Manacova. Results. 1) components FLO: openness to learning, the challenge of change, and stimulating leadership can enhance the skills of the surge strategy, cultivate strategy, and transform strategy in the organization of nursing services at the hospital. Conclusion. Strategy FLO model can be used as an alternative strategy to increase the skill development in order to improve quality of care

1 INTRODUCTION

Hospital is one of the important health care services, laden with tasks, burdens, problems and expectations of patients. The complexity of the health service needs to be followed by the development of technology and health personnel who are in it. The number and types of disease cause increasing public expectations towards hospital services. So, hospital needs a good system that can organize and manage all sources of hospitals with the best (Aditama, 2003). A good system within a hospital organization can be seen from the quality of care for patients (consumers), professional appearance of hospital staffs, the efficiency and effectiveness of services and patient satisfaction.

Nursing services is a professional service that is implemented holistically, including biological, psychological, sociological and spiritual services based on the professional standards of nursing and nursing ethics as main demand (Nursalam, 2011). Nurses as an integral part of health personnel at the hospital and closest to the client so as to have a very important role in providing comprehensive services holistically. However, hollistic nursing services has not been implemented optimally, especially in patients with chronic illnesses or patients at risk experiencing psychological problems. Nursing care services more focused on the biological health problems, and were little attention to psychological problems, social, and spiritual patient. King and Gates (2006) supported that the nursing service more focused on medical planning and less time to implement aspects of holistic nursing.

Reed and Fitzgerald (2005) explains that the nursing performance related to attitude and ability of nurses in providing services holistically still considered weak, especially related to mental health problems or psychological patient. Preliminary survey conducted at the Siti Khodijah Hospital (SKH) on the performance of nurses in the service of psycho-socio-spiritual shown in table 1 below.

Table 1. Attention and Behaviour of Nurses on Psycho-Social-Spiritual SKH, 2014

Performance of nurses to psycho-socio-spiritual care	Percentage (%)
psychological services	17.4
social services	26.7
spiritual service	17.4

Less adequate of nursing services on psycho-socio-spiritual components in SKH can be due to several factors such as knowledge, workload, and leaders policy. Holistic nursing services needs to be done to improve the quality of care and patient satisfaction. Andriani and Sunarto (2009) showed that quality service has a positive and significant correlation with the level of patient satisfaction in hospital. This was consistent with Setz and D'Innocenzo (2009) and Hector (2009) who found that the performance of nurses is very low. Low performance nurses affected to quality, patient satisfaction, and patients comfort.

Meanwhile, according to patient complaint data of public relations and marketing of SKH in 2013 reported that patient satisfaction on ursing services is still low mainly related to nurses attitude and skills, nurses responsiveness to solve patient's problems. The quality of holistic nursing services is a reflection of the performance of professional nurses who need to be realized. Holistic care on patient centeredness is now widely accepted as the main core health services (AF4Q, 2012). This leads hospital continuously to improve the quality of services, especially nursing services with learning organization approach.

Research on organizational learning and performance has been widely published (Aragon, Jimenez and Valle, 2013; Gorelick and Monsou, 2005). However, research on faster learning organization (FLO) in improving the performance of nurses has not implemented yet. Guns and Anandsen (1996) explain that the sustainability of an organization in this competitive era is to make sure of faster learning organization.

Quality of care is necessary so that the existence of the hospital as a health care provider organization is able to sustain at the competetive era. Nurses are as one of the most health professionals in hospital who need to have an understanding, awareness and active participation for the realization of quality of service. One of the factors that affects the quality of service is a nurse performance. Nurse performance can be enhanced through organizational learning (OL), learning organization (LO), and knowledge management (KM) (Brockmand, 2003; Rhodes et al, 2008; Aragon, Jimenez, Valle, 2013). However, the understanding of OL, LO, KM, and FLO to health care remains low. The difference between OL and LO shown in table 2

Table 2. Differences Organiztional Learning (OL), Organizational Learning (LO

NO	ASPECT	OL	LO
	Aim	Build theory (Theory building)	Improve organizational performance (Increasing the organizational performance)
	Focus	Organization Process	Organization form
	approach	Deskriptive	normative
	existence	Exists naturally, neutral	Needs activity, preferable
	The key question	How does an organizational learn?	How should an organizational learn?
	Target group / target	Academics	Practitioners / consultants
	The results of study	Potential behavior change	Existing behavior change
	Learning-performance relationship	Positive or negative	Expected to be positive
	Learning-related constructs	Knowledge acquisition information distribution information interpretation Organizational memory	system thinking Personal mastery mental models shared vision Team learning (Senge, 2004)

Source: Modified from Ortenblad, 1995; Koc, 2009; Senge (2004); Vera and Crossan (2005); Genc and Iyigun (2011).

Table 2 explained that the difference can simply be seen from the definition OL and LO. Vera and Crossan (2005) define that the OL was process of shared learning activities through submission of thought and action, which was influenced by organizational climate. Senge (1990) pointed out that LO was a place where people develop the ability of the results of the pattern of thinking created by expanded and nurtured with free aspiration, and continued learning. Furthermore,

Genc and Iyigun (2011) explained about the differences between OL and LO. Generally, there are similarities between the OL and LO that are the transfer of knowledge and learning within the organization to increase of organizational performance.

2 METHOD

This study used experimental design to compare the situation before and after treatment. This study was conducted at the Siti Khadijah Hospital (SKH) East Java, with the following considerations: (1) SKH has been accredited B for 16 services, and is used as a place to practice nursing students and medical students as well as being pursued into RS type B education; (2) SKH has nursing staff with the majority of them are still relatively young, and (3) FLO and holistic nursing is not implemented yet.

The population in this study were 117 permanent nurses spread across 11 inpatient wards of SKH East Java in 2014. The sampling technique was total sampling. The independent variables in this study is FLO strategy including openness to learning, the challenge of change, and stimulating leadership. Dependenden variable was is the development of skill groups of surge, cultivate, and transform strategy.

This study was equipped by FLO guideline conceived and developed by the researcher based on Guns and Anandsen (1996). FLO guidelines was developed using the 3 (three) approach strategies with each strategy consists of three components, namely: openness to learning, the challenge of change, and stimulating leadership. Further, three strategic approaches models FLO including (1) strategy of *"surge"* for the executive group who are the director SKH, deputy director SKH, and director of nursing SKH; (2) strategy of *"cultivate"* for human resource personnel, and (3) strategy of *"transform"* for nurse unit manager, the team leader, and associate nurses.

Procedures for the experiment conducted in this study was training on a leadership and FLO, with aims to increase the knowledge and capabilities of nurses in leadership and skill development. The research instrument for measuring FLO (openness to learning, the challenge of change, stimulating leadership) used a questionnaire. The questionnaire was prepared and developed through five (5) stages, namely (1) the study of literature, (2) determination of the parameters, (3) developing the question in accordance with the parameters, (4) the validity and reliability, and (5) the finalization of the questionnaire.

Quetionnaires used scoring system based on semantic differential scale with a scale of 1-5 votes. A value of 1 is the lowest value and the value 5 is the highest value of a vote on a question. Furthermore, likert scale consisted of 1-2 Likert scale ratings to negative value, 3 for value neutral, 4-5 for a positive value. Analysis of statistical tests in this study used the analysis of test *Manacova.* Reasons for using manacova test for this study aimed to analyze the influence of the independent variables are categorical scale to each dependent variable separately

Data collection was conducted after gaining ethical clearance, having letter permission from public health faculty University of Airlangga and SKH East Java

3 RESULTS

Table 3. The analysis of the application of the model FLO *(openess to learning, the challenge to change, stimulating leadership)* on *surge strategy* group (Board of Directors) to the Board of Directors of the hospital skill development *(Vision, Action modeling, strategy dialogue, Mental* modeling)

The independent variable	**dependent variables**							
	Vision (p-value)		*Action Modeling (p-value)*		*Facilitating dialogue Strategy (p-value)*		*mental modeling (p-value)*	
	pre	Post	pre	Post	pre	Post	pre	Post
Openes to learning	0.08	0.04	0.04	0.04	0.95	0.05	0.18	0.04

The independent variable	**dependent variables**							
	Vision (p-value)		*Action Modeling (p-value)*		*Facilitating dialogue Strategy (p-value)*		*mental modeling (p-value)*	
	pre	Post	pre	Post	pre	Post	pre	Post
Challenge of change	0.84	0.04	0.97	0.03	0.64	0.02	0.86	0.03
stimulating leadership	0.86	0.04	0.18	0.03	0.67	0.99	0.58	0.03

Table 4. Results of the analysis of the application of the model FLO *(openess to learning, the challenge to change, stimulating leadership)* on *Cultivate* a group *strategy* for the development of Sector Nursing *(Strategic thinking, managing change, Collaborative Coaching, Facilitating skills)*

The independent variable	dependent variables							
	Strategic thinking (p-value)		*Managing change (p-value)*		*Collaborative coaching (p-value)*		*Facilitating group process (p-value)*	
	Pre	Post	pre	Post	pre	Post	pre	Post
Openes to learning	0.08	0.02	0.90	0.01	0.46	0.01	0.30	0.01
Challenge of change	0.01	0.04	0.01	0.04	0.01	0.05	0.01	0.01
stimulating leadership	0.01	0.01	0.01	0.01	0.41	0.01	0.49	0.01

Table 4 Results of the analysis of the application of the model FLO *(openess to learning, the challenge to change, stimulating leadership)* on a *strategy* to *transform* the development of skills nurses *(apllying technical competence, contributing as a team member, team leading, facilitation, nurturance and unconditional acceptance)*

The independent variable	dependent variables											
	Apllying technical competence(p-value)		*Contributing as a team member (p-value)*		*Leading team (p-value)*		*Facilitation (p-value)*		*Nurturance (p-value)*		*Unconditional acceptance (p-value)*	
	pre	*Post*	*pre*	*Post*	*pre*	*Post*	*pre*	*Post*	*pre*	*Post*	*pre*	*Post*
Openes to learning	0.47	0.01	0.52	0.00	0.24	0.02	0.35	0.01	0.19	0.02	0.01	0.03
Challenge of change	0.34	0.03	0.69	0.02	0.23	0.04	0.25	0.02	0.72	0.01	0.25	0.01
stimulating leadership	0.00	0.02	0.01	0.04	0.01	0.04	0.01	0.04	0.01	0.02	0.99	0.05

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4 DISCUSSION

The application of the model FLO (openness to learning, the challenge to change, stimulating leadership) on surge strategy group (directors) of the hospital directors skill development (vision, action modeling, facilitating dialogue strategy, mental modeling)

The results of the analysis showed that there is difference before and after implementation of the model FLO on SKH that are all independent variables (openness to learning, the challenge of change, and stimulating leadership) simultaneously influence the dependent variable (vision, action modeling, strategy dialogue, and mental modeling) , variable challenge to change effect on vision, action modeling, strategic dialogue, and mental modeling. Stimulating leadership on the surge strategy variables affect the vision, action modeling, and mental modeling, but has no effect on the skills strategy facilitating dialogue directors. Despite all of the dependent variable is affected by the independent variable, but when examined more deeply partially known that there are three variables that increased the variable *vision, fasilitating strategy of dialogue,* and*mental modeling,* while the *action modeling* obtained fixed value between before and after being given treatment.

Openness to learning is an attitude that showed their leadership ability and commitment to the process of knowledge transfer within the organization (Sudharatna and Laubie, 2004). *Openness to learning* who owned an *executive leader* affect the vision of the organization. Johnson (2002) in Rijal (2010) explained that one of the important skills possessed by a leader is vision.

Executive group must have a clear vision to be communicated to all staff or employees. Vision must be presented continuously in the process of organization in order to become an effective vision. Vision can be achieved if all components of the organization understand and accept (Garavan, 1997). Siti Khadijah Hospital (SKH) is the health care organization owned by Muhammadiyah have spiritual value in providing services, namely *amar ma'ruf nahi munkar* which means getting to the kindness and prevent it which is not good.

Directors SKH conducted regular meetings with the head of the field and head section monthly with the aim to share information from the leader to the staff employee or vice versa. The form of share information was report and feedback. In addition, dessimination on hospital policy was implemented as well. Regular meetings of directors is also an opportunity for the board of directors to provide encouragement and spirit (offer encouragement) to employees about the importance of developing themselves and improve their knowledge through both formal and informal education. The attitude of the board of directors is in line with the Guns and Anandsen (1996) that measures to develop openness to learning can be done by way of s hare information and offer encouragement to the staff or employees.

Openness to learning within an organization can be identified by their leadership ability and commitment to the process of knowledge *transfer* within the organization (Sudharatna and Laubie, 2004). While Jamali (2009) also identified a learning climate, and create opportunities for continuous learning, improving dialogue, and encourages collaboration and teamwork.

Openness to learning directors also affect its ability to act as action modeling for employees. However, in these variables were not increased before and after being given treatment. Respondents judged that the skills of directors to serve as a model was still not optimal. This can be caused by respondent's perception of the business of directors, the presence of the duties of directors identified directly by employees.

Furthermore, openness to learning affected the ability of directors to facilitating strategic dialogue with employees. The regular meeting is an effective activitiy to establish communication and dialogue with employees. Through dialogue is able to solve various problems. On the other hand, the dialogue conducted by directors to employees provided three important things in the process of collaboration that were relationship, learning, and creativity (Innes et al., 1994). The ability of directors to facilitate dialogue with employees was supported by factors of age, education.

Openness to learning of the board of directors also affected the mental ability of modeling of directors. The ability of the board of directors is in line with Garvin, et al (2008) who explained that mental modeling can be implemented through a learning process in the form of *share* information,

discussion, communication and dialogue in order to address organizational issues.

Learning organization will encourage people to always be ready and willing to reveal the mental models respectively, comparing and discussing the differences that exist in order to achieve the same perception among members of the organization. Mental models of directors is a fundamental paradigm shift, which influences other personels to take action or achieve goals by using their position and authorities (Meehan and Reinelt, 2010). According to Chris Argyris, organization needs to ensure a condition in which everyone can continue to learn. As implemented by the board of directors with the policy of human resource development through further studies for employees, and participation in training, seminars or other scientific activities.

Results of the analysis showed that the challenge of change affected the vision, action modeling, strategy fasilitating dialogue,and mental modeling and there was no significant change between before to after treatment. Challenge of change undertaken by the directors focused on understanding all employees about the importance of the vision of the hospital. Vision becomes the direction of growth and development of the quality of hospital services. Vision of SKH as Islamic hospital providing plenary services is a challenge for the directors to make it happen. According to Guns and Anandsen (1996) challenge of change is a continum consisting of new information, new responsibilities, new context and new paradigms. Thus, the understanding and implementation of the vision necessary to have information in accordance with the situation in SKH. As Islamic hospital has religious vision where the services provided should reflect Islamic values such as sincerity, honesty, and discipline.

The board of directors have an influence for employees if the leader is able to act in a professional manner. Attitude to change of directors can improve the skills of directors to act as a model for employees. If directors have become a model for employees, organizational performance will increase and organizational objectives can be achieved more easily. This is because the ability of the employee can continue to grow professionally and psychologically employees will feel comfortable.

Challenge of change of directors also enhance the ability of directors to facilitate dialogue with employees so the process of communication run well. Information is vital for employees. The new information into the early stages of change. This new information can be obtained from seminars, regular meetings, discussions or learning in the workplace. After acquiring new information, the next step is a new responsibility. New responsibilities can be done because of the changing role in the workplace, changes related task team projects, or new liabilities occur due to teach other employees about job duties. If the changes related to the internal regulations of Muhammadiyah, the board of directors will facilitate the participation of the region work meetings, or other activities organized by the Board of Trustees of Public Health (MPKU) East Java Regional Chairman of Muhammadiyah. While the internal changes related to the hospital, then the dialogue strategy used is through regular meetings monthly, weekly or daily.

Stimulating leadership effect on vision, action modeling, and mental modeling, but does not affect the strategy fasilitating dialogue, both before and after treatment. It became interesting because as leaders, directors have a very important role to influence employees. SKH Directors realized that managing hospital in the competitive era needs the active participation of all parties, and empower employees to improve service quality. The role of the board of directors to empower employees is in line with the opinion of Burke (1986). Employee empowerment is done by giving an opportunity to the young age to occupy positions and structural tasks. Empowering nurses is required in order to be effective hospital organization. Thus the leader needs to have competence management and good motivation, able to develop cooperation, open to the environment, as well as able to make changes to the preparation and planning (by design), so that they can survive and thrive in the global competition increasingly fierce as described by Esposito (2006).

The effect of applying the model FLO (openness to learning, the challenge to change, stimulating leadership) on Cultivate strategy for the development of Sector Nursing (strategic thinking, managing change, collaborative coaching, facilitating skills)

Openness to learning, the challenge of change, and stimulating leadership) on cultivate group strategy influence on the development of skills and the director of nursing and the head sections (strategic thinking, managing change, collaborative coaching, facilitating group process). Cultivate strategy in the context of the research has direct role in the development and

empowerment of nurses in hospital. That role can be performed well based on their openness to learning, the challenge to change, stimulating leadership.

Strategic thinking means a strategy to respond to various assumptions and doubts. Cultivate strategic thinking for the group strategy means how to make policy that is consistent with the vision, mission, values, strategy and organizational competence (Guns and Anandsen, 1996). On the other hand, Heracleous (1998) explains that the Strategic thinking can be seen as a double-loop learning. In the concept of double-loop learning, organizational learning undertaken to address the problem through testing and changing of alternatives is best. Through this strategic thinking, Cultivate strategy to be more creative to solve problems and improve nursing services. Creativity resulting from strategic thinking is in line with the concept of Senge's (1993) on generative learning, where learning to be creative and requires a new way to understand or troubleshoot problems that occur.

Cultivate strategy on *managing change* affect the development of the Nursing Division. The ability to *managing change* is a form of awareness and understanding of the importance of the changes that must be made. The understanding of the changes made by cultivate strategy is in line with the opinion of Heller (1998) that in order to manage change can be initiated with a good understanding and true about the understanding change, change planning, implementing change, andconsolidating change.

According to Gun and Anandsen (1996) that work with others required skills cooperation. Coaching approach in collaborating expected employment can be made more effective and better results. Coaching can be focused on the improvement and development of the organization.

Openness to learning can cause a person's ability to interact with anyone, especially to those who are considered to have the knowledge and skills to more about the profession. As we know that the hospital is an institution that there are different types of health professions who are interdependent in providing health services. Collaborative coaching is needed so that the service provided can be done in a comprehensive and holistic manner.

Collaborative coaching in health care in the hospital are associated with general skills such as therapeutic communication, excellent service, and hostility. Collaborative coaching can be done well if health professionals were involved, can accept difference and able to adapt to the changes. This is the importance of the challenge of change from the nursing field to conduct joint training with other health professionals.

Collaborative coaching can be done better if there is the same purpose and level of education among the trainees, resulting in sharing knowledge and experience among the participants. Thus, openness to learning, and the challenge of change , stimulating leadership also affect the implementation of collaborative coaching to develop the skills of nurses in providing health services.

Besides influence on collaborative coaching, openness to learning from cultivate strategy affect the facilitating skills. Gun and Anandsen (1996) supported that one of the skills that must be possessed in the leadership model of FLO is facilitation. The leader helps the group or team to make decisions through consensus. Decisions taken by consensus takes longer but is more effective than direct decisions made by the leaders. Facilitate the group also appears on the availability of a leader to continue to learn at every opportunity (Rowden, 2001)

In the context of the leadership of nurses, director of nursing plays a role to facilitate. According to the Department of Health (2006) in London, the nurse must be able to facilitate the patient's self-care, so one of the nurse's role is as self care support. The role will be achieved well if the equipment and technology, information, professional education, planning self care and awareness in the form of policy are provided.

When patients get good information and appropriate, the patient will feel assured and confident and able to make decisions that self care is done will be able to change their behavior and improve their quality of life (Thorne et al., 2000).

Cultivate strategy is also required to have the skills to manage change and in line with the managing of change. For example, the ability to manage change into strategies and systems, the ability to develop a transition planning, the ability to follow and appreciate the efforts of change and the ability to transform themselves and act as model. It is supported by Jamali, et al (2009) that a leader must understand the situation that can cause changes including the factor of political, economic, socio-cultural, and technology.

Cultivate group strategy in this study indicate that the group has a leadership that can act as stimulating for others to make changes according to the situation and needs of the organization. The results showed the influence of the variable strategic thinking, managing change, collaborative coaching and facilitating group.

The effect of applying the model FLO (openness to learning, the challenge to change, stimulating leadership) in the transform strategy towards the development of skills nurses (apllying technical competence, contributing as a team member, team leading, facilitation, nurturance, and unconditional acceptance)

Test results manacova univariate show that all independent variables (openness to learning, the challenge of change, and stimulating leadership) in the group transform strategy influence on the development of skills nurses are apllying technical competence, contributing as a team member, leading the team, facilitation, nurturance, and unconditional acceptance.

The relationship between nurse unit manager or the head of a team will be more effective because there is an organizational learning process. The learning process begin with the desire and readiness of nurse unit manager or team leaders to share. Sharing knowledge, experiences and skills among team members will accelerate the increase in the capacity of team members (Guns and Anandsen, 1996). Efforts are made to improve the skills of nurses to provide holistic nursing care.

Skills to be willing to share among team members should continue to be developed through a variety of activities, such activities reflection case discussions (RCD). RCD activities undertaken in SKH is one of nurse unit manager to improve the knowledge and skills of nurses.

FLO model application including openness to learning, the challenge of change, and stimulating leadership affected the role of nurses to contribute to the team member. The nurse's ability to contribute to other people is a form of consciousness that a team would be more useful and striking success if mutual support among team members, give the opportunity to others to evolve and move forward together.

Each team has a range of skills of the team and these skills should be used to benefit the team. Each skills is there to be attached to the identity of the team. One skill that should be owned by every member of the team is a partnership, which includes agreement decision-making, conflict resolution, and communication. The role of team learning is to accelerate the teamwork.

Openness to learning, the challenge of change, and stimulating leadership in the group transform strategy effect on the ability of nurse unit manager for the facilitation nurses and patients, nurturance, and unconditional acceptance. Efforts to provide facilities or facilities to nurses and patients. Nurses should be able to help clients to identify, mobilize and develop personal strengths to achieve the client's health status overall (holistic). The role of facilitation of nurses is especially useful for clients or patients due to the implementation of this role, the patient's anxiety levels can be decreased, increased patient care, and the patient can follow the instructions or directives nurse (Lamb, 2005). Nurturance is one of the role of nurses in providing care softly to support and encourage clients to interact with the entire process of biophysics, cognitive, and affective for achieving holistic health. To implement nurturance necessary needs knowledge and understanding nurses about the values and the patient's perspective (Erickson et al., 2002, p.48 in Tomey and Alligood., p.566). Nurses who can play a nurturance role well will have a positive impact for clients. Clients feel they are in the safe environment that is comfortable and can maintain a professional relationship between nurses as health care workers and clients as users of services (Lamb, 2005). Furthermore, unconditional acceptance is the nurse's role receive a person's overall properly and empthatically without a requirement to encourage and facilitate the growth and development of the person as a model. The concept needs to be delivered continuously to the nurses in order to have good ability and can be carried out continuously as part of a habit. The concept *unconditional Acceptance* is part of the role of nurses in providing holistic nursing care.

5 CONCLUSION

The implementation of FLO strategy (openess to learning, challenge ofchange, stimulating leadership) improve skill development for surge strategy (vision, action modeling, facilitating strategi dialogue, mental modeling); for cultivate strategy (strategic thinking, managing change, collaborative coaching, facilitating skill); and for transform strategy (apllying technical competence, contributing as a team member, leading team, facilitation, nurturance, dan unconditional acceptance. FLO strategy needs to be implemented continuosly in particular in hospital organization as organizational learning in the competitive era.

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The Comparison of Elderly Life Quality Index of Urban and Coastal Societies In Surabaya

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Abstract: Background: Aging is a state that happens in human life. The process of aging is not a disease, but the advanced stage of a life process that all individuals will undergo. The aging process in the elderly lead to physical changes, social changes and psychological changes. The weakness in physical condition, the less prosperous social economy, and the emergence of various degenerative diseases affect the productivity and physical performance as well as social relation can cause productivity to decrease affecting the social. Methods: Design of this study used cross sectional. the index of quality of life of elderly urban and coastal communities in Surabaya used second Confirmatory Factor Analysis (2 CFA) approach. Results: The results showed that the elderly life quality in Surabaya is a fit model based on Goodness of Fit (GoF) criteria. The highest elderly life quality index in some primary healthcare services (Puskesmas), eg. Siwalankerto, Jagir, and Sidosermo. The dimensions of physical health, psychological dimension, and environtmental dimension are the dominant indicators in shaping life expectancy and quality of life for the elderly. Conclusions: The implication of this research is there needs to emphasize on psychological dimension in order to increase quality of life elderly both in urban and coastal society.

1 BACKGROUND

Aging is a condition that occurs in the span of human life. In the aging process may develop various problems both physically, mentally, social and economically. As they get older, they will experience both chronic disease as well as acute disease. Moreover, their physical problem lead to decline productivity, social economic and Psychology. The results of previous study reported that the physical, psychological and social components as predictors of quality of life(Gobbens & Assen, 2014). However, the dominant factors that are influences the quality of life of the elderly need to be studied further. Quality of life has been defined by the World Health Organization (WHO) as Quality of Life Group as an individual's perception of their position in life in the context of the culture and value system in which they live and in relation with their goals, expectations, standards and concerns. The aging process tends to problems both physically, mentally, biological or social economical. Regarding with degenerative process, it will develop to decline the physical ability as well as neurological functions to walk, communication, vision and memories. Quality of life influenced by four factors, namely physical health, health psychological, social relations and environmental factors (Badriyah, 2015). The ability to perform daily activities independenly will reflect their quality of elderly life.

In 2015, the global population achieved 7,3 billion people, and 60% live in Asia (4,4 billion). There were 901 million aged 60 years and over, representing 12,3% of the global population. It has projected will increase from 16,5% in 2030 to 21,5% in 2050 (Long & Sudnongbua, 2017). The growth of elderly people is a global phenomenon, which is projected will increase in the developing country. Between 2015 and 2030, the number of elderly people will up to raise 60% which is similar

with Africa and Asia (United Nations, 2015) (Long & Sudnongbua, 2017). Along with the increase of the degree of health and welfare of the population will have an effect on the age's life expectancy. The report from World Health Organization (WHO), in 1980 age's life expectancy is 55,7 years, this result has increased in 1990 to 59.5 years and on 2020 is estimated to be 71,7 years, the situation at this time is half the number of elderly in the world (400 million) in Asia (Wirakusumah, 2000). In prediction elderly population growth rapidly in the future. In 2020 the number of elderly will increase 28,8 million (11.34%) from the total population of Indonesia (Kemenkes, 2012). Furthermore total population in Surabaya 2,41% over total population (Badan Perencanaan Pembangunan Kota Surabaya, 2017)

Regarding pilot study, there were 8 of 10 elderly in urban areas have a good quality of life. Meanwhile, 7 of 10 elderly in the coastal area reported low quality of life. It assumed many factors influence their quality of life.

The changes in the elderly is a natural process that comes with a decline in the condition of the physical, psychological, social, spiritual and sexual problem that may interact with one another according to the age of people. In fact, each individual having experience in their own aging process (Kholifah, 2016). The aging process of the elderly can cause physical changes, social change and psychological changes. As a result of the weakness in physical condition, less in social economy and various degenerative diseases that can cause lack of productivity and affect their social life. Having problems in their life can reduce the quality of life and the even feel desperate, stressed, as well as depressed Darnton-Hill, (1995); Oye Gureje, (2008) on (Badriyah, 2015).

In order to explore more further related to determinant factors of quality of life, researcher are interested to conduct the research.

2 METHODS

This research used cross sectional design. Population was taken in urban sub-district and coastal in Surabaya, used Simple Random Sampling. Data collection used questionare from (World Health Organization Quality Of Life-BREF). WHOQOL-BREF consist of physical, psychological, social, and environment factors. There are 26 item statement that should be fullfill by respondents. The sample size of this study was 135 elderly in urban society and 109 elderly in coastal society. The inclusion criteria of this subject were elderly people aged 60-65, without mentaly problem. Ethical consideration provided by Stikes Hang Tuah Surabaya. All the participants were voluntary and all of, the respondens were informed the purpose of the study before fullfill the questionare.

Estimation method of Second Confirmatory Factor Analysis (2CFA) with maximum likelihood approach is used to identify the indicators the quality of life of the elderly. Second confirmatory factor analysis measure four dimensions (physical, psychological, social, and environment). This approach requires data normal multivariate distribution (Hair, Black, Babin, & Anderson, 2010). From the results of the 2CFA that fit obtained score factor and then to calculate the index of the quality of life the elderly

The research variables used among others 5 latent variable and 24 indicators with the framework of the following concepts.

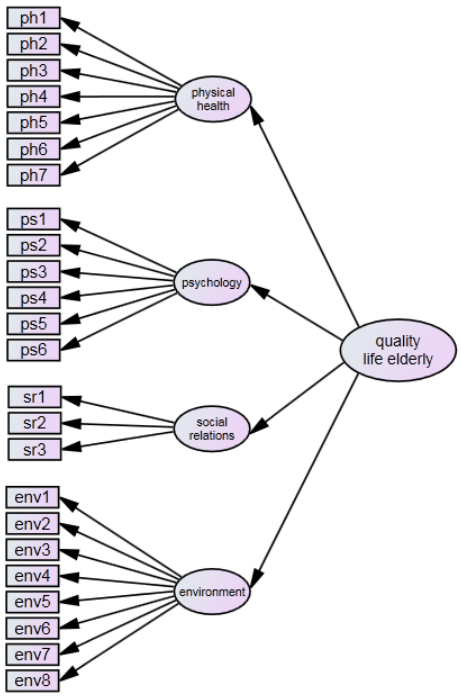

Figure 1. The Conceptual Framework of Research

The result of the Analysis of the Second CFA based on this formula:

$$I_R = X' F_l \times 100$$

With,

X = data indicator

F = score factor from the latent variable

3 RESULTS

Socio Demography of Participants

Table 1 The distribution of respondents based on the age of elderly in urban areas and coastal Surabaya on November-Desember 2017 (n=244)

Age	Urban Area		Coastal	
	F	%	F	%
60	23	17,0	22	20,2
61	9	6,7	6	5,5
62	14	10,4	17	15,6
63	13	9,6	16	14,7
64	17	12,6	10	9,2
65	59	43,7	38	34,9
Total	135	100,0	109	100,0

Table 2 The distribution of respondents based on Gender Elderly in Urban areas and coastal Surabaya on November-Desember 2017 (n=244)

Gender	Urban Area		Coastal	
	F	%	F	%
Male	33	24,4	26	23,9
Female	102	75,6	83	76,1
Total	135	100,0	109	100,0

Table 3 The distribution of respondents based on Education Elderly in Urban and coastal Surabaya on November-Desember 2017 (n=244)

Education	Urban Area		Coastal	
	F	%	F	%
Ungraduate	3	2.2	29	26,6
Elementary	38	28,1	47	43,1
Junior high school	34	25,2	26	23,9
Senior high school	52	38,5	5	4,6
University	8	5,9	2	1,8
Total	135	100,0	109	100,0

Table 4 The distribution of respondents based on the Status of Marriage in Elderly Urban and coastal Surabaya on November-Desember 2017 (n=244)

Status Of Marriage	Urban Area		Coastal	
	F	%	F	%
Marriage	90	66,7	86	78,9
Male Widow	4	3,0	2	1,8
Female Widow	40	29,6	21	19,3
Total	135	100,0	109	100,0

Table 5 The distribution of respondents based on the history of Disease in Elderly Urban areas and coastal Surabaya on November-Desember 2017 (n=244)

History of Dissease	Urban Area		Coastal	
	F	%	F	%
Diabetes	27	20,0	24	22,0
Hipertension	38	28,1	36	33,0
Stroke	4	3,0	3	2,8
Hipercholesterolimia	13	9,6	17	15,6
High Uric Acid	37	27,4	17	15,6
Rheumatic	16	11,9	8	7,3
Heart Dissease	0	0	4	3,7
Total	135	100,0	109	100,0

Table 6 The distribution of respondents based on the work of elderly in urban areas and coastal Surabaya on November-Desember 2017 (n=244)

Work	Urban Area		Coastal	
	F	%	F	%
Pension	47	34,8	9	8,3
Civil Goverment	3	2,2	4	3,7
Enterpreneur	26	19,3	6	5,5
Housewife	41	30,4	27	24,8
Trader	13	9,6	56	51,4
Farmer/Fisherman	0	0	2	1,8
Etc	5	3,7	5	4,6
Total	135	100,0	109	100,0

Table 7 The distribution of respondents Based on monthly income in Elderly Urban areas and coastal Surabaya on November-Desember 2017 (n=244)

Monthly Income	Urban Area		Coastal	
	F	%	F	%
< 1 Million	34	25,2	52	47,7
1-2 million	57	42,2	44	40,4
> 2 million	44	32,6	13	11,9
Total	135	100,0	109	100,0

Modeling 2CFA the quality of life of the Elderly

Quality of life elderly was analys with Secondary Confirmatory Factor Analisys (2CFA) modelling. Based on 4 factors: included physical health, psychology, social relation and environment. Goodness of fit models by 2CFA consist of 8 indicators. There are Chi square, probability, CMIN/DF, GFI, AGFI, TLI, CFI, RMSEA. Goodness of fit was defined when the cut of value full fill the cut of standard value.

Furthermore the modeling 2CFA served on the following image.

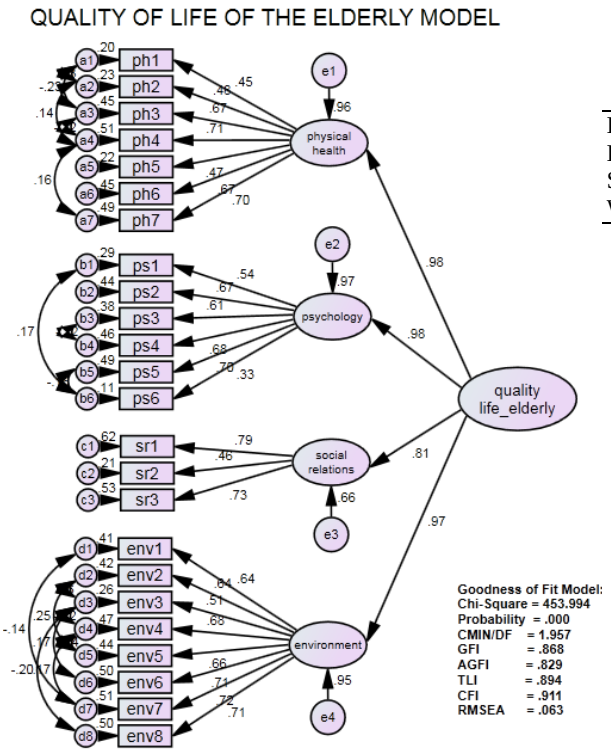

Figure 2. The model of the measurement of the quality of life of the Elderly

Based on the figure 2, showed that the 2 (two) criteria used to assess the chance to be a good model, CMIN/DF and RMSEA. The others were TLI and CFI. It can be assumed that the measurement model for 2CFA can be accepted, which means there is a similarity between the model with data. Model of measuring the first orders are presented in the following equation:

Based on figure 2:

Quality of life elderly = 0.978 physical health

Quality life elderly = 0.983 physichology health

Quality life elderly = 0.813 Social relation

Quality life elderly = 0.973 Environment

Index of the quality of life in the Elderly

To obtained index of quality of life, based on each latent variable is presented below:

Table 8. The Latent Variable Index

Primary healthcare services (Puskesmas)	The Index				
	I_SS	I_E	I_PSY	I_PHY	I_QOL
Siwalankerto	54.40	58.90	41.25	59.84	58.84
Jagir	55.96	59.24	41.77	60.61	59.52
Sidosermo	59.76	63.67	45.05	65.22	64.07
Tanah Kali Kedinding	53.77	56.14	39.90	57.81	56.72
Tambak Wedi	54.87	56.90	40.42	58.70	57.52
Bulak Banteng	53.38	56.52	40.09	57.51	56.82
Sidotopo Wetan	53.15	55.33	39.39	57.05	55.97

Table 8 showed that the highest life quality index were on the puskesmas Sidosermo, Jagir and Siwalankerto, followed by puskesmas Tambak Wedi, Bulak, Sidotopo Wetan and Tanah Kali Kedinding those result were replected the dimension of quality of life (physical, psychological, social, and environment.

4 DISCUSSION

In average the index quality of life elderly in coastal and urban were in a good category (table 8).

The physical health has contributed 0,978 with quality of life elderly. Perhaps the most prominent factors were the persistence of age, gender, general health, and socio economic (Li et al. 2016; Woo et al. 2010). This study confirms that decreased quality of life is significantly associated with their physical performance. The present study provides evidence that age is consistent related with the degenerative process. Almost all elderly reported having chronic disease and decreased their flexibility and their strength. Lower socio economic position is associated with increased frailty which is consistent with previous reports of increased sickness and disability to maintain their healthy

The social relation has contributed 0,813 with quality of life elderly. Interpersonal relationships can help to alleviate psychological distress associated with life-threatening situations. Social support promotes cognitive and behavioral coping, facilitates a sense of meaning, enhances self-esteem, fosters a sense of belonging, and increases available coping resources. (Yazicioglu et al., 2006). The direct effect of family sense of coherence on quality of life and depressive symptoms, and its mediating role between stress in quality of life and depressive symptoms are consistent with the salutogenic framework and previous studies that family sense of coherence may serve as a stress-resisting resource, providing the prerequisite for a good quality of life(Ngu, 2013).

Social support is a broad term, which includes the supportive ways that different people behave in the social environment. In this study, environment factor has 0,973 to determine quality of life elderly. Many people believe that emotional support was the strongest stress buffer. There is some evidence that among the three different types of support, emotional support shows the strongest relation to quality of life.(Helgeson, 2003).

In this study, psychological health dimension significantly influence quality of life in elderly as much as 0.983 (figure 2). These results showed some similarities and differences compared with those of previous studies. In elderly, patients are individuals with chronic disease and stay many hours a week on hospital bed or rehabilitation therapy as well as their daily activites are great limited and their quality life is reduced (Toulabi, Mohammadi, Ghasemi, & Anbari, 2016). This study showed that having positive thinking, good in self esteem can increase their happiness and contribute to quality of their life. More over, there were statistically significant relationship observed between quality of life and marital status, gender and employment status.

In the present study, married people had higher QOL scores than did those in different marriage status groups generally (Toulabi et al. 2016; Han et al. 2014). We found a significant value between the quality of life between coastal and urban society (table 8). In urban society, getting adequate information, infrastructure of health care, various activities, stable financial support desirably affect their thinking and their esteem. Therefore, sufficienct attention and adequate coping mechanism are required in order to increase psychological capabilities and quality of life.

5 CONCLUSION

Index quality of life elderly in urban tend to more higer than coastal society. Implementing multidiciplinary dimension factor contribute to improve the quality of life. Psychological factor was consider as a main focus on increasing the program. It is suggested that in the future studies more focus on sharing information, various activity among the elderly and well maintain life style.

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Zea Mays L to The Decreasing Blood Glucose Levels in Animal Trial (Rat) with Diabetes Mellitus: Systematic Review

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Keyword: Zea mays L, Decreased Blood Glucose Levels, And Diabetes Mellitus.

Abstract: Background: Diabetes millitus (DM) is one of chronic disease that require long treatments, highly cost treatment, in addition DM prevalence rate is increased continuously. Pharmacological therapy given to DM patients has not been able to guarantee cure to DM patients such as Zea Mays L is know as one of traditional herbal medicine in China which has many traits such as hypoglycemic, anti tumor, anti oxidant, etc. Method: This systematic review begins with the selection of topic, then determines keywords to search the journals from various databases such as Google Scholar, ProQuest, Pub Med, Science Direct, Journal Of Nursing Science, and National Journal. Limited from 2009 to 2017, the English keywords use are "Zea mays L", "corn silk", "corn silk for diabetic", "diabetic and herbal". Result: From 16 journal conducted review the number of samples vary between 20 to 80 animals trials that have been treated with various corn silk extract and can be used as herbal therapy alternative to decrease blood glucose levels in animal trial (rat) with DM. Conclusion: Zea mays L is very significant to decrease blood glucose levels in animal trial (rat) with DM

1 BACKGROUND

Diabetes is one of the non-communicable diseases that became one of the health issues of concern in the community. In Indonesia DM is a serious threat to health development because it can cause blindness, kidney failure, to the risk of heart disease (Ghada et al. 2013). Diabetes is a disease disorder of endocrine metabolism caused by decreased amount of insulin production in the body (Pan et al. 2017). In cases of diabetes diabetes 90% is a case of dabetes type 2 (W. Zhao et al. 2012). Diabetes mellitus is a chronic disease that affects about 5 - 10% of the world's population. Estimated global estimate for diabetes is 171 million in 2000 and will increase to 366 million by 2030 (Ahangarpour et al. 2017). Based on the annual report of East Java Health Office in 2012, Diabetes millitus is the most degenerative disease with 102,399 cases. Diabetes millitus is one of the chronic diseases that require long treatment, expensive treatment financing, besides the prevalence of diabetes millitus continues to increase. The consequences or complications of diabetes millitus can be long-term therefore, it is necessary to make every diabetics millitus get the right diagnosis and treatment. The most important therapy of diabetes millitus is to regulate the diet of the patient in cooperation with a nutritionist to determine what foods can be consumed. In general this drug is a good oral antidiabetic for the therapy of type-2 DM or NIDDM. One of the most widely used drugs in Indonesia is glibenclamide. Pharmacological therapy given to DM patients has not been able to provide a cure guarantee in DM patients. Much research has been done, often the pharmacological therapy done to the patient has failed. This is because DM patients tend to experience boredom due to the use of existing drugs.

Currently, many researches have been developed about herbal medicines. Society has been switched to herbal medicine because it feels safer and easier to get it. Herbal remedies have been widely developed in various countries and become one of the most valuable resources received by the World Health Organization (WHO) (Zhang et al. 2016). Corn is one of three types of crops that are widely cultivated throughout the world. Zea mays L is an abundant waste material worldwide (Chang et al. 2016). Zea mays L known as one of the traditional

herbal medicine in China which has many properties of hypoglycemic, anti-tumor, anti oxidant and others. Meanwhile, Zea mays L also contains various chemical components such as polysaccharides, proteins, flavonoids, alkaloids, tannins, steroids and others (Guo et al. 2009). In previous studies indicating that among all flovanoid components may be considered the major contributors to most therapeutic effects, including anti-activity oxidants, diuritics, and anti-proliferative in human cancer cells and others (Kristover Koloay, Gayatri Citraningtyas 2015). As mentioned that oxidative stress as well as impaired lipid metabolism plays an important role in diabetes other than hyperglycemia, therefore a drug with some efficacy will be much more effective in the treatment of diabetes(Zhang et al. 2016). The purpose of this study is to conduct a sistematic review to determine the effectiveness of Zea mays L as one form of alternative herbal plant therapy that can lower blood glucose levels in patients with diabetes millitus. This study is expected to give the idea of further research in the provision of interventions to alternative herbal medicine in patients with diabetes millitus so as to improve the quality of life of patients with diabetes mellitus.

The purpose of this systematic review is to illustrate the effectiveness of Zea mays L)effectiveness of decreased glucose levels in experimental animals (rat)

2 METHODS

The study was a systematic review using RCT (Rnized Controlled Trial) type articles using true laboratory experiments.

Inclusion criteria

Inclusion criteria in this systematic review are mice with diabetes, giving extract Zea mays L, decreased blood glucose levels. And exclusion criteria were patients with diabetes in addition to Zea mays L intervention.

3 RESULTS

Total journal journals that have been reviewed are 36 journals obtained from search strategy, evaluation and methodological assessment. Of the 36 journals, 20 journals were excluded on the grounds of not meeting the inclusion criteria with details: 2 types of systematic reviews, 18 journals containing experimental journals about Zea mays L without treatment in experimental animals, 16 journals both in English and Indonesian which corresponds to the inclusion criteria.

Grouping / Aggregation Review

The aggregation of the results of the review with the design of laboratory experiments is classified into the Benefits of Zea mays L on the decrease of blood glucose levels and increased production of insulin, the benefit of Zea mays L on weight loss, and the benefit of Zea mays L can increase beta cell regeneration.

Aggregation Paper with Experimental Design

The Benefits of Zea mays L against Reduced Blood Glucose Levels and Increased Insulin Production.

The results of a review of the journal found that studies conducted on mouse-fed animals with samples between 20 - 80 rats divided into 2 groups, the treatment group and the control group. In the group treated with extract Zea mays L in the results of a review of 16 journals there were 15 results showed a significant decrease in blood sugar levels ($p < 0.001$) and an increase in insulin production, compared with a control group that only gliben, water distillation was obtained ($p < 0,05$).

Benefits of Zea mays L against Weight Loss

In a review of 16 journals there are 5 journals discussing the effect of Zea mays L giving extract to body weight try. The results of the review found that giving of extract Zea mays L in experimental animals did not affect weight loss with results ($p < 0.001$).

The benefits of corn hair (Zea mays L) can increase the regeneration of beta cells

The results of a review of 16 journals found that giving extract Zea mays L in experimental animals in addition to lowering blood glucose levels can also increase regeneration in beta cells discussed in the journal Vijitha P (Vijitha T P* and Department 2017).

Implications of Practice

The implications of this systematic review of nursing practice, the results can be applied in everyday life because the material is very much and easy to can with a relatively affordable cost in various layers of society.

In nursing practice from the study of 16 journals can be made an educational intervention that alternative herbal therapy using Zae mays L can be used as a reference non-pharmacological therapy for people with diabetes mellitus. Serve as an input for nurses on complementary therapies, since the intervention on the use of non-pharmacological therapy is safer and has minimal side effects compared to pharmacological therapy.

Nurses can also socialize the use of non-pharmacological herb therapy about the effectiveness of Zae mays L to decrease blood glucose levels (Wang et al. 2016) , accordingly with a role as a commissioner nurse.

4 CONCLUSIONS

Review of journals that have been done found that therapy using Zea mays L is very significant in lowering blood glucose levels in animals try (mice).

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PSYCHOEDUCATION FAMILY PATIENTS MENTAL DISORDERS (A SYSTEMATIC REVIEW)

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Keywords: Psychoeducation, family, mental disorder

Abstract: WHO mentions the main problems of mental disorders in the world are schizophrenia, unipolar depression, alcohol use, bipolar disorder, obsessive compulsive disorder (Stuart & Laraia, 2005). Schizophrenia is a problem with the highest prevalence with some symptoms of psychotic disorder. Prevalence is around seven in a thousand adults. And the eight highest causes of mental disorders in adolescents and adults (WHO, 2013 in M-S. Ran, 2015). Schizophrenia is a group of psychotic reactions that affect the function of individuals, among others, the function of thinking and communicating, receiving and interpreting reality, feel and show emotions and behave (Stuart & Laraia, 2013). We reviewed 25 lieratures to identify family psychoeducation interventions in family members of mental disorders. The literature used is published until 2017, with 7 qualitative research literature and 18 quantitative research literature. The smallest sample size was 3 focus groups on qualitative studies, and the largest number of samples was 2060 in quantitative studies. The results showed that 5 studies of family psychoeducation can improve the quality of life of patients and families, reduce patient limitations, improve cognitive abilities and psychomotor families and improve patient life expectancy. 2 studies have found out that family psychoeducation can reduce the burden of families and nurses in treating psychiatric patients. 3 studies have resulted in improved family coping, and 10 studies resulted in improved quality of life for patients and families, prevention of recurrence, accelerated healing, and there was an increase in family positive support for psychiatric patients. Psychoeducation to families of mental disorders proved to increase independence and family ability in daily care, reducing dependence on medication and hospital care. The study of family psychoeducation of mental disorders is highly heterogeneous, both statistically, population, intervention methods, and outcomes. Therefore, meta-analysis can not be performed in most of the literature included. Further research is expected to develop more to obtain results that can increase knowledge and can be applied in other settings. The results of these interventions will vary depending on the factors influencing, for example, sex, education level, age, socioeconomic status, and so on.

1 INTRODUCTION

Mental disorders are maladaptive responses of internal and external environments, evidenced through thoughts, feelings and behaviors that are not in accordance with local or local cultural norms and disrupt social, work and or physical functions. The problem of health, especially mental disorder of the incident is still quite high. Data of the American Psychiatric Association (APA) in 1995 mentions 1% of the world population will suffer from schizophrenia (4). It is estimated that 50 to 80% of people with schizophrenia and psychotic disorders stay with or have a constant relationship with the family or with a member of the nuclear family (3). Family members are a factor for mental health because family relationships are the primary source of care and motivation (5). Treatment in people with mental disorders can reduce family burden and prevent recurrence (6).

2 METHOD

We review the literature published until 2017 to identify family psycho-education interventions. The family in question is a family that has one family member suffering from mental disorders, disabilities or problems. We do not limit geographical or residential areas. We consider that

in all areas of psychoeducation of the family it is important to do so. A literature search strategy by entering and combining keywords and text titles. Journal search is done through the account of Science Direct, Proquest, Springer, Cambrigde University Press, Journal of Nursing Soedirman. Key words used are "family therapy", "Psycoeducation", "family psycoeducation", "family therapy", "family psychoeducation". From several journals that came out then selected the journal in accordance with the topic of research. The selected journal or literature is then reviewed and studied about: 1) research characteristics, 2) description of methods, participants, interventions and research results, 3) discussion.

3 RESULTS

We studied 25 literatures to identify family psychoeducation interventions in family members of mental disorder. The literature used is published until 2017, with 7 qualitative research literature and 18 quantitative research literature. The smallest sample size was 3 focus groups in qualitative research, and the largest number of samples was 2060 in quantitative studies. The results showed 5 studies of family psychoeducation can improve the quality of life of patients and families, reduce patient limitations, improve cognitive abilities and psychomotor families in caring for family members and improve patient life expectancy. With family intervention, they are able to improve awareness of their problems, acquiring efficient education strategies, initiating new friendships, improving conflict resolution, and so on. Therefore, rather than focusing on losses, these families can do so, achieving a series of highly developed skills such as communication, self-esteem, sense of humor, endurance. This is its own potential. This family should be strengthened, not only to improve the quality of family life, but also for the widespread benefit to society.

3 family psychoeducation studies have found out that family psychoeducation can reduce the burden of families and nurses in treating psychiatric patients. The results of correlational analysis to obtain results there is a high association between the variable burden of care and psychological health of caregivers, both family and nurses. 4 family psychoeducation studies have resulted in improved family coping. The results of data analysis that Africans (black people) have stronger coping and have the skills to care for family members better than white people. And 13 studies resulted in improved quality of life for patients and families, prevention of recurrence, accelerated healing, and there was an increase in positive family support for mental patients. The family psychoeducation intervention group had significantly higher rates of antipsychotics on medication adherence and higher levels of work ability. The control group had a much higher rate of non-adherence (26.0%) than the family psychoeducation intervention group (6.5%). Family psychoeducation interventions are effective in 14-year follow-up, especially in Indonesia with patient treatment and social functional compliance. Family psychoeducation interventions are more effective in places where family members often participate in patient care and have a lower level of knowledge on mental illness. Family interventions should be considered when making mental health policy and planning on health services.

4 DISCUSSION

We studied 25 literatures on family psychoeducation interventions with family members for mental disorders. The results obtained are positive, that family psychoeducation significantly affects patients, families, live loads, and motivation and coping.

Family psychoeducation trains the family to be skilled at caring for family members. So that after intervention, the family's ability to care for family members increases, both cognitively / psychologically improved and psychomotor / behavioral. With the ability of the family to be better, the patient will become more care both more attention psychologically and physically. Psychologically the patient feels the family is more attentive, closer, and motivating the patient. In addition, increased family attention gives the patient a chance to share his heart or the problem with the family. Families will be able to provide solutions, hope, entertainment and megahasi to patients.

Psychoeducation interventions can reduce the burden on families and nurses. This is because families who are given intervention become more skilled and better able to care for family members. A good family's perspective is impacting on increasingly independent patients. The independence of the patient makes the family burden becomes lighter. Both maintenance burden,

burden of supervision, and burden of treatment and control to health service.

Qualified families and self-sufficient patients automatically create the burden of nurses to care for patients to become lighter.

With family psychoeducation intervention, family coping will be better. Because the education provided will increase the knowledge and ability to care for the patient. Good knowledge can minimize the stigma that comes from the family. This good coping affects the patient's coping will increase, because the patient feels the same family attention between the patient and other family members, and the family does not behave negatively about the illness. If the patient and family are in good condition, the stigma of society will be minimized. Families can motivate patients to continue living and reaching goals. The encouragement / motivation given by the family will foster the spirit of life, the spirit of work and the spirit of working for the patient. The drive / motivation given by the family will foster the spirit of life, the spirit of work and the spirit of working for the patient

Authenticity of research

No	Judul	Desain Penelitian	Sampel & Teknik Sampling	Variabel	Instrument	Analisis	Hasil
1	*Families with a disabled member: impact and family education.* Elena Benito Lara & Carmen Carpio de los Pinos. 2017	Kualitatif, Literatur Review	Sample: 4 + 41 participants, sampling technique: purposive sampling	Families with family members with disabilities, impact, family education			Strengthening / empowerment can improve the quality of family life
2	*Family psychoeducation and schizophrenia: A review of the literature.* William R.McFarlane, Lisa Dixon, Ellen Lukens, Alicia Lucksted, 2003	Literature review	Sample: 895, sampling technique: random sampling	Family psychoeducation, schizophrenia			Giving FPE can reduce the patient's limitations
3	*Burden in schizophrenia caregivers: Impact of family psychoeducation and awareness of patient suicidality.* Michael G. Mc.Donell, Robert A.Short, Christoper M. Berry, Dennis G.Dyck. 2003	corelation	Sampel: 90, cohorts of a randomized clinical trial	Family psychoeducation, family burden	BPRS, mSANS	Regresi linear ANCOVA	MFGT does not significantly affect the family caregiver burden
4	The influence of family psychoeducation on family ability In caring for social isolation clients. Ruti Wiyati, Dyah Wahyuningsih, Esti Dwi Widayanti. 2010	Quasi eksperimen	Sample: 48, sampling technique: random sampling	Family psychoeducation, family ability to care for social isoalsi client	questionnaire	Test univariate by using c-square and bivariate test using analysis of Independent Sample t-test and paired t-test	Psychoeducation of Family Therapy improve cognitive abilities and psychomotor significantly
5	*From support to overload: Patterns of positive and negative family*	Quasy eksperiment	Sampel: 60, sampling technique :	Patterns of care, psychological health	family network method (FNM) questionnaire,	validated multivariate statistical, Pearson	Parenting is related to psychological health

	relationships of adults with mental illness over time. Marlene Sapine, Eric D. Widmer, Katia Iglesias. 2016		Purposive sampling.		an egocentric network collection tool, Symptom Check-List-90-R (SCL-90-R	correlations, STATA's mixed command	
6	*Strengths of families to limit relapse in mentally ill family members.* Tlalefi T. Tlhowe, Emmerentia du Plessis, Magdalene P. Koen. 2017	phenomenological design	Sample : 15 family members , sampling technique: Purposive sampling	Support family members, relapse of people with mental disorders	The interview is unstructured	Theme analysis	Four main themes identified: patient condition, trust / confidence, involvement of the patient in daily activities, openness among family members.
7	"*Family Education and Support" program for families at Psychosocial risk: The role of implementation process.* Maria Victoria Hidalgo, Lucia Jimenez, Isabel Lopez, Barbara. L, Jose. S. 2016	Crossectional	Sampel: 155 participant, sampling technique : purposive sampling.	Family education and support, the risk of psychosocial disorders.	questionnaires about family dynamics.	Cluster analyses, parametric (Student t test) and nonparametric (Mann–Whitney test)	There is a significant relationship between education and family support with the risk of psychosocial disorders .
8	*Childhood family wealth and mental health in a national cohort of young adults.* Felice. LS, Allison. BB, Robert. FS. 2016	Cohort studi	Sample: 2060 remaja, sampling technique: purposive sampling.	Patterns of foster children rich families and mental health, adolescents	K-6 nonspecific psychological distress scale (range 0–24)	R version 3.1.2	Socioeconomic status affects mental health
9	*Race-Related Differences in the Experiences of Family members of Persons with Mental Illness Participating in the NAMI Family to Family Education Program.* Melissa. ES, Michael. AL, Crystal. DW. 2014	Quasy experiment	Sample : 293 white families and 107 families of Africa America, sampling technique: random sampling.	Participation of family members of mental disorders, Family education programs	interview	t tests and Chi square tests, linear regression models (SAS, version 9.2, PROC MIXED procedure)	There is a connection to the problem solving koping. African American families have higher levels in empowerment systems with positive coping methods .
10	*Family Influence in*	qualitative	Sample: 54	Family influence in	semi-structured	Atlas-ti qualitative	Family psycho-education is

	Recovery from Severe Mental Illness. Heather Michelle. A, Rob Witley. 2015		people, sampling technique: purposive sampling	healing, severe mental disorder	interviews	data analysis software.	very important to improve the cure of patients
11	*Towards a Cultural Adaptation of Family Psychoeducation: Findings from Three Latino Focus Groups.* Veronica. H, Scott. S, Roberto. LF, Edith. K, Anthony. S, Molly. F. 2013	Qualitative, Focus Group Procedures	Sample: 3 focus group, sampling technique: purposive sampling	Cultural adaptation to family psychoeducation	protocol summary consent form.	qualitative content analysis,	Analysis of transcripts revealed specific subthemes for each category
12	*Burdens and Psychological Health of family Caregivers of People with Schizophrenia in Two Chinese Metropolitan Cities: Hong Kong and Guangzho*u. Paul. CWL, Petrus. Ng, Chistoper. T. 2013	croosectioal	Sampel: 39 caregiver di Hong Kong dan 70 caregiver di Guangzhou, teknik sampling: convenience sampling stratagem	Burdens and Psychological Health of family Caregivers	Involvement Evaluation Questionnaire and the General Health Questionnaire.	MANOVA, ANOVA	There is a relationship between caring burden and caregiver psychological health
13	*Social Support and Religion: Mental Health Service Use and Treatment of Schizophrenia.* A. Surolk, RE. Geating, D. Alonso. S. Baldwin, S.Harmon, K. McHugh. 2013	Sistematyc review	43 original research	Social and religious support of mental health services	review paper		Religion / religion affects the treatment / therapy of schizophrenia
14	*Searching for a normal life : Personal Accounts of adult with Schizophrenia, their parents an well-sibling.* Catherine. HS, Virginia. AW. 2001	qualitative	Sample: 22 individuals from 6 families, sampling technique: purposive sampling	Normal life, schizophrenia, parents and differences with siblings	Interview	analisys of personal account	Schizophrenia affects life expectancy, activity, and plan
15	*Effectiveness of psychoeducational*	crossectiona l	Sample: 326, sampling	Psychoeducation intervention, rural	medical records, the Present	Nonparametric statistical test ($\chi 2$),	Family psychoeducation interventions are effective

	intervention for rural Chinese families experiencing schizophrenia. Mao. SR, Meng. ZX, Cecillia. LWC. Julian Leff. 2003		technique: cluster randomized. (3 groups)	Chinese family	State Examination (PSE–9, Chinese translation), the General Psychiatric Interview Schedule and Summary Form, the Social Disability Screening Schedule (SDSS), Relatives Investigation Scale and the Relatives' Beliefs Scale	analysis of variance,ANOVA,Pearson's correlation coefficient and multiple regression gression	and appropriate for psychiatric rehabilitation in rural China communities.
16	*Mental Health Professionals' Social Constructions of Families of People with Serious Mental illness.* Joanne Riebschleger. 2001	qualitative	Sample: 73 participants, sampling technique: purposive sampling	Families with severe mental disorders	most frequently reported social constructions		Recommendations: development scale, family model development, implementation of family psychoeducation programs, recommendations including training mental health professionals, enhancing teamwork of professional and family services.
17	*The effectiveness of psychoeducational family intervention for patients with schizophrenia in a 14-year follow-up study in a Chinese rural area.* MS. Ran, CLW. Chan, SM. Ng, LT. Guo, MZ. Xiang. 2015	Quasy experiment	Sample: 326, sampling technique: cluster randomized control trial (CRCT)	Family psychoeducation intervention, schizophrenia	The Patients Follow-up Scale, the Positive and Negative Syndrome Scale (PANSS) and the Global Assessment of Functioning	ANOVA, Cox hazard regression analyses (survival analyses).	Effective family psycho-education is provided, especially for patient compliance and social functioning.
18	*Family Network Support And Mental Health Recovery.* Francesca Pernice. D. 2010	crossectional	Sample: 169, sampling technique: purposive	Family support and healing for people with mental disorders.	Interview, The Recovery Assesment Scale	MANOVA	Support and reciprocity with family members is important for patient support and cure.

			sampling				
19	*Collaboration and congruence between family member and case manager perceptions in the treatment of indivduals with Schizophrenia*. Susan Bischel. 2001	Quantitative -correlation	Sample: 49 case manager-family member	Family members and case management, individual care with schizophrenia.	Caregiver Burden Scale, the Client Satisfaction Questionnaire, the Family/Professional Collaboration Scale	paired sample t-tests	There is a strong relationship between family-professional collaboration and service providers. Significant relationship between two groups of respondents
20	*Mental health practitioners' views of barriers to collaboration with the families of individuals with schizophrenia*. Blake Charles. B. 2006	quantitative (cross-sectional) dan qualitative	Sample: 150, sampling technique: purposive sampling	Practitioners of mental health, individuals with schizophrenia	(1) quantitative questionnaire administered to practitioners, (2) secondary data analysis on VMH database information (3) qualitative question	Independent samples t-test and one-way analysis, A multiple regression, Pearson's correlation and ANOVA, Nonparametric tests, deductive and inductive methods from the grounded. theory approach	Individuals with schizophrenia cause the workload of practitioners to be higher. The use of hospitalization and length of hospital day was significantly higher than that of patients with other diagnoses.
21	*The effect of family functioning and family sense of competence on people with mental illness*. Eric. D Johnson. 1998	Quasy experiment	Sample: 180, sampling technique: purposive sampling	Family functions, family feelings, people with mental disorders .	Semi-structured interview, the clinical rating scale, The Family Functional Scale, Family members Sense of Competence	Multiple regression analisys	Significant relationship between variables with the level of adaptation of family of mental disorders .
22	*Boundaries between parent and family education and family therapy: The levels of family involvement model*. Doherty, Willia.. J. 1995	Qualitative		Parents, family education, family therapy: the stage model of family involvement	LFI Model		5 levels of models related to family relationships, education and therapy.
23	*Exploring the stigma*	descriptive	Sample: 6 family	Stigma, the	Semi-structured	Creswell's	The majority of participants

	related experiences of family members of persons with mental illness in a selected community in the iLembe district, KwaZulu-Natal. Celenkosini. TN, Gugu. GM. 2017	qualitative study	members, sampling technique: purposive sampling	experience of family members with mental disorders .	interview questions	method	reported using emotion-focused coping mechanisms to cope with the stigma they face.
24	*Social Capital, Family Supports and Mental Health among a Female Group in Tehran*. Ehsaneh. BN. 2011	descriptive correlation	Sample: 200 women, sampling technique: purposive sampling	Socio-economic, family support, mental health, and counseling	Social Capital and Family Supports Questionnaire, Mental Health Questionnaire	Multiple Regression	Family and socioeconomic support is important in the level of the mental health of women
25	*Mental Health Problems in Young Children: the Role of Mothers' Coping and Parenting Styles and Characteristics of Family Functioning.* Evgeni. LN, Elvira. AB, Svetlana. AP. 2016	correlations	Sample: 194 adolescent and mother, sampling technique: purposive sampling	Problems of mental health, mother's coping and parenting function of the family .	a standardized socio-cultural interview, a coping mode inventory, a coping strategy indicator, an inventory for analyzing family relationships	MHP	Maternal coping dysfunction and parenting affect the mental health of the child.

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Influence of Nursing Information Management System Applications Based On Information Technology Toward Nursery Knowledge About Child Nursing Management In Lavalette Hospital Room Malang

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Abstract: All SOPs, algorithms, formulas, principles of management appropriate hospital standards are documented paper based making it less effective and practical for socialized to all existing nurses. One solution is to increase the knowledge of nurses about nursing management in pediatric patients by providing application based Nursing Management Information System technology. This study aimed to determine the effect of application-based Management Information System Technology for Knowledge Management of Nursing Nurse of pediatric patients at Children's Hospital Space Lavalette. The design used in this study was a quasiexperimental pretest-posttest approach in the treatment group. Sampling was carried out with nonprobability sampling method, or more specifically purposive sampling and obtained a sample 16 children 7B room nurse. The research instrument used was a questionnaire enclosed. From the results of the questionnaire indicate the level of knowledge dissemination nurse before being given a SIM application showing good category (25%),. Meanwhile, after addressing both categories (81%). Based on the Wilcoxon rank test test with SPSS 16 on tarap significance ($\alpha = 0.05$) was obtained p valuenya = 0.000 (p valuenya <0.05), it is concluded that H0 is rejected and H1 is accepted so that it can be concluded that there was an effect on the SIM Application knowledge about the management of Nursing nurse in the nursery Lavalette Hospital. Based on this study, it is suggested nurses can utilize and develop technology-based SIM application.

1 INTRODUCTION

Childhood is a period of growth and development that begins with infants (0-1 years), age of play / toddler (1-2,5 years), pre-school (2.5-5 years), school age (5-11 years) , until adolescence (11-18 years). Children are vulnerable individuals because of complex developments that occur at every stage of childhood and adolescence. Children are also physiologically more vulnerable than adults. The onset of illness for them is often abrupt, and the decline can take place quickly. Based on the results of the survey, childhood diseases are often found in the child's room at Lavalette Hospital such as diarrhea, DHF, Pneumonia, Leukemia, Congenital Heart Disease, Nephrotic Syndrome, Meningitis, and Epilepsy.

The population in Surabaya is about 5,720,067 people where 42% is the number of children of the population. The number of pediatric patients reaches 50,000 patients / year in hospitalization (Surabaya City Government, 2009). The proportion of diarrhea as the number one cause of death in children is around 60% (WHO 2009), and in Pneumonia case there is 19% cause of death in underfive (WHO, 2005), the number of in-patient children in Lavalette Hospital Malang is 1,433 children (December, 2013) and there were 70.59% of patients with DHF.

In the past two decades, the development of ommunication and information technology has developed rapidly in nursing especially in developed countries. The use of computer-based systems in clinical lands has been shown to improve the quality of nursing care, more effectively, efficiently, and practically (Korst et al 2003; Smedley & Allyson

2005). Although the trend and issue of information technology application has been quite lively discussed, the investigation on this matter is still very limited, especially in Indonesia. Based on preliminary studies conducted in the Lavalette hospital's children's room, information related to increased knowledge and skill competence for nursing is very limited. it is also known that all the protap, algorithm, formulation, management principles appropriate to hospital standards are documented paper-based, so it is less effective and practical to be socialized to all existing nurses.

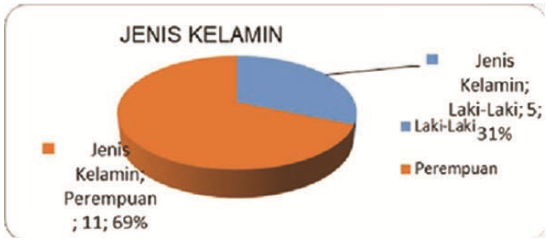

Figure 1. Frequency Distribution of Respondents by

2 METHODS

This research design is Quasi-experimental with one-group pre-test approach - post test design. In this study nurse knowledge about the management of nursing children who are measured first before the socialization of information system application nursing management based on technology then knowledge of Nursing Management of children is measured again after given the application of information system based nursing technology management.

Questionnaires were given to the respondents and respondents were asked to read the questions well and the questions were filled in directly by the respondent by choosing one of the respondents' responses to the taste in accordance with what was known or considered correct by giving a tick (√). If the selected answer will be replaced, the respondent is asked to cross off the first answer and check the new answer and ask for no missed / missed questions, and check whether the completed question is answered

3 RESULTS

The results of this study are presented in the form of pie charts for the respondent's characteristic data ie age, sex, education, duration of work, while the data and knowledge level of nurses about the management of nursing children before and after the granting of SIM application with SIM software presented in clustered cylinder diagram form described in the diagram below

Sex in Children's Room Lavalette Hospital Malang Based on Figure. 1 can be interpreted that from 16 respondents, the percentage of the majority of women is 11 people (65%) of the male as many as 6 people (35%), so it can be concluded that the job as a nurse is more desirable by women especially as child care.

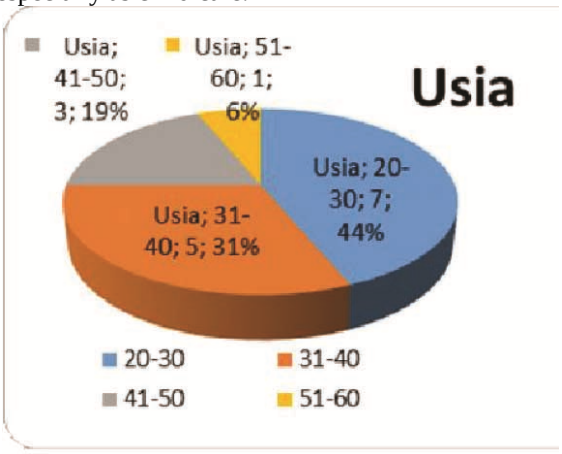

Figure 2. Frequency Distribution of Respondents by

Age In Children's Room Lavalette Hospital Malang. Based on Figure.2 can be interpreted that most of the age range of respondents between 20-30 years as many as 7 people (44%) of 16 respondents, which means classified in young adulthood is still very productive in work. And the age range of respondents between 51-60 years as much as 1 person (6%).

Figure 3. Frequency Distribution of Respondents by Education in Children's Room Lavalette Hospital Malang

Based on Figure 3., it can be obtained that almost 94% (15 persons) are D3 / D4 graduates of nursing who are beginner nurses.

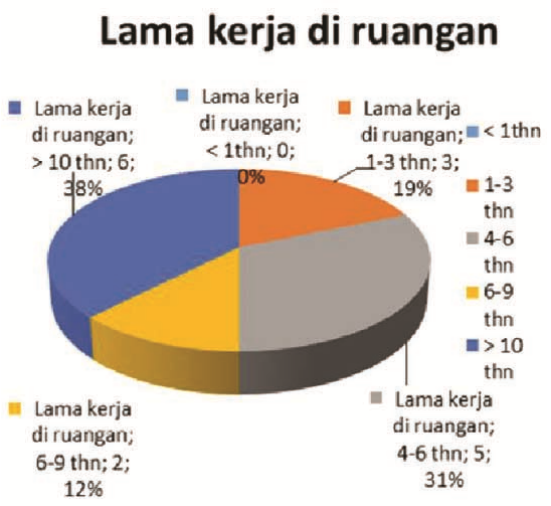

Figure 4. Frequency Distribution of Respondents Based on Respondents Working Time In The Room In Children Room Lavalette Hospital Malang

Based on Figure 4 can be obtained information almost half that is 38% (6 people) work in child's room for > 10 years.

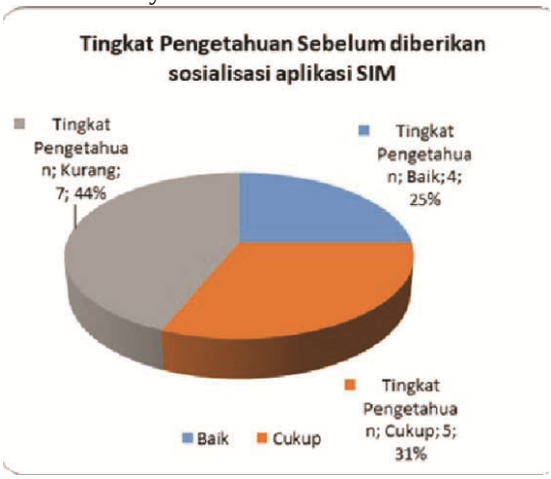

Figure 5. Frequency Distribution of Nursing Knowledge Levels to Child Nursing Management Before SIM Application

Based on Figure 5 can be interpreted that from 16 respondents, it is known nurse knowledge about nursing management of children) before given the socialization of SIM application is mostly as many as 7 respondents (44%) have less knowledge and a small part who have enough knowledge as much as 5 respondents (31%) and good as many as 4 people (25%).

Figure 6. Frequency Distribution Nursing Knowledge Level of Child Nursing Management After SIM Application

Based on Figure 6 can be interpreted that from 16 respondents, it is known nurse knowledge about nursing management of children after given SIM application is mostly have good knowledge as many as 13 respondents (81%) and quite as much as 3 respondents (19%), and no respondents who have less knowledge.

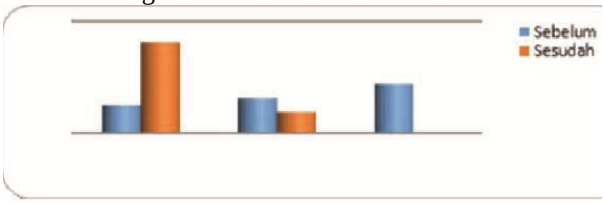

Figure 7. Comparison of Nursing Knowledge Level on Nursing Management Before and After SIM Application

Based on Figure 7, the overall knowledge of good nurses at the time before giving the dissemination of SIM applications as much as 25% (4 respondents) then at the time after given the socialization of SIM application as much as 81% (13 respondents) means an increase of 56%, and less before given the socialization of SIM applications as much as 44% (7 respondents) then at the time after given the SIM application socialization there is no lack of knowledge.

Table 1: Results of Wilcoxon Signed Ranks Test

	post – pre
Z	-3.528
Asymp. Sig. (2-tailed)	.000

a. Based on negative ranks.
b. Wilcoxon Signed Ranks Test

Based on the above data, we get Wilcoxon Signed Ranks test result with Z value of -3.528 with p value (Asymp Sig 2 tailed) = 0,000 which is less than significance level (p value <0,05)), it is concluded that H0 is rejected and H1 accepted so it can be seen that there is influence of Application to nurse knowledge to management of nursing child in Lavalette Hospital room Malang.

4 DISCUSSION

Nursing Knowledge Level About Child Nursing Management Before Giving Socialization Of SIM Application

Based on Figure 5 it can be seen that the level of knowledge about the management of nursing children before the socialization of SIM application is only 4 respondents (25%) good, 5 respondents (31%) enough, and less as much as 7 respondents (44%). Based on these results it can be concluded that most of the nurses in Lavalette Hospital's children's room, prior to being given socialization of SIM application have a low level of knowledge in the management of nursing children so that the inaccuracy in providing management that will cause death.

Researchers argue that one of the factors causing the lack of knowledge of respondents in the management of nursing children is the factor of education and lack of information exposure. This is evidenced from the results of research that is seen from education, in the study of respondents most D3 nursing graduates as much as 36 respondents (95%). This is in line with the theory that less knowledge can be caused by several factors such as age, occupation, educational level, information resources, neighborhood culture, and experience (Notoatmodjo, 2011).

In this study seen that education is still classified in the level of beginner nurse. Education plays an important role in every change. With the high level of education pursued, it is expected that one's knowledge will increase. According to Notoadmodjo (2011) the higher the education of a person, the greater the opportunity to acquire knowledge, think logically and understand the information obtained, therefore the higher level of nurse education can be said that his knowledge of new information in preparing or making and m doing nursing process also the better and experience also more and more.

In accordance with research conducted by Inayatullah (2013) indicates that there is a relationship between nurse education level with nurse knowledge level about nursing care with NNN diagnostic guidance in Ajibarang Hospital. The results of this study are in line with research from Asiah (2009) that the level of education is related to knowledge of reproductive health of housewives in Rukoh Village, Syiah Kuala Banda Aceh District. The higher the level of education obtained the higher the level of knowledge and awareness of the mother of healthy reproduction. This suggests a correlation between education level and nurse knowledge about

child pediatric management, meaning that nurse education improvement is directly proportional to knowledge enhancement.

Most of the D3 graduate respondents this matter can be connected with the length of time work as a nurse in the hospital showed almost half of respondents that is as much as 6 respondents (38%) have been working ≥ 10 years, this can show the long duration of nurses have passed from nursing D3 education will can lead to less exposure to information on the management of nursing children in accordance with the evidence base. This is due to busy work of nurses so there is no free time to read or find new information. An important professional nurse has the knowledge and skills in nursing care so as to be able to perform the process of quality nursing care and international standard.

Nursing Knowledge Level On Child Nursing Management After The Granting Of The Sim Application

The socialization and implementation of SIM applications seen in Figure 6 shows an increase of 56% of the number of good quality respondents from the previous 25% to 81%. According to researchers this could be due to influenced various factors such as experience and information factors. Respondents follow the socialization of the use of SIM applications as an experience for the respondents. Through this experience the respondents got various things one of them knowledge, this is evident from the results of research after the respondents follow the socialization of SIM applications cognitive knowledge of respondents to be increased and supported by the theory that cognitive knowledge one of them can be influenced by experience (Notoatmodjo, 2011) and formed from experience and memory gained previously (Sudarmita, 2002). Another factor besides experience, that is information. Because according to Notoatmodjo (2011), an information plays an important role in helping a person gain knowledge. In this research information obtained from the SIM application. So that nurses are exposed to the latest information related to nursing care of children who are computer based.

Information that has been obtained will be processed by a person to generate knowledge, the more often people are exposed to information the more knowledge they will get. Information will be accepted as a fun object or not, if fun will then be believed and consequently there will be a push to do it (Maulana, 2009). This is in line with research conducted by Aphris Timothy about "The relationship of knowledge and motivation of nurses with the management of pneumonia of children under five years in District Timor Tengah of Nusa Tenggara Timur" obtained the result of respondent category with good knowledge which implement the management of pneumonia balita equal to 69,7%, this because the nurse who has followed the training of pneumonia management in infants is 67,7% whereas the knowledge of nurse which is less in executing management of pneumonia balita that is 30,3%, or as much as 32,3% nurse has never follow training of pneumonia toddler management.

Influence Of Sim Application To Nurse Knowledge About Child Nursing Management In Child Room

Figure 7 shows that there is a significant increase in nurse knowledge level before and after socialization and application of SIM application. In the cylinder diagram shows before the application of SIM applications respondents with a good level of knowledge only 25%, and after application of SIM applications respondents with good knowledge level increased to 81% an increase of 56%. While the respondents with less knowledge level was not found after the application of the previous SIM application there are still 44%.

SIM used in this research consists of: hardware that refers to machine tools in this case that is laptop and printer as output tool (output devices), software that refers to computer program, in this research researcher use software applications consisting of programs that are specific to the concept of nursing care of children. In this SIM application provides the concept of fluid therapy, blood transfusion concept, diarrheal disease algorithm, DHF, and pneumonia.

As well as procedures where each respondent who will use the previous application received socialization by the researcher for the use or operation of SIM applications.

The result of analysis by using Wilcoxon Signed Ranks Test obtained p value = 0,000 (p value <0,05), it can be concluded reject H0 that there is influence of application of SIM nursing application to nurse knowledge level to nursing management of child. The researcher concluded that there is a difference of nurse knowledge level about nursing management of children to respondent before and after socialization and application of SIM nursing application.

The results of this study can be seen with the results of research conducted by Wulan (2013) with the title "Pengaruh Pendidikan Kesehatan Senam

Kaki Melalui Media Audio Visual Terhadap Pengetahuan Pelaksanaan Senam Kaki pada Pasien DM Tipe 2". The results indicate the effect of providing health education through audio visual media to knowledge the exercise of foot gym through audio visual media to the knowledge of the exercise of foot gymnastics in patients with type 2 DM with the results of statistical tests using wilcoxon test in groups before and after given health education through audio visual media obtained p value 0.002 < α (0.005) significant increase in knowledge. This happens because one's knowledge can be influenced by several factors. According Notoadmodjo (2006) factors that can affect knowledge such as education, information, and media.

5 CONCLUSIONS

The conclusions of this research are: The level of nurse knowledge about the management of nursing children before SIM application mostly less that as much as 44% (7 respondents) from total 16 respondents. The nursing knowledge level of nursing management after SIM application increased almost entirely by 81% (13 respondents) from total 16 respondents.

Nursing knowledge level of nursing care of children increased compared between before and after SIM application and based on result of analysis obtained showed p value = 0,000 (p value <0,05) which means showing the influence of nursing SIM application to nurse knowledge level about management of nursing child. At the Emergency Instalation of RSK Mojowarno, most patient was elderly people who had minimal dependency level on the third priority.

6 SUGGESTIONS

It is expected that the nurse to maintain or improve the nurse's knowledge about the management of nursing children by using the SIM application on an ongoing basis. Nurses working in the children's room or in other spaces are expected to keep open and explore new information about the nurse's knowledge level on the management of nursing children of international standard and in accordance with the evidance base in order to provide treatment to pediatric patients given can be quickly and accurately so that it can reduce mortality in children.

And for the next researcher is expected to make the research better with reference this research as effort to increase level of nurse knowledge in child room about management of nursing child. In order to get more accurate results then the researchers should further research with longer time for maximum results, take a larger sample of samples taken by researchers now and see other factors that can affect the level of nurse knowledge about management of nursing children rewards, quality of supervision, interest, motivation, and physical condition of the work environment.

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Prevalence of Burnout Syndrome in Nursing: A Systematic Review

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Keywords: Burnout, nursing, prevalence.

Abstract: Background: The burnout syndrome is significant problem in modern working environtment and its prevalence has increased substantially. Objectives: This systematic review aimed to evaluate the literature on reducing nurse burnout, to estimate the prevalence of burnout, to identify the variables related to burnout and to propose a risk profile for this syndrome among the nursing. Methods: We identified articles through databases searching: Sage, Proquest, Science Direct, Springerlink, and EbscoHost, published between 2006-2016, search terms include various combination of the terms "Burnout Syndrome", and "nursing". Result: Five studies were included in this review. The prevalence of burnout among nursing professionals is high. Personal factors such as demographic variables, personal stress, and personality characteristics were predictive of burnout. Work related factors such as work stress, work environment, job characteristics and organizational variables were also found to be determinants of burnout in this population. Conclusion: The prevalence of burnout among nursing professionals is high. Personal stress, job satisfaction, work stress, quality of care, work environment are determinants of burnout. As a consequence specific action targets for hospital management are formulated to prevent burnout in nurses. Nurse staffing strategies need to be evaluated within developing context to ascertain in their effectiveness.

1 BACKGROUND

Burnout has been studied extensively, with Freudenberger initiating the study of this syndrome in social services professionals. Nevertheless, Maslach and Jackson's definitions of emotional exhaustion, depersonalization, personal accomplishment. In health care, nurses have one of the highest rates of burnout. This syndrome influences different aspects of nursing health care. Numerous burnout risk factor, in the last decade, have been studied among nursing professionals, such as work experience, job satisfaction, personality, and sociodemographic factor.

Prevalence of burnout reached 13% to 27% in developed countries (Norlund et al., 2010; Lindblom et al., 2006; Kant et al., 2004; Houtman et al., 2000; Aromaa dan Koskinen, 2004). Nurses are higher risk for burnout then other occupation (Maslach, 2003; Gelsema et al., 2006). Research showed that nurses reported high level of work stress (Hasselhorn et al., 2003; Smith et al., 2000; Clegg, 2001; McVicar, 2003) and became 30% until 50% reach clinical levels of burnout (Aiken et al., 2002; Poncet et al., 2007; Gelsema et al., 2006). The demands that burden the nurses (in terms of work setting, task description, responsibility, unpredictability and the exposure to potentially traumatic situations) and the resources they can rely on, are strongly related to the content of their job and their nursing specialty (Browning et al., 2007; Ergun et al., 2005; Eriksen, 2006; Kipping, 2000; Mealer et al., 2007). Moreover, busy and congested working conditions, emergency nurses often have to move from one urgency to another, with little recovery time (Alexander dan Klein, 2001; Gates et al., 2011). As a result, burnout rates are found to be very high in emergency nursing settings (Hooper et al., 2010; Potter, 2006).

2 METHODS

2.1 Aim

The aim of the present review is (1) to evaluate the literature on reducing nurse burnout, (2) to estimate the prevalence of burnout, and (3) to identify the variables related to burnout and to propose a risk profile for this syndrome among the nursing.

2.2 Search Methode

These research based on the literature review (systematic review) of international journals which is use cross sectional study. The sample consisted of nursing professionals. Data Sources that we identified articles through databases searching, such as Sage, Proquest, Science Direct, Springerlink, and EbscoHost, published between (2006-2016), search terms include various combination of the terms "Burnout Syndrome", and "nursing".

Studies were included only if the following criteria were met: (1) the respondents under study were nurses, (2) the focus of the study had to be on determinants/predictors of burnout, and (3) the study had to be empirical and quantitative.

2.3 Search Outcome

The literature search in the different databases revealed 840 research papers but 342 duplicates were removed from the list. From the remaining 498 articles the titles and abstracts were screened and another 447 papers were excluded because (1) the research was qualitative, (2) the paper did not describe primary research or (3) the paper did not adequately report on the target population, and outcomes. From the remaining 51 articles, 21 paper excluded because the sample too small. From remaining 30 articles, 25 paper excluded. For the purpose of this systematic review, focusing on determinants of burnout, all 5 remaining studies were included.

3 RESULTS

Five journals that have been collected, analyzed and scored, obtained the following results.

Research conducted by Pareira et al. (2015) is aimed to to explore the prevalence of burnout syndrome, and its association with early life stress and coping strategies in nursing professionals in a general hospital in São Paulo, Brazil. In this study, the prevalence of burnout syndrome was 7.4%, which indicates a high burnout level. Early life stress in 31.3% of the sample, and the most used coping strategy were the ones focused on the problem (60%). In the meantime research conducted by

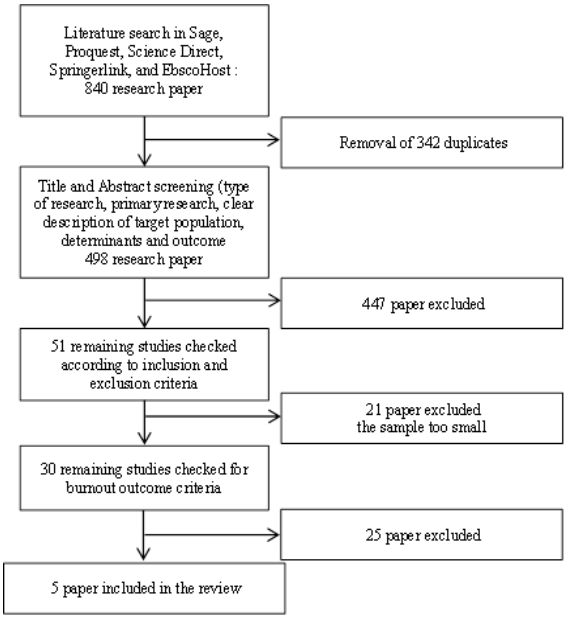

Figure 1: Flow diagram of strategy used to indentify literature.

Urquiza (2017) is to determine the prevalence of burnout (based on the Maslach Burnout Inventory on the 3 dimensions of high Emotional Exhaustion, high Depersonalization, and low Personal Accomplishment) among emergency nurses. The estimated prevalence of each subscale was 31% for emotional exhaustion, 36% for Depersonalization, and 29% for low personal accomplishment.

Study by Bogaert (2013) is to investigate the impact of nurse practice environment factors, nurse work characteristics, and burnout on nurse reported job outcomes, quality of care, and patient adverse events variables at the nursing unit level. Various unit-level associations (simple models) were identified between nurse practice environment factors, nurse work characteristics, burnout dimensions, and nurse reported outcome variables. Multiple multilevel models showed various independent variables such as nursing management at the unit level, social capital, emotional exhaustion, and depersonalization as important predictors of nurse reported outcome.

The research of Zhang (2014) aims to describe nurse burnout, job satisfaction, and intention to leave and to explore the relationship of work environment to nursing outcomes. The results suggest that high burnout and low job satisfaction are prominent

problems for Chinese nurses, and improving work environment might be an effective strategy for better nursing outcomes in Chinese hospitals.

Research conducted by Khamisa (2016) aims to determine whether personal stress is a more significant predictor of burnout, job satisfaction and general health than work stress. Findings revealed that personal stress is a better predictor of burnout and general health than job satisfaction, which is better predicted by work stress. The findings of this study could inform potential solutions to reduce the impact of personal and work stress on burnout, job satisfaction and general health. Coping strategies and staffing strategies need to be evaluated within developing contexts such as South Africa to ascertain their effectiveness.

4 DISCUSSION

The study examined in this Systematic Review is about prevalence syndrome among the nursing. The estimated prevalence of each subscale was 31% for emotional exhaustion, 36% for Depersonalization, and 29% for low personal accomplishment. These results are need attention of all stakeholders (Adriaenssens, 2014).

All these issues has limitation because (1) only small parts of variance can be explained, (2) interrelationships between determinants cannot be adequately investigated, (3) results from different studies on the same concept cannot be compared and (4) causal relationships between determi- nants and outcomes cannot be drawn. A more preferable approach is the use of a longitudinal design based on an information processing approach which takes into account the consequences over time of individual appraisal and coping of work stress (Perrewe´ and Zellars, 1999; Mackin- tosh, 2007).

Finally, the studies indicate the importance of good communication, interdisciplinary collaboration and team spirit to prevent burnout (Adali and Priami, 2002; Escriba-Agu¨ir and Pe´rez-Hoyos, 2007; Escriba`-Agu¨ ir et al., 2006; Garcia-Izquierdo and Rios-Risquez, 2012; O'Mahony, 2011;Van der Ploeg and Kleber, 2003). On the other hand, personal factors such as demographic variables, personal stress, and personality characteristics were predictive of burnout. Work related factors such as work stress, work environment, job characteristics and organizational variables were also found to be determinants of burnout in this population.

5 IMPLICATIONS FOR NURSING

The present systematic review offers ideas for burnout prevention.

Interventions could focus on (1) the promotion of adequate professional autonomy, (2) the creation of a good team spirit and sufficient peer support, (3) qualitative leadership of nursing supervisors, (4) reduction of repetitive exposure to traumatic events, (5) creating time- out facilities, (6) provision of counseling for exposed nurses, (7) training and (8) improving work environment might be an effective strategy for better nursing outcomes. As there is currently, to our knowledge, no evaluation study of such interventions in nurses, future intervention research should examine the validity of these suggestions.

6 CONCLUSION

The prevalence of burnout among nursing professionals is high. Personal stress, job satisfaction, work stress, quality of care, work environment are determinants of burnout syndrome. Work related factors such as work stress, work environment, job characteristics and organizational variables were also found to be determinants of burnout in this population. As a consequence specific action targets for hospital management are formulated to prevent burnout in nurses. Nurse staffing strategies need to be evaluated within developing context to ascertain in their effectiveness.

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The Mook-Up Metode for Disaster Education on the of People Improvement and Attitude in Landslide Preparedness

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Keywords: mock-up, preparedness, landslide, disaster

Abstract: Indonesia is one of countries with the biggest risk of natural disasters in the world. One of most common disasters was landslides. In November 2003, there was a landslide happened in Bahorok River, North Sumatra which made victims as lot as 151 people death and 100 people missed. The purpose of this research was explain efficacy the mook-up metode for disaster on the people's improvement and attitude in landslide preparadnes. The design used in this study was Quasy Experimental with pre-post test design. The samples were 150 respondents, consisting of 75 respondents on the treatment group and another 75 on the control group. The sampling used cluster sampling. The independent variable is disaster education with mock-ups method, while the dependent variable is the level of knowledge and attitudes of citizens in the preparedness of facing landslides. The technique for data analysis was using Wilcoxon Signed Rank Test and The Mann Whitney Test. Analysis result with the Wilcoxon test obtained p=0.000 in the treatment group, and p=1.000 in the control group. Analysis result with Mann Whitney test obtained the value of p=0.111 in pre-test, and p=0.000 in post-test ($p<0.05$). This result indicates that disaster education with mock-up method have the influences to improve knowledge and attitude in the preparedness of facing landslides. Further research needs to conduct the disaster education with another method which more attractive and focused on disaster-prone areas.

1 BACKGROUND

Southeast Asia includes a very high natural disaster risk area (ASEAN, 2015). The three countries incorporated in ASEAN, namely Indonesia, the Philippines, and Myanmar have extreme categories of natural disaster risk index (Maplecroft, 2010). Indonesia is one of the countries that are often hit by disasters, both natural and non-natural disasters. The recording of disaster data by BNPB shows that the average incidence of disasters from 2000-2014 is more than 1000 disasters. This data proves that disaster is a very real threat to the life of Indonesian society. The Indonesian government tends to ignore preparedness and the community still pays preparedness and mitigation to the government (Matsuda and Okada, 2006 in Dodon, 2013). Preparedness becomes a very important issue developed in the future, so that all the people are aware of the surrounding disasters and are able to reduce the risk. Investment in loyalty is expected to reduce the number of victims and damage in case of disaster (BNPB, 2015).

The average death toll from the disaster during the 200-2014 years is more than ten thousand inhabitants, this figure is quite large because in 2004 there was an earthquake and tsunami of Aceh that swallowed more than 100 thousand inhabitants (BNPB, 2015). The occurrence of natural disasters and the resulting losses, shows us that the impact of disasters can destroy or eliminate development outcomes in real time. In addition, pre-disaster and post-disaster development processes also have the potential to be "disastrous" due to large-scale exploitation of natural resources and a lack of attention to development impacts on environmental and ecosystem degradation leading to increased disaster risk (IABI, 2015).

Geologically Indonesia is passed by the ring of fire, formed by the Indo-Australian, Pacific, and Eurasian Plate. The situation thus forms the surface of the Indonesian land becomes uneven, there are many mountains and hills that mostly have a steep slope so that the slope very potential landslide disaster when the rainy season arrives. The condition of cover vegetation as a binder of land replaced by development causes the greater the landslide

potential. The occurrence of landslides reached 18% of all disasters (Hidayat, 2015).

In Indonesia there have been many landslide events in various areas that claimed lives and material loss. In November 2003 an avalanche occurred in the Bohorok River, North Sumatra, which killed 151 people and 100 missing, while in Plipir Village, Purworejo District, Central Java Province, 7 people were killed by landslides. In the rainy season of 2004, landslide occurred in Gowa regency of South Sulawesi, and killed 86 people (Karnawati (2005) in Hardiyatmo (2006)). The landslide that occurred during the rainy season on January 4, 2006 at around 5:00 pm, in Sijeruk Village, Banjarnegara Sub-district, Central Java District, resulted in fatalities of 58 people and 102 houses buried by landslides (Hardiyatmo, 2006). The latest events took place in Jemblung Hamlet, Sampang Village, Karangkobar Sub-district, Banjarnegara, Central Java on December 12, 2014 at around 17.30 WIB and became a major landslide disaster with 79 deaths, 29 missing, 5 seriously injured, 9 people were slightly injured, and 1,308 people were displaced in 10 refugee camp points (BNPB, 17/12).

From the data of BPBD (Regional Disaster Management Agency) Mojokerto regency recorded there are 21 villages in four sub-districts which are prone to landslides and flash floods, namely District Trawas, Pacet, Ngoro, and Jatirejo. Four sub-districts are located near the slopes of Mount Penanggungan and Mount Arjuna-Welirang. However, the vulnerability and risk of landslide disaster are not matched by knowledge and education on disaster so that it can affect community preparedness (Tempo, 2014).

The result of preliminary study that has been done by the researcher in June 2016 by using questionnaires about the knowledge of landslide disaster in Trawas villagers is from 10 people, 1 person (10%) have knowledge about good landslide disaster, 4 people (40%) enough , and 5 people (50%) are less aware of the landslide disaster. The attitude of Trawas community preparedness is still lacking, 6 out of 10 have negative attitude toward self-rescue and 4 out of 10 people already have positive attitude but still lack in doing emergency preparation. The data shows that there are still many people in Trawas village who do not know what efforts can be made to reduce the impact of landslides. Knowledge of lack of preparedness can be due to several factors such as less informed society, little socialization about.

Preparedness is an activity that shows a response to disaster. Factors that play a role in disaster preparedness are the Community and decision makers. Society has Knowledge, Attitude, and Behavior to measure the level of preparedness. Preparedness is an integral part of sustainable development. If development is well implemented, disaster preparedness efforts will be less labored (Kharisma, 2009). Community participation in disaster risk reduction efforts can be realized with Disaster Education. Through disaster education, people living in disaster prone areas have knowledge, attitudes, and skills on disaster preparedness and emergency response (Suryanti et al, 2009).

The government needs people who have knowledge and preparedness in dealing with a disaster to reduce the risk of disaster (Matsuda and Okada, 2006). Community preparedness will make people more prepared when disaster strikes. This community readiness will minimize the negative impacts arising from a disaster (Dodon, 2013). Preparedness plans are organized on an institutional level. Preparedness plans should be practical and appropriate to the context of each community or institution. BPD is an agency / organization of service providers should be able to identify the vulnerability of the region to disaster (Purnamasari, 2013).

In the process of community education, of course, can not be done only by relying on books or brochures only. It needs an interesting medium and can be viewed in three dimensions and can describe the shape of its territory significantly even the occurrence of landslide disaster even though only a simple simulation. It is expected that with the media, people not only imagine but get a picture of how the landslide occurred and what effects on the environment and their lives, so that information can be transferred easily to the public. (Susanto, 2016). In this study, researchers interested in using learning media soil contoured maket to help the community play an active role in the learning process. In Big Indonesian Dictionary, (2010) the model is "a small artificial object with a shape (exact) exactly as it is copied". While maket is an artificial form (building, ship, airplane and so on), it is included in three dimensional media. Maket is a miniature, model, or an artificial form of an object that has been transformed into a small one by a certain scale (Madjid, 2003). Based on research conducted by Gita (2015) on "Utilization of Media Landscape Contoured Magazine For Public Preparedness in Facing Landslide" obtained result that media maket have a significant positive effect to knowledge and preparedness in facing disaster. Media maket can be used as an alternative to support the success of learning (Gita, 2015). The use of media will also make it easier for the community to understand the information and more interesting, so that the learning process can take place effectively and

efficiently. Learning that was initially considered difficult because the illustrations are only sketches and images, through the media maket able to give a concrete picture because it has a 3-dimensional view, is also considered more interesting so it is expected to improve understanding of learning (Sunaryo, 2009). Therefore, the author took the initiative to apply media soil contoured maket in the learning of landslide disaster preparedness in the community, so it can know how big a media play a role in the process of disaster education success in the community and the use of this model will later describe the evacuation points as well as areas prone to landslide disaster, the authors conducted a study entitled "The Influence of Disaster Education Maket Method on Increasing Knowledge and Attitudes of Citizens in Landslide Face Preparedness in Trawas Mojokerto"

2 METHODS

This study used pre experimental research design using a one group pre-post test design. Large population reached in this study as much as 310 families with research sample is 75 people. The sampling technique used in this research is cluster sampling. Independent variable in this research is disaster education with maket method. Dependent variable in this research is level of knowledge and attitude of citizen in preparedness to face landslide. Instruments in this study using questionnaires. Knowledge used understanding level questionnaire was adopted from Gita aprilia Hidayat on landslide disaster material (Learning stage), and preparedness. Multiple Choice Test to facilitate research sample to answer questions, analyze data, and streamline time in filling instrument. Consisting of 20 questions to see whether or not there is an effect of intervention, the scoring criteria are correct: 1, false: 0. Measurement of attitude using the attitude questionnaire consists of 13 questions to see if there is any effect of the intervention or not. Adapted from Gita aprilia Hidayat.

This research was conducted in the Trawas sub-district precisely in the village of penanggungan and seloleman village in May-June 2016. Respondents were given intervention. Respondents will be divided into two groups: experimental and control groups. Grouped treatment, data-taking through door to door for the first meeting on 15-16 July 2016, furthermore the researchers gave informed consent for approval and willingness to be respondents. The researcher gave pre test of knowledge and attitude of preparedness. After doing pre test the researcher gives little intervention to the respondent about landslide disaster. The research group was conducted extension training on landslide disaster and using contour medium maket media 1 times. Counseling was held on 25 July at Penanggungan village hall. And as a keynote speaker invited representatives from BPBD Mojokerto regency.

In the control group, taking the data through door to door for the first meeting, furthermore the researcher gives informed consent to be asked for approval and willingness to be the respondent. The researcher gave pre test of knowledge and attitude of preparedness. This activity was conducted for 2 days on July 18-19, 2016. At the next meeting, after the 26-27 July 2016 counseling, the researcher conducted a post test to obtain data on the change of the group's cohesive level of intervention and the group that was not given intervention. Conducted one day after the intervention. This activity was conducted on two groups, both the intervention group and the control group.

3 RESULTS

Based on table 1 above, the respondent's characteristic is that the age of respondents in this study is mostly in the age range 30 - 55 years, ie 35 people (47%) in the treatment group, 50 people (67%) in the control group.

Based on table 2 above, the results obtained in the treatment group were mostly 32 primary schools (43%) and control group mostly were SD (35%).

Based on table 3 above, it was found that at junior high school level level before disaster education was given 19 people (76%) in enough category and 3 people (12%) in good category and after being given disaster education increased to 23 people (92%) in good category.

From table 4, the result of pre test of knowledge level of landslide disaster prevention on treatment group is sufficient category, that is 55 people (73%) and knowledge level in the control group are 43 categories (43%). The result of post test in treatment group given disaster education with media of soil contoured maket shows that knowledge level mostly is good category that is 45 people (60%) and in control group which is not given disaster education with media maket shows level of knowledge which is fixed or not experienced the most change that is the category Enough number of 43 children (57%). Results of Wilcoxon test analysis in the treatment group obtained p value = 0.000 while in the control group obtained p = 1,000. The result of Mann

Whitney test analysis at pre test is obtained p value = 0,111 whereas when post test is obtained p value = 0,000 so p <0,05 means there is difference of level of knowledge experienced by citizen during pre test and post test as well as in group of intevensi and control group then p> 0.05 means there is no significant difference in the level of knowledge.

From table 5, the result of pre-test attitude on the preparedness of landslide disaster in the treatment group is negative that is 50 persons (67%) and the attitude in the control group mostly negative is 48 people (64%). The result of post test on treatment group given disaster education with media of soil contoured maket show positive attitude that is 60 people (80%) and in control group which is not given disaster education with media maket shows attitude which remain or not change most of attitude negative number of 48 people (64%). Wilcoxon test analysis results in the treatment group obtained p value = 0.000 so p <0.05 which means there are significant differences in attitude during pre test and post test. While in the control group obtained p = 1 so p> 0,05 which means there is no significant difference in attitude experienced by the child during pre test and post test. Result of Mann Whitney test analysis at pre test obtained p value = 0,732 so p> 0,05 meaning there is no significant difference of attitude between treatment and control group before treatment permberian, while result of Mann Whitney test analysis at post test obtained p value = 0,000 so p <0.05 which means there is a significant difference of attitude between treatment and control group after giving treatment.

4 DISCUSSION

Based on Table 4 the Wilcoxon test results and Mann Whitney test analysis obtained p <0.005 which means that there is a difference between the intervention group and the control group, as well as the pre test before intervention and post test after the intervention showed there is a difference. This proves that disaster education with media maket has a significant influence on the level of knowledge experienced by the citizens.

According Soekidjo Notoadmojo (2003) age affects the ability of catch and someone. The more ages the more will develop the ability to catch and the mindset so that knowledge gained better. At middle age individuals will play an active role in society and social life and more to do preparation for the success of efforts to adapt to old age. In general middle age or middle age is seen as the age between 35-60 years (Mappiare, 1983). This resulted in an increase in post test values in the treatment group. This is also in accordance with the submitted by Maulina (2012), that the age of a person greatly influences the knowledge factor because in this study researchers researched in the adult age group, reproductive age in the theory Notoatmotjo (2005), said that someone will be easier to take the time to follow all the activities.

Knowledge is influenced by formal education factors. Knowledge is closely related to education, where it is expected that with a high education then the person will be more knowledgeable too. A person's knowledge of an object contains two aspects, namely the positive and negative aspects. These two aspects that will determine the attitude of a person more and more positive aspects and objects are known, it will lead to a more positive attitude towards a particular object (Dewi & Wawan, 2010). This is in line with what was submitted by Priyanto (2006), that in a highly educated society better able to reduce risk, increase ability and reduce the impact on health so that will participate either as an individual or society in preparing to react to disaster. However, it should be emphasized that a person with a low education does not mean an absolute lack of knowledge. Increased knowledge is not absolute from formal education but can be obtained from non-formal education. In this study shows that education of respondents with junior high school education prior to given kebencnaan education 19 people in enough category, after given disaster education has increased, 23 people in good category which initially only 3 people in good category. Non-formal education one of which is to follow the counseling. If the information provided is unclear, the learning results obtained are also not optimal. With the media, the information provided will be easy to be accepted and understood by the respondents. Disaster education with media maket affects the improvement of knowledge of citizens. The results of this study reinforced the results of previous research by Sunaryo (2009), that media maket positive effect on increasing knowledge and student achievement

In this study knowledge is influenced by the learning process with the media. Health education is also a learning process in order to achieve educational goals (Notoatmodjo, 2007). The media used are maket, maket included in the group of three dimensional visual learning media. The existence of this media maket can describe a real object, because an object can be interpreted by masnusia because sensory nerves owned by the human brain can interpret a form. The process begins with the reception of external stimuli by the eye, through the receptor nerve (conical and rod cells of the eye rectangle) sensitive to light energy of different intensities. These differences are recognized by the

eyes as citizens. This energy source stimulates nerve cells and is called sensation. The brain receiving the source of the stimulus translates a visual form which is then associated with memory and experience. Starting from the experience and memory of the activity to recognize the object (maket), there is the role of the model as a stimulant (stimulant) in the presentation of the material and the purpose to be conveyed is, disaster education about landslides. Media maket this can increase the knowledge of the citizens because the researchers in information conveying information. Therefore, media maket can be used as an alternative to support disaster education in Trawas Mojokerto. Based on table 5 Wilcoxon test analysis results in the treatment group obtained p value = 0.000. Mann Whitney test analysis results when the post test obtained p value = 0.000 so p <0.05 which means there are significant differences in attitude between treatment and control groups after and before treatment is given. This proves that disaster education with media maket have a significant influence tehadap attitude that is experienced by the citizens.

Based on the theory proposed by Myen (1996), cited Saam and Wahyuni (1996), attitude is a fun or unpleasant reaction to an object in the form of beliefs, feelings or expected behavior. The existence of good knowledge and good attitude will make it possible for someone to act toward a healthy lifestyle. To realize the attitude into a real action required supporting factors or a condition that allows, among others, facilities. Facilities can be books, leaflets, or brochures in addition to non-physical facilities can be a provision of health education to increase public knowledge such as media counseling (Kurniawati et al, 2014). It needs an interesting medium and can be viewed in three dimensions and can describe the shape of its territory significantly even the occurrence of landslide disaster even though only a simple simulation. It is expected that with the media, people not only imagine but get a picture of how the landslide occurred and what effects on the environment and their lives, so that information can be transferred easily to the public. (Susanto, 2016). Rayandra (2011), states that Maket is a group of media without projections that are visually three dimensional representation, this media group can be tangible as original material both live and dead, and can also form as a replica representing the original. This research is in line with the proposed Wulansari (2013), mentioning that the use of media model has a significantly better result to improve the knowledge and attitude of students in learning.

This study found that the attitude of the citizens before the disaster education with media maket mostly negative attitude, because the public lack of information about the disaster, a little socialization about landslide preparedness, and the limitations of the community who attend disaster training. After disaster education, the attitude of citizens in the preparedness to face the landslide disaster increases. This is because the knowledge of the people increases so that the attitude of preparedness becomes positive. According to Notoatmodjo (2010), Knowledge is a very important domain for the formation of one's actions. Much of a person's knowledge is acquired through the sense of hearing (ears) and the sense of sight (the eye). Knowledge involves changes in ability and thinking patterns, skills in addressing a problem objectively, the way the individual gains knowledge of the environment of his activities and tells the experience is a cognitive process and the development of a person's knowledge attitude. This research is in line with the WHO in Notoatmodjo (2007), one of the strategies for behavior change is the provision of information to increase knowledge so that the awareness arises that people will behave in accordance with their knowledge. One effort to provide information that can be done is counseling.

Disaster education with media maket influential to increase attitude of citizen in preparedness to face landslide disaster. This result is known from the level of knowledge and attitudes of citizens after receiving a higher education disaster than before the disaster education and the level of knowledge and attitudes of citizens who received higher education disaster than those who did not receive disaster education. Residents after the disaster education was increased knowledge that had an effect on attitude change. The source of the disaster education message delivered can also influence the change of attitude. Disaster education carried out by BPBD with competence in accordance with the material then it can affect attitude score. The use of disaster education media with maket can overcome the attitude of passive citizens initially to environmental conditions become more active to maintain it because it can show the whole object both construction and the process of landslide disaster and the danger that will be caused. Learning media with maket can influence one's attitude because citizens can describe the location of the inhabited place is a landslide-prone area and visualized significantly in a smaller form, so that citizens understand how to determine the points of evacuation and evacuate themselves and family in case of disaster Avalanche. Another factor that may affect the attitude in research is the institution or organization in this village such as youth cadets, youth mosques, and PKK is quite active to hold events every month. The existence of activity-activity activities make an interaction between

residents, there is a reciprocal relationship that affect the behavior patterns of each individual as a member of society.

5 CONCLUSIONS

5.1 Conclusion

1. The knowledge of the people about the awareness of landslide disaster increased after the disaster education intervention was given with the media maket. Meket as a three dimensional visual media of real objects, therefore very helpful in communicating information so easy to understand.
2. The attitude of the residents to the landslide disaster preparedness increased after being given disaster education intervention with media maket. Disaster education with media maket makes residents more active again to maintain the environment because people can understand the whole object either construction or the process of landslide disaster and the danger that will be caused.

5.2 Suggestions

1. For nurses are expected to apply to be one health education using media maket to increase knowledge and attitude in conducting extension activities or other activities.
2. For related institutions such as BPBD (Regional Disaster Management Agency) and puskesmas can use media model to improve the ability to give special information to the community.
3. For the village head and his staff can use this media maket in developing into a disaster prepared village and further improve the knowledge of preparedness.
4. Further research is expected to increase the frequency to implement intervention in the treatment group to give maximum results

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Effectivity Of Pursed-Lips Breathing To Decrease Respiration Rate (RR) in Patient with COPD: A Systematic Review

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Keywords: COPD, *pursed-lips breathing*, *Dyspne*

Abstract: Intoduction: COPD is one of disease that increase morbidity and mortality in the world. Pharmacology intervention only was not effective to overcome dyspnea as the most visible symptom of COPD. Pursed-Lips Breathing is a nonpharmacological therapy which is effective to help COPD patient to reduce dyspnea. The objective of this systematic review was to describe effectivity of Pursed-Lips Breathing to decrease Respiration Rate (RR) in patient with COPD. Method: 15 best articles were found using PECOT framework in some databases; EBSCO, Science Direct, Scopus, ProQuest, Pub Med, Wiley and Springer Link. Those articles have been chosen based on some criteria. Result: Pursed-Lips breathing that given for about 1 – 24 months was found effective to decrease Respiration Rate in patient with COPD. Discussion: Pursed-Lips breathing was highly recommended for patient with COPD to reduce dyspnea.

1 BACKGROUND

Chronic Obstructive Pulmonary Disease (COPD) is a preventable and treatable disease characterized by persistent respiratory distress, airway shortage and alveolar abnormalities usually caused by abnormal inflammatory responses from exposure to dangerous particles or gases (GOLD, 2017). According to the Global Initiative for Chronic Obstructive Lung Desease (GOLD) 2017, the factors that influence the progression of this disease are age, genetic, hyperresponsive airways, poor lung development at the time of childhood, socioeconomic status related to status nutrition, infection and often associated with smoking habits as well as history of work in places containing pollution. The disease is characterized by symptoms of progressive chronic pneumonia, 30% of patients with cough sputum production, wheezing, chest feels heavy, weakness, anorexia and weight loss.

Chronic Obstructive Pulmonary Disease (COPD) is a major cause of increased morbidity and mortality in the world. By 2020 it is estimated that COPD is the third leading cause of death after cardiovascular disease (Domini et al., 2015). The COPD death rate increased by 147%, this increase in proportion to the higher prevalence of smoking in various countries, air pollution and other fuels that are key risk factors for COPD (Mark et al., 2013).

The presence of alveoli damage to Chronic Obstructive Lung Disease can alter respiratory physiology, thus affecting overall oxygenation of the body. The above will bring the bronchial inflammatory process and also cause damage to the terminal bronchiolus wall. As a result of damage to the bronchial wall of terminalis will occur small bronchial obstruction (bronchiolus terminalis), resulting in closure or obstruction early expiratory phase. Easy air enters the alveoli at the time of inspiration, at the expiration of many trapped in the alveoli and there is air trapping. This is what causes the shortness of breath with all the consequences. The presence of obstruction at the beginning of expiration will cause expiratory difficulties and lead to elongation of the expiratory phase, so that lung functions including ventilation, gas distribution, gas diffusion and blood perfusion will be impaired (Bortle, 2013).

One of the most common symptoms reported by patients with COPD is shortness of breath (Bhatt et al., 2013). Breathing is the most commonly used reason for patients with COPD seeking medical help (Borge et al., 2015). According to (Chawla et al., 2013) that 70% of patients with respiratory disorders found complaints of shortness of breath, these

symptoms were associated with decreased oxygen saturation and functional capacity.

Pharmacologic treatment alone is ineffective in treating the symptoms of shortness of breath in patients with COPD, so a nonpharmacological approach is needed as adjunctive therapy for the management of shortness of breath in patients with COPD. Breathing exercises are one of the most effective and efficient non-pharmacological treatments to help COPD patients overcome the condition of the disease (Domini et al., 2015). Respiratory exercise is done to get a better breathing arrangement from the previous fast and shallow breathing to breathing more slowly and deeply. Pursed-lips breathing exercises and pursed-lips modification with breathing diaphragm, abdominal and walking 6 minutes are a combination of efficient breathing exercises to reduce shortness of breath, promote gas exchange and ventilation (Chawla et al., 2013).

Through this systematic review the investigators wanted to know the effectiveness of the application of pursed-lips breathing exercises against decreased respiration rate (RR) in patients with COPD.

2 METHODS

2.1 Type of Studies

This study is a systematic review compiled by Randomized Control Trial (RCT) research journal, and is expanded by non-RCT research because of the limited journal with the topic in question.

2.2 Inclusion and exclusion criteria

The inclusion criteria were articles on pursed-lips breathing exercises and a combination of pursed-lips breathing exercises with breathing diaphragms, abdominal, and breathing exercises with a 6 minute walk and the effect of respiratory exercise on decreased respiratory rate (RR) in COPD patients, while the exclusion criteria were articles which does not have the full text of the pdf format, the provision of interventions other than the respiratory exercise referred to in the inclusion criteria.

2.3 Literature search strategies

Search articles according to PICOT Framework (Population: COPD patient, Intervention: Respiratory Exercise, Control: -, Outcome: Decrease Respiration Rate (RR), Time: 2007 - 2017). Based on keywords in accordance with the framework and searching for articles in electronic databases: Scopus, Ebsco, Science Direct, ProQuest, Pub Med, Wiley, Spinger Link are limited to the last 10 years 2007 to 2017. From search results in accordance with the PICOT Framework identify 10 articles from scopus, 9 articles from EBSCO, 8 articles from science direct, 7 articles from ProQuest, 11 articles from Spinger Link, 10 articles from Pub Med, and

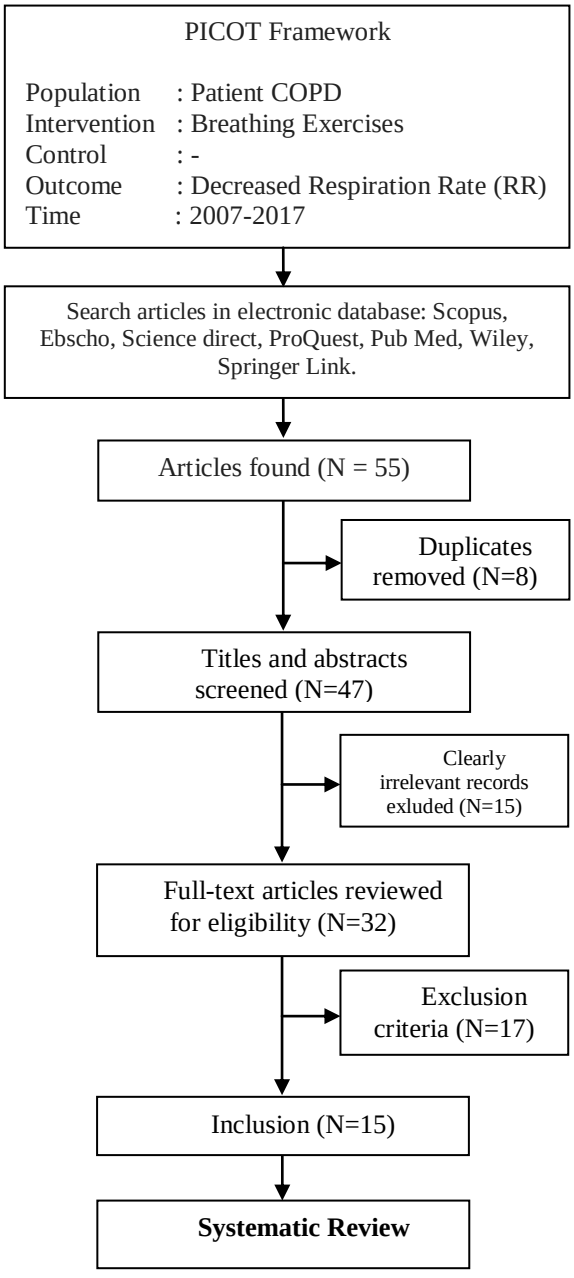

Figure 1. Flow chart for systematic review study

after further review selected 15 articles from International Journal for review.

3 RESULTS

Of the 15 journals conducted the review of the number of samples varied between 12-1.492 respondents and the duration of breathing exercise intervention between 1 month to 12 months. All studies related to effective breathing exercises as one of the non pharmacological interventions to decrease respiratory rate (RR) in patients with COPD.

3.1 Pursed-Lips breathing Exercises

Patients with Chronic Obstructive Pulmonary Disease (COPD) who have been given education on pursed-lips breathing exercises and apply them continuously can be useful to increase confidence in their ability to manage shortness of breath. This long-term breathing exercise is effective against decreased respiration rate (RR) and increased SPO2 (Roberts et al., 2016). Respiratory training in patients with Obstructive Lung Disease (COPD) can also be provided using a telecommunication system. Pursed-lips breathing practice instruction through interactive telecommunication system (skype) has been shown to be effective for shortness of breath, increased physical activity, quality of life and self-efficacy (Mark et al., 2013).

According to (Visser et al., 2011) in his research there is an increase in inspiratory capacity after pursed-lips breathing exercises in patients with Chronic Obstructive Pulmonary Disease (COPD), thus decreasing symptoms of shortness of breath. Provision of pursed-lips breathing exercises provides a good effect on the breathing pattern, which increases tidal volume and decreases respiration rate (RR) compared with quiet natural breathing (QB). Pursed-lips breathing exercises with arm supports (WAS) and arm and head support (WAHS) can increase inspiratory muscle activity during inspiration rather than neutral position (NP) position (Kim et al., 2012).

Studies conducted (Medica et al., 2014) suggest that pursed-lips respiration decreases dynamic hyperinflation, thus increasing exercise tolerance, decreasing respiration rate (RR) and increasing SPO2. This is also supported by research (Pereira De Araujo et al., 2015) that pursed-lips respiration reduces the dynamic hyperinflation on Glittre ADL test but not on a walking test (6MWT).

3.2 Exercise Respiratory modification of pursed-lips, abdominal, diaphragm, walking exercises 6 minutes, muscle relaxation

Currently modification of breathing exercises is used in the pulmonary rehabilitation and breathing exercise program. Several studies of respiratory exercise modification have been shown to be effective in reducing respiratory rate (RR) in patients with Chronic Obstructive Pulmonary Disease (COPD). Respiratory breathing modification of pursed-lips, diaphragm, and walking exercises of 6 minutes by moving the upper arm for 30 minutes in the morning and afternoon is continuously very effective for decreasing shortness of breath in patients with COPD (Domini et al., 2015) , while long-term breathing exercises (12 months), which include pursed-lips, abdominal and upper and lower limb movement exercises are effective for decreasing shortness of breath, improving lung function, activity tolerance and reducing acute acute exacerbations for COPD patients Xi et al., 2015).

Pulmonary rehabilitation is a series of interventions consisting of conventional treatment, disease education, treatment of pursed-lips, abdominal breathing exercises and limb muscle relaxation given to patients with chronic obstructive pulmonary disease (COPD). The provision of this 12-week intervention effectively reduced breathlessness, increased exercise capacity and improved quality of life in moderate to severe COPD patients (Xu et al., 2017).

Provision of pursed-lips breathing exercise interventions with a 6 minute walking exercise has acute benefits in training capacity, can sustainably improve exercise capacity in stable COPD patients. (Bhatt et al., 2013). The same study was conducted by (Damle, Shetye and Mehta, 2016) that breathing pursed-lips by walking 6 minutes (six minute walk) is more effective than walking 6 minutes (six minute walk) without pursed-lips breathing, ie there is less increase in rate respiratory rate (RR), HR and sistole blood pressure in the 6-minute intervention group with pursed-lips respiration compared with a 6-minute walking group without pursed-lips respiration. Modification of physical exercise, inspiratory exercise and breathing exercises increases exercise capacity and decreases shortness of breath during physical effort, but inspiratory muscle training more effectively increases the strength and endurance of the inspiratory muscles so that it will decrease shortness of breath. Patients

with respiratory muscle weakness given by inspiratory muscle exercise have a higher advantage for strength and muscle strength inspiration but not for shortness of breath and submaximal training capacity (Basso-Vanelli et al., 2016).

Research conducted by (Spielmanns et al., 2016) incorporates pursed-lips breathing exercises, aerobic exercise and strength training in groups of pulmonary rehabilitation programs. In this study demonstrated that exercise capacity and quality of life could be improved in patients with COPD, this study supports the positive effects of pulmonary rehabilitation in COPD patients.

Other studies that incorporated pursed-lips breathing exercises with diaphragmatic breathing and chest expansion exercises with inspiratory muscle training showed a significant decrease in the dyspnea scale, a significant decrease in heart rate (HR), a significant decrease in respiratory rate (RR) and showed improvement which are significant in chest expansion variables, SPO2 as well as functional capacity (Chawla et al., 2013).

4 DISCUSSION

The presence of alveoli damage to Chronic Obstructive Pulmonary Disease (COPD) may alter respiratory physiology, thus affecting overall oxygenation of the body. One of the most common symptoms reported by patients with COPD is shortness of breath (Bhatt et al., 2013). Breathing is the most commonly used reason for patients with COPD seeking medical help (Borge et al., 2015).

Pharmacologic treatment alone is ineffective in treating the symptoms of shortness of breath in patients with COPD, so a nonpharmacological approach is needed as adjunctive therapy for the management of shortness of breath in patients with COPD. Breathing exercises are one of the most effective and efficient non-pharmacological treatments to help COPD patients overcome the condition of the disease (Domini et al., 2015). Pursed-lips breathing exercises and continuous application can be beneficial to increase confidence in their ability to manage shortness of breath. With pursed-lips breathing can prolong the period of ekshalasi, increase muscle relaxation, reduce breathing work and reduce dynamic hyperinflation. This long-term breathing exercise is effective against decreased respiration rate (RR) and increased SPO2 (Roberts et al., 2016).

Pursed-lips breathing exercises with diaphragmatic breathing and chest expansion exercises with inspiratory muscle training showed a significant decrease in the dyspnea scale, a significant decrease in heart rate (HR), a significant decrease in respiratory rate (RR) and showed a significant improvement in the variables chest expansion, SPO2 as well as functional capacity (Chawla et al., 2013). In this systematic review the author only discusses the effect of pursed lib breathing on one variable only respiration variable rate (RR) with duration of long-term respiratory exercise intervention.

5 CONCLUSIONS

Pursed-lips breathing exercises and a combination of pursed-lips with abdominal breathing, diaphragm or a 6-minute walk can be used as nonpharmacologic therapy in patients with chronic obstructive pulmonary disease (COPD). Pursed-lips breathing and pursed-lips combination with abdominal breathing, diaphragm or 6 minute walking exercise can reduce breathing work, increase maximal alveolar inflation, increase muscle relaxation, decrease dynamic hyperinflation to decrease respiration rate (RR), increase SPO2 and improve significant in functional capacity.

Pursed-lips breathing or pursed-lip combinations with abdominal breathing, diaphragms and a 6-minute walking exercise should be applied as one of the nonpharmacological treatments in patients with COPD. This intervention is a cheap intervention so that it can be done by all patients with COPD from all levels of the economy to assist them in overcoming the condition of the disease. The hope together with pharmacological therapy may prevent acute exacerbations in patients with COPD.

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Model Supervision Fair, Feedback, Follow Up Against Nurses Compliance in the Application of Prevention of Infection Control as Efforts to Reduce Flebitis Occurrence

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Keywords: Fair feedback follow-up supervision, nurse compliance, phlebitis occurrence

Abstract: Introduction: Infection prevention and control is the greatest challenge in health care settings, and increased costs for healthcare-related infectious diseases (HAIs) are among the world's health problems, including Indonesia. In the forum of the Asian Pacific Economic Comitte (APEC) or the Global Health Security Agenda (GHSA), health care-related infectious diseases has been the subject of discussion. This suggests that the HAIs inflicted directly affected the country's economic burden. Infection control and prevention is the greatest challenge in health care settings, and increased costs to address health-related infectious diseases (HAIs) are among the world's health problems, including Indonesia. In the forum of the Asian Pacific Economic Comitte (APEC) or the Global Health Security Agenda (GHSA), health care-related infectious diseases has been the subject of discussion. This suggests that the HAIs inflicted directly affected the country's economic burden. Methods: Literature searches are performed in major databases such as proquest, sciencedirect, scopus, and google scholar with the time limit used November 2017 to December 2017. Results: A total of fifteen studies raised in this study all have similar objectives how to carry out clinical supervision in improving nurse compliance and performance in each population. From fifteen randomly selected respondents chose respondents. Conclusion: In order to adhere to the compliance and performance of the nurses, the quality is in line with the SPO development model supervision fair feedback follow-up on the compliance of nurses in the application of infection control procedures to decrease the incidence of phlebitis needs to be done.

1 BACKGROUND

In accordance with the regulation of the minister of health of the Republic of Indonesia number 27 of 2017 on infection prevention and control guidelines (PREVENTION OF INFECTION CONTROL) in health care facilities. Infection control and prevention is the greatest challenge in health care settings, and increased costs to address health-related infectious diseases (HAIs) are among the world's health problems, including Indonesia. In the forum of the Asian Pacific Economic Comitte (APEC) or the Global Health Security Agenda (GHSA), health care-related infectious diseases has been the subject of discussion. This suggests that the HAIs inflicted directly affected the country's economic burden.

In principle, the incidence of HAIs can actually be prevented if health care facilities consistently implement infection prevention and control programs (PREVENTION OF INFECTION CONTROLs). PREVENTION OF INFECTION CONTROL is an effort to ensure the protection of everyone against the possibility of contracting the infection from public sources and while receiving health services at various health facilities.

Compliance is an individual's conduct of loyalty, obedience to doing what it tells him to carry out fixed procedures that have been made. Adherence at first individual adheres and often compliance is done because want to avoid punishment or sanction if not obedient (Niven, 2008). The phenomenon that we often encounter in the field of nursing services all nursing orders already have standard operating procedures (SPO) for patient safety, but still found

non-obedient behavior of nurses in implementing the procedure of action. One is non-compliance with the infection control program, this infection is the leading cause of death and increased morbidity of hospitalized patients. WHO prevalence surveys in 55 hospitals from 14 countries representing 4 WHO Regions (Europe, Middle East, Southeast Asia and the Western Pacific) showed an average of 8.7% of hospital patients experiencing HAIS. At any time, more than 1.4 million people worldwide suffer complications from hospital-acquired infections. The highest frequency of HAis was reported from hospitals in the Middle East and Southeast Asia (11.8% and 10.0% respectively), with a prevalence of 7.7% and 9.0% respectively in western Europe and the Pacific (WHO, 2002). Another study, HAis is reported to average about 3.5% (Germany) to 5% (United States) of all inpatients, in tertiary hospital care about 10% and in ICU about 15% -20% of cases (Kayser, 2005). Kasmad (2007) states in developing countries including Indonesia, the incidence of HAis is much higher. According to research conducted in two major cities of Indonesia, the incidence of HAis is 39% - 60%. In developing countries the occurrence of HAis is high due to lack of oversight, poor prevention practices, improper use of inappropriate resources and crowded hospitals by patients. Survey data conducted by AMRIN researchers (Anti Microbal Resistance In Indonesia), in dr. Kariadi Semarang in 2002, the incidence of deep wound infections (Deep Incisional) surgery by 3%, primary blood flow infections (phlebitis) by 6% and urinary tract infection is the highest incidence rate of 11%. Based on data from nursing field RSUD.dr. Tuban R.Koesma still found the incidence of phlebitis on 7-12 August 2017 amounted to 11% of the number of patients at risk of phlebitis as many as 19 people. Phlebitis incidence becomes indicator of hospital minimum service quality with standard incidence ≤ 1.5%.

Based on preliminary study conducted by researchers in the Jasmine Room RSUD. Dr. R. Koesma Tuban which is the place of this research, on October 6, 2017 obtained the result of 5 moments indication of hand hygiene, the officer only often do hand hygiene at the time after contact with the patient just hand hygiene, and the implementation steps are not in accordance with procedure, which is still a few officers who do 6 steps hand hygiene correctly. of the 10 nurses who were observed found 7 people (70%) nurses did not wash hands SPO, 3 people (30%) nurses wash hands in accordance with the SPO. Also obtained data from the observation there are nurses who hold the infusion when fixing the infusion flow is jammed without using a sarong tanggan. If non-compliance to hand hygine is not immediately overcome it will cause some consequences on patient safety against infection

The purpose of the PREVENTION OF INFECTION CONTROL Program is to improve the quality of hospital services and other health facilities through infection prevention and control. Protecting human health and health of the public from dangerous infectious diseases; and Lower the number of HAis incidents. The scope of the PREVENTION OF INFECTION CONTROL Program includes Prevention of Infections, Education and Training, Surveillance, and Rational Use of Antibiotic Drugs. Gender, age and occupation are factors of compliance (Szilagyi et al, 2013). Ernawati, et.al (2014) states that the knowledge and strengthening of monitoring in the form of audits, reminder media, the absence of sanctions and rewards mechanisms are factors of determinant compliance. Interventions involving behavioral change, creative education, monitoring and evaluation, and more important are the involvement of supervisors as role models and leadership support (Ernawati, et.al, 2014).

Each hospital is required to establish a Hospital Patient Safety Team (TKPRS) established by the head of the hospital as the implementer of patient safety activities. The TKPRS as referred to is responsible to the head of the hospital. Membership of TKPRS consists of hospital management and elements of the health profession at the hospital. TKPRS performs the task: develop patient safety program in the hospital according to the specificity of the hospital; to formulate policies and procedures related to the patient's hospital safety program; carrying out the role of motivation, education, consultation, monitoring and assessment (evaluation) on the implementation of hospital patient safety program. The key to successful supervision is 3 F, Fair, Feedback, and Follow Up (H. Burton, in Pier AS, 1997). and is the spearhead of achieving the goal of health services in the hospital.

The new focus of this research is to develop a fair feedback supervision model for nurse compliance in the application of PREVENTION OF INFECTION CONTROL as an effort to decrease the incidence of phlebitis.

2 METHODS

2.1 Design

Systematic reviews are used to review published journals that illustrate clinical supervision in documenting integrated patient development records to improve nurse compliance and performance.

2.2 Inclusion and Exclusion Criteria

2.2.1 Study Type

This systematic review uses inclusion criteria which use quantitative and qualitative methods to evaluate outcomes from the implementation of fair feedback follow-up supervision.

2.2.2 Type Participant

The whole range of nursing managerial in RSU dr. R. Koesma Tuban. Participants were selected by purposive technique consisting of Head of Nursing, Head of Nursing of Inpatient Installation, Head of Nursing Service Nursing Division, Head of Monitoring Section of Nursing Service Evaluation, Head of Room and Team Leader.

2.2.3 Search Literature Strategy

The strategy in searching the literature used is to search in proquest, sciencedirect, scopus, and google scholar with the time limit used is November 2017 to December 2017. By using keyword supervision, nurse compliance, nurse performance.

2.3 Quality Study Assessment Method

Study quality study method used to examine the data of research results using 2 stages of validity (validity), reliability (keajegan) and Applicability (applicable).

2.4 How to Data Extraction

To compare the journals that have been obtained then the data is extracted using the author and the year of publication, design, research objectives, population, intervention, method of implementation and outcome to be achieved.

2.5 Data Synthesis

The synthesis of data using data from the extraction of journals that have been done then dilakukuan inference.

3 RESULTS

Quality services should be supported by adequate sources of resources, including qualified human resources, service standards including quality nursing services, in addition to facilities that meet the expectations of the community. In order for nursing services senantisa meet consumer expectations and in accordance with the prevailing standard then required a supervision of the implementation of nursing actions. Supervision or supervision is a good thing Supervision is important and its implementation depends on how the staff sees it. Elements in the execution of superfissions ranging from fair, responsible and responsible feedbacks and Follow Ups, competent to the right and wewenag will provide direct feedback on the performance of nursing staff, if nursing staff in action in accordance with the SPO will be able to encourage them to be able to improving their performance orientation, as well as if the performance of nursing staff does not achieve as expected or does not comply with the SPO will be able to give impetus to the non-compliance does not happen again (Ngatno 2006). The main activities of supervision basically include four things: (1) determining problems and priorities; (2) determine the cause of the problem, priority, and solution; (3) execute its solution; (4) assessing the outcomes to be achieved for subsequent follow-up (Nursalam, 2016). In the systematic review of this research, the results obtained are Characteristics of Respondents, the respondents of the supervision on the 15 journals are health workers, pediatric nurses and Health Care Providers including implementing nurses therein. Implementation of fair feedback followup supervision method.

At this stage two rooms were chosen: Lotus room (for female patients with internal medicine) as treatment group and Asoka room (for male patients with internal disease) as control group. Before the treatment group was given intervention, a pre test was taken in the treatment group and the control group to obtain the initial satisfaction level. Furthermore, in the treatment group, intervention model of fair feedback supervision follow-up, while the control group was not intervened. In both groups

each was done twice the measurement of pretest and posttest.

Advantages and Disadvantages of Journal The Journal study obtained is the result of the Journal's search obtained having a population of health personnel, pediatric nurse and Health Care Provider including nurse executor. Of the 5 journals obtained are also less specific for each supervision implementation using various methods. The implementation of coaching should have a standard or criteria to be achieved and measuring instruments used clearly. Critical Appraisal Quality The study was conducted by the authors so that the results obtained still depend on the subjectivity of the author.

4 DISCUSSION

Supervision is an effort to assist the fostering and upgrading of the supervised party so that they can carry out the tasks that have been determined efficiently and effectively (Huber, 2000). Nursing Supervision is supervisory and coaching activities conducted continuously by the supervisor covering the problem of nursing service, manpower problem and equipment so that patients get quality service every time.

Nursing Supervision Step starts from Pre supervision, supervision up to post supervision consisting of fair feedback follow up (Nursalam, 2016) Pre supervision 1. Supervisor specifies the activities to be supervised. 2. Supervisor sets goals and competencies to be assessed. Implementation of supervision 1. Supervisor assess performance perwat based on measuring instrument or instrument that have been prepared. 2. Supervisors get some things that require coaching. 3. Supervisors are involved in PP and PA to conduct guidance and clarification of the problem. 4. Implementation of supervision by inspection, interviewing, and validating secondary data. Supervisor clarify the problems and supervisor does Question with the nurse. Post Supervision 1. Supervisor provides an assessment of supervision (F-fair). Supervisor clarify the problem. Supervisor conducts question and answer with the nurse. 2. Supervisor provides Feedback and clarification (as reported by the supervision report). In general there are 2 methods of effective feedback. Verbal (oral), giving comments to the observation of the learning process directly through face to face no distance or equipment used. This method is usually done by talking to each other / dialogue, interviews, meetings, speeches, and discussions. In addition, the provision of comments can also be made indirectly through intermediary tools such as telephone, mobile phone, and so forth because of the distance the speaker with the other person. Non verbal (written), commenting on the observation of the learning process by means of writing without any direct conversation using a short, clear, and understandable language by the recipient. This method can be in the form of correspondence, sms, e-mail, photo learning, and so forth.

3. Supervisor provides reinforcement and follow-up improvement. There are two reinforcements: positive reinforcement or rewards are given to those who are positive or desirable to gain an award so as to increase the strength of the response or stimulate the repetition of their behavior. Both negative reinforcement or punishment is a situation that occurs when the desired behavior occurs to avoid negative consequences of punishment (Roussel et al, 2003).

There are two follow-up improvements: short-term follo-ups are short-term interventions involving patients after going through an episode of acute illness and long-term follow-up is given to patients receiving long-term intervention or follow-up, more formalized individual plans can be performed together with the people around him to expand monitoring and repeat positive behavior. (Cohen and Toni, 2005).

The elements in the assessment of the implementation of 3 F supervision by the head of the room include R-A-A namely: 1. Responbility (responsibility), is the work to be completed by someone in a certain position. 2. Accountability (ability), competent in providing responsibility for the devotion given to him. 3. Authority (authority) the right or authority to decide everything related to the fungis. (Nursalam, 2016)

5 CONCLUSIONS

5.1 Conclusion

Hand hygine compliance monitoring is an important element of the PREVENTION OF INFECTION CONTROL program. Observations by trained auditors are considered standard methods for establishing hand hygiene compliance levels. Losses include resources required for observational surveys, installation costs, variable accuracy in estimating compliance rates, issues related to health personnel's acceptance. The purpose of the PREVENTION OF

INFECTION CONTROL Program is to improve the quality of hospital services and other health facilities through infection prevention and control. Protecting human health and health of the public from dangerous infectious diseases; and Lower the number of HAis incidents. The scope of the PREVENTION OF INFECTION CONTROL Program includes Prevention of Infections, Education and Training, Surveillance, and Rational Use of Antibiotic Drugs. The main activities of supervision basically include four things: (1) determining problems and priorities; (2) determine the cause of the problem, priority, and solution; (3) execute its solution; (4) assessing the outcomes to be achieved for subsequent follow-up (Nursalam, 2016). The key to successful supervision is 3 F, Fair, Feedback, and Follow Up (H. Burton, in Pier AS, 1997). and is the spearhead of achieving the goal of health services in the hospital.

5.2 Recommendation

The organization can apply a fair feedback followup so that it can evaluate the nurses' compliance and performance by making improvements, the nurse must maintain compliance with the measures in accordance with agreed standards.

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Nurse Performance in Infection Prevention and Control in Hospital Pamekasan

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Keywords: Nurses performance, Infection Prevention and Control, Hospital

Abstract: Infection Prevention and Control is very important to be implemented in hospital as indicator of quality service. It also protects patients, labours, visitors and family from infection transfer. Infection Prevention and Control in hospital has been poor implemented caused by human resources who did not obey hand hygiene standard and manual procedure, less universal precaution, and other important things about standard of Infection Prevention and Control. The objective of this study was to describe the nurses performance in Infection Prevention and Control in hospital. A descriptive with cross sectional was employed in this study. Sample comprised of 102 respondents with purposive sampling in Mohammad Noer Hospital Pamekasan and As Syifa Husada Hospital Pamekasan. Result showed about 42.15% of respondents were less in Infection Prevention and Control performance. The findings recommend the hospital management to held a basic Infection Prevention and Control for nurses.

1 BACKGROUND

Hospitals as health care facilities should have quality indicators; one of it is the percentage of nosocomial incidence (Depkes R.I, 2005). According to Ari (2003) Infection Prevention and Control Program (IPC) is important to be implemented in hospitals as a measure of service quality as well as to protect patients, officers, visitors and families from the risk of infection contracting.

According to the infection report of Haji General Hospital Surabaya from January to March 2015, a nosocomial infection rate for IDO (Infection Area of Operation) was 0.12%, UTI (Unitary Tract Infection) 0.50%, Phlebitis 3.95%, VAP (Ventilator Associated Pneumonia) 1,75 (Komite PPI RSU Haji 2015). While the result of nosocomial infection surveillance of Mohammad Noer General Hospital Pamekasan in 2016 found the level of nurse's hand washing compliance was 62.9% and percentage of phlebitis incident was 7.5%, with standard incidence of nosocomial infection in hospital is ≤ 1.5% (Komite PPI RSMN, 2017). The implementation of prevention and control program of nosocomial infection in Mohhamad Noer General Hospital Pamekasan from year to year has not shown any change toward improvement. According to the IPCperformance report (2016), the problem lies on human resources who do not comply with standard and hand washing procedure, the use of personal protective equipment (PPE), and also some things that are included in standard precautions.

Universal Precaution (UP) as a treatment to minimize the exposure of blood and body fluids from all patients, the primary purpose is to protect the nurses from disease transmission in healthcare facilities by emphasizing the importance of treating all patients as potentially infectious, so there should be adequate precautions to be taken. The basic principles of preventive action are proper hand washing, the application of aseptic antiseptics and the use of personal protective equipment in an attempt to prevent the transmission of microorganisms through blood and body fluids (Depkes, 2008).

The result of Mustariningrum research (2015) showed the result of the training is strong enough and has a significant effect, the work motivation of IPCLN (Infection Prevention and Control Link Nurse) has no significant on its performance, supervision is strongly related and influence significantly on IPCLN performance. At the same time, training, work motivation and supervision are strongly related and have a significant effect on

IPCLN performance simultaneously. IPCLN performance can be explained as much as 52.6% of the training variables, work motivation and supervision simultaneously, and supervision that has dominant influence.

The role of hospital management is very important in supporting infection control programs. Hospital is responsible for the infection control committee in identifying the resources of the infection prevention program, providing staff education and training on infection control programs such as sterilization techniques, requiring staff (nurses, laboratories, janitors) to keep the hospital clean, conduct periodic evaluations of effectiveness and infection control measures. Facilitate and support infection control measure, and also participate in tracking of infection (WHO, 2005). Result of interviews with the head of the IPC committee found that it was not easy for health workers to conduct universal precaution.

The reason is the lack of self-awareness of health workers in hand washing and the role of IPCLN from each unit which in charge to provide the motivation and admonition about the implementation of infection prevention and control compliance in every personnel of each room and monitoring the compliance of other health workers in running the standard of isolation which is still not running optimally. In fact, if hand washing is not accordance with procedures and supported by inadequate environmental conditions can cause the microorganisms transfer from humans to humans or to objects.

According to Gibson, James L. Ivancevich, John M. and Donelly Jr. James (1997) in Nursalam (2016) there are three factors that affect the performance of nurses, i.e. individual factors (ability and skills, background, demography), psychological factors (perceptions, attitudes, personal, learning and motivation), organizational factors (resources, leadership, rewards, structure and job design). The description of the research results can be concluded that the factors which affect the nurse performance in the IPC is influenced by individual characteristics, level of ability and skill, education level, workload, motivation, job design, attitude, perception and supervise. The purpose of this study is to identify the performance of nurses in infection prevention and control (IPC) at Pamekasan General Hospital.

2 METHODS

This study is a descriptive explanative research with cross sectional research design (Kowalczyk, 2015). The sample of controlled study using inclusion and exclusion criteria was 102 respondents. The inclusion criteria in this study were nurses who worked at Muhammad Noer and As Syifa general hospital and willing to be respondents. The exclusion criteria in this study were nurses who where on leave, study and sick duties. Mohammad Noer and As Syifa general hospital were chosen because this public hospital has the same classification as a class D general hospital.

Data collection began with researcher submitting a research permit letter to the Director of Mohammad Noer and As Syifa General Hospital Pamekasan. The data collection stage can be carried out after research permit letter from Mohammad Noer and As Syifa general hospital Pamekasan has been released. The next step is to meet the head of the nursing department to explain about the informed consent and procedure of research to be performed, and then the researcher meets the chief of the room to explain the informed consent. Researcher conducted observations assisted by the research assistant to each nurse in accordance with the number of sample that has been determined.

The researcher conducted a univariate analysis after the data were collected. The aim of this analysis is to see the frequency distribution and proportion of data. Univariate analysis is used by researcher to see the frequency distribution of nurse performance implementation in infection prevention and control in hospital.

3 RESULTS

Univariate analyzed data is frequency distribution of nurse performance in infection prevention and control at five moments hand hygiene action. The use of personal protective equipment, maintain sterile principles and manage medical waste. The results of this study are as follows:

Table 1 show that as many as 43 people (42.15%) of respondents were lacking in performance in IPC (infection prevention and control) at general hospital in Pamekasan.

Table 1: Distribution Frequency of nurse performance in IPC at general hospital in Pamekasan (n=102)

Nurse perfor-mance in IPC	Total	Percentage (%)
Good	59	42,15
Less	43	57,85
Total	102	100

4 DISCUSSION

As much as 42.15% of nurses at Mohammad Noer and As Syifa general hospital Pamekasan were lacking in IPC performance. The research results of Farhoudi (2016) the results obtained in implementation of the WHO hand hygiene program significantly improved hand hygiene compliance among nurses. There was a substantial increase in compliance observed with hand hygiene practices after completing the implementation of the hand hygiene improvement program (from 29.6% to 72.7%).

The results of Kartika's study (2015) showed that most of surveillance components have not been properly implemented in accordance with the Surveillance Technical Directives of the Ministry of Health in 2010. This is due to the lack of management support for IPC support and facilities programs, the lack of socialization program to all surveillance implementers, and the absence of supervisory function on the implementation of nosocomial infection surveillance program.

This study shows that almost half the results of nurses are not fully optimal in IPC performance which includes five moments of hand hygiene, use of personal protective equipment, maintaining sterile principles, and managing medical waste. The nurses' performance in IPC at Mohammad Noer and As Syifa general hospital in Pamekasan in 2018 is generally still lacking. This is because in the implementation of infection prevention there is a lack of nurse supervision function. Another factor is motivation and skill, where both are factors that can reflect the attitude and character of a person in carrying out the main duties and functions as a nurse, other factors that influence are supporting facilities and hand hygiene where an effort is needed to increase the availability of facilities that ease the nurse in implementing infection prevention and control. Based on that, infection prevention and control (IPC) is an important health care issue in order not to cause some problems, such as increasing morbidity and mortality rate, adding day care, increasing the cost of care and dissatisfaction both patient and family.

5 CONCLUSIONS

This study concluded that in general 43 respondents (42.15%) were lacking in IPC performance. Suggestions for hospitals are to conduct basic IPC training to improve knowledge, skill and attitude to support the success of IPC program in hospital.

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Is It True that CPR Fraction mostly Caused by Physical Fatigue?

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Keywords: CPR, physical fatigue, nurse, efficiency, quality.

Abstract: Introduction: Based on AHA 2015 guidelines the best fraction for CPR intervention is 60%. It means that in one CPR intervention the interruption must be not more than 40% of total intervention. the standard supposed to be different at each helper, because many factors will affect the effectivity of CPR intervention. There were many study to know the fraction of each helper when do CPR. A CPR actor must reduce the interruption at the smallest thing such as forget the count of compression done. Method: This study is a systematic review with a purpose to understand the factors of CPR that affect the CPR fraction. The study used four search engine such as PubMed, Proquest, Scopus, and Sage Journal. From the four search-engines was found 15 article that matched the study purpose. Result: There are several factors that affect CPR fraction which are sex, weight, height, university degree, and the work place. These factors affect the CPR actor mostly at the case of physical fatigue and the number of distraction. Discussion: The most disturbing factor that affect the CPR fraction was the trouble in remembering the CPR count and the physical fatigue in the helper. The CPR count problem had been solved by the help of a tool. But the physical fatigue still need more discoveries to find the problem solver. It still unclear which solution that affect most of CPR fraction.

1 BACKGROUND

The change of AHA guidelines from 2010 to 2015 means a lot to the health practitioner especially the emergency and critical department. The need of consideration toward effectiveness cardiopulmonary resuscitation being highly emphasized. The main purpose of CPR is to restore a partial flow of oxygenated blood and breathing until the spontaneous circulation of blood returns in the patient. It is of paramount importance to keep in mind that the most vulnerable organ to ischemia is the heart itself, so measures need to be taken to restore enough blood circulation immediately in the coronary arteries in order to save the heart. This can be achieved through first performing chest compressions and later through special medications and techniques so that the heart maintains its normal functioning. In CPR, performing external high-quality chest compressions is of great importance in that it can increase blood output of the heart, increasing the blood flow to the heart and the brain, and hence improving the survival chance of the patient in the short run (3). The results of the studies done so far on CPR teams in hospitals shows that the chest compressions are not deep enough and that there are interruptions in compressions and ventilations due to the fatigue of the CPR team members (Rad and Rad, 2017).

The degree of fatigue and difficulties in performing CPR by rescuers is an important factor when addressing the resuscitation effects of various C/V ratios. Previously obtained data indicate that CPR requires strenuous effort and that the quality of chest compression can decline soon after ECC is started. Riera et al found that health professionals can comfortably apply uninterrupted ECC for 2 minutes. Rescuer fatigue occurs after 3 minutes of continuous ECC. Although a 30:2 ratio delivers better chest compression than a 15:2 ratio, it is more exhausting (Chi, Tsou and Su, 2010).

The blood flow generated by chest compressions is a function of the number of chest compressions delivered per minute and the effectiveness of each chest compression. The number of compressions delivered per minute is clearly related to survival. This depends on the rate of compressions and the duration of any interruptions. Chest compressions should be delivered at a rate of at least 100 compressions per minute since chest compression rates below 80/min are associated with decreased ROSC. Any interruptions of chest compressions should be minimized. Legitimate reasons to interrupt

chest compressions include the delivery of non-invasive rescue breaths, the need to assess rhythm or ROSC, and defibrillation. Hold compressions when non-invasive rescue breaths are delivered. Once an advanced airway is established there is no need to hold compressions for further breaths. High-quality compressions must also continue while defibrillation pads are applied and the defibrillator is prepared. Aim to minimize interruption of chest compressions during the changeover of rescuers. Including all interruptions the patient should receive at least 60 compressions per minute (Rajab et al., 2011).

2 METHODS

This review production started with found journal article with PICO framework, researched population was cardiopulmonary intervention (CPR), physical fatigue event in CPR intervention, quality of CPR, and efficiency of CPR intervention. The key word was "Cardiopulmonary", and "Resuscitation" and "Physical Fatigue", and "Quality", "Efficiency" in the database PubMed, Proquest, Scopus, and Sage Journal with date restriction started from 2010 until 2018.

From the searching process we found 20 journals, and 13 journals selected which fulfilled inclusive criteria: factor that affected CPR intervention. Then we did review from journal selected.

3 RESULTS

According to the result of the study showed that the factor that affect physical fatigue in cpr intervention are sex, weight, height, university degree, and the work place of the rescuer were significantly correlated with the onset time of physical fatigue experienced during CPR operation. Most of the reviewed journals said that were the related factors.

Around 70% of the study said that CPR intervention effectivity which shown by the ideal achieved CPR fraction according to AHA 2015 guidelines (60%) was affected by physical fatigue.

4 DISCUSSION

It still uncertain what caused the physical fatigue, wether it is caused by some study recommended that male nurses with greater height and weight be employed in the rescue teams in ICU wards. Moreover, it seems mandatory for the nurses currently working in such teams in hospitals to improve their physical fitness through doing aerobics on a regular basis so that they may experience less fatigue during their CPR operations in future.

5 CONCLUSIONS

It is need to conduct more study related to physical activity such as compare between each position of CPR to understand more about the physical fatigue in CPR. Position seems to have much influence in CPR intervention

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The Effect of Massage Therapy and Reflexology agains Level of Anxiety on Preoperative Patient

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Keywords: Massage, Reflexiology, Anxiety, Preoperative

Abstract: Background: Patients undergo invasive diagnostic procedures are usually anxious and worried. High levels of anxiety can interfere the surgical procedure. Massage and reflexiology can be an alternative therapy to reduce anxiety. This research want to know the effect of massage and reflexiology agains levels of anxiety in preoperative patients. Methods: This searched the Chocrane Library, Scopus, PubMed, Sciencedirect, EBSCO, and ProQuest for the period 2013 – 2017. Articles identified by using search terms or keywords (' massage ' AND ' reflexiology ' AND ' anxiety ' AND ' preoperative '). Results: Initial search found as many as 88 articles, and after going the selection obtained 10 articles. Massage theraphy and reflexiology are given on the hand or the foot or the back of patient for 10, 15, 20 and 30 minutes. The instrument that used to discover changes in levels of anxiety before and after therapy is a scale anxiety and the patient's clinical signs (pulse, blood pressure and respiration). Conclusions: Massage theraphy and reflexiology on hands and feet with duration 20 minutes can be used to reduce the level of anxiety in preoperative patients. Massage theraphy and reflexology did not cause harmful effect.

1 BACKGROUND

In the examination procedure used to establish the diagnosis and surgery performed on a patient can cause anxiety and fear. The number of anxiety figures found in cardiovascular interventions performed by coronary angiography was 20-25%, colon cancer disease preoperative 11-80% (Ayik and Özden, 2018) dan fiberoptic bronchoscopy 51% (Heidari et al., 2017). Surgical surgery has the potential to cause a lot of uncontrolled stress. It has been shown that major surgery will undergo profound physiological changes rather than mild surgery (Bagheri-nesami *et al.*, 2014).

Anxiety is a perceived emotional state of tension, anger, anxiety, fear and increased activity of the autonomic nervous system and leads to physiological and mental responses and along with increased heart rate, blood pressure and cardiac output (Brand *et al.*, 2013). Anxiety in the patient not only cause discomfort but also pain before and after surgery, thus requiring analgesic treatment and duration of healing after surgery. Increased anxiety has a physiological and behavioral range including suppression of the body's defense function, hypothalamic – pituitary - adrenal hyperactivity, increased focus on threatening stimuli and bleeding on coronary artery bypass surgery (Bagheri-nesami *et al.*, 2014). Furthermore, increased anxiety will reduce the pain threshold and implicate the increased intensity of pain (Hudson, *et al.*, 2015). To reduce anxiety in patients requires experience from patients when faced with surgical preparation or invasive action (Brand *et al.*, 2013a).

Methods for controlling anxiety include pharmacological and non-pharmacological methods. The pharmacological method should consider drug side effects, treatment rates and efficacy, and non pharmacologic methods, using affordable costs to keep the physiological signs of the body stable and reduce anxiety. There have been several studies on nonpharmacological methods in recent years. The mechanism of the reflection effect is not fully understood but can be explained (Hudson, *et al.*, 2015). Among these interventions, reduce pain and anxiety by using complementary methods of treatment that can be demonstrated. One branch of complementary medicine is foot massage therapy performed through reflection. For hundreds of years massage reflexology has been used as a useful

therapeutic method in China, Egypt and India. The point of reflection is found in the metatarsus or the palm of the hand that reflects all parts of the body. According to one theory about the method of reflection on the part of the metatarsus says that mental pressure and tension are responsible for 75% of human mental problems because of the 7000 nerves in each leg. Foot massage that stimulates the neurons relaxes and reduces tension and restores the body to balance (Mahmoudirad *et al.*, 2013).

2 METHODS

2.1 Literature search strategy

Three-step strategy is used for the collection of literature study materials. Initial phase by searching literature study with systematic review format on chocrane, but suitable theme not found and year of publication which is too old. The second step searches the literature with the type of randomize control trial design (RCT). The third stage includes keywords according to selected topics in Scopus, EBSCO, PubMed, Science direct, ProQuest. Articles identified by the search terms or keywords ('massage' AND 'reflexology' AND 'anxiety' AND 'preoperative') published in the last 5 years (2013 - 2017) (Figure 1).

2.2 Inclusion and exclusion criteria

2.2.1 Study design

The literature completed by randomized controlled trial published in peer-reviewed journals written in English.

2.2.2 Population

Participants in the study were women and men older than 18 years of age who will undergo surgery. Operative measures include major or minor surgery using local and general anesthesia.

2.3 Interventions

In the treatment group, the action given to the preoperative patient was massage therapy and reflection on the hands and feet. The control group is not given massage therapy and reflexology or is given massage therapy without reflection.

2.4 Clinical outcomes

The result of the intervention measured after the action is the level of client anxiety by using measuring tools such as Spielberger State-Trait Anxiety Inventory (STAI), numerical rating scale (NRS), Hamilton Anxiety Rating Scale (HAMA), and Visual Analogue Scale Anxiey (VAS).

2.5 Study Selection

The compilation of the review system follows the guidelines of the literature (Hoof *et al.*, 2018) obtained from Cochrane.

3 RESULTS

3.1 Literature search and study selection

Three-step strategy is used fo The initial phase of literature search with the specified keywords then obtained a number of 88 literature. The second stage is by limiting the design of research on the type of randomize control trial (RCT) and the inclusion criteria relevant to the topic, it is found that there are 10 selected literature (Mahmoudirad *et al.*, 2013; Heidari *et al.*, 2017; Mei *et all*, 2015; Peng *et al.*, 2015; Brand *et al.*, 2013; Bagheri-nesami *et al.*, 2014; Shahsavari *et al.*, 2017; Ayik and Özden, 2018; Hudson, *et al.*, 2015; Rosen *et al.*, 2013). No other literature is selected because of language or letters such as Iranian or Arabic writing, intervention methods that do not fit the criteria (Figure 1).

3.2 Population

The number of population involved between 60 to 100 participants. Participants involved are limited by several criteria such as age, clinical examination before action, experience related to medical action. There is only one literature that requires certain sexes as participants in the study subjects (Heidari *et al.*, 2017).

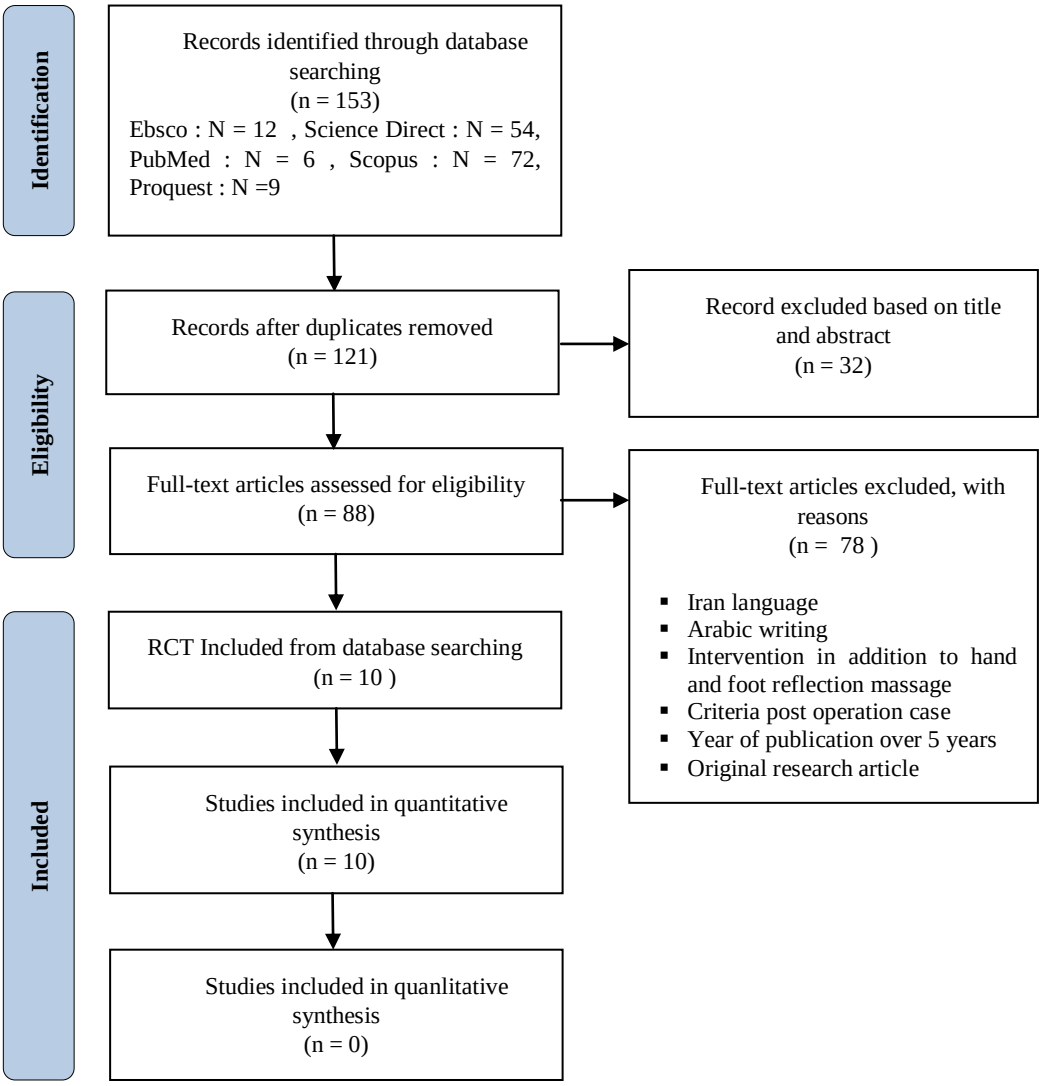

Figure 1: PRISMA study flow diagram. RCT : Randomised Controlled Trials

3.3 Intervention characteristics

Interventions given according to the literature include only foot reflexology therapy (Mahmoudirad *et al.*, 2013; Bagheri-nesami *et al.*, 2014; Shahsavari *et al.*, 2017) and hand reflection therapy therapy (Heidari *et al.*, 2017; Hudson, *et al.*, 2015).; Rosen *et al.*, 2013) or massage therapy without reflection on the hand (Mei *et all*, 2015; Brand *et al.*, 2013;). Direct intervention is done by a reflectionologist or conducted by the researcher himself but under the supervision and direction of the reflectionist.

3.4 Clinical outcome measures

The measurement tools used to determine the rate of anxiety in the research literature include Spielberger State-Trait Anxiety Inventory (STAI) (Mahmoudirad *et al.*, 2013; Peng *et al.*, 2015; Bagheri-nesami *et al.*, 2014; Ayik and Özden, 2018; Rosen *et al.*, 2013), numerical rating scale (NRS) (Heidari *et al.*, 2017; Hudson, *et al.*, 2015), Hamilton Anxiety Rating Scale (HAMA) (Mei *et all*, 2015), Visual Analogue Scale Anxiey (VAS) (Brand *et al.*, 2013; Bagheri-nesami *et al.*, 2014; Shahsavari *et al.*, 2017).

Table 1 : Characteristics of included studies

4	Peng, Sanying et all (2015)	Effects of Massage on The Anxiety of Patients Receiving Percutaneous Coronary Intervention	Treatment	RCT, 2 groups	Participants 117 cases that were ready to receive PCI were divided into two groups (59 in the intervention group and 58 in the control group).	All patients were in a relatively quiet, interference-free environment during nursing intervention. The massage time was 20 min before surgery, and the main massaged body parts were the head, neck, shoulder, and back.	Massage treatments reduced the emergency response and level of anxiety of cardiovascular patients before PCI. The post-intervention blood pressure, heart rate, and pain score of the intervention group were significantly better than those of the control group ($P<0.05$).
5	Brand, Leanne R et all (2013)	The Effect of Hand Massage on Preoperative Anxiety in Ambulatory Surgery Patients	Treatment	RCT, 2 groups	Conducted the study in the ambulatory surgery center of a rural community hospital in the midwestern United States. Control (n = 41) Intervention (n = 45)	The nurse applied hand massage in the direction of the participant's heart and began the massage on the participant's dominant hand. He or she massaged each of the patient's hands for five minutes.	We also investigated whether adding the hand massage procedure affected the timing and flow The results indicated that hand massage reduces anxiety for patients awaiting ambulatory surgery and outpatient procedures. Participants who received hand massage experienced lower anxiety levels than those who received customary nursing care. In addition, the performance of hand massage did not affect the flow or timing of procedures.
6	Nesami, Masoumeh Bagheri (2013)	The effects of foot reflexology massage on anxiety in patients following coronary artery bypass graft surgery: A randomized controlled trial	Treatment	RCT, 2 groups	Participants 80 patients who met the inclusion criteria were conveniently sampled and randomly allocated to the experimental and control groups after they were matched on age and gender.	The experimental group received foot reflexology massage on their left foot 20 min a day for 4 days, while the control group was given a gentle foot rub with oil for one minute.	The significant decrease in anxiety in the experimental group following the foot reflexology massage supports the use of this complementary therapy technique for the relief of anxiety.
					massage group.		control group.

7	Shahsavaria, Hooman (2017)	The effects of foot reflexology on anxiety and physiological parameters among candidates for bronchoscopy: A randomized controlled trial	Treatment	RCT, 2 groups	80 candidates about to undergo a bronchoscopy were recruited conveniently from Shariati teaching hospital that is affiliated to Tehran University of Medical Sciences, Tehran, Iran .	Subjects' anxiety, heart rate, respiratory rate, diastolic and systolic blood pressures, and arterial oxygen saturation were measured thrice, i.e. before foot reflexology, immediately after reflexology, and immediately before bronchoscopy.	Contrary to the control group, variations of anxiety, heart rate, respiratory rate, diastolic and systolic blood pressures, and arterial oxygen saturation were statistically significant in the reflexology group ($P < 0.05$).
8	Ayik, Cahide and Özden, Dilek (2017)	The effects of preoperative aromatherapy massage on anxiety and sleep quality of colorectal surgery patients: A randomized controlled study	Treatment	RCT, 2 groups	80 patients undergoing colorectal surgery were randomly assigned to experimental (n=40) and control Group (n=40).	The experimental group, aromatherapy massage was applied in accordance with the "Back Massage Guide" using 5% lavender oil (Lavandula Hybrida) for 10 minutes before surgery and the morning of surgery. The control group received standard nursing care in compliance with the hospital procedure. Data were obtained by the State Anxiety Inventory (SAI) and Richard-Campbell Sleep Questionnaire (RCSQ). Results were analyzed using the t-test, Chi-square test or Fisher's exact test.	There was no baseline difference between the groups. A statistically significant difference was found between the experimental and control group in terms of the SAI and RCSQ mean scores recorded on the morning of surgery. It was determined that the SAI and RCSQ mean score of the experimental group after aromatherapy massage on the morning of surgery decreased when compared to that of the evening before surgery.
9	Hudson, Briony F et all (2014)	The impact of hand reflexology on pain, anxiety and satisfaction during minimally invasive surgery under local anaesthetic: A randomised controlled trial	Treatment	RCT, 2 groups	Patients were recruited at a private clinic specialising in the minimally invasive treatment of venous conditions in London, between February 2013 and February 2014. 50 participants were randomised to the reflexology group and 50 participants were randomised to the control group	Hand Reflexology began once the participant was comfortable in the operating theatre, before the start of the analgesic injections and continued until the procedure was complete and the participant was ready to leave theatre. The reflexology entailed systematically working over different parts of the hands and arms using a massaging affect, with particular attention focused on areas corresponding to patients' central nervous system, pituitary, spine, solar plexus and head reflex.	Intra-operative anxiety was significantly lower in the reflexology group (mean score of 3.24 on an 11-point rating scale) than the control group (mean score of 5.0, $p < .001$).

10	Rosen, Jennifer et all (2013)	Massage for Perioperative Pain and Anxiety in Placement of Vascular Access Devices	Treatment	RCT, 2 groups	60 Participants were cancer patients undergoing port placement	For the intervention, an expert panel developed a reproducible, standardized hand massage therapy intended for individuals undergoing surgical port insertion. Both groups received 20-minute interventions immediately pre- and postsurgery.	Massage therapy participants had a statistically significant, greater reduction in anxiety after the first intervention compared with individuals receiving structured attention (-10.27 vs -5.21, P = .0037).

3.5 Analysis of intervention efficacy, grouped per intervention

3.5.1 Reflexiology on foot

Giving reflexology therapy to the client before surgery was obtained statistically significant results can reduce the level of anxiety as evidenced by the measurement results using Spielberger State-Trait Anxiety Inventory (STAI) (Mahmoudirad *et al.*, 2013; Bagheri-nesami *et al.*, 2014) and Visual Analogue Scale Anxiey (VAS) (Bagheri-nesami *et al.*, 2014; Shahsavari *et al.*, 2017).

3.5.2 Reflexiology on hand

Hand reflexology massage therapy in preoperative patients on statistical tests showed significant results in reducing the level of anxiety measured using Spielberger State-Trait Anxiety Inventory (STAI) (Rosen *et al.*, 2013), numerical rating scale (NRS) (Heidari *et al.*, 2017; (Hudson, *et al.*, 2015), Hamilton Anxiety Rating Scale (HAMA) (Mei *et all*, 2015), Analogue Scale Anxiey (VAS) (Brand *et al.*, 2013)

3.5.3 Massage theraphy without Reflexiology on hand

Massage therapy without hand reflexology in preoperative patients on statistical tests showed significant results in reducing the level of anxiety measured using Hamilton Anxiety Rating Scale (HAMA) (Mei *et all*, 2015), Analogue Scale Anxiey (VAS) (Brand *et al.*, 2013).

4 DISCUSSION

The database search yielded 10 trials that discussed the effects of reflexology and aromatherapy therapy on anxiety in patients before surgery. Reflection method can be done by using the extremities (hands and feet), as well as the back area of the body like the back. Six studies (n = 503) invested a massage reflection effect on the hand area with a duration of approximately 20 minutes after postoperative surgery, and most treatments showed effective results. Three studies (n = 230) examined the effect of massage reflection on the foot area with a duration of 20 minutes showed effective results. However, different things shown in reflexology performed on back or back massage (n = 80) did not show effective results compared with extremities. Preoperative measures performed on patients found in this systematic review are cases of coronary angiopgraphy, heart ring, brhoncoscopy, and colorectal installation.

Preoperative patients, mostly experiencing anxiety ranging from severe to mild (Hudson, *et al.*, 2015). The use of complementary therapies is one of the actions that nurses can take to reduce them. Complementary therapy in question is the provision of reflexology. Massage can be done in the hands, feet, back of the body, and around the shoulders. This research conducted by Heidari *et al.*, (2017) shows that there is a significant relationship between hand reflection and patient anxiety before coronary angiography, but the study of Hudson *et al.*, *(*2015) showed that there was a significant association with the weak category in patients who were given massage therapy therapy. This suggests that reflexology uses one of the alternative options for use in anxiety therapy, but more specific research is needed on how the process of reducing anxiety in patients with acute and more severe illness.

5 CONCLUSIONS

This systematic review discusses the anxiety of clients who will deal with surgery. One therapy used to reduce anxiety is massage therapy and reflexology. Massage therapy and reflexology performed on hands and feet with a duration of 20 minutes can be used in reducing anxiety levels in patients prior to surgery. Massage therapy and reflexology is a complementary therapy and does not cause adverse effects.

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Effectiveness Of Standard Ora l Hygiene Standard Using Brush a nd Chlorhexcidine 0.12% To Decrease Associated Pneumonia In Intensive Care Unit : A Systematic Review

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Keywords: VAP, Oral Hygiene, ICU

Abstract: Background Ventilator-associated pneumonia (VAP) is a common health infection that causes death and morbidity. Colonization in the oropharynx is the most critical risk factor, but this can be avoided with Oral hygiene . Methods This systematic review focused on the effectiveness of oral hygiene interventions in patients with ventilation in ICU patients to decrease Ventilator Associated Pneumonia (VAP) to search through the database of the journal "Scopus, pro Quest, Science Direct, SpringerLink". Result 17 articles that are considered relevant then conducted critical appraisal to review the contents, design and research methods . Research is divided into 4 things that is about toothbrush dose clorhexidine examination of bacterial cultures compliance nurses in performing oral hygiene action. Discussion There was a significant decrease in VAP in the group using a toothbrush. T here is no bacterial pathogens in patients undergoing oral hygiene with a toothbrush. Chlorhexidine 0.12 % more effective reduce events VAP , numbers events VAP too decreased from from 25% to 19 % . Conclusion Cooperation is required not only by peraw at but also Rumah S akit by providing toothbrush and clorhexidine as well as training and VAP bundle guide as prevention effort.

1 BACKGROUND

Ventilator-associated pneumonia (VAP) is a common health infection that causes death and morbidity. (Fields, 2008) . Ventilator -Associated Pneumonia occurs up to 25% in patients with ventilators and is responsible for 90% of nosocomial infections. Patients require approximately 48 hours after endotracheal intubation to be included in VAP infection . and early onset if infection occurs within the first 4 days of mechanical ventilation (MV) (Zuckerman, 2016).

Plaque that is left in the mouth for more than 3 days can make hundreds of gram negative bacteria that result in changes in mouth flora. Changing the mouth flora of patients in intensive care using mechanical ventilation increases the risk of ventilator pneumonia (VAP) (Yurdanur, 2016).

The incidence of VAP continues to increase in the developing world from 10-41.7 per 1000hari / ventilator and causes deaths ranging from 24% to 76% annually (Saensom et al. , 2016) . In Indonesia according to the survey reported (PAPDI 2009), most pneumonia acquired in hospitals, especially ICU is Ventilator Associated Pneumonia. At the Surabaya Hospital, pneumonia due to Ventilator is an infection with the highest incidence during the period (2008-2012). The incidence of pneumonia due to Ventilator increased in the year 2011 to 11.96% (Rahmiati, 2013). All of these are taken into consideration because VAP contributes to the increased cost, duration of MV, ALOS that extends in the intensive care unit (ICU) and death (Zuckerman, 2016).

All of the factors associated with VAP events . Colonization in the oropharynx is the most critical risk factor, but this can be avoided with proper Oral hygiene along with Clorhexidine (CHX) (Zuckerman, 2016).

Oral hygiene, subglotted suction, and head elevation in bed are an effective strategy to reduce the incidence of VAP (Berry et al. , 2011). Therefore this literature review will provide an overview of the effectiveness of Oral hygiene with clorhexidine against the decrease in the incidence of VAP in psien with mechanical ventilation

2 METHODS

The author searches the database of online search and aggregators in Scopus, Science Direct and Springerlink with the keyword "Oral Hygiene" and "Ventilator Associated Penumonia" and "ICU" and obtained 441 articles (77 articles in Scopus , 359 articles in Science Direct and 5 artics in Springerlink). The search is done by the limit of articles in 2010 until 2017.

The inclusion criteria created by the authors are:

1) Describes oral hygiene
2) Explain about the decrease of VAP incidence rate
3) Use of total solution clorhexidine
4) Clients installed endotrakeal tube, 5) clients who get mechanical ventilator ≥48 hours
5) Client in the trigger room
6) Quantitative studies with non / randomized controlled trial design, randomized clinical trial, cohort.

Exclusion Criteria are

1) The client has been diagnosed with pneumonia
2) Clients d i care in the ER or hospitalization
3) Clien attached tracheostomy
4) Qualitative studies .

3 RESULTS

Figure 1.1 is a literature search method. On search engines found 441 articles that were then selected based on topics and research variables to find the appropriate 185 articles, then re-selection with research variables that are not appropriate to get 96 articles, re-selection by using inclusion criteria to 17 articles obtained considered relevant and then performed critical appraisal to review the contents, design and research methods.

Research in this systematic review of two studies (13%) was conducted in the United States, four studies (26%) were conducted in Iran and Arab, Brazil and Brazil in 3 studies (2%) and one each in India, Thailand and Australia. Ten studies (67%) used a Randomized Control Trial design study , each of which was two (13%) Cohort and True Experiment Pre Post studies . Only one study (7%) used Crossectional Study design .

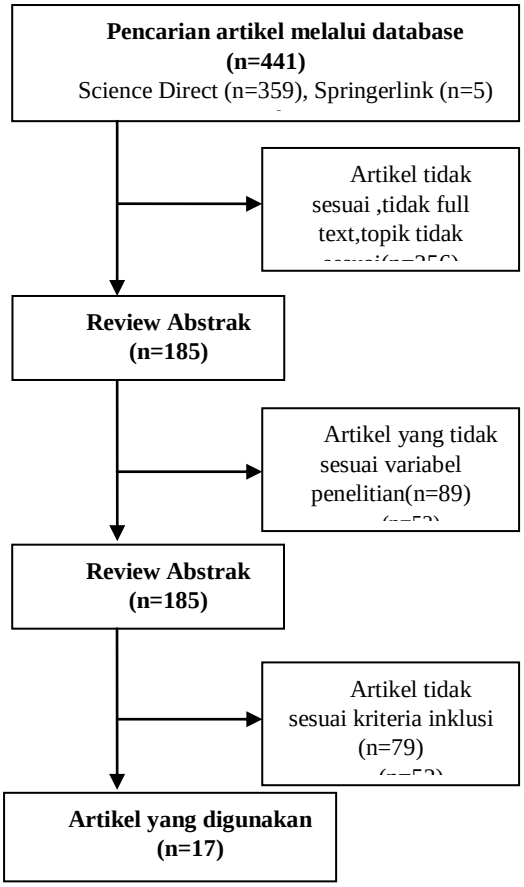

Figure 1: Review literature method

The sample size varied from 17 people to 528 people (mean 236.9). All studies focused on patients with mechanical ventilators with oral hygiene intervention .

There are several similarities in this research article, there are four studies examining toothbrushes (Prendergast, 2011; Chacko et al. , 2017; Fernanda et al. , 2017; Ory et al. , 2017) . as many as five studies have examined the dosage of clorhexidine (Berry et al. , 2011; Nobahar et al. , 2016; Da Collina et al. , 2017; Tuon et al. , 2017; Zand et al. , 2017) , three studies on the examination of bacterial culture on oral hygiene (Jones et al. , 2010; Nasiriani et al. , 2016; Tuon et al. , 2017) , three studies that examined nurse compliance in performing oral hygiene (Cuccio et al. , 2012; Alotaibi, 2014; Cutler and Sluman, 2014) and one study explaining the incidence of VAP that is directly proportional to oral care status in patients (Saensom et al. , 2016) .

4 DISCUSSION

Although it has been made a standard ventilator bundle, the fact that the number of deaths from VAP in the ICU is still frequent and the numbers continue to me n ingkat. Almost 65% of intubated patients have found pathogens responsible for VAP in their oral mucosa and dental plaque (Saensom et al. , 2016) . Because the patient is given mechanical ventilation, the patient is unable to eat through the mouth, his salivary serkion increases, and the ability to clean the oral cavity itself is greatly reduced. The results of oral hygiene worsen, and the number of bacteria increases, followed by colonization in the oropharynx. Some studies m e mentions there is a correlation between bacterial colonization of the oropharynx with the bacteria causing VAP.

In the study (Saensom et al. , 2016) it was found out that patients with poor oral care increased the incidence of VAP assessed with a PI showing a 1.6 - fold increased risk of VAP. Good oral care will prevent VAP development in patients who use mechanical ventilation.

Three studies of interventions Oral hygiene with a toothbrush and Clorhexidine 0.12% with Con trol study design randomized trial was conducted by (Fernanda et al., 2017; Ory et al., 2017;). Fernanda et al (2017) compared suction and clorhexidine 0.12 % compared with suction, 0.12% clorhexcidine and toothbrushes. The results showed a significant decrease in duration of mechanical ventilation and VAP incidence and length of stay in ICU. Then Ory et al. , (2017) and Chacko et al. , (2017) compared the use of sponges and sticks with 0.12% clorhexidine compared with Stick and toothbrushes with 0.12% clorhexidine . The results showed a significant decrease in VAP in the group using a toothbrush.

The three studies above are also supported by (Jones et al. , 2010) assessed the incidence and clinical significance of bacterial spread of the toothbrush on mechanical ventilation. The journal of this jones study reports to evaluate the effectiveness of oral hygiene measures combined with regular toothbrushing to prevent VAP in ICU patients in the inggris . The result is no pathogenic bacteria in patients who performed oral hygiene with a toothbrush .

Prendergast (2011) also investigated the effectiveness of manual and electro-toothbrushes in patients with neurosciences by monitoring ICP and CPP levels, which resulted in the use of manual toothbrushes safer for use in patients with neuroscience in the ICU chamber than in electric toothbrushes despite the results significant on ICP and CPP values .

In the Oral hygiene procedure, in addition to a 0.12% soluble toothbrush use n clorhexidine is most widely used in hospitals today. Although Clorhexcidine is a gold standard in oral hygiene intervention as a solution in the ventilator bundle. However, some researchers continue to develop about the effectiveness of clorhexidine in terms of dosage and type.

The study of Da Collina et al. , (2017) comparing 0.12% clorhexidine with MB- PDT 0.005 % welding water solution and Oral care MB- PDT paste for prevent VAP in getting the result that standard gold use 0.1 % chlorhexidine liquid more effective reduce events VAP , numbers events VAP too decreased from from 25% to 19 % .

This, however, contrasts with studies of (Nasirii et al. , 2016; Tuon et al. , 2017) comparing the administration of clorhexidine and sterile water in oral hygiene. In (Nasirii et al. , 2016) found more klebsiella and enterobacter bacteria in the control group with clorhexidine. The successor of this study used the clinical pulmonary infection score (CPIS) but did not judge from oral mucosal assessment. According to Tuon et al. , (2017) 4 VAP positive patients and 2 patients with positive sterile water VAP. More positive patients VAP in the clorhexidine group.

The problem nowadays, despite the innovations found in ventilator bundle, especially in the intervention of the nurse, oral hygiene , still found the level of compliance in its lack of implementation. The results of observations conducted in RS Surabaya, nurses only do oral hygiene in the morning while in the afternoon and evening rarely performed oral hygiene in patients.

Alotaibi (2014) more than one setegah (140 people) reported to receive oral hygiene therapy every hour with 0.12% chlorhexcidine, and half nurses did not do oral hygiene. Of the 215 nurses, only 169 were adherent to oral care guidelines for patients with mechanical ventilation in space ICU . Thus (Cuccio et al. , 2012; Cutler and Sluman, 2014) suggests providing an introduction to the oral care and education procedures associated with the VAP prevention protocol for 2 months for the nurse. P erlunya continuous nursing education and awareness of nurses in oral hygiene care, because the high rate of VAP will affect the cost, the use of antibiotics panja term n g and length of stay in the ICU.

5 CONCLUSIONS

Oral hygiene is one of the measures will be self-sufficient nurses and can effectively decrease the incidence of VAP in the ICU chamber. Oral hygiene

with a toothbrush and 0.12% clorhexidine may decrease colonization in the oropharynx to decrease the incidence of VAP, death and length of stay and maintenance cost. Cooperation is required not only by nurses but also hospitals by providing toothbrushes and clorhexidine as well as training and VAP bundle guidance as prevention efforts.

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Relationship of Working Stress with the Performance of ICU Nurse in Hospital Tk. II dr. Soepraoen Malang

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Keywords: Job stress, nurse performance, ICU nurse.

Abstract: The nurse in the ICU office has a very high risk of being exposed to work stress, because the ICU nurse has a big duty and responsibility to keep the patient's condition with terminal condition. Nurses who experience stress will lead to poor nurse performance, especially in providing nursing action. The purpose of this study was to determine the relationship of work stress with the performance of ICU nurses at Tk.II Hospital dr. Soepraoen Malang. This type of research uses correlational correlational research design using cross sectional approach. The sample will be used by all nurses at Tk Hospital. II dr.Soepraoen Malang which amounted to 20 people obtained using total sampling. Data analysis used in this research is by using spearman rank correlation. Based on the research data obtained a correlation of -0,800 with a significant 0,000 so it is said there is a relationship of work stress with the performance of ICU nurses at Tk Hospital. II dr. Soepraoen Malang. Coefficient value in the study of -0,800 so that the strength of work stress relationship with the performance of ICU nurses at Tk Hospital. II dr. Soepraoen Malang is very strong. Coefficient value is negative so that the lower the work stress the higher the performance of the nurse. Based on the research the ICU nurse is able to cope with work stress well in order to avoid work accident especially in giving nursing action to the patient.

1 BACKGROUND

The nurse is the professional nature of the w ork is always in situations involving human relations, a process of interaction and mutual influence and can have an impact on every individual (Suhaemi, 2003). There are many nurses at the hospital, one of whom was a nurse in the ICU (Intensive Care Unit). Patients admitted in the intensive care unit is a patient with a life-threatening situation at any time due to failure or dysfunction of one or multiple organs and it is still possible to cure back through the treatment, monitoring and intensive treatment This can result in ICU nurses experiencing job stress.

Work stress that human reaction to external stimuli well as social, employment, environmental and psychological perceived as a threat. Work stress include emotional assessment of the perceived difference between the demands of work with a person's ability to carry out the demands of the job (Goetsch, 2008). Stress usually causes nurses to stress usually physical, physiological and psychological. Physical stress can be a cold temperature, heat or chemical agents. Physiological stressors include pain, fatigue, while psychological reaction can occur due emotions such as fear of failure (Shani and Gole 2008).

There are several factors that cause job stress are generally classified into two namely internal sources and external sources. Internal resources are factors that work stress comes from within each individual. While the external source is a factor that comes from outside the individual (Hanida, 2002). Research in Adi Husada Hospital Surabaya Undaan Wetan show, 11 people (34% do not experience stress, 12

(38%) experienced mild stress and 9 (28%) experienced moderate stress because of the factors affect them workload and personality type.

In Indonesia based on research PPNI (2006) contained 50.9% of nurses working in four provinces experienced job stress often dizziness, fatigue, no break because the workload is too high and time-consuming, low wages and inadequate incentives. This is evidenced by research Mealer (2007) is obtained from 230 ICU nurses, there are 54 nurses (24%) who experienced Disoreder Post Traumatic Stress (PTSD), while of the 121 general nurses there are 17 nurses (14%) who experienced PTSD. This is because the risk or work activities in the ICU requires great responsibility in dealing with critical patients. In Jusniar study (2012) about the image of ICU nurses work stress Dharmasis Cancer Hospital Depok obtained the data that 33 respondents nurses there are 22 nurses included in the category of work stress were.

The effects of stress a nurse for himself among other physiological effects, psychosocial effects, the effects of performance and effects on health. When nurses experience this will tend to not focus on the work that is charged to him and may affect the performance of nursing itself (Fish, 2002).

Performance of nursing or nursing practice describes the activities provided to clients through the implementation of nursing care to achieve the goal of health care services in accordance with the duties and responsibilities of nurses to meet the provisions of the code of ethics, professional standards, rights of users of health services, service standards and standardized procedures operational (health legislation No. . 36 in 2009). One of the nurses performance can be seen from the quality of nursing care provided to patients. Basically that is used as a reference in assessing the quality of health care is the standard of nursing practice.

Nurses are the most energy and the most prolonged contact with the patient, so that the nurses' performance should be improved in nursing care. Nursing care is a process or activity of nursing practice provided by nurses to patients in various health service order by using the nursing process are assessment, diagnosis, intervention, implementation, and evaluation. Nursing care is guided by the standards of nursing within the scope of authority and responsibility of nursing. It can provide good quality service as well as the patients are satisfied with the performance of nurses (Nursalam, 2007).

Nurses who are experiencing stress will degrade the performance of nurses especially in the provision of nursing care. It fits in research Luci Elnita Febriany (2013), with the title "Relationship Stress Work With Performance Nurse IN Hospital Panti Waluya Sawahan Malang" shows that as many as 28 people (70%) nurses' performance is not good, and 5 nurses (12, 5%) nurses' performance was good, with the results of statistical spearman Rank test, showed no significant association between work stress with the performance of nurses in Hospital nursing Waluya Sawahan Malang.

Based on result a preliminary study, researchers chose Tk.II Hospital dr. Soepraoen Malang an army hospital that has a high level of discipline and strict regulations, serta majority of patients treated is a patient-ranking soldiers who on average have a high rank that will lead to job stress. The nurse agency in ICU Hospital Tk.II dr. Soepraoen Malang have moderate job stress, due to the ICU nurses have a high workload, continuous patient observation and work environment as noisy as the sounds of machines that cause stress in nurses working in the ICU and will affect the performance in providing nursing actions. based on some the above problems and relates to the importance of the performance of nurse researcher is interested to do research on work stress Relations with the performance ICU nurses at the Hospital Tk. II dr. Soepraoen Malang

2 METHODS

2.1 Research design

This research uses a correlational study design analysis using cross-sectional design, which this study aims to find the relationship between job stress and nurse's performance ICU at the Hospital Tk. II dr. Soepraoen Malang measured in the same period or the subjects were given a questionnaire only once.

2.2 Research samples

This research uses a correlational study design analysis using cross-sectional design, which this study aims to find the relationship between job stress and nurse's performance ICU at the Hospital Tk. II dr. Soepraoen Malang measured in the same period or the subjects were given a questionnaire only once. The population used in this study is that all nurses working in the ICU Hospital Tk. II dr. Soepraoen Malang, amounting to 21 nurses. The sampling technique used in this study is total sampling, which the sample used is the whole of the population in the study area. This study was conducted in March 2017 at the Hospital Tk.II dr. Soepraoen Malang.

The research instrument used in this study is a questionnaire consisting of job stress questionnaires

and questionnaires performance of nurse job stress questionnaire by 20 the number of questions the questions. Questionnaires were used consists of two parts where the first part contains the characteristics of the study sample are number of respondents, age, sex, education and long work of the respondents. The second part contains questions to determine stress the work of the respondents made in the form of positive statements (favorable) and negative (unfavorable). The answer to this questionnaire using Likert scale. Positive statements if the answer is never = 1, never 2 = often = 3. Negative statement if the answer is never = 3, ve = 2, frequently = 1.

The performance of nurses questionnaire is a questionnaire Six Demension Nurse Perfomance (6 DSNP) made by Schwirian (1987) in Narbirye (2010). There are 16 questions related to the performance of nurses which include; 7 questions critical care, interpersonal relationships and communication 9 questions. Questionnaires performance of nurses have tested the validity. The performance of nurses questionnaire statement made in the form of positive statements (favorable) and negative (unfavorable). The answer to the statements in this questionnaire using Likert scale with four criteria. Positive statements if the answer is always = 4, often = 3, sometimes = 2, never = 1. While a negative statement if the answer is always = 1, often = 2, sometimes = 3, never = 4. The total number of assessment of each item question of scoring the performance of nurses in the respondents.

1) Nurses Job Stress Assessment
a. Heavy work stress = 42-52
b. Moderate work stress = 32-41
c. Light work stress = 22-31
2) Nurse Performance Appraisal
a. Pood performance = 48-55
b. Performance is quite good = 42-47
c. Underperforming = 36-41

3 RESULTS

Of the total population of 21 nurses, researchers get respondents were 20 nurses who meet the criteria and are willing as research subjects. Results of research conducted in March 2017 will menjelsakan univariate and bivariate research.

3.1 Characteristics of Respondents

Based on the results obtained information about the characteristics of respondents include age, gender, marital status, education last, and long work. Data Characteristics of respondents can be seen in the following table:

According to the table 1 above, indicate that the data distribution characteristics of respondents by age of respondents mostly early adult aged 19-40 years by 16 nurses (80%) and a small portion medium-sized adults aged 40-65 years as many as four nurses (20%) of the total respondents, Of the sex of the respondents mostly female as many as 12 nurses (60%) and a small male sex as much as 8 nurses (40%) of the total respondents. Marital status of respondents from the majority of respondents were married as many as 16 nurses (80%) and a small percentage of unmarried by 4 nurses (20%) of the total respondents. Of recent education respondents most respondents had last D3 nursing education as much as 15 nurses (75%) and a fraction having the last S1 nursing education by 5 nurses (25%) of the total respondents. Of long working respondents most respondents have 0-5 years old working as many as 11 nurses (55%) and a small portion has a working time of> 5 years as many as nine nurses (45%)

Based on Table 2 above, data showed that of the 20 nurses who follow the study were mostly nurses have job stress in the stress category were as many as 11 nurses (55%) and a small portion in the category of light work stress as much as two nurses (10%).

Based on Table 3 above, data showed that of the 20 nurses who follow the study were mostly nurses have the performance in the category of performance quite as much as 13 nurses (65%).

Table 1: Frequency distribution characteristics of respondents

Characteristics	%
Age	
Adult Early (19-40 years old)	80
Medium Adults (40-65 years old)	20
Gander	
Male	60
Female	40
Marital Status	
Married	80
Not Married	40
Education	
S1	25
D3	75
Working Period	
0-5 years	55
> 5 years	45

Table 2: Work Stes Nurses

Work stress	%
Mild	10
Moderate	55
Weight	35

Table 3: Nurse performance

Nurse performance	%
Less	20
Pretty	65
Good	15

3.2 Data Analysis

This study uses a statistical test and Spearman correlation using the program SPSS 16 for Windows applications with significant value α (> 0.05).

Table 4: Spearman's test

Value α	Rated r
0.05	-0.800

Based on Table 4 above can be seen that the Spearman Rank test results obtained significance value of 0.000. because the significance value smaller than α (> 0.05). So that it can concluded that there is a real relationship (significant) between work stress with the performance of the respondents. Can be seen from the cross table indicates the higher the stress of nurses, nurses' performance would be less good.

From the test results showed that the Spearman Rank correlation coefficient is -0.800, which means job stress relationship with ICU nurses performance in the respondents included in the category of strong correlation (Arikunto, 2010). Can be due also because of work stress is not only influenced by the performance only. But also by other factors not examined by researchers such as personality factors.

4 DISCUSSION

4.1 Nurses Job Stress in ICU

Based on the results of data that most of the nurses at the Hospital of Tk. II dr. Soepraoen Malang have job stress in the category of moderate job stress, and a small portion has mild occupational stress.

Work stress has three symptoms of the physiological, psychological and behavioral. From the results of filling the questionnaire by the respondents can be seen that nurses have job stress are more likely to perceive the psychological symptoms of stress with the dominant complaint of his examples such as irritability, feeling bored, experiencing feelings of fatigue and loss of concentration. The high psychological symptoms are likely to occur due to ineffective coping in most of the respondents.

Psychological symptoms that arise due to the effectiveness of the coping lead to job dissatisfaction, increase tension, anxiety, boredom, irritability, and the like procrastination. Researchers conducted by Mealer (2007) which states that the long-term kosenkuensi job stress can influence pikologis and social disruption of mental illness or change in social behavior which can not cope coping. Case is supported by the opinion of Perry & Potter (2010) which states that the individual's age and cultural background influence the effects of coping strategies. Work stress can also be associated with age, gender, marital status, education and long work.

From the research the majority of nurses are women mostly have job stress in the category of work stress were. This is according to research Inayani (2011), gender differences had an impact on the response actions taken to deal with workplace stress nurse. Some studies have found that women are more often employees often face the stress of work because of their role in the workplace and at home. A dual role which must be either a housewife or as employees often lead to job stress.

Characteristics of age of the respondents most nurses early adult age 19-40 years most have job stress in the category of work stress were. This is according to research Siboro (2009) early adult age group is the productive age group are very stable and settling to make decisions, and have a responsibility to work in earnest.

Marital status characteristics that most nurses are married most have job stress in the category of work stress were. Nurses who are married will often distracted with thoughts outside of work which results in decreased concentrations in carrying out the work could lead to a job stress in nurses. This is supported by research Ismaiaty (2011)) shows that the more nurses who are married experiencing work stress compared with nurses who are not married, This can happen because the status of married more problems problems encountered in the household compared to the status yet married, so that at the

time of carrying out the work are often troubled by thoughts of outside work which resulted in a lack of concentration in performing work that may eventually lead to job stress in nurses. Marital status may affect positively or negatively affect a person's behavior, because it depends on how one judges a problem.

Characteristics of the educational status of most nurses have the last D3 nursing education most have job stress in the category of work stress were. This could be caused to the respondent by D3 nursing education is still lacking in the assignment of theories or concepts that will affect cope with stress. According to research Gobel (2013) level of education is one of the factors associated with job stress. The lower the level of education it will be more susceptible to the stress of work. It can be concluded that the educational status berepengaruh on work stress. the higher the education, the stress of work, the better.

Characteristics long worked most respondents have been working 0-5 years most have job stress in the category of work stress were. This is due to the lack of experience in working so the ability to resolve this problem in the job was not good. The longer the work it will be more skilled in performing their duties and can cope with the stress they face. According to research Concerned (2010) that nurses working more than 5 years has been able to adapt to where diamana it works, this is what makes the nurse familiar with the conditions of the work to be carried out daily on the premises and the same time so that nurses tend not experiencing job stress of nurses who have been working. so it can be concluded that the service life of 0-5 years still can not adjust the work environment that will lead to job stress.

4.2 Nurses Performance in ICU

Based on the results of data that most of the nurses at the Hospital of Tk. II dr. Soepraoen Malang has a nurse's performance in the category of performance is quite good and a fraction in both categories.

The performance of nurses is influenced by several factors that affect the performance of nurses as a factor of skill and team factors. of the most dominant factor affecting the performance of that skill factor. skill factors that act to the patient. From the results of filling the questionnaire by the respondents can be seen that nurses perceive olebih performance in skills or nursing action in critically ill patients who are less performed by nurses for example, such as providing emotional support to the family when the patient's death, at the time of emergency are not implemented measures appropriate nursing actions in patients, and at the time of an emergency situation is not calm and competent, it will cause accidents that have an impact on patients.

According Wirawan (2009) The performance of nurses is influenced by several factors such as skills, work experience, job stress, communication, and workmates. Meanwhile, according to research Tika (2010) states that there are two factors that affect performance, ie factors related to intelligence, skills, emotional stability, the properties of a person, cover, age, sex, education and work experience.

Most respondents age characteristics of early adult age 19-40 years shows most nurses have performed quite well in the performance category. Early adulthood are of childbearing age where they are highly motivated to do the work according to their profession and able critical thinking in running their tugas.sehingga more aggressive in acting to provide services. According penelitaian Primgadi (2009) as we grow older the more qualified performance by acting cautiously and have a sense of higher responsibility in performing their duties.

Characteristics of the sexes at most nurses are women mostly had a pretty good performance. The female sex is more flexible in nursing action. According to research Retno Giriwati (2011) says that women are more flexible in the nursing action that starts from the Florence Nightingale who initially as work that is based on love of a mother or a female. This situation allows women a better performance than men. It can be concluded that the female sex have the flexibility to take action and have a sense of affection for the person than the male sex.

Characteristics of the educational status of the most educated nursing D3 mostly had a pretty good performance. Education affects the performance of nurses in carrying out the action, higher education has a good knowledge in nursing actions. According Siagian (2010) suggested that the higher one's education then the greater the desire to utilize the knowledge and skills they have.

Characteristics of working long at most 0-5 years most have a pretty good performance. This is based on the wealth of experience gained during work and dexterity level higher because of habit or habit of doing the job. According to Achmad Faizin Rosidah (2010), the quality of nurses' performance not only be judged from the old one's work but also judged on the competence of the nurses in performing nursing actions. Meanwhile, According to Netty (2011) To suggest there is no significant correlation between the length of work of nurses to performance.

4.3 Work Stress Relationships with Performance ICU Nurse

Based on the results of statistical analysis using Spearman correlation test there is a significant relationship between job stress with the performance of the nurse with a P value <0.05. It is also supported by the Spearman rank correlation coefficients were obtained, namely (-) 0,800. Koefisiean negative correlation obtained showed the lower the stress of work, the higher the performance of nurses in implementing keperarawatan action.

According to the National Safety Council (2010) stressed that arise at the workplace may affect the performance of a person in doing nursing actions. In addition, according to Christian (2010) Work stress is the stress that arise due to the stimulation of the work environment or dalam the work that makes the stress and the person can not handle it, so it will cause interference which can affect the smooth in conducting the performance of nurses.

Performance somebody somewhere would also be influenced by the comfort of a conducive working environment and support them to be able to work well, so that if someone nurses feel stressed when running a job then it can cause stress crimes that could arise in the form of an attitude such as irritability, feeling depressed, feel tired, lose concentration and easily provoked emotions. Attitudes and behaviors that will affect job stress and can cause health problems, but stress can easily appear as a result of saturation arising from excessive work load.

In addition workplace stress can also be influenced by internal and external factors. Internal factors consist of education, lack of confidence, skills, motivation, interpersonal relationships, attitude and creativity in work. While external factors are characteristics of the organization and job characteristics. Stressor causes stress during the work, both physically and psychologically. While on the one hand stressors affect the performance of nurses in performing their duties. Stress caused by the work will affect the work of the nurses in their work in accordance with the nursing actions.

Recognizing that fact every job has a level of challenge and difficulty different, so every nurse in the hospital mainly Tk. II dr. Soepraoen Malang will be able to accept all the negative things that exist in the workplace without regard it as a form of pressure that can make them stress. In addition, the implementation of effective stress management work will also be able to maintain a sense of self-control in the work environment so beberaa affairs will be accepted as a challenge rather than a threat. For nurses to adapt well to stress the need for the process of coping mechanisms, so that the nurses' performance can be improved.

5 CONCLUSION

Based on the results of work stress in the Hospital ICU nurse kindergarten. II dr. Soepraoen Malang get that most nurses have job stress in the medium category.

Based on the survey results revealed that the performance of nurses in the hospital ICU Tk. II dr. Soepraoen Malang get that most nurses have a good performance.

From the results of this study concluded that there is a real relationship (significant) between work stress with the performance of the respondents. From the results of Spearman correlation coefficient test contained a negative sign on the coefficient that indicates that there are an inverse relationship between job stress with the performance of the respondents.

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Stimulasi Sensori (Audio, Visual, dan Afektif) untuk Meningkatkan Level Kesadaran pada Pasien Cedera Kepala

Sensory Stimulation (Audio,Visual, and Affective) to Enhance The Level of Consciousness Among Brain Injury Patients

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Keywords: Brain injury, sensory stimulation, ICU.

Abstract: Background: Sensory stimulation (Auditory, visual and affective) is one of nursing intervention to enhance the level of consciousness among comatose patient caused by brain injury in Intensive Care Unit (ICU). However, little is known about the effect of sensory stimulation on brain injury patients. This study aims to examine the effectiveness of sensory stimulation in level of consciousness among brain injury patients in ICU. Method: source of the articles used are obtained from Scopus, Sage, PubMed, and Google scholar databases from year 2007 up to 2017. Fifteen articles was measured by using PICOT and SORT methods. Results: Sensory stimulation can be applied twice a day among brain injury patients to enhance the level of consciousness. Given sensory stimulation, the consciousness level of all patients was increase by measuring the Glasgow Coma Scale (GCS). Conclusion: Sensory stimulation (Auditory, visual and affective) is known to be more effective on enhancing level of consciousness when combined.

1 BACKGROUND

Head trauma is the most common cause of disability, death and hospitalization in intensive care units (ICU) throughout the world (Aghakhani et al., 2013). Patients with head trauma usually have different types levels of consciousness and cognitive function (Borlongan et al., 2015). In addition, patients with head injury usually takes a long time for the recovery process. If the patient does not get up from the coma will be complications like cognitive impairment, contractures, speech disorders, and brain death (Moattari, Shirazi, Sharifi, and Zareh, 2016).

In the United States, about 1.5 million people had head trauma, and 52,000 died from head trauma. From 1.5 million people who suffered head trauma, 90,000 people suffered severe head injuries that cause disability in a long time (Ferdon, Dahlberg, and Kegler, 2013). Although the incidence of mild and moderate head injuries decreased, the incidence of severe head injuries does not decrease. Patients with head trauma have neurological problems such as coma so that one of the main rehabilitation objectives is to awaken from the coma (Park, 2016).

A wide variety of rehabilitation techniques can be used for clients on head trauma (Abbate, Trimarchi, Basile, Mazzucchi, and Devalle, 2014). Sensory stimulation technique is non-invasive, low risk, inexpensive, and easy to apply for comatose patients after head trauma. The more sensors stimulation, the patient may show changes in the level of consciousness and awareness faster recovery (Kalani, Pourkermanian, & Alimohammadi, nd; Park, 2016).

Sensory stimulation techniques included in rehabilitation techniques (Abbate et al., 2014). Several studies have described that this technique effectively used for head trauma patients in intensive care units (Moattari et al., 2016). Research related to sensory stimulation in patients with head trauma known to have a good relationship between the stimulation of the healing process of patients with head injury (Johnstone, Yoon, Rupright, & Reid-Arndt, 2009).

Interventions using this sensory stimulation provide stimulus to the body. This intervention is usually divided into Kinestethic, Auditory,Tactile,and Visual,thus providing multiple functions simultaneously. Auditory and visual stimulation is known to activate the limbic system which will be interpreted in the cerebral cortex to increase awareness. So, hopefully with lots of stimulus will be more efforts to activate the limbic system (Salmani, Mohammadi, Rezvani, & Kazemnezhad, 2017).

The explanation above describes the importance of stimulation to increase client awareness with head trauma in ICU. Thus, it is important to know the effects of sensory stimulation on head trauma.

2 METHODS

The methods used in the preparation of systematic review begins with the selection of the topic, keywords to search articles using the database Scopus, sage, pumbed, and googlescholar which was published in 2007 to 2017 with a combination of keywords brain injury, injury, sensory, ICU, and stimulation. All articles identified selected in according with research questions. Question of research on systematic review this is how evidence based (study of facts) about the effectiveness of sensory stimulation in patients with head injury consciousness in the ICU? How much time is needed to raise awareness of the patient? Inclusion criteria for this study is the use of the English language and the sample population was patients with head injury with loss of consciousness. From all articles that match the theme and the inclusion criteria then analyse again with Picot and methods scoring with SORT article.

3 RESULTS

The initial search found 32 articles. Read the article back if in accordance with the inclusion criteria. Found 17 articles that match and 25 articles into the exclusion criteria. 17 articles then go back and do a review in accordance criteria inclusion. So determined appropriate article 15 (Figure 1).15 study that aims to explain the effectiveness of sensory stimulation to the head trauma was found (Johnstone et al., 2009; Kalani et al., Nd; Moattari et al., 2016; Park, 2016; Salmani et al., 2017). 5 The study focuses on the sensory stimulus auditory parts, one focusing on visual studies, and 9 other research is a combination of multimodal sensory stimulus that is affective. All articles are at level 1, 2, and 3 (Appendix 1).

3.1 Auditory Sensory stimulation

The auditory sensory stimulation can increase the awareness of patients with head injury (Kalani et al., Nd; Moattari et al., 2016; Park, 2016; Salmani et al., 2017).

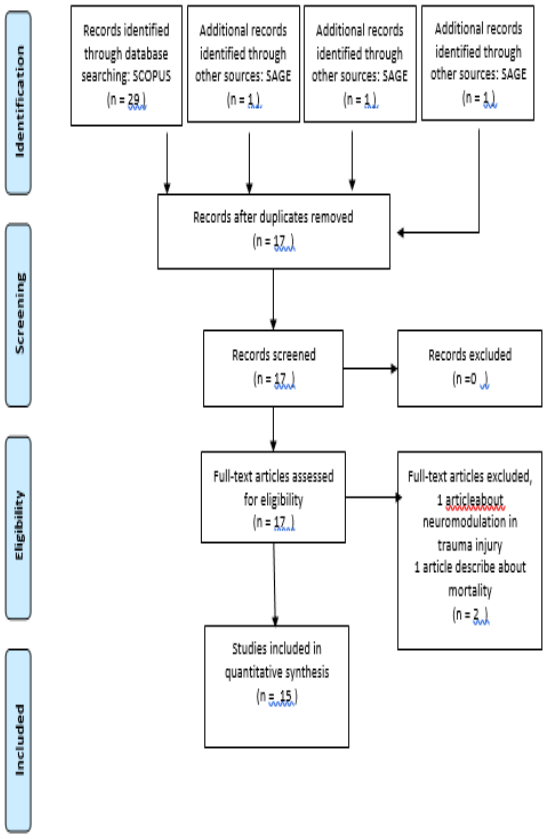

Figure 1: Flow diagram systematic review articles

Patients were more significantly enhanced awareness when listening to recordings of voice or family or people they care compared to listening to the voice of a nurse or a stranger. Sensory stimulation to the auditory part also increased more significantly when in stimulus directly, rather than indirectly. Examples stimulus Direct is a sound family visit and examples of indirect stimulus is sound TV.

3.2 Visual Sensory Stimulation

The visual sensory stimulation can also increase awareness. Visual sensory stimulation can be done using a virtual reality (VR). Virtual reality will show both 2-dimensional images and three-dimensional. Patients can be given a stimulus with photos or video without the sound of people loved. In addition, also using natural pictures such as forest or mountain can be given. However, the visual sensory stimulation is more effective when combined with auditory stimulation.

3.3 Affective Sensory stimulation of

Affective stimulation means the sensory stimulus is given by people known to the patient. This stimulation include multimodal stimulation on the auditory, visual, and kinesthetik conducted by relatives of known patients. Stimulus is known to raise awareness of head trauma patients in ICU. Increased awareness of unknown began to occur on the seventh day.

3.4 Total Time Giving Stimulus

Stimulus length of time given by the researchers to raise awareness of head trauma patients have a different number of days, starting from 5 days, 7 days, 14 days, 4 weeks, and 6 weeks. The number of days that is commonly used is 14 days. Despite all the number of days to raise awareness of head trauma patients, the number of days which is effective for patients experienced a significant increase in awareness is not yet known. Providing a stimulus to do almost all researchers 2 times a day at the same hour. Unknown stimulus effectively done for 15-30 minutes each meeting. Increased awareness of head trauma patients who do sensory stimulus in the ICU with measurement GlaslowComa Scale (GCS) on average increased after day 7 to 14 days the amount of stimulation (Moattari et al., 2016).

4 DISCUSSION

Providing stimulation is a challenge to nurses who provide care in the intensive care unit with a brain injury patients. One of the serious problems in patients with head injury is a comma on sensory deprivation (Moattari et al., 2016). This can cause an impact on the mental and perceptual problems and life-threatening conditions. Provide necessary stimulation given to the client even though the conditions of loss of consciousness or coma (Johnstone et al., 2009).

The first objective of this study was to compare the effectiveness of sensory stimulation auditory, visual and affective. Auditory sensory stimulation may alter cognitive function by increasing ventricular fluid drainage without negative impact to the physical such as increased ICP or cerebral perfusion pressure (Pape et al., 2015; Park, 2016). The other explanation may be the stimulus auditory provided directly have a level high interpersonal and content of the voice has an important meaning for the patient so as to activate the central motoric system with this stimulation (Ali & Gorji, 2014; Sullivan et al., 2017; Tavangar, Kalantary, Salimi, & Jarahzadeh, 2015).

Visual sensory stimulation increased awareness by providing stimulating effects that facilitate the dendrites to grow and connect with synaps. Another possible explanation is the incorporation of auditory and visual stimuli provide a soothing effect for patients. So the recovery process can be maximum (Gerber et al., 2017). It is also said that the possibility of combining some of the stimulus is more effective than a single stimulus. This is supported by studies on affective sensory stimulus.

Affective sensory stimuli that are provided by the family or nurse may be activate the limbic system. After that, it will increase sympathetic activity and increase norepinephrine at the nerve terminal. It is then interpreted by the cerebral cortex and ultimately raise awareness and spirit. Additionally, when families communicate, in which there is an element of visual stimulation, auditory and kinetic. In terms of auditory family may give positive expectations, or create positive memories. This is consistent with the model psiconeuroimunological that positive thinking would be associated with better health status. Moreover, it may also be due to each person will lean on spiritual beliefs to help them reduce stress. So the patient remain optimistic and reduced stress (Johnstone et al., 2009; Salmani et al., 2017; Schmidt-Wilcke et al., 2017).

Three explanations above show that more stimulus is given to patients with head injury who experienced loss of consciousness, will give a lot of response from the body. However, when compared one by one between the effects of audio, visual, and tactile, as well as affective until today still can not explain exactly which one is more effective when using only one stimulus compared to using a lot of stimulus. Thus, the need for further research related

to the effects of stimulus audio, visual, and tactile carried out by the use of the proper protocol by nurses.

The second research objective was to answer the time required for the stimulation of consciousness. Recovery in patients ranging from days 7 to 14 at the client with the most common used GCS is 8. To date, there is no clarity researchers examined the number of days studied and how many days are most effective used. Stimulus performed usually twice by investigators. Stimulus is done in a short time and repeats more effective than done in the long term. This is supported by research that the stimulus Meghan five times within 15 minutes is more effective than 1 time in 1 hour (Megha, Harpreet, and Nayeem, 2013). So, there is still need for further research how many days are effective to provide a stimulus to an increase in awareness significantly.

4.1 Implications For Nursing Practice

Providing caring is the main task of a nurse (Abdullah, Idris, and Saparon, 2017). This role must be adhered to by nurses, including nurse in the ICU who have the challenge to stimulate the client's level of consciousness as in the case of head trauma. Until more research is growing about the effectiveness of each of these stimuli, clinicians should use clinical recommendation today that have been proven, such as providing stimulus sensory in patients using stimulus auditory in directly that have been proven to raise awareness, or using a combination of auditory and visual, as well as involve the family as affective stimuli. Nurses and family can provide this stimulus of about 15 minutes at a stimulus and performed several times in one day. Given stimulus can improve patient recovery phase. Although, research related to the effectiveness of each stimulus is limited.

5 CONCLUSION

Sensory stimulation to the auditory, visual, and affective known to be effective is used in patients with head injury with GCS at least 5 in the ICU. The combination of multiple sensory stimuli such as auditory and visual known to be effective to increase awareness. However, there is a shortage of evidence based research on the effectiveness of each stimulus on head trauma in ICU. Clients are given a head trauma stimulation will begin to make a change after day 7. Intervention given a short time but often more effective than one but in a long time. However, up to now unknown number of days it takes to make it work significantly stimulation. Thus, it is advisable to more researchers studied the effects of long-term and short-sensory stimulation and to compare each stimulus. So that stimulation can know the effectiveness of sensory stimulus auditory, visual and kinetic.

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Chlorhexidine-Alkohol Lebih Efektif Dibandingkan dengan Chlorhexidine dan Povidone Iodine untuk Mengurangi Infeksi Luka Operasi

Chlorhexidine-Alcohol is Better Than Chlorhexidine and Povidone Iodine for Reducing Surgical Site Infection

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Keywords: Chlorhexidine-Alcohol, Chlorhexidine, Povidone Iodine, surgical site infection

Abstract: Background: Surgical Site infection (SSI) has been known as a hospital-acquired infection that need a proper and efficient treatment. SSI cause adverse impacts for clients and Hospitals, include length of stay, delayed recovery, those lead morbidity and mortality especially in developing country. This systematic review aims to compare the effectiveness of Chlorhexidine-alcohol, Chlorhexidine and povidone-iodine to reduce SSI. Method: Literature are obtained by searching the ScienceDirect, Scopus, PubMed and BMJ databases between the year 2013 and 2017. The literature inclusion criteria are those using Randomized Controlled Trial (RCT) design and comparing the use of Chlorhexidine-alcohol, Chlorhexidine and povidone-iodine as skin preparation to reduce SSI. Result: Chlorhexidine-alcohol concentration is mostly used and recommended to reduce SSI. Conclusion: Chlorhexidine-alcohol is more effective on reducing SSI than Chlorhexidine, and povidone-iodine.

1 BACKGROUND

Surgical Site Infections (SSI) categorized as global health problem nosocomial infections. The nosocomial infection is very detrimental to the patient and his family because of the increase of treatment time, emotional stress and financial burden. A European study mentioned that SSI can increase the average extension of hospitalization up to 9.8 days at a cost of 325 euro per day and the total cost from 1.47 to 19.1 million euros annually. Another study in the United States noted increase of hospitalization reached one million person / day and an additional charge of up to 1.6 million dollars. Most bacteria that cause wound infections in surgical wards are Pseudomonas sp.29,27%, 21.95% Staphylococcus epidermidis, Klebsiella sp.14,62%, 19.44% Escherichia coli, and Staphylococcus epidermidis 13.89%. Prevention in the incidence of SSI can be done with the use of antiseptic. Some types of antiseptic solution which has been used clinically and in experimental stages include hydrogen peroxide, povidone-iodine solution, chlorhexidine gluconate, hexachlorophene, sodium hipochlorite, benzalkonium chloride, and various types of solution containing alcohol. The most common use is chlorhexidine-alcohol. Some studies show the effect of the use of chlorhexidine-alcohol on the incidence of surgical site infection prevention. This systematic review aims to prove the effectiveness of the use of chlorhexidine-alcohol using 10 studies that have been published.

2 METHODS

Literature search is restricted to the use of chlorhexidine on preoperative skin preparation. Literature studied is that the English language in order to facilitate the review. The database used in the source literature search was Scopus, ScienceDirect, BMJ, and PubMed with the keyword "Chlorhexidine" AND "skin preparation" AND

"Preoperative" by year published between 2013-2017. Sorting article begins by using inclusion and exclusion criteria. Literature has been found then do grading to determine the validity of the quality of the article to be used.

3 RESULTS

The study found 11 journals published within the last 5 years between 2013-2017. The study was conducted abroad, namely Ireland, India, USA, Louisiana, Germany, Maryland, Madison, Philadelphia, Mexico, Melbourne, Taiwan, and South Korea. The research method was found in the article: Randomized controlled trial (n = 10). The study design the most is: Randomized controlled trial with 2992 respondents most respondents is found in one study 11.

3.1 Instrument

Overall article examined centers for Disease Control and Prevention criteria: SSI as a measuring tool to validate SSI occur. Measurements using the standards set by the Centers for Disease Control and Prevention criteria: SSI

3.2 Dose use of Chlorhexidine (CH)

Findings use of Chlorhexidine Gluconate 4% found in two studies,2% chlorhexidine found in 8 studies214 457169,0.5% chlorhexidine found in three studies

3.3 Dose use of Povidon Iodine

Use of antiseptic found PI 7.5% 1,IPA 0.7% was found in one study, 70% PI was found in two studies

4 DISCUSSION

Chlorhexidine is an antiseptic ingredient given to the client in an effort at preoperative skin preparation for SSI prevention. The higher concentrations in the use of chlorhexidine proven effective in preventing the occurrence of surgical site infection compared to use of povidone iodine 14. Chlorhexidine 2% is the most widely used products in the research and even almost a whole. Chlorhexidine is characterized as a strong base with a cationic composition. There are two basic free and stable salt formed by a white or yellowish sightings. Diguclonate chlorhexidine, chlorhexidine gluconate (CHG) and chlorhexidine solution of chlorhexidine phosphanilate is a colorless, odorless and has an extreme salty taste. Chlorhexidine is an effective broad spectrum biocide against gram-positive, gram-negative bacteria and fungi. Chlorhexidine inactivates microorganisms with a broader spectrum than other antimicrobials (eg antibiotics), and has an kill more rapidly than other antimicrobials (eg Povidone-Iodine). Chlorhexidine also have a bacteriostatic mechanism (inhibits bacterial growth) and bactericidal (killing bacteria), depending on the concentration. Chlorhexidine kills by means of disrupting the cell membrane. In vitro application, can kill 100% gram-positive and gram-negative within 30 seconds. Since chlorherxidine formula could destroy the majority of microbes, the less risk the possibility of infection. How it works is to apply in topical chlorhexidine, which has a unique ability to bind directly in human tissue proteins such as skin and mucous membranes with limited systemic or physical absorption. Protein-bound chlorhexidine will escape slowly hanging from prolonged activity. This is called substantivity and extends the duration of antimicrobial action against a broad spectrum of bacteria and fungi. In fact, the antimicrobial activity has been documented approximately 48 hours the skin. It doesn't like povidone iodine, chlorhexidine is not affected by the total body fluids. Chlorhexidine is also applied to medical procedures such as dental installation, vascular catheters and others. Chlorhexidine when applied to medical, it can kill the organism and protection from microbial colonization.

4.1 Implications for Nursing Practice

The usage of Chlorhexidine in skin preparation provides prevention of surgical site infection. The concentration and the client's skin condition into consideration in the application of Chlorhexidine. So far there are no studies suggest long-term use side effects and a higher concentration in the skin or tissue. Study or research need to be developed by comparing Chlorhexidine with a higher concentration of the effective time for an efficient and effective usage of Chlorhexidine

5 CONCLUSION

The aim of this systematic review is understand the effectiveness of Chlorhexidine on preoperative skin

preparation. 2% Chlorhexidine-alcohol findings more widely used in research and applied in general. One study combines chlorhexidine with povidone iodine. But it needs for further research into the long-term use with a higher concentration.

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The Effectiveness of Slow Deep Breathing to Decrease Blood Pressure in Hypertension: a Systematic Review

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Keywords: Slow deep breathing, blood pressure, hypertension, systematic review

Abstract: hypertension is a disorder of the circulatory system and lifelong condition that requires ongoing treatment after the blood pressure is under control. The prevalence of hypertension continues to increase each year. Slow deep breathing is a non-pharmacological action for people with hypertension. This systematic review was performed to assess changes blood pressure during exercise. The literature search used predefined keywords through several electronic databases such as Scopus, ProQuest, SpringerLink, and Science Direct. The initial search retrieved 353 studies that were potentially relevant, and 18 studies were selected for review. Result showed that slow deep breathing exercise can decrease blood pressure. These study result could be a reference to health workers and hypertension education needs to be considered as one of the interventions in hypertension patients.

1 BACKGROUND

According to the World Health Organization, approximately 22% of adults aged 18 and over have raised blood pressure. Hypertension is one the major risk factors for mortality, with the highest risk in middle and high-income counties worldwide (Mahtani *et al.*, 2016). Hypertension is a major risk factor for stroke, myocardial infarction, heart failure, chronic kidney disease, progressive atherosceloris and dementia (Gupta, 2014).

Autonomic imbalance has a major role in the etiology of hypertension. Such imbalance, characterized by an increase in sympathetic activity (with a possible reduction in parasympathetic activity), is present not only in early and borderline hypertension but also contributes to the maintenance of suitaned hypertension. Moreover, several cardiovascular risk factors frequently associated with hypertension are etiologically linked to sympathetic activation. At least one of the mechanisms associated with this autonomic imbalance is the reduced baroreflex sensitivity. The baroreflex is reduced or reset toward elevated blood pressure values in hypertension, blnting its ability to suppress the increased sympathetic activity (Joseph *et al.*, 2005).

Lifestyle factors such as poor diet, obesity, physical inacticity and smoking are associated with the development of hypertension and subsequent ill health. At diagnosis, patients with stage 1 hypertension (defined as clinic readings of 140/90 mmHg or higher and daytime average ambulatory or home blood pressure monitoring of 135/85 mmHg or higher), are encouraged to incorporate lifestyle changes as the first stage of management (Mahtani *et al.*, 2016). Hypertension has been well documented as a major risk factor for cardiovascular morbidity and mortality and lowering blood pressure with antihypertensive drugs can reduce this risk (Grossman *et al.*, 2001).

Despite a plethora of pharmacological options available, an abundance of patients have uncontrolled blood pressure thus creathing the need for additional strategies, including non-pharmacological approaches (Cernes and Zimlichman, 2017).

Recently, a number of studies showed that device-guided breathing exercise, which lowers the respiratory rate and modifies respiratory patterns, can also lower blood pressure 2-5 and a sustained reduction in high blood pressure has been demonstrated with slow breathing practiced routinely. Breathing pattern modification appears to

be an important component in this reduction (Kaushik *et al.*, 2006).

The act of slow deep breathing activates cardiac and pulmonary stretch receptors, decreases sympathetic activity and vagal tone, with concomitant changes in heart rates and blood pressure. Regular systemic instructions to voluntarily breath slowly could leat to chronic reductions in blood pressure thus providing an additional management option for hypertension patients. Achieving slow deep breathing is an integral part of meditation and yoga, two practice that have received some interest with equivocal results as complementary therapies in the treatment of hypertension. Therefore, preprogrammed clinical devices may deliver more controlled breathing instructions that may impact positively on reducing blood pressure(Mahtani *et al.*, 2016).

Intervention using deep breathing is effective in reducing the heart rate in essential hypertension patients and in pain management following cardiac abdominal surgery, including gynaecologic patients (Hayama and Inoue, 2012).

The apparent role of slow and regular breathing as an active component in relaxation exercises, raises the hypothesis that routinely performed sessions of breathing exercises, as the sole intervention, may lead to a sustained reduction in blood pressure (Grossman *et al.*, 2001). The routine practice of slow and regular breathing patterns may reduce high blood pressure (Schein *et al.*, 2001).

2 METHODS

The literature search used predefined keywords that are slow deep breathing, blood pressure, hypertension and systematic review, thorugh several electronic databases such as Scopus, ProQuest, SpringerLink, and Science Direct. Randomized, controlled trials, case-control, and quasi experimental studies were included.

2.1 Selection Criteria

1. A Spesific vocational program that affects people with hypertension.
2. All subjects who were diagnosed with hypertension and moderate disease.
3. Interventions of slow deep breathing to improve blood pressure.

2.2 Data Source

The title and abstract of this articles that are in the search, are screened for their relevance. The complete required articles for further evaluation according to predetermined criteria.

2.2 Eligibility Criteria

The systematic review eligibility criteria include all interventions that investigate the effect of slow deep breathing exercises on adult patients (ages over 18 years) with hypertension (systole $\geq$ 140 mmHg and diastole $\geq$ 90 mmHg). In line with previous reviews, deep breathing exercises are non-pharmacological treatments that qualify and are included in this study. This study has no gender, time and language restrictions imposed. Studied involving therapy or breathing exercises in other combinations with other interventions are included.

3 RESULTS

Search articles in the Scopus, Proquest and Science Direct, with keywords slow deep breathing, blood pressure, hypertension and systematic review. A total of 2337 articles (22 scopus, 1197 Proquest, and 118 Science Direct). A total of 353 articles in abstract review. The eliminated another 328 articles that do not fit the topic, into 25 articles. 25 articles are screened to take articles that fit the criteria. Obtained 18 journals according to criteria.

4 DISCUSSION

From the overall study showed that significantly slow and deep breath From the overall study showed that significantly slow and deep breathing in lowering blood pressure in patients with hypertension.

Slow deep breathing techniques were found in the study (Gupta, 2014), there were 40 patients with hypertension who received relaxation and deep breathing exercises, followed by rest for 15 minutes after aerobic exercise. Systolic blood pressure was found to be 16.5 mmHg (higher) after muscle relaxation and deep breathing technique compared with 15 minutes break immediately after aerobic exercise performed for 2 days.

Hypertensive subjects have a tendency to hyperventilate (Joseph *et al.*, 2005). Slow breathing

also while listening to music with Walkman. Obtained systolic and diastolic blood pressure decreased rapidly and significantly in hypertensive when the patient breathed slowly with BIM tools. It turns out the BIM device can be used as a safe and efficacious tool for the treatment of adjuvant hypertension (Grossman *et al.*, 2001). In healthy individuals, the practice of slow breathing exercises at the rate of 6 breaths/min for half an hour daily for 4 weeks, causes a significant reduction in the spontaneous breathing rate and MAP, while increasing the HRV during quiet standing. This opens up a vast away of possibilities of using deep breathing exercises as a tool to correct the states of autonomic dysregulation (Nagarajan, 2014).

Increased baroreflex sensitivity deepends on the slow breathing rate and not on the regulation obtained by controlling breathing because respiration controlled at a fixed and fast frequency (15/min) does not produce such effects. Baroreflex is a reflex that is mediated by blood pressure sensors in the arteries of the aorta and carotids that help modulate blood pressure fluctuations. Baroreceptor in this arterial wall detects arterial stretching as blood pressure rises. This process is believed to be initiated by activated pulmonary echanoreceptors, which respond to an increase in tidal volume accompanying slow breathing and which acts simultaneously with the cardiac mechanical expert to inhibit the sympathetic outflow of skeletal muscle vessels, leading to widespread vasodilation, resulting in decrease peripheral resistance and there by lowering blood pressure (Reyes Del Paso *et al.*, 2006). In addition, slow and effective deep breathing techniques are also used in gynaecological cancer patients whose chemotherapy in the study (Hayama and Inoue, 2012). Device-guided breathing exercises have an antihypertensive effect that can be seen in conditions closer to daily life than the setting of the physician's office. Device-guided breathing exercises reduced mean office blood pressure (systolic/diastolic) by 5.5/3.6 mmHg ($p < .05$ for diastolic) and mean home blood pressure by 5.4/3.2 mmHg ($p < .001$ for both) (Meles *et al.*, 2004). A significant reduction in 24 h SBP in the slow breathing intervention group was detectable at the 1-month follow-up visit (125 ± 7 mmHg; p\0.05) (Modesti *et al.*, 2015). It should also be noted that all the factors discussed above that influenced the manual auscultatory blood pressure measurement will also influence automated blood pressure measurements. Therefore, these measurement conditions must also be carefully controlled during automated BP measurements to provide best accuracy for patient benefit (Zheng, Giovannini and Murray, 2012).

There are also, slow breathing exercise can generate the beneficial effect of reducing BP to cardiovascular system (Zhang *et al.*, 2017). The implication of these finding is that breathing training modifies central cardiovascular control which attenuates the pressor response to contraction of muscles throughout the body (David, Science and Jones, 2015). Decrease in systolic BP folloeing for DGB than in the CTL group (F1, 38¼ 3.72; Po0.029). the systolic BP of the DGB group was significantly lower after the intervention compared with both pre-intervention levels, which were not significantly different from each other (Anderson, McNeely and Windham, 2010).

Both mental relaxation and slow breathing resulted in a fall in systolic blood pressure, diastolic blood pressure, heart rate, respiratory rate and electeomyographic activity with increase in peripheral skin temperature and skin conductance. Slow breathing caused a significantly higher fall in heart rate ($p < 0.05$), respiratory rate ($p < 0.05$) and diastolic blood pressure ($p < 0.01$). increase in peripheral skin temperature ($p < 0.05$) and reduction in electromyographic activity ($p < 0.05$) occurred more with mental relaxation. No significant differences were seen between increases in skin conductance ($p > 0.2$) observed with both the modalities (Kaushik *et al.*, 2006). Six months after treatment had stopped, diastolic blood pressure reduction in the device group remained greater than the 'threshold' (P, 0.02) and also greater than in the Walkman group (P 5 0.001) (Schein *et al.*, 2001).

Another study is, slow deep breathing of BRS which in turn reduces sympathetic tone and lowers blood pressure. In that respect, RESPERATE provides a beneficial feedback. It can be used at home setting on a daily basis 15 min every day. It needs patient's adherence to treatment, but does not need a coach (Cernes and Zimlichman, 2017). Measured automated blood pressure decresed bu different amounts with all the four deep breathing patterns, which recorvered back quickly after these single short-term interventions, providing evidence of short-term blood pressure decrease with deep breathing and that blood pressure measurements

should be performed under normal breathing condition (Herakova *et al.*, 2017). Three subjects had changes in their anti-hypertensive medications during the study. Among the remaining 21 subjects, mean difference in office blood pressure from baseline to 8 weeks was -9.6 ± 11.8 mmHg systolic (p B 0.01) and -2.52 ± 8.9 mmHg diastolic (p = 0.21). device-guided paced respiration may lower systolic blood pressure in patients with hypertension and OSA (Bertisch *et al.*, 2011).

5 CONCLUSIONS

The effects of slow deep breathing in everyday life vary and depend on individual ability. We demonstrated that slow deep breathing may produce clinically meaningful changes in systolic and diastolic blood pressure in patients with hypertension. thus, this technique can be used in people with hypertension to reduce or lower high blood pressure.

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Effectiveness of Hyperbaric Oxygenation Therapy in the Management of Chronic Diabetic Foot Ulcers : a Systematic Review

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Keywords: Hyperbaric Oxygenation Therapy and Diabetic Foot Ulcers

Abstract: To assess the efficacy and safety of hyperbaric oxygenation (HBO) therapy as adjunctive treatment for diabetic foot ulcers with a systematic review of the literature. The literature review was conducted through Scopus, MEDLINE, EMBASE, and the Cochrane Library were searched tofind relevant articles published up to April 20, 2012, without restriction as to language or publication status. All controlled trials that evaluated adjunctive treatment with HBO therapy compared with treatment without HBO for chronic diabetic foot ulcers were selected. Based on the results of journal studies, Thirteen trials (a total of 624 patients), including 7 prospective randomized trials, performed between January 1, 1966, and April 20, 2012, were identified as eligible for inclusion in the study. Adverse events associated with HBO treatment were rare and reversible and not more frequent than those occurring without HBO treatment (P¼.37). On the basis of these effects, we believe that quality of life could be improved in selected patients treated with HBO.

1 BACKGROUND

Hyperbaric oxygenation (HBO) has been proposed as an adjunctive treatment for diabetic foot ulcers and has been reported to reduce the incidence of major amputations in diabetic patients with ischemic foot ulcers. The value of hbo therapy, however, remains controversial because of conflicting data in the literature. Treatment is often prolonged and is sometimes unsuccessful, and the patients are prone toserious complications. Traditional management is based on cleansing, debridement, and eliminating infections many different interventions have been proposed to accelerate the healing process, but few have been subjected to strict evaluation.

2 METHODS

We conducted a systematic literature search of MEDLINE (1966 to April 20, 2012), EMBASE (1974 to April 20, 2012), and the Cochrane Library (2012) for studies reporting on HBO therapy of diabetic foot ulcers. The primary clinical outcome of interest was the effect of HBO therapy on ulcer healing defined as complete epithelialization of the wound. Secondary outcomes included major or minor amputations. Duplicate reports were merged.

If outcomes from the same patients were published in multiple articles with different follow-up periods, we extracted the outcomes from the first study and the outcomes of the follow-up studies from the later reports. When studies from the same institution reported the same outcomes at similar follow-up periods, either the better quality or the most informative reports were selected. Two reviewers independently extracted data from each study, including study title, first author, publication year, institution, population demographics, study design, followup period, inclusion and exclusion criteria, and main outcomes (healing percentages, major or minor amputations, adverse events, quality of life, and cost-effectiveness).

3 RESULTS

We identified a total of 89 relevant articles comparing adjunctive HBO therapy and conventional therapy for treatment of chronic diabetic foot ulcers. All included articles scored B (moderate quality). In addition, because of the various trial designs and follow-up periods (from 30 days to 3 years), we compared subgroups with various follow-up periods to reduce heterogeneity.

The most serious complication (ie, major amputations, defined as amputations above the ankle joint) was assessed in 11 trials, which found that there were significantly fewer major amputations in patients undergoing HBO therapy compared with conventional therapy without HBO.

4 DISCUSSION

Diabetic foot ulcers are notoriously prone to complications and resistant to therapy. Even with the best conventional treatment, which includes improved glycemic control, pressure off-loading, and local and appropriate systemic antibiotics if clinically infected, many ulcersremain unhealed. There are many reasons why ulcers in patients with diabetes do not heal, including edema, anemia, and poor perfusion, all of which impede normal wound healing. Hyperbaric oxygenation therapy has been reported to decrease tissue hypoxia and has been proposed as treatment for chronic foot ulcers for at least 45 years. However, despite promising in vitro and in vivo findings in animal models, the effectiveness of HBO therapy in healing of chronic ulcers has remained controversial.

5 CONCLUSION

This meta-analysis demonstrates that adjunctive treatment with HBO increases the likelihood of healing in diabetic foot ulcers and reduces the need for major amputations. In addition, adverse events are rare and acceptable. Therefore, we believe that the long-term quality of life of patients treated with HBO therapy could be improved by its judicious application.

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How is the Effect of Peer Support on Type 2 Diabetes Mellitus Patients?

A Systematic Review

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Keywords: Peers Support, Diabetes Mellitus, Systematic Review

Abstract: Diabetes mellitus is a complex disease that requires ongoing care with emphasis on multifactor risk reduction as a strategy to achieve glycemic control. Training and support can improve patient's ability to prevent Diabetes complications, but evidence is limited to provide information for practice and policy making. This systematic review was collect evidence based by previous research about the effects of Peer Support on Type 2 Diabetes Mellitus patients. The article search through electronic data base such us Scopus, Science Direct and Pro Quest with limit from 2012 until 2017. There were 1881 studies found using spesific keyword and 15 studies were selected based on the inclusion criteria. Results showed that Peer Support decreased HbA1c, fasting blood glucose, patient distress, and increased self-management behavior, self efficacy, knowledge and health status. Intervention was a good advice for makes policy on management of Type 2 Diabetes Mellitus patients in Indonesia that has variations in geographic and cultural areas, but further study is needed to determine the most effective Peer Support method to reduce variation in implementation

1 BACKGROUND

Diabetes Mellitus is a chronic and complex disease that requires continous caring and medical treatment by priotizing the reduction of multifactor risk as a strategy to achieve glycemic control (American Diabetes Association, 2016). Diabetes is a growing worldwide health problem, of which about 300-350 million people are estimated will be Diabetes suffer by 2015 (Clark, 2010). In Indonesia, The International Diabetes Federation (IDF) estimates the increase in the number of people with DM from 9.1 million in 2014 to 14.1 million by 2035 (KONSESUS PERKENI, 2015)

To solve the increasing of Diabetes Mellitus cases, complex management was required. Diabetes patients need skill in assessing their disease control, apply health life behaviors and appropriately antidiabetic drugs (Funnel, 2012). Healthy behaviors that could be done such us: dietary change, exercise/physical activity, self monitoring and adherence to therapeutic regimens (Heisler,2012).

Fourteen countries report to the World Health Organization (WHO) that they were not successful to implement self management behaviors for Diabetic patients (Boothroyd et al., 2010). The most effecient way to improve patient's ability to prevent serious Diabetic complications is training and support (Netles & Belson, 2009). According to (Siminerio, Ruppert and Gabbay, 2013), the Diabetes Self Management Support (DSMS) is an important thing to give for patients as well as Diabetes Self Management Education (DSME). Support could be obtained from various parties, one of them is peer support.

Peer support is defined as the support from someone who has knowledge of experience about a particular behavior or stressor with the characteristics smiliar to the population target (Dennis, 2003). Peer support bridges the gap between clinical care and provide assistance in patients self management, and also providing low-cost care and flexible equipment to complement formal health support for chronic diseases such us Diabetes Mellitus (Heisler, 2011).

Peer support has a role to increase Diabetic patiens interest for self management behavior, but the evidence is limited to provide information both for policy making and applied in practice (Dale,

William & Bowyer, 2012). Diabetes self management education that has been given by professionals, may need to be reviewed about appropriate policies and techniques which is relevan to apply for improving patient knowledge about Diabetes. One of them is by increasing social network support and education, including : family, friends, co-workers, neighbors, religious experts, and colleagues (Mousavi, 2011).

The purpose of this study was to collect evidence based on previous research result on the effect of peer group support on adult patients with Type 2 Diabetes Mellitus using systematic review method.

2 METHOD

The mehod used in this paper is a systematic review. The article search was using electronic data base such us: Scopus, Science Direct and Proquest. In the initial step, the keywords which used for article search are "Peer Group Support" AND "Adherence Behavior" AND "Diabetic Patient", then the author modifies the keywords to "Peer Group Support" AND "Blood Glucosa" OR "Diabetic Patient".The search was done by limit from 2012 to 2017. The inclusion criteria made by authors are:(1) Explaining Peer Group Support Program, (2) All partipans was diagnosed as Type 2 Diabetes Mellitus patient, (3)Patient age 18-75 years, (4) Quantitative studies with Non and Randomized Controlled Trial, Randomized Clinical Trial, Partial Randomized Study. The exclusion criteria were: (1) Patient age <18 years or >75 years, (2) Not yet diagnosed as Diabetes Mellitus, (3) Type 1 Diabetes Mellitus, (4) Qualitative Studies.

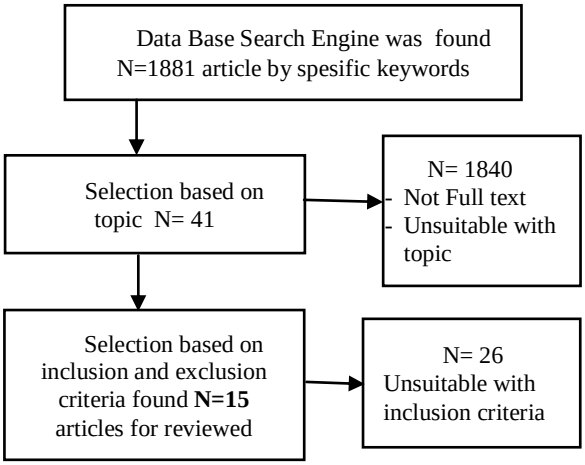

Figure 1: Article Search Schema

3 RESULTS

Picture 1 showed the results of search. On search engine found 1881 articles and then selection based on topic and 41 articles was accordingly. These articles then re-selection based on inclusion criteria then found 15 articles that are considered relevant. The next step was conducted critical appraisal to review the content and research methods.

Six studies (40%) were conducted in the United States, three studies (20%) were conducted in China, Two studies (13.2%) were conducted in India, while the other four performed one (6.7%) in Cameron, one (6.7%) in Uganda, one (6.7%) in Argentina and one (6.7%) in the Netherlands. Eight studies (53.3%) were conducted with randomized controlled trial design, four studies (26.6%) used randomized clinical trial, one (6.7%) using non-randomized controlled trial, one (6.7%) using quasy experiment, one (6.7%) using partial randomized study.

The sample size varied from 46 to 287 partisipans (mean 154.9). All studies focused on Type 2 Diabetes Mellitus patients with Peer Support interventions. There were several similarities from fifteen studies in the implementation of the intervention, where there are six studies ((Vries *et al.*, 2014), (Deng *et al.*, 2016), (Rashidi *et al.*, 2016), (Long, 2012), (Gagliardino *et al.*, 2013)) made the intervention by recruiting selected person in group who's have better glycemic control status to be a peer educator/peer trainer. This person then will provide structured education to participants in studies.

Four studies combine structured education with communication and telephone support for once or twice a weeks((Piette *et al.*, 2013), (Yin *et al.*, 2015), (Tang, 2015), (Baumann *et al.*, 2015)). Two studies in a routine meetings form (Shaya *et al.*, 2014),(Siminerio, Ruppert and Gabbay, 2013), two other studies a home visits form (Liu *et al.*, 2012), (Nelson *et al.*, 2014) and one study was compare peer support intervention with Yoga ((Sreedevi, Gopalakrishnan and Ramaiyer, 2017).

The most information and support provided through peer support programs is the Diabetes Self-Management Education (DSME) material, such as concepts and complications of diabetes, reduction of risk factors eg cigarettes and obesity, proper diet and nutrition, proper physical/exercise activities, adherence of medication, foot care, Blood Glucose Self Monitoring and how to use blood glucose screening tools and administration insulin (Sreedevi, Gopalakrishnan and Ramaiyer, 2017), (Shaya *et al.*, 2014), (Gagliardino *et al.*, 2013), (Yin *et al.*, 2015),

(Assah *et al.*, 2015), (Deng *et al.*, 2016), (Baumann *et al.*, 2015),(Piette *et al.*, 2013).

Another form are experience sharing, motivation giving and suggestion session by peer educators and approach session between all participants using interactive communication (two-way) to improve self efficacy, and together making change plans of behavior to achieve the ultimate goal (Vries *et al.*, 2014), (Long, 2012), (Rashidi *et al.*, 2016). For interventions conducted in the community, support was directed at helping participants to access resources in the community such as how to take advantage of health facilities and health workers in the area of participants' residence (Liu *et al.*, 2012), (Nelson *et al.*, 2014).

Time for implementation and evaluation of measurement results varies, the shortest time is 4 weeks (Gagliardino *et al.*, 2013), 3 months (Rashidi *et al.*, 2016), (Shaya *et al.*, 2014) (Shaya et al., 2014), (Tang, 2015), (Sreedevi, Gopalakrishnan and Ramaiyer, 2017), the most are 6 months (See the review table), and longest is 12 months (Nelson *et al.*, 2014). Results also varied, at the table 1 has been described the dependent variable that have been measured and the results are HbA1c, fasting blood glucose, diabetes self management behavior, knowledge, blood pressure, lipid profile, self efficacy, self care, BMI (Body Mass Index), distress, health status.

The mostly variabel was evaluated is HbA1c. Thirteen studies used HbA1c as an indicator of glycemic control and results showed decreased significantly of HbA1c (69%), one study have no significant difference with the control group (8%), two studies did not show decreased (15%), and one study had not reported the final result (8%). Results of fasting blood glucose from six studies that did the measurement, five studies (83%) showed significant decreased, while one study (17%), does not showed significantly differences with the control group.

Results of Diabetes Self Management Behavior and Self Care behavior showed seven studies (87.5%) increased in self-care and diabetes management behaviors such as; dietary changes, weight control, foot care, physical activity, while one study (12.5%) has not reported results. Self efficacy variabel which was measured in three studies showed that all partisipans (100%) were improve in self efficacy after Peer Support intervention. Lipid profile results which conducted measurement in five studies showed four (80%) studies were decreased in levels of HDL (High Density Lippoprotein), LDL (Low Density Lippoprotein), and TG (Triglyceride), but one study (20%) has not reported the result.

Blood Pressure (BP) measurements (systolic and diastolic) also showed significant results. Five (83%) from six studies showed decreased in BP after Peer Support intervention and one study (17%) was not reported. At BMI measurements, four studies were measured, all partisipants (100%) showed significant decreased. Two studies which measure of knowledge show that knowledge increased in one study (50%), and the other one still not been reported. For health status measurement from three studies, two studies (67%) recorded participant had improved health status, and the other one still not been reported. In a single study (50%) of distress measurement, participants showed improvement and progression of condition, but the other one study was not reported

4 DISCUSSION

Peer Support interventions showed significant results in some variables for the management of Diabetes Mellitus patients but studies were limited for measurements and variations, because not all studies focused on glycemic control or Diabetes Self Management Behavior. It is can found that fasting blood glucose measurement only occurred in six studies (40%), the measurement of Diabetes Self Management Behavior occurred in seven studies (47%). Measurement of patients self efficacy even more less, because only three studies (20%) found. Similarly, measurements on knowledge were found in only two studies (13%).

This limited measurement requires further evaluation because these variables are important to assess the success of Peer Support interventions. The most research methods or designs were RCTs (80%) (Randomized Controlled/Clinical Trial), and almost all of the studies used a control group (93%), either the control group without intervention, or the comparison group with different interventions. Only one study (7%) did not use the control group, but the study was a using pre-post design study that also compared results before and after intervention (Baumann *et al.*, 2015).

In terms of time, Peer Support intervention is mostly done for of 3-6 months, which the shortest was 1 month and the longest was 12 months. This variation also made it difficult for evaluation, because in the shorter time intervention, the measurement result also showed decrease of HbA1c levels, blood glucose and blood pressure as well as

other longer-term studies (Gagliardino *et al.*, 2013). The study with the longest period of 12 months, the results have not been reported (Nelson *et al.*, 2014) which it was make difficulty for evaluation, too. It would be better if the evaluation was done periodically so can be seen the fluctuation in changes of measurement results as an analysis material.

Interventions are also varied, ranging from structured education which researcher recruit trainers or peer educators from peers of diabetic patients who have better glycemic control, then make a regular meetings sessions every each week/month, giving support through telephone, make small peer group that can give each other support by live meetings and calls with one designated peer leader. This variation is an innovation of each researcher, and there are even interventions made with home visits every month and evaluated after 12th months (Liu *et al.*, 2012).

Varied terms of time was also related to duration of intervention evaluations. Interventions with weekly meetings are shorter than the one-month sessions. In addition, to select and train peer educators/peer trainers, also needed more longer time to implement the intervention, so its depending on how the Researcher makes the intervention model design. All intervention models are focused on how patients with Diabetes Mellitus led by peers can interact with each other (Shaya *et al.*, 2014). Peer support within the group is also mutually motivating, and the patient were empowered to have self-management skills with positive coping mechanism to deal with chronic conditions due to his illness. Patients are also led to set goals and stress management so glycemic control as goal can be achieved (Yin *et al.*, 2015).

Peer support intervention was significant in improving HbA1c levels, metabolic outcomes, anthropometric, and behaviors of diabetic patients due to the presence of communities formed in peer groups with an approach adapted to group cultural conditions will encourage communication, support and effective delivery in the group (Assah *et al.*, 2015).

In the review of the fifteen studies above, the authors also found there are several studies compared to Peer Support intervention. One of them, Yoga Intervention. According to Sreedevi, Gopalakrishnan and Ramaiyer (2017), there is a decrease in fasting plasma glucose in the peer support and yoga groups, whereas HbA1c is only in the yoga group. Yoga and Peer Support intervention on blood glucose results was very good, but longer studies are needed to confirm the results.

Peer Support interventions are also provided in Diabetes Self Management Support (DSMS) form which interventions are provided as education and direct support by a trainer. Siminerio, Ruppert and Gabbay (2013), was comparing DSMS with trainers from professional educators, peers and practitioners, and results showed that in the DSMS group with peer trainers, the result of HbA1C change was the best than the other group.

Long, (2012) compares the motivational intervention using Financial Incentives that patients will obtain if they successfully lower Hb1Ac levels with motivational interventions by Peer Mentoring from peers by telephone to Diabetes patients. After 6 months intervention it was found that HbA1c levels decreased more in the peer-mentoring group than the Financial Incentives group. In peer mentoring, although intervention is only done by telephone, but it facilitates contact between the patient and the mentor. If patients should frequent visits to the health center only for consultation their health condition its will be more difficult and wasting more time. These interventions are very effective for patients living in villages or suburbs, but face-to-face introduction and sharing with mentors and patients still needed.

5 CONCLUSIONS

Peer Support is one of the interventions that can be applied to improve the behavior change of Type 2 Diabetes Mellitus patients with the ultimate goal of good glycemic control, which can be done with various methods such as structured education in sessions can be performed weekly or monthly, led by a peer mentor either in regular meetings or via telephone, can also be in the form of direct motivation and support to the patient through home visits and communication between peer mentor/trainer personally with the patient.

Variations in the provision of peer support interventions are equally effective in the 15 studies may even be modified by some type of intervention, eg. modification of peer support interventions with other interventions. The intervention interval duration is 4 weeks to 6 months, depending on which method and time of evaluation are desired. The division of peer support groups will be better if adapted to the cultural conditions, customs and habits of patients as well as the location of the patient's residence so as to facilitate the patient to

follow-up. Effectively peer support interventions are conducted primarily in patients with poor glycemic control due to lack of motivation, chronic disease condition, and limited ability to communicate with health care center due to the condition of patients who are far from health facilities or limited staff.

From the fifteen journals reviewed, peer support intervention could improving glycemic control (HbA1c, fasting blood glucose), improving self-management and self-care behavior of Diabetes Mellitus patients, self efficacy, knowledge, health status and reducing distres of patients with Diabetes Mellitus. Peer Support interventions can give positive effect on care for Diabetes Mellitus patients. Further studies are needed to determine the most effective form of Peer Support implementation in order to reduce implementation variation. This intervention was a good suggestion for policy makers in the field of patient management with Type 2 Diabetes Mellitus to be applied in Indonesia that has variations in geographic and cultural areas.

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APPENDIX

Table 1: Summary of evidence studies

Reference	Study design	Study population	Peer Support Form	Measure	Results
(Assah *et al.*, 2015)	Non RCT	100 control group 96 intervention group Inclusion criteria: 1.Adults with poorly controlled diabetes 2. HbA1c > 7%	Meeting group based on schedule, private meeting once a month for 5 months and by phone for 6 months. Peer support selected from those whom better glycemic control, adherence to clinical visit, and have experiences knowledge about DM better than others.	HbA1c, Fasting blood glucose, cholesterol, HDL, and Diastolic pressure, self care behavior	There was a significant decrease in HbA1c, fasting blood sugar, HDL, cholesterol and diastolic BP, as well as improved self-care behavior.
(Rashidi *et al.*, 2016)	RCT with proportional stratified sampling	30 control group, 30 intervention group Inclusion Criteria: 1. Diagnosed Type 2 DM 2.Aged 30-70 years 3.DM >1 year 4.Can read and write 5.Have time to engage in studies 6.Have no physical and mental disabilities 7.No memory /neural disorders 8.Not taking drugs that affect memory and awareness 9.Never been involved in similar research	Supportive training by 10 trainers from fellow DM patients who has been trained at Diabetes clinic for 3 month	HbA1c and fasting blood glucose	The test results showed that there was a significant difference of HbA1c and Fasting blood glucose in the intervention group the third month from the beginning of the first month before the treatment began.

(Vries *et al.*, 2014)	RCT	76 control group 76 intervention group Inclusion criteria: 1. Diagnosed Type 2 DM 2. Age 50-70 years 3. DM > 3 years	Peer Group Support Program consists of a two-hours session once a month for 6 months, led by a peer leader who plays a role in organizing group dynamics.	Diabetes-related distress, health status quality, diabetes self management behavior	Peer support is a way for patients to stay motivated and help each other to solve the stress experienced by Type 2 DM patients. Results will be measured one month in advance, and 6, and 12 months after intervention by a self-reported questionnaire
(Nelson *et al.*, 2014)	RCT	142 Control Group 145 Intervention Group Inclusion Criteria: 1. Patients with poor controlled diabetes 2. Diagnosed Type 2 DM 3. HbA1C levels 8% or higher in the last 3 months 4. Income is less than standard 5. Age 30-70 years 6. Speak English / Spanish	Peer Support for Achieving Independence in Diabetes (Peer-AID), a home based Community Health Workers (CHW) program which was give self-management intervention for 12 months	HbA1C (primary), blood pressure, lipids, Health-related quality of life, Self efficacy, Self management behaviour Perceived stress, social support,	Results are still pending. Peer-AID recruited and enrolled a diverse group of low income participants with poorly controlled type 2 diabetes and delivered a home-based diabetes self-management program. If effective, replication of the Peer-AID intervention in community based settings could contribute to improved diabetes control in vulnerable populations.
(Deng *et al.*, 2016)	RCT	111 Control Group 97 Intervention Group in 2 rural communities in Jingzou area, China	Provision of training interventions provided by selected peer trainers from DM patients who suit with the criteria. Training was given to the intervention group for 4 months	HbA1c, FFG, 2h-PG, TG, knowledge, self-care capability	levels of HbA1c, FPG, 2h-PG, TG was significantly decrease in peer group than control group. There was increase in knowledge related to insulin usage, and increase of diabetes self-management ability peer support interventions effective to improve outcomes in Type 2 Diabetes Mellitus patients in rural China
(Gagliardino *et al.*, 2013)	RCT	105 Control Group 93 Intervention Group Inclusion Criteria: 1. Diagnosed Type 2 DM 2. Age 25-75 Years 3. Last receive the same intervention was 2 years or more, or never at all	Provision of structured education interventions in Type 2 Diabetes, provided by peer and with control groups provided by educator professionals. Intervention was given for 4 weeks	Knowledge, HbA1C, Fasting blood glucose, sistolik blood pressure,	There was no significant difference between two groups. all data showed decreased than the previous year, subjects in intervention group showed lower levels of HbA1c and systolic blood pressure. Education by peer educators trainer and continuous support can be successful and can use as alternative methods for areas with limited healthworker

(Long, 2012)	RT	118 patients from America n Afrika Veteran. Control group 39, peer mentori ng group 39, financial intenciv es group 40	The routine care patient was notified of the initial HbA1c level and the recommended goal of HbA1c decline. Those in the peer group mentoring for 6 months were given African American peer mentor with controlled Diabetes. The mentor is asked to speak with the patient at least once a week. Patients in financial incentives group patiens can earn $ 100 if HbA1c levels lower 1% and $ 200 by decrease 2% or achieve HbA1c rate of 6.5%.	HbA1c	HbA1c level decreased from 9.9% to 9.8% in the control group (usual care), from 9.8% to 8.7% in the peer mentor group, and from 9.5% to 9.1% at financial incentives. Peer mentoring improves glucose control in African American veterans communities
(Piette *et al.*, 2013)	RT	212 Type 2 Diabetes Patiens divided to control group and interven tion group	Participants were randomized accordingly Age and encouraged to communicate with each other by phone at least once a week and share opinions about how diabetes self-management follows the guidebook which had been given and then routine exercise in the first, third and sixth month	HbA1c	The mean value of HbA1c in the control group was higher (7.9%), with significant value of p = 0.09 compared to interventions group (7.6%, with significant value p = 0.03. peer support with phone calls is especially helpful for patients who lack social support
(Yin *et al.*, 2015)	RCT	60 patients control group and interven tions group	Patients are included in the "Train The Trainee" group Program guided by 1 peer support. Peer support will then call members 15-20 minutes every 2 weeks in the first 3 months, every month for the third 3 months and every 2 months for the last 6 months. Peer support will observe patient self-management skills in groups such as: medication adherence, healthy diet, regular exercise, foot care, glucose monitoring, sick day management. They also provide psychological support based on personal experience.	HbA1c, self care	After 6 months there was no HbA1c change in the intervention group, but there was increasing in the control group. Self-care activities such as: diet adherence and foot care were increased in the intervention group but no change in the control group.
(Shaya *et al.*, 2014)	Partial rando mised study	68 control group, 70 interven tion group	Patients in the intervention group formed some small groups and attended monthly diabetes session emphasizing peers. Evaluation is done after 3 months and 6 months.	HbA1c, blood glucose (primer point), blood pressure, weight, functional status, self-efficacy	the intervention group decreased HbA1c and blood glucose were higher than the control group, in the secondary assessment found better results than the control group. Social group interventions show a large effect on HBA1c decline, blood glucose also increases behavioral changes

(Liu *et al.*, 2012)	RCT	89 control group, 119 intervention group	Patients in the intervention group received a 12-month group visit that provided self-educated DM patient management to help participants build confidence to adapt with Diabetes and increase motivation in managing diabetes	Self-management behavior, self efficacy, health status	The intervention group showed increasing of aerobic exercise duration over 40 minutes a week, there was an increase in self efficacy to manage the diabetes, there was an increasing of ability to recognize signs of danger and measure systolic blood pressure
(Sreedevi, Gopalakrishnan and Ramaiyer, 2017)	RCT	124 adult woman with diabetes. 41 yoga intervention, 42 peer group intervention, 41 control group	compare 3 groups to determine the effect of yoga intervention and peer support on blood glucose results. Intervention was done for 3 months	HbA1c, Fasting blood glucose	There was decreased in fasting plasma glucose in the peer support and yoga groups, HbA1c is only in the yoga group. Yoga and Peer Support intervention on blood glucose results is very good, longer studies are needed to confirm the results.
(Baumann *et al.*, 2015)	Quasy Experiment	46 patients from the Diabetes Mityana clinic, a rural community in Uganda	Patients will attend one day diabetes education program and approve for contacts once a week for 4 months with each participant using the phone or meeting each other to assist management of daily activities, preparing social and emotional support and encouraging approaches with contact with health workers	HbA1c, self-management behavior, blood pressure	there was HbA1c changes, diet and diastolic blood pressure. The short-term peer support program is a viable intervention to improve the treatment of Diabetes in rural Uganda.
(Tang, 2015)	RCT	52 control group 54 PLEASED group	Patients in the intervention group will be given a DSME program for 3 months and continue with 12 month group sessions once a week with suport support by phone.	HbA1c, sistolik and diastolik BP, LDL, BMI	No change of HbA1c in both of groups. The PLEASED program has no glycemic control effect on the adult population of African America. The Peer Support program had significant results in Systolic and diastolic blood pressure, LDL and BMI levels compared with the DSME program without peer group

(Siminerio, Ruppert and Gabbay, 2013)	RCT	141 patients were divided into 4 groups, DSMS Educator group (38), DSMS Peer (36), DSMS Practice staff (35), DSMS usual education (32)	After receiving DSME (Diabetes Self Management Education), patients will be randomly assigned to receive DSMS (Diabetes Self Management Support) from a Trainer Support: Educator, Peer Educator, Practice Staff and Usual Education with 6 months observation.	HbA1c, Blood Pressure, lipid levels, weight, self care and distress	In the DSMS educator group, the increase in HbA1c was the best, while the other DSMS also showed early development of the treatment. Patients showed increased glycemic control, lipid levels, body weight and self-care behavior as well as decreased blood pressure in all DSMS intervention groups. All participants showed satisfaction with the DSMS intervention. These results indicate the importance of the educator's role, but support from others is also necessary. Results also show that in patients with primary care DSME and DSMS are both needed

Aromatherapy for The Management and Control Effect of Chemoterapy: A Systematic Review

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Keywords: Aromatherapy, Management, Control, Effect, Chemotherapy.

Abstract: Background: Chemotherapy is a therapeutic modality that has been shown to improve the healing, survival, and quality of life of cancer patients. However, chemotherapy also has side effects such as anemia, leucopenia, thrombocytopenia, nausea, vomiting, mucous membrane ulceration, pain, baldness and others. Aromatherapy is the therapeutic use of essential oil substances to improve physical and mental health, quality of life. Aims to analyze the clinical evidence of the aromatherapy effects as the management and control of the side effects of chemotherapy. Method: using electronic database Scopus, Science Direct, ProQuest, Sage, SpingerLink with range 2011-2018. Results: Fifteen studies that suitable the criteria. from the results of the journal review found that aromatherapy affects decreasing of pain, nausea, vomiting, anxiety and improvement of sleep quality, quality of life, immune system (lymphocyte), nutritional status (nutrient intake). Aromatherapy can be used by inhalation and massage. Conclusion: Aromatherapy can be an alternative treatment to overcome the side effects of chemotherapy. And there needs to be further research on the effects of aromatherapy on patients undergoing chemotherapy treatment.

1 BACKGROUND

Alternative therapies function not to be replaced, but only used as an adjunct in addition to conventional medical treatment. there are several types of alternative therapies such as acupressure, acupuncture, massage, aromatherapy, diet, and herbs. One of the most common treatments to treat cancer is with chemotherapy.

Chemotherapy is the use of antineoplastic preparations as an attempt to kill tumor cells with alternative functions and power The administration of chemotherapy as one of the cancer therapies has been proven in improving cancer treatment outcomes, both to improve the cure rate, survival, and quality of life of patients, but chemotherapy as well various events and complications such as anemia, leucopenia, thrombocytopenia, nausea vomiting, mucous membrane ulceration, and alopecia (baldness) occur. Uncontrolled side effect of chemotherapy can replace some physiological effects, can occur on quality of life and can change patient compliance in treatment.

Aromatherapy is one of the most common complementary and alternative ways to treat or relieve physical and psychological symptoms such as relieving stress, pain, nausea, and depression. the scent used by inhaling steam or the absorption of oil into the skin. In cancer patients who are experiencing chemotherapy often experience nausea, vomiting, pain, diarrhea, insomnia, constipation, anxiety. The purpose of this study was to analyze the evidence of its effects on chemotherapy.

2 METHODS

2.1 Research criteria

2.1.1 Type of Research

The research method used is experiment with randomized clinical trial (RCT) approach with double blind, single blind, crossover study and systematic review and meta-analysis. Selection of study with time limit of year 2011 until 2018. The result of research in abstract form is also included if the research result is detail and enough to be

evaluated. Research that gives results that are not detailed will not be included in the preparation of this systematic review.

2.1.2 Type of Participants

Participants involved are cancer patients undergoing chemotherapy treatment, no age restriction, gender or certain types of cancer

2.1.3 Type of Intervention

Interventions used are the use of aromatherapy in reducing the effects of chemotherapy with inhalation techniques, aromatherapy massage essential oils of various plants such as lavender, roses, ginger, and others. There is no limit on the dosage of essential oil used, the type of aromatherapy or the duration of treatment.

2.1.4 Type of Result

The following outcome measures will be assessed based on analysis of data obtained in the experiment including:

2.1.4.1 Main Results

The effects of aromatherapy on symptoms resulting from the chemotherapy side effects perceived by patients such as nausea, vomiting, pain, insomnia, and anxiety

2.1.4.2 Secondary Results

Symptoms of side effects arising due to the use of aromatherapy

2.2 Search Method to Identify The Study

2.2.1 Electronic Search

The electronic search is done using Scopus media, Science Direct, Pro Quest, Sage, Spinger Link with English usage. The study included randomized clinical trials without age and gender restrictions, and others. Research using randomized clinical trial (RCT) design, systematic review and meta-analysis.

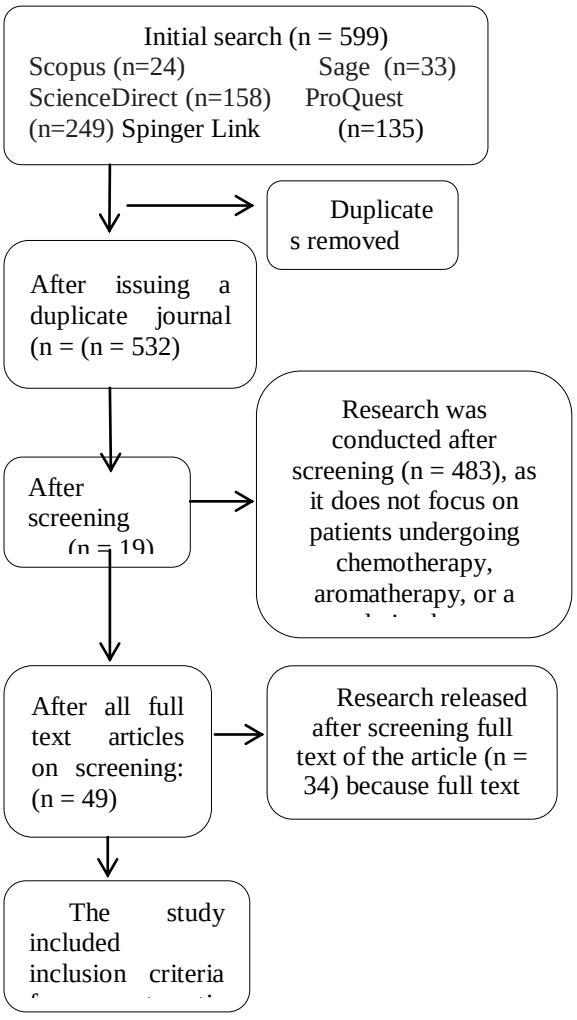
2.2.2 Search Strategy

Keywords in the search are (aromatherapy AND chemotherapy AND cancer) with a 2011-2018 time limit. The research included in this review consisted of randomized clinical trial (RCT) with design study types such as double blind, single blind, and crossover study. The study of the effectiveness of aromatherapy use on the decrease of symptoms due to the side effect of chemotherapy then conducted the study. There is no limit in the type, duration and frequency in the care of patients with those undergoing chemotherapy treatment.

2.3 Data Collection and Analysis

2.3.1 Selection of Study

After article search and duplicate deletion, the title of the article taken in the database search has been



filtered, further analyzed further.

2.3.2 Data Extraction

The data extracted included references, research types, number of respondents, brief description of the subject, and inclusion criteria. Regarding such interventions, information on comparison groups, aromatherapy types, study duration, frequency of treatment, outcome measures, and conclusions were drawn from selected studies

3 RESULTS

3.1 Selection Study Description

The search research identified 599 potentially relevant studies, 15 of which met the inclusion criteria. there are 8 research with inhalation method, 6 research with massage and 2 research review. All these studies to determine the effectiveness of aromatherapy to decrease symptoms side effects of chemotherapy. The duration of the session with inhalation method is 5 - 20 minutes, massage technique for 15 minutes to 30 hours. Essential oils used in lavender, peppermint, inhalation, ginger and chamomile. All these studies to determine the effectiveness of aromatherapy against the symptoms of the side effect of chemotherapy.

3.2 Subject Description

The number of samples in 15 studies was 1199 respondents with vulnerable age 18-82 years The respondents included in the selected study were cancer patients undergoing chemotherapy treatment.

3.3 The Effects of Aromatherapy on The Side Effect of Chemotherapy

3.3.1 Nausea and Vomiting

Based on the results of (Santosh *et al.*, 2011) conducted in Karela India involving 60 cancer patients who are undergoing chemotherapy. From this research, it was found that there was significant decrease of anxiety, nausea and vomiting in the aromatherapy massage group compared with the control group ($p < 0.01$). Aromatherapy provides significant anxiolytic and antiemetic effects and can be used as an adjuvant for standard anti-emetics in cancer patients undergoing chemotherapy. (Stringer and Donald, 2011) that 47% of patients (n = 45) say that aromastick has overcome nausea. Similarly, 2 previous studies, according to (Zobra *et al.*, 2017) the severity of nausea and vomiting were significantly lower in the aromatherapy group (massage and inhalation) than in the control group. This study was conducted on 75 breast cancer patients with aromatherapy massage method on feet with a duration of 20 minutes, the inhalation group received a breath of aromatherapy with a duration of 3 minutes before chemotherapy and the control group underwent only standard treatment.

In contrast to the above study, according to (Week, 2015) that aromatherapy with ginger essential oil was not effective for reducing nausea (P = 0.183) and vomiting (P = 0,594) but significantly improved quality of life of patients ($p < 0.001$) chemotherapy. the study was conducted on 60 breast cancer patients undergoing chemotherapy by taking inhaling aromatherapy essential oil of ginger, 20 cm distance from the nose, frequency 3 times a day with a duration of 2 minutes for 5 days of intervention. During the study there was 1 patient who resigned due to feel light dizziness on day 5. Based on the results review from (Momani and Berry, 2017) with little evidence to suggest that aromatherapy can lower the level of nausea of vomiting

3.3.2 Relaxation

Based on the results of research Jeannie (Dyer *et al.*, 2013) that reflexology and aromatherapy massage provides a relaxing effect on patients undergoing cancer treatment including chemotherapy. According to (Stringer and Donald, 2011) that 65% of patients say feel more relaxed and 51% feel less stress and according to (Charlesworth *et al.*, 2018) with skilter including aromatherapy can make patients relaxed.

This is not in line with research by (Tamaki *et al.*, 2016) that there is no statistically significant difference between aromatherapy groups and control groups in improving quality of life, sleep quality and vital sign but patients respond positively that they

feel more relaxed, comfortable with aromatherapy during chemotherapy.

3.3.3 Quality of Life

In the ('The effect of aromatherapy and massage administered in different ways to women with breast cancer on their symptoms and quality of life', 2014) study, the aromatherapy group used a mixture of lavender, mint, chamomile, jasmine, violet, rosemary and eucalyptus oils diluted 1.1% with 90 ml almond oil and poured into a force, inhaled aromatherapy with a duration of 5 minute, frequency three times a week for 1 month. The classic massage group received 35 minutes of massage with olive oil for their minute 15 minutes, arms 10 minutes, legs 5 minutes and hands 5 minutes, three times a week for 1 month. The aromatherapy massage group received massage using aromatherapy for 35 minutes with the same procedure as the classic massage group. The group control does not accept only. From the results of the study, which was carried out along with inhaling aromatherapy, classic massage and aromatherapy massage groups scored higher in the aromatherapy group on the quality of life of the control group. psychological and physical symptoms are more intensive in the control group. Psychological symptoms and stress are stress, anxiety, depression, and pain. According to (T.K.T. Lai *et al.*, 2011) the aromatherapy massage improves the quality of life physically and leads to live his life. In contrast to the above study, according to (Tamaki *et al.*, 2016) there was no statistically significant difference between the aromatherapy group and the control group in improving the quality of life

3.3.4 Sleep Quality

Based on the (Blackburn *et al.*, 2017) study involving 50 acute leukemia undergoing chemotherapy using lavender aromatherapy, peppermint, or chamomile. The results obtained poor quality sleep at the beginning of chemotherapy, and by inhalation of aromatherapy has statistically had a positive impact on patient sleep quality. Aromatherapy also has a positive effect on participants, drowsiness, lack of appetite, depression, anxiety, and well-being. In line with that according to (Stringer and Donald, 2011) is 55% of sleep disorders group with the use of aromastick help them to sleep and based on research results (Charlesworth *et al.*, 2018) that with aromatherapy patients become more relaxed and improve the quality of sleep and decrease the level of pain

3.3.5 Nutrition

Based on research by (Salihah, Mazlan and Lua, 2016), patients receiving aromatherapy of essential ginger oil for 5 days of treatment, obtained significantly higher nutrient intake after the essential oil aromatherapy group than the control group on day 3 ($P = 0.015$) and day 5 ($P = 0.002$). Significant improvements in energy intake were also observed over time ($P < 0.001$). The use of ginger essential oil can be used to control nausea and vomiting so as to increase the nutritional intake of chemotherapy patients.

3.3.6 Immune System

According to (Khiewkhern *et al.*, 2013), the average number of lymphocytes was significantly higher in Thai-style aromatherapy massage groups ($P = 0.04$) and Thai aromatherapy massage may increase lymphocyte count by 11%.

3.3.7 Constipation

Based on the results of the study (T K T Lai *et al.*, 2011) with a 5-day aromatherapy massage with a duration of 15-20 minutes / day can improve bowel sounds and constipation events lower than regular massage and standard treatment ($p < 0.01$)

4 DISCUSSION

The purpose of this systemic review is to analyze the clinical evidence of the effects of aromatherapy as the management and control of the side effects of chemotherapy. The systematic review included 15 studies with different types of research subjects of cancer patients undergoing chemotherapy treatment. Based on the results of the analysis there are many effects resulting from aromatherapy interventions either with inhalation or massage such as Multiple

outcomes can be attributed to differences in administrative protocols or various types of subjects including in RCT, systematic review and meta-analysis. The olfactory function, allergic status and history of respiratory illness should be confirmed before research with inhaled aromatherapy intervention. Based on a review of the journal it was found that aromatherapy intervention has not effectively reduced the symptoms of chemotherapy, there are some journals that give significant results and vice versa.

Another important aspect that needs to be taken into account to analyze the effectiveness of aromatherapy is the chemical properties of the various essential oils used in research that can cause allergies. The chemical composition and mechanisms of essential oils have shown a positive effect on the decline of some side effect such as nausea, vomiting, pain, anxiety, insomnia, decreased immunity, and quality of life. Commonly used aromatherapy is lavender, peppermint,, chamomile and ginger. Most studies use single, mixed, or diluted essential oils. Due to differences in administrative methods, duration of treatment sessions, frequency of treatment, number of sessions, and forms of essential oils (single, mixed, or diluted forms), it is difficult to make comparisons of treatment efficacy in various studies simply by considering essential oils.

5 CONCLUSION

Overall our data do not fully recommend the use of aromatherapy to decrease the symptoms of epilepsy from chemotherapy. Nor can we fully explain the specific effects of aromatherapy. Further randomized studies should be conducted with include more objective steps to explain the possibilities mechanisms for the reduction of symptoms of chemotherapy in cancer patients.

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No	Author,Year	Treatment	Control	Sample	Design	Result	
						Measure	**Outcome**
1	Is reflexology as effective as aromatherapy massage for symptom relief in an adult outpatient oncology population Jeannie Dyer et al (2013)	Reflexology	Aromatherapy massage	115 patient	Non-blinded, randomised study	- Vas - Measure Yourself Concerns and Wellbeing, (MYCaW)	- Reflexology ditemukan tidak kurang efektif daripada pijat aromaterapi untuk masalah pertama MYCaW (p 1/4 0,046). - skor VAS (relaksasi) dari waktu ke waktu (p 1/4 0,489) atau antara kelompok (p 1/4 0,408)
2	Randomized trial of aromatherapy versus conventional care for breast cancer patients during perioperative periods Kentaro Tamaki et al (2017)	Aroma oil placed at the bedside from 9 PM of the day before surgery day until 6 AM of the surgery day.	conventional care for breast cancer patients during perioperative periods	162 patients (102 were aromatherapy group and 51 control group)	Randomized Control Trial	Mood, quality of life (QOL), physical symptoms, vital signs, sleep quality	- no effects of aromatherapy on quality og life, sleep quality, and vital sign. - There was not any harm or adverse event for using aromatherapy.
3	Effects of inhaled ginger aromatherapy onchemotherapy induced nausea andvomiting and health-related quality of lifein women with breast cancer Pei Lin Lua et al (2015)	5day aromatherapy treatment using ginger essential oil or which was instilled in a necklace in an order dictated by the treatment group sequence.	Control fragrance matched artificial placebo (ginger fragrance oil)	60 women patients	Single-blind, controlled, randomized cross-over study	VAS nausea score, frequency of vomiting and health related quality of life (HRQoL)	- aromatherapy was no significant effectof aromatherapy on vomiting and nausea, - Aromatherapy significant effect health related quality of life (P < 0.001) and appetite loss (P < 0.001) was detected after ginger essentialoil inhalation

4	The effect of aromatherapy on insomnia and other common symptoms among patients with acute leukemia Blackburn L et al (2017)	Patients were offered a choice of three scents to be used during lavender, peppermint, or chamomile	Control grup with plasebo	50 patients	Randomized, crossover, washout trial	Quality sleep	- Most patients reported poor quality sleep at baseline, but aromatherapy had a statistically signifcant positive impact. - nurses can employ Aromatherapy because improving insomnia and other symptoms commonly experienced by patients with acute leukemia
5	Integrative Therapeutic Approaches for the Management and Control of Nausea in Children Undergoing Cancer Treatment: A Systematic Review of Literature (Review) Momani et al (2017)	Acupuncture/acupressure, aromatherapy, herbal supplements, hypnosis, and other cognitive behavioral interventions			Systematic Review		- little information on the effectiveness and safety of most integrative therapeutic approaches for the control and management of CINV in children with cancer but promising interventions for further testing.
6	The Preliminary Effects of Massage and Inhalation Aromatherapy on Chemotherapy-Induced Acute Nausea and Vomiting: A Quasi-Randomized Controlled Pilot Trial Zorba P et al (2017)	The patients in the massage group received 20-minute aromatherapy foot massage. The inhalation group received 3-minute inhalation aromatherapy before their second, third, and fourth chemotherapy cycles	Only the routine treatment.	75 patients with breast cancer	RCT	nausea, vomiting, was used visual analog scale and frequency of vomiting	- nausea and vomit was significantly lower in the massage group than in the inhalation group (P < .001). - Nausea and vomit severity was significantly lower in the massage and inhalation aromatherapy groups than in the control group.
7	Anxiolytic and antiemetic effects of aromatherapy in cancer patients on anticancer chemotherapy (Article) Santosh et al (2011)	Receiving aromatherapy-based massage prior to and during the period of chemotherapy	The control group not in receipt aromatherapy massage	60 patients: experimental group (n=30), control group (n=30)	RCT	Anxiety, Nausea, Vomiting	- significant anxiolytic and antiemetic effects with aromatherapy massage when used as an adjuvant to standard antiemetics in cancer patients undergoing chemotherapy (p<0.01)

8	Effectiveness of Aromatherapy with Light Thai Massage for Cellular Immunity Improvement in Colorectal Cancer Patients Receiving Chemotherapy Santisith Khiewkhern at al (2013)	The intervention consisted of three massage sessions with ginger and coconut oil over a 1-week period	The control group received standard supportive care only	66 patients with colorectal cancer	single-blind, randomised-controlled trial	**Cellular Immunity :** leukosit, neutrophils, lymphocytes, CD4 and CD8 cells and the CD4/CD8 ratio, self-rated symptom scores	- lymphocyte was significantly higher (P=0.04) in the treatment group than in the controls and with aromatherapy with Thai massage could boost size lymphocyte by 11%. - symptom severity scores for fatigue, presenting symptom, pain and stress were significantly lower in the massage group than in the standard care controls.
9	The Clinical Effects of Aromatherapy Massage on Reducing Pain for the Cancer Patients: Meta-Analysis of Randomized Controlled Trials Ting-Hao Chen et al, 2016				Meta-Analysis	Pain	- Compared with the control group, the massage with essential oil group had nonsignificant effect on reducing the pain (standardized mean difference = 0.01; 95% CI [−0.23, 0.24]).
10	The effectiveness of inhaled ginger essential oil in improving dietary intake in breast-cancer patients experiencing chemotherapy-induced nausea and vomiting Noor Salihah et al, 2016	Women received 5 days of aromatherapy treatment using inhaled ginger essential oil (EO)	Group control using fragrance-matched Placebo ginger fragrance oil (FO)	60 women patient	A single-blind, randomised, placebo-controlled, crossover study	nutritional status (BMI, nutritional requirement, dietary intake), general perception of aromatherapy.	- Energy intakes were significantly higher after patients were treated with ginger EO than ginger FO at day 3 (P=0.015) and day 5 (P=0.002). - The use of inhaled ginger EO for CINV could possibly help patients resume their dietary intake.
11	Oncology; Investigators at IIUM Report Findings in Breast Cancer (Effects of inhaled ginger aromatherapy on chemotherapy induced nausea and vomiting and health-related quality of life in women with breast cancer (2015)	5 days use of ginger essential oil implanted in a necklace in the order determined by the order of treatment groups	using ginger fragrance	60 women patients	Single-blind, controlled, randomized cross-over study	nausea, vomiting and health-related quality of life (HRQoL) in chemotherapy breast cancer patients	- ginger essential oil inhalation did not significantly lower nausea and vomiting when compared with the control group (P> 0.001). - Intervention inhalation of ginger aromatherapy significantly improves general health status (P <0.001)

12	The effect of aromatherapy and massage administered in different ways to women with breast cancer on their symptoms and quality of life Ovayolu Özlem et al (2014)	The intervention group inhaled the essential aromatherapy essential oil, standard massage, aromatherapy massage	Standard treatment	280 patients	RCT	Quality of life	- inhalation group of aromatherapy oil, classic massage and aromatherapy massage group have higher scores especially in aromatherapy group on quality of life than control group - more intense psychological and physical symptoms experienced in the control group than in the intervention group
13	Complementary therapy for people with cancer; the patient's perspective Elaine Charlesworth et al, 2018	Patients receive complementary therapies such as aromatherapy, massage, reflection and repair with an average time span of 8 weeks with 6 sessions	Treatment standart	96 patient	Retrospective	MyCaW (Measure your concerns and wellbeing)	- after receiving 4 sessions of complementary therapies significantly repair problems such as relaxation, sleep problems, and pain / pain.
14	Aromasticks in cancer care: An innovation not to be Sniffed at Jacqui Stringer and Graeme Donald (2011)	Use inhaled aromasticks that will be evaluated after intervention	While not using aromasticks	160 patients 49 aromastik is given for the management of anxiety, 45 for nausea and 31 for difficulty sleeping	Retrospective	manage anxiety, nausea and gangguan tidur	- -77% (n = 123) reported that there was an aromastick benefit. - 65% reported feeling more relaxed and 51% felt less stressed. - 47% in the nausea group said that aromastick has overcome nausea - 55% of sleep disorder groups feel that aromastik helps them to sleep
15	Effectiveness of aroma massage on advanced cancer patients with constipation: A pilot study Lai et al (2011)	Standart massage sessions and aromatherapy are performed for 5 consecutive days. Each massage session takes place 15-20 minutes	Treatment standart	45 patient	Randomized control trial	Constipation	- Constipation in the aroma massage group was significantly lower than the control group ($p < 0.01$). - Improved bowel movement in aromatherapy massage group - Improve the quality of life physically and support from the aroma massage group.

Self-Care Adherence Experience in Patient with Diabetes Mellitus Type 2: A Systematic Review

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Keywords: Diabetes Mellitus Type 2, Adherence, Self-Care

Abstract: Background: Diabetes Mellitus is a metabolic disease that cause its patient need a long life maintenance. Diabetes Mellitus management in daily life is a complex activity and need an understanding about medicines, healthy diet, physical activities, and glycemic control. All those things is a personal responsibility of patient with Diabetes Mellitus Type 2. The objective of this systematic review was to describe the **s**elf-care adherence experience in patient with Diabetes Mellitus Type 2. Method: 15 best articles were found using PECOT framework in some databases; EBSCO, Science Direct, Scopus, and Journal of Universitas Airlangga. Those articles have been chosen based on some criteria. **R**esult: Self-care therapeutic regiment for patient with Diabetes Mellitus Type 2 are physical activities, diet, self-monitoring blood glucose (SMBG), and glycemic control. But most of respondents were disobey the therapy caused by various factors. Depression is one of the reason. Conclusion: Nursing intervention was needed to increase self-care adherence in patient with Diabetes Mellitus Type 2.

1 BACKGROUND

Diabetes Mellitus is a hyperglycemia disease characterized by absolute absence of insulin or a relative decrease in insensitivity of cells to insulin. In people with uncontrolled diabetes mellitus, there will be an increase in blood glucose (sugar), called hyperglycemia. Hyperglycemia that lasts for a long time will cause serious damage to our body system, especially on the nerves and blood vessels. Therefore, it is important to control glucose levels in the blood of Diabetes Mellitus patients. In the study of Yamashita, Kart, & Noe (2012) it was mentioned that the International Diabetes Foundation (IDF) in 2009 predicted an increase in the number of people with DM from 7 million in 2009 to 12 million by 2030. About 10% of adult Americans (age 20 years), or about 23.5 million adult Americans are diabetic, and 90 to 95% of them are people with type 2 Diabetes Mellitus.

Uncontrolled blood glucose levels in patients with diabetes mellitus will cause various complications, both acute and chronic. Diabetes Mellitus can be called “Long Life Disease” because it cannot be cured as long as the life span of the sufferer. So the patient requires "Long Life Maintenance" or long-term management. In his article Thompson (2014) revealed that diabetes management in everyday life is a complex activity and requires an understanding of medicines, a balanced diet, exercise, and blood sugar levels. Those are the personal responsibilities of a diabetic.

The success of a treatment, both primary and secondary, is strongly influenced by adherence of Diabetes Mellitus patients to maintain their health. With good adherence, primary and secondary treatment can be performed optimally and the quality of health can be felt. The reason is that if people with diabetes do not have self-awareness to be obedient then it can cause failure in treatment which resulted in the decrease of health. Even due to disobedience in maintaining health, can affect the complications of Diabetes Mellitus and can lead to death. This lifelong disease of Diabetes Mellitus demands a new lifestyle change and a diabetic must be able to adapt himself to undergo a lifelong change. The research question was how the experience of self-care adherence in patient with Diabetes Mellitus Type 2. The objective of this systematic review was to describe the **s**elf-care adherence experience in patient with Diabetes Mellitus Type 2.

2 METHODS

The method used in Systematic Review begins with the selection of the topic of Self-Care Adherence in Patient with Diabetes Mellitus Type 2. Then determined the keyword to search articles with several databases such as EBSCO, Science Direct, SCOPUS, and Journal of Airlangga University. Keywords used are "Diabetes Mellitus Type 2", "Self-Care", and "Adherence". This search was limited to the last 10 years range from 2007 to 2017. Found 111 articles in EBSCO, 40 in Science Direct, 63 in SCOPUS, and 8 in the Journal of Airlangga University.

Articles were selected for review based on studies that fit the inclusion criteria. The inclusion criteria in this Systematic Review are English and Indonesian articles, Self-Care in Diabetes Mellitus Type 2 patients, and the research design were Qualitative Study, Case Study, and Quasi Experiment. The 15 best articles reviewed.

3 RESULTS

3.1 Study Selection

Table 1 showed numbers of studies screened in this systematic review. The inclusion criteria were English and Indonesian articles, Self-Care in Diabetes Mellitus Type 2 patients, and the research design were Qualitative Study, Case Study, and Quasi Experiment.

Table 1: Literature search strategy

Searching tools - Database	EBSCO	Science Direct	SCOPUS	Journal of Universitas Airlangga
Results of searching	430	366	441	8
Full text, pdf, 2007-2017,	111	40	63	8
Similar titles	1	-	-	-
Eligible, suitable with the inclusion and exclusion criteria.	7	3	2	3
Final selected articles			15	

3.2 Study Characteristics

The studies reviewed in this article are 15 articles for self-care adherence in Diabetes Mellitus Type 2 patients. Research methods used by various articles ranging from Qualitative Study (n = 10), Cross Sectional - Case Study (n = 3) and Quasi Experiment (n = 2). The total number of samples was 897 people.

3.3 Result of Individual Studies

3.3.1 Diabetes Mellitus Therapy Regimen: Physical Activity, Diet, SMBG, and Glycemic Control

Based on the review of the article, it can be argued that self-care therapy regimens for Type 2 Diabetes Mellitus in general are physical activity, diet, self-monitoring of blood glucose (SMBG), and glycemic control. However, most respondents did not adhere to the therapy regimen.

In Mogre, Abanga, Tzelepis, Johnson, & Paul (2017) research on Adherence and factors associated with self-care behaviors in Diabetes Mellitus Type 2 patients in Ghana stated that dietary compliance, Self-Monitoring of Blood Glucose, and foot care were very low . Self-care is often done by patients was the exercise and measurement of blood glucose by health workers. Only 1 patient performed routine SMBG every day, 13.9% checked their legs daily and 9.6% who checked their shoes every day. The low rate of adherence to self-care is due to a low level of knowledge. Patients with low knowledge and women may need additional support to improve adherence to self-care behavior in patients with Type 2 Diabetes Mellitus.

A similar case occurred in Chourdakis & Kontogiannis (2014) study, which stated that the majority of patients (75.7%) reported regular nutritional intake but were rich in fat. Most (90.3%) received prescribed medication, and 60.5% tested BG concentrations accordingly but only 27.1% of the study population reported daily BG levels. And only a third of patients are reported to have washed their feet every day for weeks. Thompson (2014) study found that there was a difference between personal and cultural activity that affects activity for diabetes management.

3.3.2 Supporting Factors: Family Support

One of the supporting factors for patients performing self-care is family support. As stated by Mayberry & Osborn (2012) that family support is essential in providing adherence effects to Type 2 Diabetes Mellitus patients. Costa (2012) in his research mentioned that partner and social-cognitive support is essential to adherence to SMBG in diabetic patients Mellitus Type 2.

Halkoaho (2014) study found that people with type 2 diabetes thought the source of coping in the management of diabetes mellitus was self-acceptance of disease, adherence to self-care, knowledge of disease, and support from various parties including nurses.

3.3.3 Inhibiting Factors: Individual Coping Ineffective

Many factors influence why patients with Type 2 Diabetes Mellitus do not do self-care. Based on the results of research Schwennesen, Henriksen, & Head (2016) obtained the results of personal reasons for the absence of Diabetes patients in Diabetes Self-Management Education (DSME) because of the disease and they feel this activity is less useful. While for external factors that affect Diabetes Type 2 patients do not follow Diabetes Self-Management Education is the location, time, and duration of Diabetes Self-Management Education.

This is in line with the results of the Gask, Ludman, & Schaefer (2006) study which says that obstacles in adherence to self-care of Diabetes Mellitus Type 2 patients are patient problems, difficulty in therapy, and inability to cope with the changes that occur after so long.

Research of Woodcock, Gillam, & Frcp (2013) get the results that patients knowing about the condition of the illness and the complications that will be experienced. Most say they are afraid of comatose complications. In addition, most have received adequate information about Diabetes Mellitus Type 2 from doctors and nurses, but there was still a misperception about the information so that patients do not undergo self-care well. Patients stated the importance of ongoing care to treat diabetes. Nurses and doctors play an important role for that. Angelica et al. (2016) mentions Diabetes Mellitus patients have knowledge of Diabetes management. However, the knowledge possessed is very superficial and not applicative in their routines.

3.3.4 Depression

Psychological variables are important because the belief in health, knowledge and behavior in Diabetes Mellitus patients will affect Diabetes Mellitus patients in controlling the disease. In the Tristiana, Kusnanto, Widyawati, Yusuf, & Fitriyasari (2016) study mentioned the results of interviews conducted on April 18, 2014 at the Mulyorejo health center, it was found that 3 out of 4 patients stated that the patient was saturated with the routine they were doing that caused the patient to disobey the pattern diet and physical activity undertaken. Two patients say despair of Diabetes Mellitus disease suffered, sometimes do not want to eat for fear of complications that will happen. A patient says to reduce the activity of gathering with his friends. A patient still would not accept if he was exposed to DM.

Qualitative research conducted by Kathleen M. Rayman (2004) suggests that as many as 43% of respondents are in the pre-engaged phase against Diabetes Mellitus suffered. In this class of respondents do not consider diabetes dangerous. They are not serious in performing self-care. They assume that diabetes care management is not difficult

Tristiana, Kusnanto, Widyawati, Yusuf, & Fitriyasari (2016) concluded that patients with type 2 diabetes undergo a transition process from healthy conditions to sick conditions. The transition process begins with a cyclic loss response that affects type 2 Diabetes Mellitus patients for self-control and makes decision-making rights for self-care. Self-control will make Diabetes Mellitus type 2 patients adapt and engage with new experiences of new habits for Type 2 diabetes patients. Self-Care will facilitate type 2 DM patients in adapting to internal and external environments and make DM type 2 patients have positive expectations in their life.

3.3.5 Self-Care Management-Holistic Psycho-spiritual Care

The long-term care that DM patients must undergo is very difficult to control effectively, so it is important to pay attention to the psychological aspects other than the physical aspects of Diabetes Mellitus Type 2 patients. To handle non-compliance in self-care patients can be done Self-Care Management-Holistic Psychospiritual Care, including the psychological and spiritual condition of Diabetes Mellitus Type 2 patients in performing self-care.

Kusnanto (2012) stated that statistic test result using Wilcoxon signed rank test and Mann Whitney u test obtained significant change value (p <0,05) related to Cognitive, Affective and Psychomotor (KAP) aspect in treatment group before and done interventions with the provision of self-care management-holistic psychospiritual care through self-contained diabetes module media. The results of the Independent-test obtained significancy value 0.000 (p <0.05) for 2 hours blood glucose PP and HbA1C, meaning that there is a significant difference after three months of integration of self-care management holistic psychospiritual care between the treatment group and comparison.

In addition, educational support can also be done to improve adherence to the self-care of Type 2 Diabetes Mellitus patients. Darmansyah, Nursalam, & Suharto (2013) studies obtained results Supportive educative models have positive and significant influence on self-regulation (0.651) and self-efficacy (0,548), self-regulation to self-care agency (0,592), self-efficacy to self-care agency (0,094), and self-care agency to HbA1c (0,130).

4 DISCUSSION

The low rate of self-care by patients with Type 2 Diabetes Mellitus is strongly influenced by ineffective individual coping factors. This is caused by long-term care that must be lived by DM patients are very difficult to control effectively, so it is important to pay attention to the psychological aspects in addition to physical aspects of Diabetes Mellitus Type 2 patients.

Self-care therapy regimens of Type 2 Diabetes Mellitus patients consisting of physical activity, diet, self-monitoring of blood glucose (SMBG), and glycemic control should be performed well to decrease HbA1C and minimize Diabetes Mellitus complications. One way that can be done to improve the number of self-care compliance DM2 patients is by the method of Self-Care Management-Holistic Psychospiritual Care.

5 CONCLUSIONS

5.1 Conclusion

Based on the review of the article, it can be argued that self-care therapy regimens for Type 2 Diabetes Mellitus in general are physical activity, diet, self-monitoring of blood glucose (SMBG), and glycemic control. However, most respondents did not adhere to the therapy regimen because of many factors that prevent patients from performing self-care. Research about factors affect patient with Type 2 Diabetes Mellitus incompliance to therapy regimen should be comprehensively carried out in the future.

5.2 Practical Implication

To overcome non-compliance in self-care patients can be done Self-Care Management-Holistic Psychospiritual Care, which is comprehensive management including the psychological and spiritual condition of Diabetes Mellitus Type 2 patients in performing self-care. Therefore, nurses should tailor-make diabetes self-management training programs for patients with a holistic approach, considering physical, psychosocial, cultural, financial and environmental factors. Furthermore, educative support is also needed to be developed to improve the self-care of Diabetes Mellitus Type 2 patients.

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APENDIX

Table 1: Journal Analysis Table

No	Title	Author, Year	Samples	Method	Result	
					Measured	Finding
1.	Patient Explanations for Non-Attendance at Type 2 Diabetes Self-Management Education: A Qualitative Study	Schwennesen , Henriksen, & Head, 2016	15 people	qualitative Study	To explore the reasons people with Type 2 diabetes do not follow Diabetes Self-Management Education (DSME). Instrument: Structured interviews	Results of the study are personal reasons in the absence of Diabetes Self-Management Education because of illness and they feel it less useful activities. As for the external factors that affect people with Type 2 diabetes do not follow Diabetes Self-Management Education is location, time, and duration Diabetes Self-Management Education

2	Adherence to and factors associated with self-care Behaviors in Type 2 Diabetes Patients in Ghana	Mogre, Abanga, Tzelepis, Johnson, & Paul, 2017	187 people, with inclusion criteria: - Suffering from DM type 2 - Following diabetes treatment at the clinic at least 2 times in the last 12 months - An outpatient of a hospital	Cross-sectional survey	1) To know patient compliance Diabetes type 2 on self-care are: diet, exercise, blood sugar check, and foot care. 2) To find out the relationship between self-care compliance with demographic characteristics such as age, gender, education, and religion. 3) To find out the relationship between self-care compliance with patient's body weight as measured by BMI and waist circumference	Adherence to diet, Self-Monitoring of Blood Glucose, and foot care is very low. Patients with low knowledge and women may need additional support to improve adherence to self-care behavior in patients with Type 2 Diabetes Mellitus
3	Family Support, Medication Adherence, and Glycemic Control Among Adults with Type 2 Diabetes	Mayberry & Osborn (2012)	61 respondents	Qualitative Study with FGD approach	1) Demographic data 2) Drug compliance 3) Family perceptions and knowledge about self-care in diabetes (supportive or unsupportive)	Family support is very important in providing adherence effects to the care of people with Diabetes Mellitus Type 2.
4	Home Alone : The Experience of Women with Type 2 Diabetes who Are New to Intensive Control	(Kathleen M. Rayman, 2004)	14 respondents	Qualitative Study	To know the experience of studying Self Care Management and the perception of women with Diabetes who just follow intensive control	Engagement As many as 57% of respondents included in the Engage class. In this class, respondents follow the rules of self-care and are consistent in performing self-care as a lifestyle. Pre-engaged. (43%) In this class of respondents do not consider diabetes dangerous. They are not serious in performing self-care. They assume that diabetes care management is not difficult.
5	Occupations, habits, and routines: perspectives from persons with diabetes	Thompson (2014)	8 people (5 male and 3 female) Inclusion Criteria: - Diagnosed type 2 diabetes - Age> 18 years old - Can operate digital camera	Qualitative Study	To describe the perception of diabetics about the busyness associated with diabetes management	There are four themes inferred: "Changes over time"; "What to eat"; "Habits and routines"; and "Family: Occupational impacts" There is a distinction between personal bustle and culture that affects activity for diabetes management.

6	Adherence to and factors associated with self-care Behaviors in Type 2 Diabetes Patients in Ghana	Mogre, Abanga, Tzelepis , Johnson, & Paul, 2017	187 people, with inclusion criteria: - Suffering from DM type 2 - Following diabetes treatment at the clinic at least 2 times in the last 12 months - An outpatient of a hospital	Cross-sectional survey	4) To know patient compliance Diabetes type 2 on self-care are: diet, exercise, blood sugar check, and foot care. 5) To find out the relationship between self-care compliance with demographic characteristics such as age, gender, education, and religion. 6) To find out the relationship between self-care compliance with patient's body weight as measured by BMI and waist circumference	Adherence to diet, Self-Monitoring of Blood Glucose, and foot care is very low. Patients with low knowledge and women may need additional support to improve adherence to self-care behavior in patients with Type 2 Diabetes Mellitus
7	Family Support, Medication Adherence, and Glycemic Control Among Adults with Type 2 Diabetes	Mayberry & Osborn (2012)	61 respondents	Qualitative Study with FGD approach	4) Demographic data 5) Drug compliance 6) Family perceptions and knowledge about self-care in diabetes (supportive or unsupportive)	Family support is very important in providing adherence effects to the care of people with Diabetes Mellitus Type 2.
8	Home Alone : The Experience of Women with Type 2 Diabetes who Are New to Intensive Control	(Kathleen M. Rayman , 2004)	14 respondents	Qualitative Study	To know the experience of studying Self Care Management and the perception of women with Diabetes who just follow intensive control	Engagement As many as 57% of respondents included in the Engage class. In this class, respondents follow the rules of self-care and are consistent in performing self-care as a lifestyle. Pre-engaged. (43%) In this class of respondents do not consider diabetes dangerous. They are not serious in performing self-care. They assume that diabetes care management is not difficult.
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10	Partner support, social-cognitive variables and their role in adherence to self-monitoring of blood glucose in type 2 diabetes	Costa (2012)	179 respondents	Case Study	Analyze the relationship between partner support, Social-Cognitive Variables on Self-Monitoring of Blood Glucose (SMBG), Adherence, and Glycemic Control in Diabetes Mellitus Type 2 patients.	The importance of partner support and social-cognitive on SMBG compliance in Diabetes Mellitus Type 2 patients.
11	Care seeking, use of complementary therapies and self-management among people with type 2 diabetes and cardiovascular disease CAMELOT Phase I: an ethnographic approach	Manderson et al. (2012)	69 consumers, 20 people healthcare providers (alternative medicine and biomedical)	Qualitative – Ethnographic Study	Reasons for using complementary and alternative therapies, choice and frequency, economic, socio-cultural, and information considerations related to adherence to diabetes management	1) Generally consumers tend to have a personal, proactive and positive motivation to report that they are having chronic conditions and are well managed and have a positive alternative treatment experience. 2) The average consumer has DM and CVD disease aged 66.8 years (range 46-85 years), Overweight (mean IMT 29 kg / m2, range 19-48 kg / m2), QoL score> 7 and income low.
12	Type 2 diabetes patients' perceptions about counselling elicited by interview: is it time for a more health-oriented approach?	Halkoaho (2014)	15 orang	Qualitative Study	Describe the perception, coping, and counseling experiences of Type 2 Diabetes Mellitus patients	People with type 2 diabetes think the source of coping in the management of diabetes mellitus is self-acceptance of disease, adherence to self-care, knowledge of disease, and support from various parties including nurses.
13	Qualitative study of an intervention for depression Among patients with diabetes: how can we optimize Patient–professional interaction?	Gask, Ludman, & Schaefer (2006)	The participants were 25 patients	Qualitative Study	To describe the communication between the depression care specialists (DCS) nurses and patients with both depression and diabetes in an intervention study.	Constraints in compliance with self-care patients with Type 2 Diabetes Mellitus is the patient's problems, difficulties in therapy, and inability to cope with the changes that occur after illness for so long.

14	'A one-to-one thing is better than a thousand books': views and understanding of older people with diabetes	Woodcock, Gillam, and FRCP (2013)	13 people	qualitative Study	(1) Reviews their understanding of diabetes, (2) Reviews their views on the information they had received, and (3) Reviews their views on the quality of Reviews their care	Patients know about the condition of the disease and complications that will be experienced. Most say they are afraid of the complications of coma. In addition, most have obtained adequate information about Type 2 Diabetes Mellitus of doctors and nurses, but there are misperceptions about the information that the patient is undergoing treatment with good self. Patients expressed the importance of continuous treatment to deal with diabetes. Nurses and doctors play an important role for it.
15	Diabetes Mellitus Client's Conceptions about The Treatment	Angelica et al., 2016)	11 people	qualitative Study	To describe patients with diabetes mellitus knowledge about the disease.	Patients with Diabetes Mellitus have knowledge of diabetes management. However, knowledge is very superficial and not applicable in their routines.

The Nursing Students Skill about Basic Life Support
Systematic Review

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Keywords: BLS, Basic Life Support, Nursing Students Skill.

Abstract: Introduction: Emergency condition need help very quickly. BLS (Basic Life Support) to be one of skill that must be mastered by studentss. The aim of this study was to determine the knowledge, awareness, and skill related to BLS in nursing student. Methods: We performed a search of articles in SCOPUS, MEDLINE, and CINAHL databases which was published between January 2011 and December 2017. Result: Most of the articles that have been reviewed demonstrate effectiveness BLS Training in improving the ability of students about emergency response. The value of the post test tends to be higher than the value of the pre-wedding test. Conclussion: Practice Basic Life Support (BLS) is indispensable to increase the knowledge and ability of the students. Therefore, it is expected that the health education agencies conduct routine Basic Life Support (BLS) Training.

1 BACKGROUND

According to the World Health Organization (WHO), cardiovascular diseases especially cardiac arrest are the most common cause of death worldwide and account for about one-third of deaths. The prevalence of these diseases is expected to increase (Bird & Seery 2017). Due to cardiac arrest and respiratory arrest, many people face the risk of dying suddenly and unexpectedly. Although cardiac arrest is very dangerous condition, but it can potentially reversible if treated early. Immediate resuscitation is necessary in order to achieve conscious survival for persons who have lost airways or pulses. Applying Cardiopulmonary Resuscitation (CPR) procedures correctly is very important in saving the life of the individual, but it is depend on the training and skill of the rescuers. CPR commonly known as Basic Life Support (BLS) (Dal & Sarpkaya 2013; Aroor et al. 2014).

BLS is defined as medical procedures that can be applied in the case of an emergency to save lives. BLS procedures include psychomotor skills for performing high-quality cardiopulmonary resuscitation (CPR), using an automated external defibrillator (AED), relieving an obstructed airway with artificial ventilation for patients of all ages (Alsayil, Alzahran & Alhawiti 2015; The American National Red Cross 2015).

Nurses are the first person who deals to the patients in hospital including when the patients in emergency condition, such as cardiac arrest. Therefore, nurses need to know about BLS. Nursing students are also regularly in clinical situations and as a result they are required to have completed BLS training before beginning their clinical experiences (Montgomery et al. 2012). BLS knowledge is a fundamental knowledge and skills a nurse must have in order to improve the survival rate in life-threatening condition of the patients, so that their quality of life increases (Sabir 2017).

Therefore, the aim of this study was to carry out a systematic review of the nursing students' skill about BLS in order to make recommendation related to the increase in intensity of BLS Training implementation.

2 METHODS

A review of published work published between January 2011 and December 2017. The search process was carried out by using the following terms: BLS, Basic Life Support, and Nursing Students Skill. Individual search terms and combination of those terms were applied for

searching through SCOPUS, MEDLINE, and CINAHL databases. Additional studies were extracted from reference lists or Google search engine. Bibliographies of the relevant articles were also searched for additional relevant references.

Studies were included if they met the following inclusion criteria: (i) nursing students must be included in the sample; (ii) the focus must be relevant to the nursing students skill relating to their ability to response emergency cases; (iii) papers should have been published in English language between January 2011 and December 2017.

From the initial search strategy, a total of 1107 articles were retrieved across the databases. We excluded 1083 irrelevant articles after viewing the titles and abstracts. Full texts of 24 articles were assessed for eligibility. Finally, 14 studies were included and classified according to the criteria for inclusion in the review. There were four types of study design in the references (n = 14): (i) randomized controlled trial (n = 1); (ii) quasi-experimental studies (n = 8); (iii) cross-sectional studies (n = 3); (iv) pre-experimental studies (n = 2); and (v) descriptive studies (n = 1).

Published studies were excluded if it was no nursing students included in the sample and it was not written in English.

3 RESULTS

3.1 Characteristics of studies and quality Assessment

Among the 14 included studies, 8 were quasi-experimental study, 3 cross-sectional studies, 2 pre-experimental studies, and 1 descriptive study. The extracted data of included studies is shown in Table 1. A total of 3 studies were conducted in India, 2 studies in USA, 2 studies Brazil, 2 studies in Australia, 1 study in Thailand, 1 study in Saudi Arabia, 1 study in Kenya, 1 study in Cyprus, and 1 study in Korea. All studies had a high risk of bias in blinding of the participants (which cannot be avoided) and personnel. More recent studies had low risk of bias in random sequence generation and blinding of outcome assessment.

3.2 Study Participants and Teaching Methods

The learners within the studies were heterogeneous, including, nursing students, medical students, dental students, interns, postgraduate students, doctors, nursing faculty, and practicing nurses. The teaching activities used were the self-instruction and traditional instruction. The self-instruction included two components. The first component was teaching CPR knowledge by using a CD, videotape, on-line learning or even an interactive computer based program. The second component was hands-on practice. In some studies, hands-on practice was performed while the learners were watching the CD or videotapes (practice-while-watching). In others studies, they started to practice CPR after watching CD or videotapes or finishing interactive programs. The traditional-instruction included face-to-face led course by instructors.

3.3 Outcomes

All included studies used pass rate or individual CPR skill performance as their outcomes, and three methods were used to evaluate the skills: questionnaires, instructors' judgment using checklists and parameters of CPR skills recorded by computers using specific software. Among the 14 included studies, 4 studies were only used questionnaire, 2 studies only used checklist, 2 studies only used the data recorded by computers, 2 studies used combination of questionnaire and checklist, 2 studies used combination of questionnaire and the data recorded by computers, 1 study used combination of checklist and the data recorded by computers, and then only 1 study which used the combination of those three methods.

3.4 The Traditional-Instruction and Self-Instruction

Teaching more potential rescuers about CPR and giving them the ability to perform high-quality CPR through more efficient educational methods may ultimately improve the rates and the quality of CPR skill, and help save more lives.

Among the 14 included studies, most of the studies (8 studies) were used the self-instruction method beside traditional-instruction method in their studies. A total of 6 studies were only used the traditional method. Instructor-led basic life support (BLS) courses as traditional-instruction are delivered to increase the number of individuals who know how to perform CPR thereby increasing rates of bystander CPR but those methods have many disadvantages. To overcome the disadvantages of traditional CPR courses, self-instruction courses were developed.

Table 1: The characteristics, subjects, design, and outcomes of included studies.

Authors, Year, and Country	Study Design	Sample/Subjects	Outcome	Evaluation Methods	Immediate Outcome
Souza et al. (2017) (India)	Quasi-experimental study	n = 14 students (7 medical students, 7 nursing students) from Manipal Academy of Higher Education; n = 20 auto drivers of Manipal	Individual skill performance	Questionnaire and checklist.	The auto drivers participated in the session, gained required skills of providing basic life support. The students who trained the study population opined that they got an opportunity to teach basic life support which would help them build their teaching skills and confidence.
Aroor et al. (2014) (India)	Cross-sectional study	n = 229 students (medical, nursing, and dental college); n = 171 interns; n = 120 postgraduate students	Knowledge and individual skill performance	Questionnaire	The awareness level regarding BLS among medical, dental, and nursing students, interns and residents is below average.
Chandrasekaran et al. (2016) (India)	Cross-sectional study	n = 345 medical students; n = 75 medical interns; n = 19 dental students; n= 59 dental interns; n = 105 homeopathy interns; n = 319 nursing students; n = 72 doctors; n = 29 dentists; n = 25 from nursing faculty; n = 6 homeopathy doctors in India	Knowledge and awareness	Questionnaire	The medical, dental and nursing students and faculty in the study group were severely lacking in the awareness of BLS.
Dal & Sarpkaya (2013) (Cyprus)	Quasi-experimental study	n = 83 third-year nursing student of Faculty of Health Sciences of Near East University in North Cyprus	Individual skill performance	Questionnaire and skills evaluation form	Theoretical information and practiced CPR had a positive impact on nurses' level of CPR knowledge and practical skills in the following month.
Kipsang & Bruce (2011) (Kenya)	Descriptive study	n = 23 nursing students who had received ALS training; n = 48 who had BLS training	Individual competence/ skill performance	Checklist from AHA Guidelines (2005)	The group who had received training in ALS was significantly better in performing CPR than those who had received BLS training.

Montgomery et al. (2012) (USA)	Quasi-experimental study	n = 303 nursing students who had received BLS training with HeartCode BLS Courses with VAMs (152 students monthly practice, 151 no practice); n = 303 nursing students who had received BLS training with ytraditional face-to-face course led by instructors (151 students monthly practiced, 152 no practice)	Individual skill performance	Questionnaire	Students who practiced CPR monthly were more confident than students who did not practice. Monthly practice improved CPR confidence, but initial course type did not. Students were most satisfied when they participated in the IL courses and frequent practice of CPR skills.
Partiprajak & Thongpo (2015) (Thailand)	Pre-experimental study	N = 30 nursing students from Ramathibodi School of Nursing, Mahidol University, Bangkok	Individual skill performance	Basic Life Support Standard Test for Cognitive Knowledge (BLSCK), Basic Life Support Self-Efficacy Questionnaire (BLSSEQ), Resusci® Anne manikin with Laerdal skillmeter	Chest compression performance after training for 3 months was positively retaining compared to the first post-test but was not significant.
Mardegan, Schofield, & Murphy (2014) (Australia)	Quasi-experimental study	n = 187 novice second-year nursing students (96 students received Traditional BLS Training, 91 students received BLS CD Training); n = 107 first year practicing nurse (54 students received Traditional BLS Training, 53 students received BLS CD Training)	Individual skill performance	Nurses - Basic Life Support Assessment Form	No statistically significant differences were found between the CD and traditional instructor-led BLS training methods in BLS skills of Novice and Practising Nurses at one week and eight weeks posttraining. However, there was a decrement in skill between one week and eight weeks post-training acrossboth groups and an overall low level of competence.

Allan et al. (2013) (USA)	Randomized Control Trial (RCT) study	n = 148 nursing students from the collaborative Nursing Program at George Brown College, Centennial College, and Ryerson University; n = 150 medical students from University of Toronto	Individual skill performance	RescueNet Code Review Software (v.4.10, Zoll Medical Corporation, Chelmsford,MA, USA)	A simplified 2 h training method using audiovisual feedback combined with quantitative review of CPR performance improved CPR quality and retention of the skills.
Roh, Lim, & Issenberg (2014) (Korea)	Quasi-experimental study	n = 124 nursing students in the second semester of 2011; n = 143 nursing students in the first semester of 2012	Individual skill performance	Multiple-choice questionnaires, Resusci Anne Skill Reporter™, Resuscitation Self-Efficacy Scale	Simulation-based resuscitation skills training linked with aclinical practicum improved nursing students' knowledge,self-efficacy, and CPR psychomotor skills through learner engagement and feedback.
Alsayil, Alzahran, & Alhawiti (2016) (Saudi Arabia)	Cross-sectional study	n = 102 medical students; n = 39 nursing students	Individual awareness and skill performance	Questionnaire	Awareness of Basic Life Support (BLS) among medical and nursing students in Tabuk University is insufficient and needs to be improved
Johnson et al. (2016) (Australia)	Pre-experimental study	n = 250 participants (qualified nursing staff, nursing students, and medical students	Individual skill performance	Simpad Skillreporter™ software	The low dose training using an automatic training device that provided immediate feedback following a simulation resuscitation exercise improved resultant practical application of CPR skills in the simulation setting amongst nursing and medicine staff and also nursing students.
Tobase et al. (2017) (Brazil)	Quasi-experimental study	n = 62 of first- to fourth-year nursing student in University of Sao Paulo	Individual skill performance	Questionnaire, Checklist based on the BLS evaluation tool and the professional experience of the researcher, Resusci Anne QCPR® SkillReporter®, SimPad®, SkillGuide®.	The BLS online course enabled access to knowledge, acting as a knowledge space and an environment for reflection on emergency actions, stimulating clinical reasoning and decision-making.

Tobase et al. (2017) (Brazil)	Quasi-experimental study	n = 94 nursing students in University of Sao Paulo	Individual skill performance	Checklist simulation, feedback devices	The online course was an effective method for teaching and learning key BLS skills wherein students were able to accurately apply BLS procedures during the CPR simulation.

Such self-instruction courses usually include a short video, or a game program on a website and a manikin with or without automated feedback for learners to perform hands-on practice. The self-instruction courses did not require instructors and some could allow learners to learn CPR at home. Such teaching methods have the potential to improve training capacity and theoretically enable mass training.

4 DISCUSSION

Out of hospital deaths due to cardiac arrest would commonly occur because of the lack of awareness about the quick and right action to be taken during such situations (Souza, et al 2017). Nurses are generally the first healthcare professionals who realize that a patient is in cardiac arrest in a hospital, they must have an adequate knowledge and skill of BLS. The aim of this study was to determine the knowledge, awareness, and skill related to BLS in nursing student.

This systematic review found heterogeneous results in the included studies that preclude a firm conclusion on which was superior between self-instruction and traditional instruction in the learning effect on the learners in BLS courses. Nevertheless, the most frequent conclusion in the included studies were the knowledge and awareness level regarding BLS skill among nursing student still on below average and need to be improved. Based on Farah et al (2007) and Morgan & Westmoreland (2002) studies, healthcare professionals and students need to have hands-on practice regularly in order to retain the skills. It is important that every individual in the community be aware of BLS to save lives as well as improve the quality of community health. The future doctor and also nurses are expected to be well aware of it, as they will frequently face life threatening situations, and the awareness and knowledge of BLS will be useful to them to improve the quality life of the patients (Alsayil, Alzahran, & Alhawiti 2016).

Another most frequent conclusion in the included study were the learning effects of the two methods (self-instruction and traditional instruction) were similar, although there were many differences in the learners, interventions of self-instruction and traditional-instruction, the skill assessment tools used and time of assessment amongst studies. Instructor-led basic life support (BLS) courses as traditional-instruction are delivered to increase the number of individuals who know how to perform CPR thereby increasing rates of bystander CPR but those methods have many disadvantages. To overcome the disadvantages of traditional CPR courses, self-instruction courses were developed. Such self-instruction courses usually include a short video, or a game program on a website and a manikin with or without automated feedback for learners to perform hands-on practice. The self-instruction courses did not require instructors and some could allow learners to learn CPR at home. Such teaching methods have the potential to improve training capacity and theoretically enable mass training (Hsieh, et al 2016).

In addition, the course duration of nursing student who were used the self-instruction generally shorter than or equal to that of traditional instructor led group. Furthermore, the automated device provides immediate feedback for the students and it allows students to receive feedback upon each attempt without the presence of instructor, thus supporting an improvement and maintenance in competency and improved confidence and willingness to undertake CPR (Greif. at al 2015).

The nurses' knowledge may have lapsed after a specific period. Ensuring the sustainability of this knowledge is important for correct and reliable CPR skills. Previous studies have emphasized that CPR knowledge and skills reduce over time when they are not repeated and that the level of knowledge and skills of nurses who practice constantly is better than those who do not. Celik (2008) on his study mentioned that the necessity of a review of CPR knowledge and skills every six to 12 months was emphasized and there was a significant decrease in the knowledge preservation level 10 weeks after the resuscitation course.

5 CONCLUSIONS

Practice Basic Life Support (BLS) is indispensable to increase the knowledge and ability of the students. Therefore, it is expected that the health education agencies conduct routine Basic Life Support (BLS) Training. Further study is needed to understand which one is more effective to use between traditional-instruction and self-instruction in improving skill of nursing student to practice BLS.

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The effectiveness of yoga on blood glucose and anxiety reduction in T2DM clients: A Systematic Review

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Keywords: Diabetes mellitus tipe 2 (T2DM), Yoga, blood glucose, anxiety

Abstract: Diabetes Mellitus occurs globally. According to WHO, in 2016 it was predicted that 422 million adults suffered from Diabetes Mellitus and the number increased very fast. IDF publication in 2013 revealed that 381 million people suffered from diabetes and the number is expected to double by 2030. This could strike the health and economic sectors. Yoga interventions as a promising alternative to T2DM workshop, This systematic review is to study yoga on decreased blood glucose levels and anxiety. We conducted a standard search on relevant databases for the effectiveness of yoga interventions to decrease blood glucose and anxiety levels. The results of this systematic review indicate that yoga is proven to lower blood sugar and anxiety levels. Yoga is one of society's choice besides economical also can be done anywhere and yoga practice that should be accompanied by a trained yoga instructor. Data extraction in standard tools, done on a regular basis. The initial search was 525 potentially relevant quotes. After filtering out titles and abstracts, 30 full-text articles are further assessed, 15 retained for review. The effect size associated with yoga interventions will be selected later. The Review of these conditions will provide knowledge of the effectiveness of yoga on sugar and anxiety levels in T2DM.

1 BACKGROUND

Diabetes Mellitus occurs globally. According to WHO, in 2016 it was predicted that 422 million adults suffered from Diabetes Mellitus and the number increased very fast. IDF publication in 2013 revealed that 381 million people suffered from diabetes and the number is expected to double by 2030.

According to the results of Basic Health Research (Riskesdas) in 2007 and 2013, there was a tendency to increase the prevalence of PTM such as diabetes, stroke hypertension, and joint / rheumatic / gout disease. This phenomenon is predicted to continue. (Indonesian Ministry of Health, 2016). Diabetes Mellitus (DM) is a group of chronic metabolic disorders (hyperglycaemia) due to relative insulin deficiency (Murray & Pizzorno, 2012). Impaired glucose metabolism suffered. Diabetes Mellitus type 2 (T2DM) is a global health problem with a prevalence of 366 million in 2011 and projected at 51%, reaching 552 million by 2030 (Kerr et al., 2002). DM type 2 is more common in older adults and older adults. (Guariguata et al., 2014).

Increased cases of diabetes greatly affect the health care and economic sectors. Genetic predisposition, environmental factors such as physical inactivity, caloric intake, and excessive obesity, low birth weight play an important role in the evolution of diabetes (Mayige, Kagaruki, Ramaiya, & Swai, 2011). The other factors are laziness to exercise, unhealthy duit or fast-food consumption, smoking, and stress. But diabetes type 2 can be prevented by modifying lifestyles such as regular exercise and a healthy diet (routine consumption of vegetables and fruit). (Mascitelli & Goldstein, 2011).

Diabetics are associated with drug dependence so that the risk of drug resistance and side effects may cause some complications to occur. So in recent years several strong searches for non-medical action have been done not only to manage T2DM, but also to prevent complications (International Diabetes Federation (IDF), 2015). All potentially modifiable factors that can increase the risk of developing complications can be prevented. One of them is by doing physical activity with Yoga.

Anxiety is the main source of adult disability worldwide (Shyn Hamilton, 2010; Whiteford et al.,

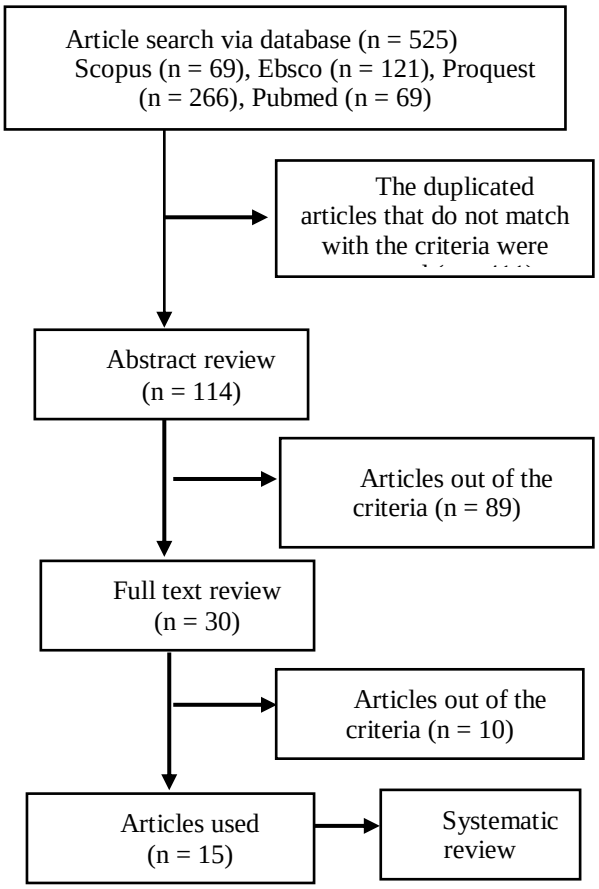
2013). World Health Organization (WHO) states that about 350 million people are estimated to suffer from anxiety and depression. (Pascoe & Bauer, 2015).

Many people choose yoga because it is economical and can be done everywhere. Yoga is significant to pathogenesis and the development of insulin resistance and glucose intolerance, (Innes & Vincent, 2007b). Therefore, a yoga-based lifestyle program is highly efficacious in modifying Ll-6, vitamin D and other diabetes risk factors including waist / hip ratio, fasting blood glucose (FBG) and insulin resistance. Yoga can also lower HbA1c levels (Panesar & Valachova, 2011). This systematic review will analyse the article about the effectiveness of yoga on the reduction of blood sugar and anxiety in T2DM patients.

2 METHODS

The method used in writing this article is *systematic review*, beginning with the selection of topics, then determining *the keywords* in English through the the database of *Scopus, Ebsco, and Pubmed*. The keywords used in searching articles are *Yogac, Blood Glucose, Anxiety*, and *T2DM*. 525 articles were found on search engines. There were articles published from 2012 up to 2017. But the search was narrowed again from 2014 to 2018. A total of 15 articles considered relevant were assessed using PICOT method. The inclusive criterion in this *systematic review* was the age of the respondents among 30-75 years who had been diagnosed to suffer from T2DM.

The literature search was conducted in several major databases such as *Scopus, Proquest, Ebsco* and *Pubmed* with relevant keywords by including diabetes, mellitus, and yoga as keywords. Types and years of study, research design, sample size, sample characteristics, interventions as well as results were presented.



2.1 The characteristics of the participants

The inclusive criteria that the author sets out are: 1) RCT and quasi experimental research design; 2) 5-year-ago maximum study time length(2012); 3) Female subjects for 1-10 years who have been diagnosed with diabetes type 2(aged 30 to 75 years) 4) Interventions given in the form of yoga, asanas and Buddhist paths for 12 to 24 weeks; 5) The parameter of the study result is the decrease of blood sugar and anxiety on T2DM Client.

3 RESULTS

In this systematic review there were 15 articles that had been reviewed. The entire journal came from International journal articles consisting of the. database of Scopus, Ebsco, and Pubmed. The design used was 6 journal articles using Randomized Control Trial, 2 Randomized Crossover Trial, 1 Randomized Trial, 1 Study Observation, 1 Intervention study, 3 Quasy Experimental, and 1 Comparative Intervention Study.

The total number of respondents was 2,676. The research was conducted in various countries namely India, United States, China and Thailand. Yoga was given to the respondents with a range of 12 to 24 weeks with duration in each implementation of at least 10-60 minutes for two times a week. The overall study showed that the blood sugar decreased significantly with yoga intervention in T2DM (Metzger et al., 2007).

From the study done by Sreedevi et.al (2017), Keerthi et. al (2017), and P. Nagasukeerthi, et. al

(2017, V.), it was found that Yoga could decrease blood sugar in T2DM Clients, Venogopal et al., 2017, Herpreet Thind et al., 2017, Cui et al., 2017, Bindra Mooventhan et al., 2016, Manikappa S et al., 2016, Maninder et.al, 2016, Suksom, et.al 2016, S. Youngwanichsetha et.al, 2014, Cramer H, Krucoff C, Dobos G et. al, 2013, Cramer H. Krucrf C, et.al, 2013, Kyizom et.al, 2010 and Singh Savita et.al, 2010.

The results of this study proved that yoga could reduce stress level that is one of the triggers of increased blood sugar in diabetics. Yoga is one choice of many people as it is affordable and can be done everywhere. Yoga is significant to pathogenesis and the development of insulin resistance and glucose intolerance, (Innes & Vincent, 2007a). Therefore a yoga-based lifestyle program is highly efficacious in modifying Ll-6, vitamin D and other diabetes risk factors including waist / hip ratio, fasting glucose (FBG) and insulin resistance (Guisasola et al., 2008)

Interventions showed significant increases in QoL scale with p <0.01 in Group II and Group IV; p <0.001 in Groups III and Group V respectively. There was a significant decline in IDRS in Group II (p <0.05); p <0.001 in Groups III, Group IV and Group V respectively. Significant differences (p <0.001) in QoL and IDRS scales were found when the study group with standard treatment and yoga therapy was compared with standard treatment alone (Ali et al., 2016). It can be concluded that, yoga therapy along with standard 12-week treatment improved QoL and reduced the risk of diabetes among Indian pre-diabetics and diabetics compared to standard treatment alone. (Barakat, Cordero, Coteron, Luaces, & Montejo, 2012).

This study shows that Pramayana Yoga and Yoga Asanas can be utilized to develop physical activity in the hospital system (Gao et al., 2016). Therefore, it can provide support for increased comfort to clients and visitors during the crisis (Miller and Spence, 2013).

The balance exercises found in asana yoga further train the motor nervous system and stimulate the work of the autonomic nervous system that is beneficial for patients with DM type 2 (Ross et al., 2010).

Breathing in yoga (pranayama) and concentration of mind and relaxation (dhrana) were found to increase epinephrine-stimulating stimulation (Golden, 2007). This condition indirectly can prevent the increase of KGD through epinephrine stimulation. Furthermore, the relaxation is potential to provide physical and psychological comfort in patients with DM which ultimately is expected to increase the motivation of patients to exercise regularly and sustainably.

Anxiety leads to derangement in physical and mental health. Anxiety levels are more in full time housewives than working women. There is a need for simple, easy treatment for anxiety to alleviate the burden on health caused by anxiety. Yoga is among the top ten complementary and alternative medicine therapies.

Before yoga training, percentage distributions of subjects with mild, moderate and severe anxiety were 6%, 18% and 76% respectively. At the end of four week yoga training, percentage distributions of subjects with mild, moderate and severe anxiety were 44,23%, 19,23% and 36,53% respectively. There was highly significant (p=0.000) difference in the mean values of total score before (33,71±4.90) and after (26.93±4.53) yoga.(Mullur et al. 2014)

Methods such as convencional antidepresand medications are not beneficial for all individuals. There is evidence that yoga has mood-enhancing properties possibly related to its inhibitory effects on physiological stress and inflammation, which are frequently associated with affective disor-ders. However the biological mechanisms via which yoga exerts its therapeutic mood-modulating effects are largely unknown. (Pascoe and Bauer 2015)

Although no difference in the BP or HR responses to stress were found between conditions, systolic BP (p=0.047) and diastolic BP (p=0.018) recovery from stress were significantly accelerated and salivary cor-tisol reactivity was significantly lower (p=0.01) in the yoga condition. A yoga session also increased self-confidence (p=0.006) in preparation for the task and after completion. (Benvenutti et al. 2017)

Stress was measured by anxiety score as an indicator of stress, also visual reaction time as an indicator of cognitive function and finger dexterity score as an indicator of motor skills were measured before and after yoga training. Statistical analysis was done by paired "T" test. It was found that statistically significant improvement in cardiorespiratory parameters, anxiety score, visual reaction time and finger dexterity score (p<0,05) after yogic training. (Kurwale and Gadkari 2014)

Prior to intervention, there was no significant difference in fatigue severity and pain between the two groups but the mean fatigue severity and pain in case group decreased compared to the control group after the intervention. Prior to intervention, there was no significant difference in mean physiological indexes between the two groups but the mean

physiological indices in case group decreased significantly after the intervention ($p<0,05$). (Hasanpour-Dehkordi 2016)

Participant's heart rate, blood pressure, mood, and anxiety level were assessed, both immediately after the yoga manipulation and after the mild stressor. The 20-min yoga manipulation did not differentially affect any of the measures, including participants' stress response after the mild stressor. (Wheeler, Santoro, and Bembenek 2017)

Thirty participants were recruited, with 28 completing the protocol (mage=63,5 years). For most variables, there was significant change in results after the waiting period. Comparing measurements obtained immediately prior to the commencement of the intervention in those taken after completion of eight yoga sessions, significant changes included an increase in the serum dehydroepiandrosterone concentration, decreased total PCL score (and all PCL sub-scales), decreases from all DASS sub-scale scores and significant improvements in PSQI and SF36 scores. No adverse events were reported.

4 DISCUSSION

In general, all the journal articles that have been reviewed have shown that yoga is very effective for discharging glucose and anxiety in people with T2DM. This systematic review includes fifteen cases of yoga. Most side effects affect the musculoskeletal, nervous and visual systems. More than half of the clinical cases resulted in recovery. One case was not recovered and another case died. The most common yoga by far is headstand, especially pranayama and asana.

The incidence rate of adverse events associated with yoga is musculoskeletal injuries; they are sprains and tension (Ross, Friedmann, Bevans, & Thomas, 2013). Half of them reported full recovery while the other half reported partial recovery, physically synchronized breathing posture.

In accordance with this systematic review, postures often associated with injury are heandstand poses, standing shoulders and lotus poses (Penman, Stevens, Cohen, & Jackson, 2012). A survey in Indonesia shows that more than 1,300 yoga teachers in North America found that respondents assumed that common the location of the wound were on the spine, shoulders, or joints (Biswas & Dalal, 2003). To avoid undesirable incidents, it is recommended that practitioners not use alcohol, or drugs during exercise and be accompanied by a coach (Dacci et al., 2013).

Side effects can occur due to excessive movements, inadequate trainers, and medics who do not know the preconditions (Fishman, Saltonstall, & Genis, 2009). However, many experts believe that yoga is generally safe to be applied as an intervention to lower blood sugar and anxiety in T2DM patients.

The application of a very important yoga intervention carried out by nurses because patients effectively doing yoga regularly can lower blood glucose and T2DM patient anxiety. Easy to learn yoga or understood and can be doing by people that are sick, elderly or disabled. Yoga is also a therapy that is safe, simple and economical, this therapy is very important to consider as an effective intervention in diabetes patients. Yoga can also lower stress, by doing yoga can modulate the activity of the limbic system, via the hypothalamus so it can modulate the activity of the sympathetic and regulate the endocrine secretion involved under stress.

Regular yoga practice can reduce the response to excessive sympathetic nervous system and the parasympathetic nervous system repaired which enable response to relaxation. Consistent exercise can improve sisrculasition endocrine glands and improves the function of hormones that play a major role in the physiology of depression. This causes a decrease in depression and improve your overall mood.

A variety of studies on yoga have shown to produce a better glycemic control on patient with T2DM, this can be regarded as a method of intervention that are useful in reducing microvascular complications. Based on a systematic review, current yoga can be considered as extra intervention in the management of diabetes. However, maintaining yoga practice from time to time is a challenge. (Mooventhan 2017).

In research (2014 Mullur et al.) reported a significant increase in alpha waves (relaxation) and waves to theta (unconscious memory, dreams, and emotions) after doing yoga exercise 2 hours. This shows that the brain is very relaxed after doing yoga in which diabetic patients have a better awareness of nature bring conscious and their emotions.

5 CONCLUSIONS

The effect of lowering blood sugar from yoga in everyday life varies depending on the whereabouts of others. However, if done irregularly and not

accompanied by a mentor, it can have a negative impact on the patient's health. The results of this systematic review show that yoga can help the client to control blood sugar and anxiety, accelerate blood circulation, and train muscles so as to reduce the occurrence of injuries and disabilities in T2DM clients.

Based on the results of systematic review of research journal, it can be concluded that yoga can lower blood sugar levels and anxiety on the T2DM client . Yoga-based lifestyle (pranayamas and yoga-asanas) is very powerful in lowering fasting blood glucose (FBG) and insulin resistance (Nagarathna et al., 2012). In Hb1c, FBS and PPBS decreases; insulin sensitivity in the tissues increases; and it can reduce resistance so as to significantly increase the utilization of peripheral glucose (Kumar et al., 2016).

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5	Mooventhan et.al. 2016	RCT	N = 90	not explained in detail	Yoga	Cheap yoga, reduced complications and also for prevention	Yoga-based lifestyle is very powerful lowering fasting blood glucose (FBG) and insulin resistance. (p <0.05)
6	Manikappa S. Et.al., 2016	Quasi Eksperimental	N = 60	Group 1 = n =30 Group 2 kontrol (non diabetes) = n=30	Yoga	Economical yoga and reduced care effectiveness and make a useful adjuvant	FBS and PPBS decreases, can increase insulin sensitivity in the tissues and can reduce resistance so as to increase the utilization of peripheral glucose significantly (p <0.001)
7	Bindra maninder (2016)	Quasi Eksperimental	N = 100	group 1 = n = 50 (conventional medicine) group 2 n = 50: yoga + conventional medicine	Yoga pranayamas and yoga-asanas	Yoga can be beneficial in diabetics	Yoga pranayamas and yoga-asanas
8	S. Youngwanichsetha (2014)	RCT	N = 170	Yoga and millfulnes	yoga and millfulnes 5 X / week for 8 weeks	The benefits of yoga on blood sugar	The intervention group showed a significantly decreased fasting plasma glucose significantly in 2 hours postprandial blood and HbA1c (p b 0.05)
9	(Hasanpour-dehkordi, Jivad and Solati, 2016)	Randomized Trial	- 60 Patients diagnosed with Multiple Sclerosis (MS) - Patients agree to participate in this study - Have the ability to talk and move, - Able to perform daily activities.	Yoga hatha	No intervention	To study the effect of yoga on the physiological index, anxiety and social function of MS patients in the southwest, Iran.	Before the intervention, there was no significant difference in the mean physiological index between the two groups but the mean physiological index in the case group decreased significantly after the intervention (p <0.05)
10	(Mullur et al., 2014)	Study of comparative intervention	- 50 housewives - Age 20-50 years	Yoga	No control group	To know the level of anxiety in housewife housewife who seems healthy and study the effects of Yoga on the level of anxiety	There was a very significant difference (p = 0,000) in the mean score of the total score before (33.71 ± 4.90) and after (26.93 ± 4.53) yoga. These results suggest that there is a decrease in the severity of anxiety from severe to moderate and mild toxicities indicating anxiety during yoga.

11	(Kurwale and Gadkari, 2014)		- 50 Female volunteers - Age 30-40 years - Have complaints such as headache, loss of appetite, restful sleep, early morning insomnia, unclear muscle pain, premature fatigue, concentration, short temperament, Yoga irritation No control group To assess the effect of yoga practice and meditation on working women. It was found that the increase in cardiorespiratory parameters was statistically significant, anxiety score, visual reaction time and finger agility score (P <0.05) after yoga training.	Yoga	No control group	To assess the effect of yoga practice and meditation on working women.	It was found that the increase in cardiorespiratory parameters was statistically significant, anxiety score, visual reaction time and finger agility score (P <0.05) after yoga training.
12	(Benvenutti et al., 2017)	Randomized - crossover trial	24 healthy adults	Hatha yoga (yoga and control)	No control group	The acute effects of the hatha yoga session, shown on video, response and recovery from acute psychological triggers.	There was no difference in BP or HR response to stress found between conditions, BP systolic BP (p = 0.047) and BP diastolic (p = 0.018) of stress significantly accelerated and significantly lower salivary corrosive reactivity (p = 0, 01) under yoga conditions. Yoga sessions also increase self-confidence (p = 0.006) in task preparation and after completion.
13	(Mccarthy et al., 2017)	Studi observasional	30 people	Yoga Hatha	No control group	The effect of yoga as an adjunctive strategy for the management of PTSD	Observational studies 30 people Yoga Hatha No control group After the end of the waiting period of eight weeks, there was a significant decrease in the score of the PCL subgroup for avoidance (p = 0.03) and recurrence (p <0.001), and also for the total PCL score (p = 0.01). There was also a decrease in the scale score of DASS scale (p <0.001) and average serum DHEA concentration (p = 0.015), and a small but significant increase in heart rate (p = 0.042) PSQI score (p = 0.025).

14	(Maddux, Daukantaité and Tellhed, 2018)	Intervention Study	90 people	Yoga practice, 1 hour, twice a week for 16 consecutive weeks.	No yoga for 8 weeks, then practice yoga, 1 hour, twice a week for 8 weeks in a row.	The study examined the effects of gym yoga 8 and 16 weeks on stress and psychological health.	Significant reduction in stress and all psychological health Actions were found in the Yoga group for 16 weeks. In comparison with the control group, yoga practitioners showed significant decreased stress, anxiety, and general psychological health, and a significant increase in well-being. Groups that do not practice yoga show significant decrease in stress, anxiety, depression, and insomnia. After they cross over and practice yoga for 8 weeks.
15	(Wheeler, Santoro and Bembenek, 2017	Quasi eksperimen	- 117 people - The average age is 19.5 years	Posture, breathing, meditation, and control conditions of yoga lectures	No control group	Effectiveness of short yoga sessions using trained yoga teachers. Four independent sessions include: posture, breathing, meditation, and control conditions of yoga lectures	The results show the main effect of the study phase, F (1.57, 163.80) = 76.05, p \ .001, g2 = .42, strength = 1.00. The repetitive steps of the post hoc tests indicated that participants reported that they were less anxious at Stage 2 compared to Stage 1 and were significantly more anxious at Stage 3 compared with Stage 2 and Stage 1 (t ranged from 4.86 to 10.42, all p \ .001). No other significant results.

Methods of Preventing Sexually Transmitted Disease (STD): a Systematic Review

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Abstract: Sexually Transmitted Diseases (STDs) is also called venereal, which usually occurs because of frequent intercourse with multiple sexual partners, and sexual intercourse that has been infected by STDs (Ajen Dianawati, 2013).Review of this study to look for prevention methods of STDs. Keywords used: sexually transmitted diseases, sexually transmitted disease prevention methods, sexual behavior, condoms. The search of journal articles is done electronically using several databases: Proquest, Medline, Google Scholar, Science Direct and ebsco. The year limit used is 10 years (year 2009 -2016). Literature search results obtained 15 selected journal articles from 987 journal articles found. There are 15 studies raised in this study. Some have control groups and there are some effects of lack of education on sexually transmitted diseases in sexual intercourse so that some study groups can be compared. Nine out of fifteen randomly control trial (RCT). The combined findings of this study provide support for the prevention of STDs, including providing counseling about reproductive health of contraceptives / condoms, Clinics running for STDs prevention programs for female sex workers. In improving further research, it is necessary to determine the optimal intensity of reproductive examination or provide reproductive health education.

1 BACKGROUND

Reproductive Health is a wholly physical, mental, and social health, and it is not solely free of disease or disability related to reproductive systems, functions, and processes. The scope of reproductive health services according to the 1994 International Conference Population and Development (ICPD) in Cairo includes the handling and prevention of sexually transmitted infections including HIV / AIDS, reproductive health, prevention and management of complications of abortion, prevention and treatment of infertility, reproductive health of elderly, early detection of reproductive tract cancers and other reproductive health such as sexual violence, female circumcision and so on (MOH RI, 2015).

Sexually Transmitted Disease (STD) is also called venereal which is from the word of venus, the goddess of love from ancient roman. Transmission of this disease usually occurs because of the person making contact with multiple partners frequently. It can be also because of sexual intercourse that had previously been contracted by one of the STD diseases. (Ajen Dianawati, 2013).

Sexually Transmitted Diseases (STD) or venereal diseases have long been recognized and some of them are very popular in Indonesia such as syphilis and gonorrhea. Consecuently, the more modern civilization and science are, the more new diseases are found, and the term of venereal diseases is transformed into sexually transmitted disease (STD) or sexually transmitted infection (STI). (Somelus, 2009).

Cause of STD Transmission is One of the consequences of unhealthy sexual activity is the emergence of sexually transmitted diseases. Transmission of this disease usually occurs because of the frequency of someone having sex with multiple partners. It could also be due to sexual intercourse with people who have previously been exposed to this disease. (Ajen Dianawati, 2013). According to Aria Pranata (2010), the high risk group of STD is (1) Age (20 - 34 years in men, 16-24 years in women, 20-24 years in both sexes), (2) tourist, (3) Commercial sex worker or prostitute, (4) Narcotic addict, (5) Homosexual.

Types of STD are (1) Sexually Transmitted Diseases Caused By Organisms and Bacteria such as HIV, Gonorrhea, Syphilis, Vaginitis, Chlamydia,

Candidiasis, Chancroid, and Granula inguinale, (2) Sexually Transmitted Diseases Caused By Virus such as Herpes, Viral Hepatitis and Lymphogranuloma venereum and (3) Sexually Transmitted Diseases Caused by Parasites such as Trichomoniasis, Pediculosis.

2 METHODS

Literature searches are performed in major database such as PROQUEST, SCIENCEDIRECT, SAGEPUB, MEDLINE, EBSCO and GOOGLE SCHOLAR by entering keywords: sexually transmitted diseases, culture. sexually transmitted disease prevention methods, sexual behavior, age, condoms, The year limit used is 10 years (year 2009 -2017) in the period of 4 months used for the completion of the task.

From the literature search results, it was obtained 15 selected journal articles from 987 journal articles found. There are 15 studies raised in this study and some have control groups. There are some influences of lack of education about sexually transmitted diseases in sexual intercourse so that some research groups can compare nine of the fifteen trials selected by using Randomized Trial control (RCT). The combined findings of this study provide support for the prevention of sexually transmitted diseases. In improving further research, it is necessary to determine the optimal intensity of reproductive examination or to provide reproductive health education.

3 RESULTS

Potter et al., 2016) has evaluated evidence of effectiveness of sexually transmitted infection prevention programs in junior high schools implemented by school staff in South Carolina. From 24 schools, representing 3,143 students and participating in random research were from early 2011 to 2014. Research result is that there is no statistically significant effect on vaginal sex initiation among baseline in the grade 2 of junior high school. However, the intervention in the comparison conditions was obtained report of the last 3 months that students start sex after moving to the grade 3 of junior high. Seven of the 26 psychosocial effects include 3 knowledge, 1 attitude, 1 self-efficacy and 2 personal limits.

In the research of Marion, Finnegan, Campbell, and Szalacha in 2009, There was a significant relationship in the women's screening program to detect STI. In the research of Abe, Barker, Chan, & Eucogco, in 2016, researchers found significant impacts in knowledge, which focused on a basic understanding of STI prevention. The average percentage of the correct answers was 73.6 for the treatment group and 60.4 for the control group (P <0.001). The investigators found there is no statistically significant effect on behavior outcomes (initiation of sexual activity or involvement in high-risk sexual behavior).

Based on the research of Senn, Valliere, Berdoz, & Genton in 2011, there were 5,148 eligible tourists seen from 2006 to 2008. 1681 agreed to participate and 1115 (66%) conducted subject studies. Overall, 184(17%) of 1115 respondents did casual sexual intercourse abroad and 46 (4.1%) of 1115 respondents did not have sexual intercourse. women tourists with past history did more often sex without protection/ contraceptive. Regarding the effect of intervention in this study, the consistent prevalence of using condom contraceptive education was 28% motivation group, 24% in condom use group and 24% and control groups (p = 0.7). Clinical Program had a significant impact in STI prevention.

In the study (College & Nadu, 2016) of 150 sexually transmitted disease prevalence participants, 77.8% of those completing school had a good awareness of STI prevention and 22.2% fell into PMS. Statistical analysis has shown that formal education for high school level had P significant = 0.0068 (P <0.05)

(Kershaw et al., 2010) There were 295 parents and teenage pregnancy who got STD incident during the 18-month period. The resultsof this study indicate that combining components that strengthen relationship skills in prevention programs can help reduce the risk of HIV / STD and emotional and behavioral problems of women and children. Certainly, male partners should be included in the prevention process. Given the importance of relationships in mothers, children, and reproductive health outcomes, both members of the relationship, it needs to be included in order to achieve long-lasting health.

On the result of the study (Wilson et al., 2009), Partner notification programs using condom contraception in having sex may help to reduce the risk of STI further.

Research (Town & Africa, 2011) of HIV prevention assigned to STI clinic patients has the potential to reduce HIV infection. Counseling should be improved for STI disease prevention techniques. Socializing effectively, concisely, and properly done interventions by changing their behavior at highest risk of HIV infection should remain a public health priority.

In the research results (Lau, Li, Choi, & Gu, 2014), The theory-based intervention is potentially efficacious, but relatively short in following-up periods. The randomized scale of clinical trials and subsequent translational studies are indispensable in the future.

In the study (Brown et al., 2012), it has a significant value for the prevention of STI with the level of knowledge and norms of adolescents.

The results of the study (García et al., 2012) show that interventions conducted by laboratory checking later to control sexually transmitted infections (STI) are very significant.

From the study (Gottlieb et al., 2014) there were 499 million sexually transmitted infections (STI; gonorrhea, chlamydia, syphilis and trichomoniasis) that occurred globally in 2008. In addition, more than 500 million people have STI viruses. Strategies of STI control are primary prevention and STI case management. STI prevention effort is new vaccine requirements for future prevention efforts.

Research result (Diclemente et al., 2014) which uses interview method by telephone shows visit at clinic by checking laboratory and medicinal treatment informs significant value to reduce STD risk further.

From the results of research Susanto et al, 2012, research design uses quasi experiment with randomized control group design with pretest and postest design. Research sample of 45 respondents of treatment and control group is taken by cluster sampling. The result of mann whitney test with alpha 0,05 concluded that there is influence of giving of program of corner of adolescent to fulfill requirement of adolescent's reproductive health (p 0,022). Based on the results of the study, it is suggested to improve the development of youth health services in schools that are integrated with the UKS program.

From the research (Karundeng, 2013) 56 people with Purposive sampling technique show that health education give a significant influence on the level of knowledge and attitude of adolescent neighbors of sexually transmitted disease in SMK Fajar Bolaang Mongondow Timur.

3.1 Summary of Discovery

From several articles conducted by the review there have been some positive effects from methods of preventing sexually transmitted, such as Initiation of formal education on sex education at the school level which can improve current status and lead to better prevention of STD in research (College & Nadu, 2016). There is a significant association in the women's screening program for detecting STI (Marion, Finnegan, Campbell, & Szalacha, 2009), Clinical travelling Programs strongly have a significant impact on STI prevention (Senn, Valliere, Berdoz, & Genton, 2011)

3.2 Recommendations For Further Research

From some studies, adolescents between the ages of 18-20 have beent detected in sexually transmitted diseases (STD), the core question in the next study is how methods to prevent sexual disease transmission focusing on adolescents. Health workers act as planners, drivers and implementers of health development, so that without the availability of personnel in appropriate numbers and types, it will affect the development of health services. Therefore, the Government has an obligation to organize and manage the efforts of health services that can be reached by the community. People from all walks of life have equal rights and opportunities to get health care.

Surely, the health apparatus (doctors, nurses, other health workers) can not work alone for the problem of STD. It should socialize STD involving educators, students, and other educational institutions in a chain.

3.3 Applications In Nursing Practice

Sexually transmitted diseases are still an Indonesian public health problem. Sexually transmitted diseases do not recognize administrative boundaries, so eradication of communicable diseases requires cooperation among regions, for example between provinces, districts and even countries. Some of the infectious diseases that are the main problem in Indonesia are HIV / AIDS.

Sureveilans Epidemiology is a systematic and continuous analysis of disease or health problems and conditions that affect the occurrence of the increase and transmission of disease or health problems, in order to perform effective and efficient countermeasures through the process of data collection, processing and dissemination of epidemiological information to health program providers, promotion of health / reproductive health education and condom use to commercial sex workers (CSWs).

4 CONCLUSIONS

Transmission of Sexually Transmitted Diseases usually occurs because of the frequent person's relationship with multiple partners. It can be also because of sexual intercourse that had previously

contracted one of the STD disease. (Ajen Dianawati, 2013)

From 15 studies raised in this study, some have control groups and there are some effects of lack of education on sexually transmitted diseases in sexual intercourse so that some research groups can be compared for research in the prevention of sexually transmitted diseases. Programs that can be used in Further research are giving counseling about reproductive health of contraception / condom, travelling Clinic for prevention program of STD for woman in prostitution.

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No	Sitation / Title	Country	Types of Research	P	I	K	O	T
1	(Potter et al., 2016) It's Your Game. . .Keep It Real in South Carolina: A Group Randomized Trial Evaluating the Replication of an Evidence- Based Adolescent Pregnancy and Sexually Transmitted Infection Prevention Program	Columbia.	RCT	24 schools, with a total population was 3,143 students andn they participated in a random system	Compare the impact of IYG in rural South Carolina at Grade 3 and Grade 2 junior high levels. See the initiation levels of having sex with STD cases	It's Your Game Follow_Up, Questionnaires	Seven of the 26 psychosocial outcomes (3 knowledge, 1 attitude, 1 self-ability, 2 personal limits) were positively affected in the eighth grade; 4 remain meaningful in the ninth grade.	There was no statistically significant effect on vaginal sex initiation among baselines in grade 2 junior high. However, the intervention in the condition of comparison informed report last 3 months that students start sex after moving in grade 3 junior high
2	(Marion, Finnegan, Campbell, & Szalacha, 2009) The Well Woman Program: A Community-Based Randomized Trial to Prevent Sexually Transmitted Infections in Low-Income African American Women	Chicago (Amerika Serikat)	RCT	By controlling, the controlled population selection with age 20-27 years and doing the health checkup of women in the clinic	Women's examination program, researchers compared the effectiveness of WWP in the prevention of sexually transmitted infections (STIs).	Counseling and examination	That there were about 75% of American woman as participants tested was positive for STIs, especially for trichomoniasis. In 15 months, the estimated probability of WWP participants having STI was less than 20% on the MI participants	There is a significant relationship in the women's examination program to detect STIs
3	(Abe, Barker, Chan, & Eucogco, 2016)	Hawaii/AS	RCT	The sample consists of 36 secondary schools and	Cultural responsive intervention targets on	Questionnaires	From the survey results, A psychometric evaluation is conducted to review items on knowledge, attitude, and to	This program has a statistically significant impact on knowledge of

	Culturally Responsive Adolescent Pregnancy and Sexually Transmitted Infection Prevention Program for Middle School Students in Hawai‘i			2,203 students	adolescents by looking at behavioral changes over 12 months.		ensure that the composite scale meets or surpasses reliability (alpha Cronbach) 0.50 for internal consistency. Since the composite scale for intentions does not meet the threshold, 2 intention items are analyzed as separate steps	teenage pregnancy and STI prevention.
4	(Senn, Valliere, Berdoz, & Genton, 2011) Motivational brief intervention for the prevention of sexually transmitted infections in travelers: a randomized controlled trial	Switzerland Jerman	RCT	there were 5,148 eligible visible tourists from 2006 to 2008. 1681 agreed to participate in the sample	The investigators conducted this intervention at the current clinic, thus more aware of the health risks and tend to engage in risky sexual contacts that the average is traveler.	Travelling clinic	the main outcome is the prevalence of casual sex and predictor.	The Clinical travelling Program much has a significant impact on STI prevention
5	(College & Nadu, 2016) Randomized questionnaire based cross-sectional research study on awareness of sexually transmitted diseases amongst the general population between	Tamil Nadu, India	RCT	In this study, 150 subjects participated	To compare STD awareness among the general populations with high school qualifications.	Questionnaires	They have a good awareness of STDs About 77.8% of those completing school. Statistical analysis has shown formal education for high school level statistically significant P = 0.0068 (P <0.05) in people falling into STD	Initiation of formal education on sex education at the school level can improve the current status and cause better prevention of STDs

	those who completed their high school education and those who have not							
6	(Kershaw et al., 2010) Let's stay together: relationship dissolution and sexually transmitted diseases among parenting and non-parenting adolescents	USA		295 parents in teenage pregnancy who got incident of STDs during the 18 month.	interventions to increase father's involvement and skill with infants during the transition period to parenthood	Questioner and interview	The results show that adolescents who were associated with someone other than their infant's father was more likely to have a relationship dissolution for 18 months compared with those in relation to the baby's father (OR = 1.69, P0.05). Parenting teenagers who ended their relationship with their infant dads were 3 times more likely to get STDs during the study compared to adolescent parenting that remained with their infant's father (39% vs. 13%). Relatively, nonparenting adolescents who terminate their relationship are only 1.4 times more likely to get STDs compared with nonparenting teenagers who stay with their partners (44% vs 32%).	the results of this study indicate that combining components that strengthen relationship skills in prevention programs can help reduce the risk of HIV / STD and emotional and behavioral problems in women and children. however, male partners should be included in the prevention process. It is importance to pay attention to relationships in mothers, children, and reproductive health outcomes. Both members of the relationship need to be included in order to achieve long-lasting health.
7	(Wilson et al., 2009) A Randomized	New York	RCT	600 patients with cases of Neisseria gonorrhoeaeor	Interventions performed were sexual intercourse	Follow-Up,Questionnaires	Results of sex partner notification in the last 1 month 86% control, 92% intervendon, adjusted odds	Partner notification programs using condom contraception in

	Controlled Trial for Reducing Risks for Sexually Transmitted Infections Through Enhanced Patient-Based Partner Notification			Chlamydia trachomatiswere recruited from STI clinics	without contraceptive protection by looking at the results of 6 months of control gradually		ratio [AOR] = 1.8; 95% had susceptibility to condom use [CI] = 1.02, 3.0) and more likely to report no sexual unprotected sexual intercourse at 6 months (38% control, 48% intervention; A0R = 1.5; 95% CI = 1.1, 2.1). Infected chlamydia was detected in 6% of intervention and 11% of control participants on follow-up (AOR = 2.2; 95% Cl = 1.1, 4.1), with the greatest benefit seen among men (for sex interactions, P = .O3).	having sex can help reduce the risk of STIs further
8	(Town & Africa, 2011) Randomized Clinical Trial of Brief Risk Reduction Counseling for Sexually Transmitted Infection Clinic Patients in Cape Town, South Africa	Amerika	Randomized	Participants of 414 men and 203 women received service	Interventions used was giving HIV-STD risk education, patients completed an assessment of computerized sexual behavior. More than 85% of participants were maintained at 12 months of follow-up.	follow-up and counseling	In the results found, there were 24% fewer incidents of STIs and significant reductions in unprotected vaginal and anal intercourse among participants who received risk reduction counseling relative to members of the control condition. Moderator of analysis shows shorter live results for heavy drinkers than light drinkers. The result is not moderated by gender	HIV prevention is left to patients of STI clinics. They have the potential to reduce HIV infection. Counseling should be improved for STI disease prevention techniques. Socializing done interventions effectively, concisely, and properly by changing behavior for those at highest risk of HIV infection should remain a public health priority
9	(Lau, Li, Choi,	Guangzhou	RCT	Participants	A randomized	Interview,	Results Compared with the	The theory-based

	& Gu, 2014) A Randomized Controlled Trial Evaluating the Efficacy of a Theory-based Intervention Promoting Condom Use Among Chinese Monogamous Female Sexually Transmitted Infection Patients	, China		were randomly allocated to the intervention group (n = 88) or control group (n = 88) Using inclusion criteria	controlled trial (RCT) was performed. Participants were randomly allocated to the intervention group (n = 88) or control group (n = 88). All participants were interviewed by phone, at the beginning and month 2 and 3 after the completion of the baseline survey. Three group intervention sessions were based on information-motivational-behavior skills (IMB). Participants from the control group were provided with	telephone	control group, the intervention group reported a higher prevalence of condom use which consistent with the sex partner last month at month 2 (75.3 vs 59.8%, RR = 1.26, 95% CI = 1.01, 1.57) and month 3 (77.8 vs 54.6%, RR = 1.42, 95% CI = 1.13, 1.80), while the baseline among group differences was not statistically significant. Some other secondary outcomes such as "intention to request condom use within the next month even if sex partners do not like using condoms" were also statistically significant. Furthermore, the majority (94%) of the intervention group members were satisfied with the intervention.	intervention is potentially efficacious, but relatively short. The randomized scale of clinical trials and subsequent translational studies was indispensable in the future.

					an educational leaflet. The main result was consistent condom use.			
10	(Brown et al., 2012) Predicting Discordance Between Self-reports of Sexual Behavior and Incident Sexually Transmitted Infections with African American Female Adolescents: Results from a 4-city Study	Atlanta, USA	RCT	American female teens (N = 964) were recruited in four municipalities	Know the knowledge and culture of norms on American adolescent girls for STI prevention	Questionnaires	There were results at bivariate assessment points, significant cognitive social construction foundation at STI level, level of knowledge and norms of adolescents. In a multivariate logistic regression analysis controlled for age, lower in the knowledge level (AOR = 0.82, 95% CI = 0.70-0.96; p = 0.015), the belief that fewer adolescents are involved in sex (AOR = 0.76, 95% CI = 0.61-0.96; p = 0.018), and the belief of people would wait until merriage to do the sexual intercours (AOR = 1.41, 95% CI = 1.12- 1.76; p = .003) independent of reporting.	this study has a significant value for the prevention of STIs, with the level of knowledge and norms of adolescents.
11	(García et al., 2012) Prevention of sexually transmitted infections in urban communities (Peru PREVEN): a multicomponent community-randomised controlled trial	Seattle, Amerika Serikat	RCT	Samples were taken randomly from adults (aged 18-29 years) and in WPS in Peruvian city with over 50 000 people traced	Interventions performed by laboratory checks later to control sexually transmitted infections (STIs)	Questionnaires, consultation / interview methods and lab checks	The results of this study conducted a baseline survey of 15 261 young adults in 24 Peruvian cities. Of those, 20 cities are geographically separated matched into pairs, in each one city assigned to intervention and the other to standard care. In a follow-up survey of 2006, data for major composite outcomes were	the results of this study indicate that interventions conducted by laboratory checks later to control sexually transmitted infections (STIs) are significant

							available for 12 930 young adults. We reported a non-signifi- cant decrease in STI prevalence in young adults, adjusted for baseline prevalence, in urban interventions compared with urban control (relative risk 0 • 84, 95% CI 0 • 69-1 • 02; p = 0 • 096).	
12	(Gottlieb et al., 2014) Toward global prevention of sexually transmitted infections (STIs):The need for STI vaccines	Switzerland		Sample of 500 patients of STI	STI prevention with primary use and case management with vaccine needs	Questionnaire, clinic visit	there were 499 million sexually transmitted infections (STI; gonorrhea, chlamydia, syphilis and trichomoniasis) that occurred globally in 2008. In addition, more than 500 million people have STI viruses. Strategies of STI control are primary prevention and STI case management. STI prevention effort is new vaccine requirements for future prevention efforts.	Strategies of STI control are primary prevention and STI case management. STI prevention effort is new vaccine requirements for future prevention efforts.
13	(Diclemente et al., 2014) Efficacy of a Telephone-Delivered Sexually Transmitted Infection/Human Immunodeficiency Virus Prevention Maintenance Intervention for Adolescents	Amerika Serikat	RCT	There are 701 populations with PMS / Georgia cases, whereas American youth are 14 to 20 years old	Interventions were carried out in the prevention of STDs with visits at the clinic by Laboratory checks and treatment. Participants in experimental conditions (n	Interview, telephone	behavioral outcomes include: (1) the proportion of condom in sexual acts within 6 months and 90 days prior to the assessment; (2) the number of sexual episodes during the last 90 days in which the participant had sex while on drugs and / or alcohol; and (3) the number of partners have vaginal sex within 6 months prior to the assessment. Participants in experimental conditions reported a higher	the results of this study indicate that clinic visits with laboratory checks and medications have significant values to reduce the risk of future PSM.

	A Randomized Clinical Trial				= 342) received adjusted interventions based on evidence of STI / HIV (HORIZONS)		proportion of protected condom sex acts within 90 days (mean difference = 0.08; 95% CI, 0.06-0.11; P = 0.02) and 6 months (mean difference = 0.08, 95% CI, 0.06-0.10; P = 0.04) before fewer judgments and episodes of transient sexual acts on drugs and / or alcohol (mean difference = -0 , 61; 95% CI, -0.98 for -0.24; P <0.001).	
14	(Susanto,dkk,2012) Pojok remaja : upaya peningkatan ketrampilan kesehatan Reproduksi	Jember	quasi eksperiment with RCT	Research sample 45 respondents of treatment and control group taken by cluster sampling	Treatment group after intervention result showed risky behavior that there were 16 (35,6%) people while behavior was not risky at 29 (64,4%) people.	using structured questionnaires	The result of mann whitney test with alpha 0,05 concluded there is influence of adolescent corner program to fulfill requirement of adolescent reproductive health (p 0,022)	
15	(Karundeng, 2013) Pengaruh pendidikan kesehatan terhadap tingkat pengetahuan dan sikap remaja tentang penyakit Menular seksual di smk fajar	Bolaang Mongondow Timur, Sulawesi Utara	Pre experiment with one group pre-test approach - post test design.	The populations in this study were all students in SMK Fajar Bolaang Mongondow Timur in April 2014 which amounted to 105 people. Samples used in this study amounted to 56	Diketahui pengaruh pendidikan kesehatan terhadap tingkat pengetahuan dan sikap remaja tentang penyakit menular seksual.	Leaflets and Questionnaires	The results of this study indicate that the respondents increased with good knowledge from 13 respondents (23.2%) to 48 respondents (85,7%) and improvement of respondents with good attitude from 8 to 15 respondents (26, 8respondents (14,3%) %) after informing health education. Wilcoxon test results was p-value = 0,000	thealth education has a significant influence on the level of knowledge and attitude of adolescent neighbors of sexually transmitted diseases in SMK Fajar Bolaang Mongondow Timur

	Bolaang mongondow timur			people with purposive sampling technique.	There is the influence of health education on the level of knowledge and attitudes of adolescents about sexually transmitted diseases		<0.05 0,000 <0.05 indicating a significant difference between knowledge in adolescents and attitude before and after informing health education	

Effect of School-Based Interventions in the Prevention of Child and Adolescent Obsesity to Behavioral Health, Physical Activity, and Body Mass Index: A Systematic Review

School-Based Interventions in the Prevention of Child and Adolescent Obesity

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Keywords: intervention, prevention, child, teen, obesity, based school.

Abstract: Background: Prevalence of obesity in Indonesia in children aged 5-12 years by 18.8%, 13-15 years of 10.8%, and 16-18 years of 7.3%. School based Intervention is one of the interventions that have been widely used to prevent obesity in children and adolescents. This study identifies the effectiveness of school-based intervention programs on physical activity, body mass index, and health behavior. Methods: Search articles through database: Scopus, Proquest, ScienceDirect, and PubMed. The year limit used is 5 years (year 2013 - 2017). Results: There are fifteen selected journal articles from 11,723 journal articles found. Conclusions: This systematic review generally recommends school-based interventions with multi-component that are classroom curricula, school environment support, family involvement, fun programs (playing computer, jogging) and regular health education to prevent obesity in children and adolescents that involve multiple parties. However, it should be done more and more research by using RCT with good preparation and cooperation with all elements in the implementation and implementation of the program.

1 BACKGROUND

Obesity in children can cause several chronic diseases including glucose metabolism, insulin resistance, type 2 diabetes in adolescents, hypertension, dyslipidemia, hepatic steatosis, gastrointestinal disorders, and sleep-disordered breathing obstruction. More specifically, obesity in adolescents in the Asia Pacific region is associated with type 2 diabetes at younger ages (Ministry of Health RI 2013)

In 2013 the prevalence of obesity in Indonesia in children aged 5-12 years of 18.8%, 13-15 years of 10.8%, and 16-18 years of 7.3% (Agency for Health Research and Development 2013)

Indonesia, like other developing countries, has started to face multiple nutritional burdens since the last few years. The problem of malnutrition is still a health problem while obesity and obesity problems show an equally high prevalence even higher than the prevalence of malnutrition. The explosion of obesity in some areas in Indonesia will bring new problems that have serious consequences for the development of the Indonesian nation, especially in the field of health. To reduce deaths due to diseases of metabolic and circulatory disorders in the future, in addition to overcoming the disease also by eliminating the incidence of obesity as the main cause. Some of the efforts that have been made are mass counseling or individual counseling, treatment through counseling, and referring to obese children accompanied by comorbidities. The difficulty in developing a program is to maintain the sustainability of the program (Hastoety et al., 2017).

Various interventions have been undertaken to prevent obesity in children and adolescents, one of the interventions being school-based intervention or obesity prevention interventions implemented in school environments and integrated with school learning programs. School based Intervention is considered as an effective way to prevent obesity by increasing student physical activity, reducing body mass index, and improving health behavior.

Table 1: Inclusion and Exclusion Criteria.

No	Criteria	Inclusion	Exclusion
	Population	School-age children are 6-14 years old	
	Intervention	School-based interventions related to physical activity, dietary modification, either combined, alone, or part of a learning intervention program	
	Result	Physical activity, health behavior, body mass index (prevalence of obesity)	Obesity prevalence using indicator Weight/age, Height/age etc.
	Place of Interventio n	School	No intervention at school
	Study Design	any experimental research design with RCT or non-RCT	Cross sectional and case control
	Publication Issues	2013 to 2017	Publication before 2013

2 METHODS

The research was conducted in Surabaya from September to December 2017. This research is a policy research using quantitative approach with systematic review method. The objective of the study was to produce a systematic combination of prior research in order to reach agreement.

In systematic review method can not be separated from the search of articles according to the topic studied. Search articles / references are searched via the internet from major databases such as Scopus, Proquest, Sciencedirect, and PubMed, by including keyword intervention, prevention, child, teen, obesity, based school. The year limit used is 5 years (year 2013-2017).

After getting a number of articles, then checked to see the existence of the same article / double. If found the same article, then do the disposal so that there is only one article whose title and content are the same.

The next stage of the feasibility study of the article whether in accordance with the inclusion criteria that we set or not. If it does not meet the specified inclusion / eligibility criteria, the article is excluded or not included in the next analysis. In the inclusion and exclusion criteria referred to consider the population, interventions, outcomes, place of intervention, design, and year of publication. Detail details of the description of inclusion and exclusion criteria can be seen in Table 1.

After the selection phase based on the inclusion and exclusion criteria, the next process looks at the similarity of the intervention. In the case of this study, it appears that interventions that provide the same picture are school-based interventions

3 RESULTS

Based on the search results in accordance with the keywords and inclusion and exclusion criteria then finally got the number of references as shown in Table 2.

Description of number and source of reference can be seen in Table 2. In the table shows that there are 4 sources of reference the most number of references obtained from Proquest of 16 journals and the least of Science Direct sources. Overall, the articles obtained in accordance with the objectives of 47 articles after the year dilimitasi and the field of nursing science and has been through the process of selecting the title.

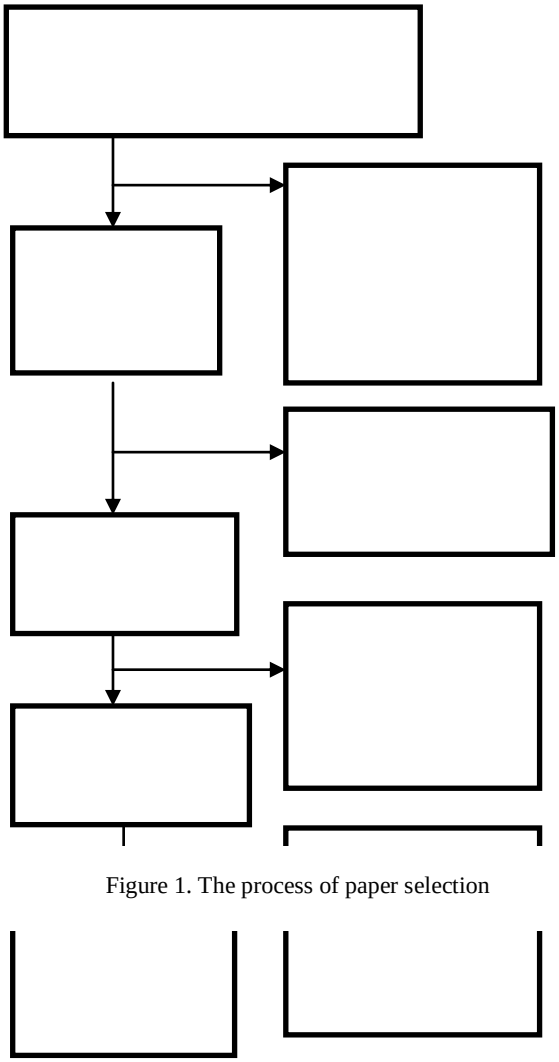

Figure 1. The process of paper selection

The next process of 47 existing articles, traced the existence of duplicate articles, and found as many as 6 articles, so the article after issued a duplicate there are 41 articles. Then from 41 remaining articles traced again and there are 2 articles including systematic review and / or metaanalysis articles, and excluded from the analysis and live 39 articles. The next process sees the same intervention, in this case school-based intervention and meets the inclusion criteria so as to find as many as 15 articles, and fifteen of these articles are finally included in the systematic review. For more details see Figure 1.

4 DISCUSSION

The fifteen journals that have been collected, reviewed and scored obtained the following results.

Table 2: Number of References and Resources.

No	Source	Number of References
1	Scopus	16
2	Proquest	14
3	Science Direct	7
4	PubMed	10
	Total	47

Fourteen studies were using randomized control trial, and one study used quasy experiment.

Three of the four RCT journals have an effect on health behavior, namely the intervention of The Dutch Obesity Intervention in Teenagers (DOiT), Active for Life Year 5 (AFLY5) and the Healthy School Start Study II.

The DOI intervention was conducted by focusing on five EBRBs: (1) reducing intake of SCB (sugar containing beverage); (2) reduce the intake of high-energy foods / candy; (3) reduce screen time; (4) increase the level of physical activity and (5) consume daily breakfast. The DOiT implementation consists of 12 theoretical lessons and four physical education lessons that are divided into two years of learning. It also involves parents to increase social support and on raising parental awareness about the availability and accessibility of healthy products and activities in the home environment. The results of the implementation show that this intervention is effective in reducing the consumption of sugar-containing beverages in girls and in boys, there is a significant positive effect of intervention on breakfast frequency (van Nassau et al., 2014).

In the Active for Life Year 5 (AFLY5) interventions school-based interventions are conducted by providing teacher training, implementing lesson plans that provide interactive homework between children and parents. The goal of AFLY5 is to improve children's self-efficacy and knowledge, followed by motivating parents, to increase levels of physical activity, reduce sedentari behavior, and increase fruit and vegetable consumption. The results showed no significant effects on physical activity, but there were changes in health behaviors such as decreased sedentary behavior, and increased consumption of fruits and vegetables in primary school children (Kipping et al., 2014).

In the intervention of the Healthy School Start Study II is done by providing health information to parents through brochures in which there are facts and suggestions for parents, motivational interviewing with the target of The Parental Self-Efficacy, and teaching activities in the classroom

with children using teacher guides and books assignment, the child is given an assignment to be discussed and equipped with the parent. After that the results obtained will be discussed again in the class. The results showed that behavior change was a significant decrease of unhealthy food consumption in the intervention group (Nyberg et al., 2016).

In addition to the effect on health behavior change there are two studies that affect the physical activity with the intervention of the HEalth in Adolescents (HEIA). The implementation in south-eastern Norway is done in several areas, namely in class (giving lessons through booklets, posters in class, rest time to eat fruit and vegetables and physical activity, providing sports equipment, doing joint activity campaigns, pedometers, and individual tailored computers advice), at home (providing fact sheets, information sheets, and brochures), in the school environment (holding king off meetings at each school, inspirational courses from sports teachers, resource box for school management, and committee meetings, and involving the role of NGO's This study shows the effect of intervention on overall physical activity at the p = 0.05 level, the effect seems to be more profound among women (p = 0.03) and in addition, the intervention affecting physical activity between the normal weight group is more positive than between overweight, and participants with parents who have 13-16 years of more positive education if rather than participants with either a lower parent or a higher number of years of education. Interventions seem to be successful in reducing the sedentary activity on the meeting but not among boys (Grydeland et al., 2013). The results of HEIA implementation in Australia also showed an effect of intervention on overall physical activity at p = 0.05 with a net effect of 50 cpm increase from baseline post intervention supporting intervention group (95% CI-0.4, 100). Subgroup analyzes show that the effect appears to have more impact on female respondents (Hollis et al., 2016).

Three studies have shown that it has no impact on physical activity but has an effect on changes in activity. Improved skills in physical activity after receiving Active Teen Leaders Avoiding Screen-time (ATLAS) intervention (Lubans et al., 2016). There was a change in the number of footsteps after receiving the intervention of 18-month school obesity prevention intervention on the health behaviors (Safdie et al., 2013). In an adapted efficacious school-based intervention proved ineffective in increasing overall child activity every minute from moderate to strong, when adapted for implementation on a scale. However, interventions improve physical activity every minute of strong and physical school activity from moderate to strong, quality learning and school physical activity practices are also increasing (Sutherland et al., 2017).

There is one RCT study that influences the body mass index of CLICK interventions with Multi-component interventions that are classroom curricula, school environment support, family involvement and fun programs (playing computer, jogging) and regular health education. Overall, 1108 (93.7%) of the 1182 enrolled students completed the intervention study until the end. The intervention group experienced a greater decrease than the overall control group with a 0.5-kg / m2 reduction in BMI (Xu et al 2015). There is one more quasy experiment study that influences the body mass index of water jet intervention. The results showed that there was a significant effect of water jet on the BMI standard, a decrease of 12.3 (95% CI, -19,371 to -5,204) (Rev 2015).

In two studies of the fifteen journals there was an effect of intervention on the decrease in obesity, ie, the intervention of a family-individual-school-based comprehensive intervention model and Project Energize. In a family-individual-school-based comprehensive intervention model, the overall prevalence of overweight / obesity decreased from 28.92% in 2011 to 24.77% in 2014, with a difference of 4.15% in the intervention group compared with a 0.03% decline (from 30.71 % to 30.68%) in the control group (Cao et al., 2015). In the long-term Project Energize with a local school-based program it was found that its implementation was associated with decreased prevalence of obesity and secular obesity (Rush et al., 2014).

Three other studies of fifteen showed no good effects on physical activity, health behavior or body mass index, the Nutrition and Enjoyable Activity for Teen Girls (NEAT Girls) intervention (Dewar et al., 2013), Healthy Buddies (Santos et al. 2014), and the Let's Go! 5-2-1-0 pediatric obesity intervention program (Lynch et al., 2016).

5 CONCLUSIONS

School-based intervention has been implemented in several countries around the world, with the aim of

preventing obesity in children and adolescents. Some of these studies show that interventions have a positive and effective impact on body mass index, health behavior and physical attributes, but in practice there are still many shortcomings. In the future, it is expected that more similar research will be conducted, with longer implementation and follow-up time. If such intervention is successfully implemented then it is expected that the level of health in children also increases it is also useful to prevent the occurrence of metabolic diseases in the future.

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EVALUATION THE EFFECT OF CHILD HEALTH CARE CENTER ON PHYSICAL ACTIVITY OF CHILDREN

A Systematic Review

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Keywords: Health, Care Center, Physical Activity, Children.

Abstract: Introduction: Child health care center is one of the interventions that have been commonly used to increase physical activity in children. Methods: We identified articles through databases searching: EbscoHost, PubMed, published between (2008-2018). Results: fifteen articles were analyzed and selected from 1000 journal articles found for this systematic review. Conclusions: the studied evaluated that child health care center are recommended for the children to increase their physical activity in home, school, and community setting. However, many of these studied still lacked of intervention length, method and sample size. So we suggest to do further research by using more RCT, with good preparation in all aspect, to succeed the implementation and application of the program.

1 INTRODUCTION

Good physical activity during the early period of life is a crucial requirement for prevent of overweight and obesity in children under 5 years. Physical activity participation among preschoolers in center based childcare facilities has been consistently reported as low. Unfortunately, these trends could have potentially devastating impacts on the health and development of young children.

Physical activity has been identified as positively impacting cardiovascular health, and is associated with improved weight status and better psychosocial and cognitive development. Canadian physical activity guidelines recommend the accumulation of 180 min of physical activity (at any intensity) per day among this young population, moving towards 60 min of MVPA (moderate to vigorous physical activity) by the age of 5 years.

Child care settings have recently become a focus for environmental intervention efforts. The implementation of physical activity interventions in center based childcare services has been recommended to improve child health. In recent years, the number of children attending childcare services has escalated with the majority of children in developed countries now attending some sort of formal childcare each week (OECD, 2016).

A variety of interventions have been made to increase physical activity in children, one of the intervention that has been use is child care centers in community area. The Institute of Medicine in 2012 identified increasing physical activity in child care settings as a key strategy for accelerating progress in obesity prevention (Institute of Medicine, 2012). Centers based childcare environment influenced physical activity.

2 METHOD

We identified articles through database searching: Proquest, Science Direct, EbscoHost, PubMed, published between (2008-2018), search terms include various combination of the terms “Physical Activity”, “Childcare”, “Preschool”, and “Children”. We found fifteen articles that suitable with our inclusion criteria. Our inclusion criteria are all kind of child health care intervention in the form of any kind of child health care programs ranging from education about the benefit child health care centers that given an impact on physical activity on children

ages 1-3 years. All articles using the English language. We exclude the articles if the target population focused on adults or society.

3 RESULT

Fifteen journals that have been collected, analyzed and scored, obtained the following results. Research conducted by Trost et al (2009) is aimed to summarize and critically evaluate the extant peer-reviewed literature on the influence of child care policy and environment on physical activity in preschool aged children, on the results obtained that the results demonstrated that a simple, relatively inexpensive modification to the playground environment that requires little if any teacher/provider training can increase physical activity in preschool children. Although impressive, the study would have been strengthened if the authors had continued to monitor physical activity after removing the portable equipment. After the introduction of the portable play equipment, children significantly decreased time spent in sedentary activities (57,1% to 41,2%) and significantly increased time spent in light (30,6% to 34,1%), moderate (9,8% to 17,6%), and vigorous-intensity (2,3% to 7,0%) physical activity. The availability and quality of portable play equipment, not the amount or type of fixed play equipment, significantly influenced MVPA levels.

Research conducted by Kiyah et al (2014) aimed to know assess state regulations promoting physical activity (PA) in child care and compare regulations to national recommendations. The average number and range of regulations in centers and homes was 4,1 (standard deviation [SD], 1,4; range, 0-8) and 3,8 (SD, 1,5; range, 0-7). Nearly all states had regulations consistent with providing and outdoor (centers, 98%; homes, 95%) and indoor (centers, 94%, homes, 92%) environment "with a variety of portable play equipment and adequate space."

Study of Patricia et al (2017) aims to examine the effectiveness of the SPACE (Supporting Physical Activity in the Childcare Environment) intervention on preschoolers' physical activity levels and sedentary time during childcare hours (compared to standard care). The result showed the intervention did not significantly impact LPA (light physical activity). MVPA (moderate to vigorous physical activity) was significantly greater among children in the experimental group when comparing post-intervention to pre-intervention (p= 0,0005), but no intervention effects were evident at 6 or 12 month follow up.

Research of Alkon et al (2014) aims to address the public health crisis of overweight and obese preschool age children with the objective of improving child care provider and parent nutrition and physical activity knowledge, center level nutrition and physical activity policies and practices, and children's body mass index (BMI). The results of the study showed significant increases in providers' and parents' knowledge of nutrition and physical activity based on 209 children in the intervention and control centers at both pre and post intervention time points. Research of Bell et al (2015) aims to describe children's physical activity levels during childcare and associations with modifiable characteristics, the results of the study showed step counts were significantly higher in centers that had a written physical activity policy (p=0,03).

Research conducted by tucker et al (2016) aims to know improve the physical activity levels of preschoolers during childcare hours, the results of the study showed the low levels of physical activity observed within childcare centres. Research conducted by Wolfenden et al (2016) aims to evaluate the efficacy of scheduling multiple periods of outdoor free play in increasing the time children spend in moderate to vigorous physical activity (MVPA) during childcare, results of the study supporting physical activity in early childhood is a recommended strategy to reduce the community health burden of inactivity, as physical activity in childhood persist over time.

Research of Rice (2013) aims to know objectively measure the physical activity (PA) levels of children attending family day care programs. Results of the study showed boys exhibited significantly higher levels of PA than girls. Among healthy weight children, 4 and 5 year olds exhibited significantly higher levels of PA than 2 and 3 year olds. Research of Finch et al (2010) the aims of the study is to assess the effectiveness and acceptability of a multicomponent physical activity intervention, delivered by childcare service staff, in increasing the physical activity levels of children attending long day care services. Results of the study showed there is a clear need for intervention studies to extend research regarding the effectiveness of interventions to increase physical activity behaviours of young children attending childcare.

Research of Hinkley et al (2016) aims to determine if differences existed in preschool children's physical activity during care hours

compared with outside care hours and to examine a comprehensive range of potential center based correlates of physical activity for preschool boys and girls. The research results showed that boys and girls were less active during care than outside care hours ($p<0,0001$). Research of Tomayko et al (2017) aims to increase physical activity and related behaviors in setting serving a high proportion of children from underserved groups in recognition of significant disparities in obesity and challenges meeting physical activity recommendations in low resource settings. Overall minutes of teacher led physical activity increased to $61,5 \pm 29,0$ min ($p<0,05$)

Research of Peden et al (2017) aims to investigate the relationship between the childcare environment and physical activity and sedentary behavior of toddlers and preschoolers. The results of this study showed toddlers who attended high EPAO (Environment and Policy Assessment Observation) services sat more (8,73 min) and stood less (-13,64 min) than those who attended low EPAO services.

While research of Ellis et al (2017) aims to report patterns of sitting, standing and physical activity (PA) and compliance with Institute of Medicine (IOM) recommendations for sedentary behavior (SB) and PA among children aged 1 to 5 years at childcare, and examine sociodemographic variations. Data showed toddlers (<3 years) spent significantly more time in PA compared to preschoolers (≥ 3 years) ($p<0,001$).

The research of Battista et al (2014) aims to determine if child care centers in rural, Western North Carolina met recommendations for nutrition and physical activity. The results showed over 95% of the centers met all recommendations, however post intervention indicated significant improvement across center types in five out of 37 nutrition and seven out of 17 physical activity standards following the intervention ($p<0,05$).

The research of Vanderloo et al (2014) aims to measure the physical activity levels of a sample of preschoolers during childcare hours and to assess which attributes within center based childcare environments influenced physical activity. Data showed participants engaged in 1,54 min/h of moderate to vigorous physical activity and 17,42 min/h of total physical activity.

4 DISCUSSION

The study examined in this Systematic Review is about child health care center to support physical activity among preschoolers. The setting of the selected environment are at center based childcare at community. The problem of lack of physical activity in children need to get special attention. Center were able to strengthen current nutrition and physical activity policies, they were able to exceed the best practice standards as a result of their participation. The availability of equipment to promote physical activity is important in improving physical activity participation. Best practice guidelines recommend play equipment should be available, accessible, and easily transported to various locations. Equipment type and amount is often varied at centers (McWilliams et al, 2009). Discovering low cost ways to disseminate new information to child care centers regarding nutrition and physical activity or determining potential local collaborations with health agencies may be warranted. A focus on policy creates a supportive environment and provides incentives for positive behaviors (Sallis et al, 1998).

5 CONCLUSION

The study evaluate the effect of child health care centers on physical activity and nutrition of children. The fifteenth journals that retrieved ten of the journals indicates that the child care centers influence physical activity, nutrition. The three other journal showed an increase in the physical activity but not supported by statistical data. Two article shows variability in physical activity and sedentary behavior also health professionals specifically trained in a nutrition and physical activity intervention in child care.

RECOMMENDATION

Based on research from the fifteenth journal examined, the majority showed significant positive effects on physical activity in child health care centers, the critical role the childcare environment plays in supporting physical activity among preschoolers. Future expected should explore other aspects of centers, such as what children actually do while they are outside, and broader potential influences on children's behavior including social, cultural and policy contexts within which centers operate. Childcare physical activity interventions should consider including strategies to encourage written physical activity policies and support structured staff led physical activities. In additions the validity and reliability measuring instrument

must also be improved. RCT studies also should continue to be done to find out the actual effect and to avoid bias in research.

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THE MIX ORALIT-HONEY AND ACUTE GASTROENTERITIS IN JEMBER
Preparation of Camera-Ready Contributions to SCITEPRESS Proceedings

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Keywords: gastroenteritis, oralite, honey.

Abstract: Introduction: Acute gastroenteritis is the most common disease occurring in children under the age of five, which is defined as a sudden increase in frequency and changes in the consistency of the feces. Gastroenteritis is the leading cause of infant and under-five mortality in Indonesia. Methods: This study using pre experiment with randomized control group pretest-post-test. The sample used 16 respondents according to the inclusion criteria. The variables studied were giving mixing oralit and honey in children with acute gastroenteritis. Data were collected and analyzed by paired t-test and independent t-test. Result And Analysis: The results of this study proved that giving oralit mix therapy with honey gives a significant effect on the indicator of diarrhea frequency so condition from children is getting better. Discussion And Conclusion: The addition of honey in an oral re-hydration solution may reduce and improve the recovery of the defecate frequency of acute gastroenteritis. Provision of honey as an anti-bacterial and prebiotic to children with gastroenteritis.

1 BACKGROUND

Cases of acute gastroenteritis are still the leading cause of death in children, especially in developing countries such as Indonesia (Abdulrahman et.al, 2010; Puspitayani&Fatimah, 2014). In Indonesia, gastroenteritis cases tend to increase in the year 2000-2010 even KLB (Kejadian Luar Biasa) still occur. By 2017 East Java Province becomes the third province in Java identified by children with the most gastroenteritis (IDHS, 2018). Jember city is one of the districts in East Java which is located in eastern Java island. It was identified in the year 2013 under five years old with gastroenteritis number 59,462 (Dinkes Jember, 2014). According to WHO one form of treatment of cases of acute gastroenteritis is by giving fluids or rehydration, such as ORS (Oral Rehidration Solution). Oralite is often used as an oral rehydration therapy at home, health center or hospital to prevent dehydration.

Jember is famous for branding Pendalungan, the community has preventive habits in tackling the disease, one of them is by using honey. Several studies have shown that honey can be used as an oral rehydration therapy.

The purpose of this research is to utilize the local wisdom of Jember community in overcoming the problem of acute gastroenteritis that is by giving the mix of oralite and honey in children with acute gastroenteritis.

2 METHOD

This research design uses pre-post test quasy experiment with a cross-sectional method. This study began from January 30 to February 13 2018, in RSD Balung Jember regency with the number of samples is 16 respondents. 8 respondents were the intervention group with oralite and honey mixed therapy and the other 8 were control group with routine diarrhea management routine. The inclusion criteria in this study were respondents with a 1-5 year age range with a GEA diagnosis, while the exclusion criteria were those who were unable to tolerate oral fluid, had severe concomitant diseases such as colitis, immunodeficiency, metabolic abnormalities, diabetes, heart and kidney disease or other chronic diseases and malnutrition. Giving the mix of honey with oralite is honey in dose 5 ml dissolved in ORS 100 ml. Bivariate data analysis using paired test and independent T-test

Table 1: Characteristic of Respondent.

	Group	
	Control	Intervention
Sex		
Boy	3	2
Girl	5	6
Age		
1-3 y	6	6
4-5 y	2	2
N	8	8

Table 2: Difference Between Control and Intervention Group.

Groups	**Difference mean ± Std. Deviation**	**Paired t-value**
Control	0,125 ± 0,354	0,03
Intervention	0,50 ± 0,535	0,351

Table 3: Difference Between Control and Intervention Group using Independent T-test.

Groups	**Independent T-test**
Control	0,024
Intervention	

3 RESULT

The number of respondents included in the study was 16 children. The number of the respondent of each group is 8 children. Sex and age in the intervention and control group can be seen in table 1

In table 2 by using paired t-test showed that mixed oralit mixed and honey mixture group had significant difference p = 0,03 with a mean difference score (0,50 ± 0,535), while in control group there was no significant difference p = 0,351 with a mean difference score (0,125 ± 0,354).

As shown table 3 by using an independent t-test, a significant difference between the control and the intervention group with p = 0.024

4 DISCUSSION

In this research two findings are produced. The first finding is a decrease in the frequency of diarrhea in the respondents who intervened by mix oralite with honey. Honey has a flavanoid organic compound where this compound has a function as anti-bacterial and anti-inflammatory (Vallinou, 2014). The antibacterial function is not only due to flavanoid compounds but also obtained from high sugar levels in honey which can inhibit bacterial growth, high levels of acidity (pH 3.65) can also reduce the growth and development of bacteria and hydrogen peroxide radicals are also killers pathogenic bacteria causes of diarrhea (Abdulrahman et.al, 2010; Bogdanoy et al.,2008).

The second finding is that honey can be used as an oral rehydration therapy. Oral rehydration therapy is a therapy by administering oral fluids whose effectiveness is similar to that of intravenous fluids in children with dehydration (Leksana, 2015). The principle is to replace the lost fluid so that fluid and electrolyte balance can be maintained and the child does not fall under dehydration. Honey and oralit mix therapy can be used as oral rehydration therapy because honey has a fairly high sugar content. High sugar content can be used as an energy source.

The content of fructose, dextrosa, sucrose, and maltose in consecutive honey is 38.5%, 31%, 1.5% and 7.2%, where fructose has the highest content in honey (Komara, 2002). Fructose comes from the essence of fruits which is a source of energy and can increase the absorption of sodium and water. Honey can prevent children from diarrhea from hypernatremia because diffuse fructose absorption can also increase water absorption without increasing sodium absorption. Although, it has a high sugar content but honey does not cause osmotic diarrhea, because the fructose ratio with glucose is more than 1: 1 (Vallinou, 2014). In this study, patients treated with oralit and mixed honey did not have allergies, but before giving this therapy if there are children who have allergies or hypersensitivity to honey then it will not be given. Honey is safe to use and easy to obtain

5 CONCLUSION

The mix oralit and honey therapy can be used as oral rehydration therapy as a preventive effort for children who have acute gastroenteritis.

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FALL RISK PREVENTION IN ELDERLY WITH PHYSICAL EXERCISE : A SYSTEMATIC REVIEW

Preparation of Camera-Ready Contributions to SCITEPRESS Proceedings

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Keywords: fall risk, elderly, prevent.

Abstract: Background: Increasing the number of elderly and life expectancy in Indonesia has a major impact on public health, especially with changes experienced by the elderly. The most visible changes are the decline and physical decreased that can cause health problems in elderly, one of them is fall risk. It reduces their ability to conduct daily living and their quality of life. One of the prevention for the elderly is physical exercise.The programs will affect elderly's physicology and psychological. Methods: Literature keywoard searches are performed in major databases such as Sagepub, Ebsco host, Proquest, Sciencedirect, and Google Scholar with time limits used from 2010 to 2017. Results: Fall prevention that is physical exercise such as walking, daily physical exercise, and ballroom dancing give affect to reduce fall risk in elderly. From the fifteen researches selected respondents as a random sample of research. Conclusion: The result of systematic review of physical exercise to reduce and prevent the risk of falling in the elderly those are walking, daily physical exercise, and ballroom dancing, it can be concluded that the method can be applied to elderly.

1 BACKGROUND

Increasing the number of elderly and life expectancy in Indonesia has a major impact on public health, especially with changes experienced by the elderly. The most visible changes are the decline and physical deterioration that can lead to elderly prone to problems, one of them is fall risk. Falling that occurs in the elderly is quite common and causes considerable morbidity. Various factors can affect falling in the elderly (Campbell AJ, et al., 1989). In addition, the tendency of older adults to fall increases with age, more than doubling between 70 and 80 years. Fall-related injuries also increase with age, with an increased risk of fracture, which in more than half of cases occurs in the hip. In addition, quarrels may also cause falling risks, avoid or limit daily activities, loss of autonomy, reduce social activity, depression and deterioration of quality of life (Joseph M. Rimland, et al., 2016). It reduces their ability to daily life activities and ultimately degrades their quality of life (Hill & Schwarz, 2004). Occupational therapy can be performed for fall-prevention interventions such as *assertiveness training*, *exercise programmes*, *home evaluations and modification*, *functional assessments*, *assistive device training*, and *risk-reduction* (Caldeira & Reitz,2009).

The most common prevention method for the elderly is exercise. Fall prevention sports education programs will affect physiologically such as flexibility, balance, endurance, coordination, gaits, and reaction time, as well as psychological such as anxiety, depression, life satisfaction, self esteem, and a sense of success against falling.

As many as 30% of women and men over age 65 have fallen at least one elderly per year with falling frequency increasing and reaching over 50% at age 90. About two-thirds of patients who have fallen once, will fall another time in the next 12 months. 15% to 20% of fallen elderly people require medical attention and about 5% cause fractures. Injuries such as hip fracture or femur are often accompanied by complications of immobilization, such as pneumonia and thrombembolism, resulting in additional

morbidity and mortality and have considerable economic impact. Falling not only has psychological consequences but physiological is important too. More than 70% of people who experience a fall can lead to a loss of confidence, avoid physical activity and increase the risk of further falls.

With the impact of falling on the elderly that can interfere the health and welfare of the elderly, it is necessary to make efforts or ways to prevent and reduce the risk of falling in the elderly in order to improve the quality of life of the elderly. The efforts that can be done is to perform physical activity or physical exercise so as to increase bone and muscle strength in the elderly, which ultimately can prevent and reduce the risk of falling in the elderly.

The purpose of this study was to conduct a systematic review to prevent and reduce the risk of falling in the elderly. This study is expected to give the idea of further research in the provision of interventions to prevent and reduce the risk of falling in the elderly and can be used as a reference in an effort to prevent and reduce the risk of falling in the elderly.

2 METHOD

Study search strategies relevant to topics conducted using ScienceDirect, Proquest and SagePub databases are limited from 2010 to 2017. The keywords are "physical exercise", "prevent / reduce fall", "elderly", fulltext and abstract articles in review to select studies that fit the criteria. The inclusion criteria in this review are physical exercise in the elderly. Journal search using the above keywords get 15 journals and articles that fit inclusion criteria there are 10 journals.

3 RESULT

The journal reviewed in this study is a research journal that uses the treatment group and the control group of the study respondents. The number of articles obtained in this review is 10 journals and overall using randomized controlled trial and cross sectional. The method used is physical exercise in the form of walking, general physical activity when inferred aims to prevent and reduce the incidence of fall in the elderly.

The research parameters used to measure the success rate of interventions provided are varied and comprehensive, the outcome forms to be achieved from each study. However, almost all of the studies focused on the assessment of the decline in the incidence of falls in the elderly and the well-being and quality of life of the elderly.

The duration of the study used in these studies varied between 4 weeks to 6 months, the longer the study time and the frequency of giving the average treatment give good result to the incidence rate fall in elderly.

The sampling method is used randomly. Randomized or random sampling is important so that research results can be generalized to the population and suppress bias in the study. The inclusion and exclusion criteria should be considered in sample selection, as in Barboza's study (2014) mentioned inclusion criteria aged 80-95 years. Exclusion criteria are also important to rule out bias factors. But there are some studies that do not detail the inclusion criteria (age). Age range should also be considered will affect the activity, the level of dependence of the elderly itself and other comorbidities suffered by the elderly. The forms of the intervention model throughout the study are desperately needed to obtain ethical clearance.

From 10 studies, showed that the prevention of fall in the form of physical exercise performed continuously shows significant changes in prevention efforts fall in the elderly. However, in the research conducted by the development of the form or model of intervention, it is necessary to produce an optimal outcome so that it needs to be modified in the interventions, it can be a combination of therapy and in terms of time of intervention and outcome parameters to be achieved.

4 DISCUSSION

Kapan, et al. (2017) said that physical exercise and nutrition, can increase physical activity and physical appearance so it can reduce the fall as much as 10%. Barbosa, et al. (2014) conducted a whole blood vibration exercise (WBV) study for 8 weeks and the results were effectively used to reduce fall risk and quality of life in elderly. Almost of the research shows that physical exercise can reduce fall risk in elderly.

The studies that have been examined indicate a form of method in an effort or strategy to prevent and reduce the risk of falling in the elderly. The method used is physical exercise, although not all studies produce significant changes but physical exercise is quite effective in elderly. Nurses can perform this method in conducting continuous

nursing care in the elderly. Nurses can participate in this type of physical exercise because it is included in the therapy modalities in nursing that can optimize the patient's health. In addition, nurses need to understand the concept of physical exercise first before doing it in the elderly. In addition to the intervention in the form of physical exercise, there is a need to be considered by the nurse in providing additional intervention that is supplement or vitamin D which must be done together with other health workers.

5 CONCLUSION

The result of systematic review of research on physical exercise to reduce and prevent the risk of falling in the elderly in the form of walking out, daily exercise, ballroom dancing, etc. can be concluded that the method can be applied to the elderly in Indonesia as well as attention to aspects of community cultural background and based on the study the most effective method is physical exercise performed with a combination of vitamin D and calcium.

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Spirotif Relaxation Improve Anxiety and Sleep Quality in Elderly

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Keywords: Elderly, Progressive Muscle Relaxation, Spiritual, Anxiety Level, Sleep Quality.

Abstract: Elderly is the age group with the highest anxiety level. Anxiety will interfere with sleep patterns so that sleep quality decreases. Spirotif Relaxation is an activity that combines physical and spiritual aspect by modifying the Progressive Muscle Relaxation and Spiritual Relaxation (Dhikr) that can cause tranquility and physical fitness. This study was to explain the effect of Spirotif Relaxation on the anxiety level and sleep quality in elderly with Kolcaba Comfort Theory approach. The study was using a quasi-experimental design with two group pre-post test design. The population was elderly with anxiety and decreased sleep quality following the elderly Posyandu in Pucangro Village with a total sample of 44 elderly, consisted of 22 elderly for intervention group and 22 elderly for the control group. The independent variable was Spirotif Relaxation. The dependent variable were the anxiety level and sleep quality. Instruments were GAI (Geriatric Anxiety Inventory) and PSQI (Pitsburgh Sleep Quality Index). Results showed that there were significant differences in anxiety level ($p = 0.001$) and sleep quality ($p = 0.043$). Spirotif Relaxation can increase comfort. As a result the value of anxiety decreases and sleep quality increases. Future study may use manual tasbih for dhikr increasing elderly comfort..

1 BACKGROUND

Elderly is the age group with the highest anxiety rate. Situations that may cause anxiety in the elderly include retirement, physical impairment, death of a loved one and loss of economic security (Perry & Potter, 2005). Anxiety experienced by the elderly who can not be overcome will disrupt the elderly sleep patterns that leads to decreased quality of elderly sleep (Rianjani *et al*., 2011).

The incidence of elderly anxiety in Indonesia is about 39 million people out of 238 million people (WHO, 2012). Sleep disturbance in elderly in Indonesia about 49% or 9,3 million elderly (DinKes Jatim, 2008). In Rianjani *et al*. (2011) mentions that there are 50% of elderly of 115 elderly who suffer from sleep disorders are caused by anxiety factors. Giastiningsih study (2011) mentioned that from 43 elderly who had moderate anxiety with insomnia as many as 5 elderly (12%) and mild anxiety with insomnia as many as 17 elderly (39%). In the study Rosmawati (2011) of 36 elderly as many as 26 (78.8%) elderly have anxious with the incidence of insomnia. Based on preliminary study results using questionnaires with 10 elderly people in Elderly Posyandu Dusun Berjel Pucangro Village, which is the work area of Blimbing Gudo Public Health Center on December 5, 2017, showed that from 10 elderly people 60% (6 people) experienced anxiety and decreased sleep quality.

Management of anxiety and sleep quality problems can be divided into pharmacologically and non-pharmacologically. One of the non-pharmacological management in improving anxiety and quality of elderly sleep is by performing progressive muscle relaxation techniques and dhikr. Spirotif Relaxation is the activity of combining and modifying the progressive muscle relaxation and spiritual relaxation (dhikr) interventions. How to do this relaxation by saying dhikr then followed by relaxing tense muscles, with the aim of obtaining His mercy in the form of peace, tranquility, and happiness, as well as physical health and fitness.

Progressive muscle relaxation exercises significantly reduce insomnia and improve sleep quality in the elderly (Jayarathne & Zoysa, 2016). Relaxation is also effective for reducing anxiety in men or women, young people or the elderly (Ranjita & Sarada, 2014). In the study of Lorent et al. (2016) explains that progressive muscle relaxation

significantly reduces tension, anxiety, and anger, but does not improve mood.

Spiritual Relaxation (Dhikr) is a deed in the form of Asma Allah containing requests to Allah Almighty by always remembering His name accompanied by resignation (Yusuf et al., 2008). Medically it is also known that people who are accustomed to dhikr remember Allah automatically the brain will respond to the expenditure of endorphine that can cause a feeling of happiness and comfortable (Patimah et al., 2015). In the study of Joseph et al., (2008) found a change of psychological well-being in treatment group before and after religious relaxation intervention: dhikr.

Relaxation Spirotif can stimulate the Pituitary gland to increase Production of β-Endorphin, Enkefalin and Serotonin which ultimately can increase comfort on the client. This comfortable and relaxed feeling can cause anxiety to decline. The presence of endorphins and enkefalin also helps in influencing the atmosphere to relax so it is easy to start sleeping and the increasing amount of enkefalin and serotonin that can cause sleep and relaxation (Smeltzer & Bare, 2010). This will lead to improved sleep quality.

2 METHODS

This research was used quasi-experiment pre and post test with control group design. Total of samples in this study were 44 people with the inclusion criteria 1) Aged 60-80 years old, 2) Minimum level of primary school education, 3) Did not experience cognitive impairment (MMSE value >23) while an exclusion criteria in this study was: 1) Elderly with limited range of motion, 2) Elderly undergoing treatment bed rest. This study was used nonprobability sampling technique type of purposive sampling. The independent variables in this study was Spirotif Relaxation while the dependent variable in this study were the anxiety level and sleep quality.

This study took place at the Pucangro Village on 25th January - 21th February 2018. The instrument used are GAI (Geriatric Anxiety Inventory) and PSQI (Pitsburgh Sleep Quality Index) to measure anxiety level and sleep quality which were given at pre and post test in both groups. Data were analyzed using Wilcoxon signed ranks test and Mann-Whitney test. The first analysis was Wilcoxon signed ranks test if p value ≤ 0.05 then H1 accepted, which means that Spirotif Relaxation affecting anxiety level and sleep quality. The second test was Mann-Whitney test to analyze the differences in the value of anxiety level and sleep quality post intervention in both groups. This study has passed the ethical test in Nursing Faculty of Airlangga University.

3 RESULTS

Table 1: Distribution of Anxiety Level and Sleep Quality After Spirotif Relaxation in Pucangro Village on 25th January - 21th February 2018.

	Anxiety	**Sleep Quality**
Mann-Whitney U	98.000	157.000
Willcoxon W	351.000	410.000
Z	-3.465	-2.023
Asymp. Sig. (2-tailed)	.001	.043

Effect of Spirotif Relaxation in anxiety level and sleep quality value can be seen in the results of Wilcoxon signed ranks test between pre and post intervention measurements that is 0.000 and 0.000. P value <0.05 means that H1 accepted, which means there was significant difference between Spirotif Relaxation in anxiety level and sleep quality value. In anxiety control group showed p value = 0.002, there was significant difference in anxiety values, but in sleep quality control group showed p value = 0.520 (p value >0.05), it mean no significant difference in sleep quality values. Table 1 shows the results of statistical analysis tests (post intervention value) of anxiety level and sleep quality in intervention and control group using Mann-Whitney test with value = 0.001 and 0.043. The value of < 0.05 means that there was effect of Spirotif Relaxation in anxiety level and sleep quality.

4 DISCUSSION

4.1 Effect Of Spirotif Relaxation In Anxiety Level

Anxiety level decrease in elderly can be seen from result of statistical analysis by using Wilcoxon Signed Ranks Test obtained P value = 0.000, meaning there is influence of spirotif relaxation therapy to change of anxiety level in elderly.

Anxiety in the elderly has the same symptoms as the symptoms experienced by everyone, only according to Maryam et al. (2008) objects that cause

anxiety is different. Physical changes that cause anxiety include things like, hearing loss, vision ability, hunchback body, wrinkled skin, and gray hair. Psychological changes that cause anxiety in the elderly, among others, feelings of frustration feel useless, loss and loneliness that the elderly tend to be alone.

Someone who is experiencing anxiety, tend to experience a change of perception and have negative thoughts related problems facing him. If a person always thinks negatively then there are some impacts such as: declining health status, decreasing adaptation function of a person to environmental change, pessimistic attitude towards the future and depression tendency and decreasing quality of life (Palos & Viscu, 2014). Besides negative thoughts will stimulate the brain of the prefrontal cortex to try to focus on the problems that are facing, so that someone will be more negative thoughts again to the problems experienced (Bherking & Whitley, 2008).

When someone feels anxious then the body system will work by increasing sympathetic nervous work in response to stress. The sympathetic nervous system works through the activation of the adrenal medulla to increase the release of epinephrine, norepinephrine, cortisol and decrease nitric oxide. This situation will cause changes in body response such as increased heart rate, breathing, blood pressure, blood flow to various organs increased as well as increased metabolism. To inhibit sympathetic nerve work can be done by increasing the activation of parasympathetic nerve work to generate a relaxation response.

The relaxation response induced by the parasympathetic nerves works by stimulating the adrenal medulla to decrease the release of epinephrine, norepinephrine, cortisol and increase nitric oxide. This situation will cause changes in body response such as decreased pulse rate, blood pressure, oxygen consumption, body metabolism, lactate production and a person feeling comfortable (Benson, 2000; Park, et al., 2013). If the physical condition of the body has been relaxed, then his psychic condition also feel a sense of calm (Yamamoto & Nagata, 2011). One technique for improving parasympathetic work is by relaxation techniques (Benson, 2000). Spirotif relaxation techniques can generate a relaxation response that can reduce anxiety.

4.2 Effect Of Spirotif Relaxation In Sleep Quality

Decrease of sleep quality in elderly can be seen from result of statistical analysis by using Wilcoxon Signed Ranks Test test obtained P value = 0.000, meaning there is influence of spirotif relaxation therapy to change of sleep quality of elderly in Pucangro Village. The presence of significant changes indicates that spirotiform relaxation therapy has an impact on the elderly who experience a decrease in sleep quality.

Sleep quality measurements based on the Pittsburgh Sleep Quality Index (PSQI) instrument, of the seven components are the three most dominant causes of sleep disturbances, namely sleep latency, sleep duration, and sleep efficiency. Sleep latency describes the time it takes to start sleep as measured by the time it takes to start sleeping as well as the frequency of sleeping in 30 minutes. In this study, the duration of the shortest sleep duration is 20 minutes and the longest duration is 60 minutes with an average duration of 40 minutes. Frequency can not sleep in 30 minutes generally more than 3 times per week. This situation indicates the elderly have difficulty starting to sleep .. This is in accordance with research Eshelman (2008) found more than 50% of elderly have trouble sleeping at night. Sleep duration depicts the length of bedtime. The elderly generally experience shortening of sleep duration and some are unable to achieve deep sleep (IV sleep stage and REM sleep). Though deep sleep is very useful to restore body function and maintain fitness. Sleep efficiency by comparing the amount of sleep time to the length of time in bed. Difficulty getting started, the inability to maintain sleepiness, and often awakening is a contributing factor to decreased sleep efficiency. This is in accordance with the Zarcone, Falke & Anlar (2010) study which identified 66.19% of elderly people with less than 50% of sleep efficiency. Along with the aging process that occurs in the elderly, the efficiency of sleep will be reduced so as not achieved adequate sleep quality. Indeed, a decrease in the number of hours of sleep is not a problem if the elderly feel good sleep quality, because the quality of good sleep will be able to restore body functions.

In general, sleep disorders that cause sleep quality elderly decline occur due to physical, psychological and environmental factors. Physical factors such as the presence of certain diseases suffered cause elderly can not sleep well. It is also a lot of experienced elderly in the village of Pucangro. Psychological factors such as anxiety, stress, fear,

and emotional tension are also often experienced by the elderly. The environment can be a support factor as well as a barrier to sleep. Including environmental factors such as lighting, room temperature, ventilation, and noise. The respondents of the treatment group showed improvement of sleep quality after Spirotif Relaxation practice, while in the control group there was no significant change. The trend of improving the sleep quality of the treatment group was seen from the increase in the frequency of the elderly with good sleep quality and decreased mean score of PSQI. This suggests that spirulation relaxation exercises have a positive impact on improving the quality of elderly sleep. Sprotif relaxation exercises are effective enough to shorten sleep latency, prolong sleep duration, improve sleep efficiency, reduce sleep disturbance, and reduce daytime activity disruption, resulting in improved satisfaction with sleep quality. Similar results were obtained in the study of Saeedi et al. (2012), that progressive muscle relaxation is able to reduce the cause of sleep disorders so that sleep quality increases. Conrad & Roth (2007) explains that progressive muscle relaxation techniques are able to control the activity of the autonomic nervous system and the activation of the suprasciasmatic nucleus, making it easier to start and maintain deep sleep.

Through spirotif relaxation exercises the elderly are trained to present a relaxation response so as to achieve a calm and conducive state to fall asleep. Perry & Potter (2005) states that a person will fall asleep only when they are comfortable and relaxed. Smith (2005) explains that relaxed conditions can decrease the production of cortisol in the blood, regulating adequate hormone release so as to provide emotional balance and peace of mind. Relaxed muscles will make systemic blood flow smooth, the pulse becomes normal, the frequency of breathing becomes normal, and reduce the evaporation so that the client becomes comfortable and the mind becomes calm as a result of decreased activity of Reticullar Activating System (RAS) and increased brain stem activity (Joshi, 2008; Yang et al., 2012). Saeedi et al. (2007) explains that the relaxation effect is capable of improving parasympathetic neural work so that the work of the heart is reduced and the supply of oxygen is fulfilled. Someone who does spirotif relaxation exercises will show a decline levels of norepinephrine, decreased cardiac contractility, and stimulates the suprachiasmatic nucleus to create a comfortable sensation that stimulates drowsiness.

5 CONCLUSIONS

Spirotif relaxation have proven beneficial for improving the sleep quality of elderly and lower anxiety levels.

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The Hipertension Corelation with Ankle Brachial Index, and Anxiety Level in Elderly With Hipertension

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Keywords: Hypertension, Ankle Brachial Index, Elderly , Anxiety Level.

Abstract: Elderly with hypertension will experience an increase in blood pressure due to decreased vascular function. Hypertension causes low ankle brachial index and high levels of anxiety in the elderly. This study was to explain the hypertension corelation with ankle brachial index, and anxiety level in elderly with hipertension in Puskesmas Papar Kabupaten Kediri Indonesia. The study was using cross sectional methode. The population was elderly with hypertension in Puskesmas Papar with a purposive sampling of 110 people. The independent variable was Hipertension. The dependent variables were Ankle Brachial Index and Anxiety Level. Instruments were spygmomanomater and Geriatric Anxiety Inventory (GAI). Results showed that there was a significant correlation between Hypertension with Ankle Brachial Index (p=0.00), and there was significant correlation between Hypertension with the Anxiety Level (p=0.00). Future study may use digital spigmomanometer for specific and saving time measuring the Blood Pressure and Ankle Brachial Index.

1 INTRODUCTION

Hypertension is one of the diseases that ranks top and often suffered by age due to aging process (Brookes, 2012). The incidence of hypertension increased for more than fifteen years. It is estimated that by 2025 an increase in cases of elderly hypertension by 80% (1.15 billion cases) from 639 million cases in 2000 (Dwi & Pramana, 2016). The adverse effects of hypertension include increased anxiety level, decreased ankle brachial index, increased health care costs, the risk of hospitalization and even death (American Heart Association, 2011). Research has revealed a decrease in blood vessel function in individuals with hypertension permanently increased systolic blood pressure in elderly (Depkes RI, 2007). Chronic high blood pressure can cause a long-term decrease in pheripheral blood vessel function in hypertension patients (Murabito et al., 2003). The high blood pressure experienced by the elderly, sometimes they experience anxiety because the various illnesses suffered do not go away even worse, so hope to heal becomes lower Kretchy, Owusu-Daaku, & Danquah, (2014). Chronic anxiety can make gene mutations and acceleration of degenerative diseases worse (Banon, 2011). Every year there are increase deaths worldwide due to this condition, and hypertension becomes a more serious disease in recent years (American Heart Association, 2011). The increase anxiety level and decrease ankle brachial index in elderly with hypertension happens compared with healthy people (Banon, 2011).

Approximately 40% of the world's adult-elderly population suffers from hypertension, more than 90% of them suffer from essential hypertension (primary) (Brookes, 2012). The prevalence of elderly hypertension in Indonesia is 63.8% with age above 60 years (Rahajeng & Tuminah, 2014). It is estimated that by 2025 there will be an increase in cases of elderly hypertension by 80% (1.15 billion cases) from 639 million cases in 2000 (Dwi & Pramana, 2016). In 2010, hypertension was the second most prevalent disease in the elderly (38.8%) after joint disease (52.3%) in Indonesia. In Indonesia Increasing the number of elderly population around 450.000 people per year, so it is estimated Indonesia will have an elderly population of 34.22 million people in 2025 (Kemenkes RI, 2016). The distribution of elderly population by province from Center for Data and Information (Kemenkes RI, 2015) shows the percentage of elderly population above 10% and the highest is in East Java (11.50%)

after Yogyakarta (13.04%) and Java Central (11.80%).

Kediri Regency has an average increase in population of 0.49%. In the year 2016 the number of elderly about 150,775 people (9.7%) (Dinkes Kab. Kediri, 2016). In 2017 the number of elderly reaches 250,447 people (16.04%). The preliminary survey in the working area of Puskesmas Papar of Kediri Regency on 29 September to 7 October 2017, the Elderly population is 6,945 people, divided into 17 villages, which have hypertension as much as 24.5% (549 people).

From the description above, it appears that hypertension and its complications, as well as anxiety disorders in the elderly is quite serious and it takes a special handling to overcome it in the elderly. In this study, researchers wanted to see the relationship between hypertension with ankle brachial index and anxiety levels in the elderly with hypertension. The relationship of hypertension, ankle brachial index, and anxiety level in elderly still need explanation.

2 METHOD

This research was used cross sectional design. Total of population in this study were 110 people. Based on (Setiono, Bahiyah, & Koesoemo, 2016) if the population above than 100 people, then the sample can be taken as much as 15-25%. In this study, the population amounted to 110 people then the sample size taken, if using 20% of 110 the number of 26 people. The inclusion criteria 1) Aged 60 - 85 years, 2) Elderly with hypertension where systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg. 3) Elderly hypertension who experience anxiety, 4) Elderly hypertension with comorbidities. This study was used nonprobability sampling technique type of purposive sampling. The independent variables in this study were hypertension while the dependent variable in this study was ankle brachial index and anxiety level.

This study took place at the Puskesmas Papar Kabupaten Kediri on 17th Februari - 24th Februari 2018. The instrument used is a spygmomanometer and Geriatric Anxiety Inventory (GAI) to measure Hypertension, ankle brachial index, and anxiety level which were given at same time (point time approach). Data were analyzed using Spearman Rank Test. The analysis was if p value ≤ 0.05 then H1 accepted, which means that hypertension correlation with ankle brachial index, and anxiety level. While H1 rejected, which means hypertension does not correlate with ankle brachial index, and anxiety level. This study has passed the ethical test in Faculty of Nursing Universitas Airlangga.

3 RESULT

Correlation of hypertension with ankle brachial index and anxiety level can be seen in the results of Spearman Rank test between independent and dependent variable measurements that is 0.00 and 0.00. P value < 0.05 means that H1 accepted, which means there was significant correlation between hypertension with anxiety level correlation coefficient number or rho = .490 means large correlation between variables of hypertension with anxiety in the elderly is equal to 0.490, and with ankle brachial index p value < 0.05 means H2 accepted, which means there was significant relationship between hypertension with ankle brachial index correlation coefficient number or rho = -975 means that the correlation between hypertension variable with anxiety in elderly is equal to -0.975 meaning there is a significant inverse relationship with low ankle brachial index score.

4 DISCUSSION

4.1 Correlation Hypertension with Anxiety Level

Statistical analysis showed that Hypertension influence significantly with anxiety level of elderly with hypertension, ($P = 0.00$, $\alpha = 0.05$) , Table 1 describes the results of sperman rank test between hypertension and anxiety level $P = 0.00$, $\alpha = 0.05$.
Based on Table 1, there is a correlation between hypertension and anxiety level in the Elderly. The results of this study proves that hypertension has a relationship with anxiety level, although there are many other important factors that affect the anxiety level. It was seen that most (41,7%) respondents with stage II hypertension were 10 people, while most respondents (50%) experienced moderate anxiety level of 11 people.

The data that have been obtained in the analysis by using Spearman Rank correlation test, obtainedsignificant = 0.001 <α (0.05) which means H0 rejected, H1 accepted, it means there is a relationship between Relation of hypertension with anxiety level in elderly in Puskesmas Papar Kab. Kediri.

Table 1: Correlation Hypertension with Anxiety Level in Elderly.

Anxiety Level / Hypertension	Light Anxiety	Moderate Anxiety	Severe Anxiety	Total
Hypertension Stadium I (140-169 mmHg)	5 (19,5%)	3 (11,0%)	1 (2,8%)	9 (33,3%)
Hypertension Stadium II (160-179 mmHg)	4 (16,6%)	5 (25,1%)	1 (2,8%)	10 (44,4%)
Hypertension Stadium III (>180 mmHg)	2 (0%)	3 (13,9%)	2 (8,3%)	7 (22,2%)
Total	11 (36%)	11 (50%)	4 (39%)	26 (100%)
Spearman Rank Test	0,00			
OR	0,490			

Table 1: Correlation Hypertension with Ankle Brachial Index in Elderly.

ABI / Hypertension	Normal	Light Obstruction	Severe Obstruction	Total
Hypertension Stadium I (140-169 mmHg)	1	3	2	6
Hypertension Stadium II (160-179 mmHg)	6	4	0	10
Hypertension Stadium III (>180 mmHg)	5	3	2	10
Total	12	10	4	26
Spearman Rank Test	0,00			
OR	-0,975			

In the elderly psychic and physical abilities began to be disrupted along with the decline in the ability of the immune system and the fulfillment of physiological needs that could have experienced health problems, one of them hypertension. Furthermore, this change also resulted in decreased digestive system, nervous system, respiratory system, indocrine system, cardiovascular system, to the decrease of musculoskeletal ability (Banon, 2011).The hypertension experienced by each individual must have many factors. Eg age, sex, offspring (genetic), and ethnicity is an irreversible hypertension risk factor. While smoking, obesity, stress, physical exercise, salt intake factor (sodium), carbohydrate and fat consumption factors in hypertension, alcohol consumption and fiber consumption levels are modifiable hypertension risk factors.

The emergence of hypertension is not only caused by high blood pressure, but because of other risk factors such as keturuna / genetic, disease complications, and abnormalities in the target organs of the heart, brain, kidneys, and blood vessels. Hypertension often presents with other risk factors that arise as a metabolic syndrome, hypertension with glucose tolerance or diabetes mellitus (DM), dyslipidemia (high blood cholesterol) and obesity.

Disturbing health conditions in elderly life, psychologically usually regarded as a threat that can endanger the elderly life, the response is usually excessive anxiety that can worsen the health condition. Anxiety is an unclear and widespread concern, associated with feelings of uncertainty and powerlessness with an unobserved emotion (Stuart, 2009). Anxiety is generally subjective, characterized by tense, fearful fears and physiological changes , such as pulse rate, respiratory changes and blood pressure.

Anxiety is a natural disorder of feeling characterized by a feeling of deep or sustained fear or anxiety, uninterrupted in assessing reality, personality still intact, personality can be disturbed by normal limits (Hawari, 2008). Anxiety is a feeling of fear and fear is very much about something that will happen about the threats or difficulties that are vague and unrealistic that will

appear in the future but are unclear, and can endanger the well-being of a person (Banon, 2011).

According (Banon, 2011)Mental stress or anxiety is caused by excessive concern about the problems that are being faced (real) or imagined may occur. The most common anxiety is due to illness, one of them hypertension. Hypertension is a disease that causes new problems, such as stroke, heart failure, kidney and certainly all have an impact on the occurrence of death. So the need for early prevention so that hypertension does not cause new problems for sufferers. This is what makes people with hypertension anxious about his condition.

4.2 Correlation Hypertension With Ankle Brachial Index

Table 2 below shows the results of data computation of the relationship between diastolic blood pressure and ABI values. The result of blood pressure of diastole in the category of hypertension was 13 people (59,0%) and normal was 9 people (41,0%) whereas light ABI PAP score was 9 people (45,8%) and normal 14 people (54,2% %). Value of OR = 4,73; p = 0.00, and IK 95% lower limit of 1.85 and upper limit of 12.14.

From the above discussion can be seen there is a change in the value of blood pressure with the value of ABI based on sistole and diastole. This is supported by the results of research (Williams & Wilkins, 2012) that hypertension is associated with peripheral arterial disease (PAP) based on the value of ABI. Prevalence of PAP in patients hypertension was found to be 21% (95% IK 11-31%). According to (Kowalski, 2010), elderly people often experience structural and functional damage to the aorta, the large arteries that carry blood from the heart, causing more severe hardening of blood vessels and higher blood pressure. Meanwhile, according to (Guyton & Hall, 2007)changes in the diameter of blood vessels will affect the size of blood flow in the vessels when a certain pressure (conductance). Small changes in vessel diameter will cause changes in the ability of the vessels to deliver blood when the blood flow is laminar.

Based on the above discussion can be concluded that blood pressure based on the value of systole and diastole associated with the value of ABI but when looking at the results of chi square data on the crosstab systole blood pressure systole and diastole does not affect the full value of ABI this is because blood pressure is not a single- the only factor affecting the value of ABI. According to Murabito et al. (2003) in his book entitled the principles and methods of epidemiological research that the relationship epidemiologically divided into two kinds, namely biologically and statistically this can be either interconnected or just one of them. In this study biologically the blood pressure is related to the value of ABI but statistically unrelated.

5 CONCLUSION

Hypertension correlation with ankle brachial index and anxiety level. There was a significant correlation between Hypertension with Ankle Brachial Index (p=0.00), and there was significant correlation between Hypertension with the Anxiety Level (p=0.00). Future study may use digital spigmomanometer for specific and saving time measuring the Blood Pressure and Ankle Brachial Index

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Aromatherapy as the Intervention of Anxiety: Systematic Review

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Keywords: Aromatherapy, Anxiety, Adult, Patients, Randomized Controlled Trial.

Abstract: Background: Anxiety is a common problem that patients often experience in both the Hospital and the Community. Aromatherapy is used as an intervention to lower anxiety levels cause safely, easily, cheaply and without side effects. There are differences in method, type, dose, duration and technique of aromatherapy intervention so that require further study.Methods: The search of literature from various online databases obtained 10 RCT research journals to be analyzed according to the inclusion and exclusion criteria.Results: All of 10 articles significantly decreased anxiety. Inhalation method was used in 9 of 10 studies and 1 study used massage. The essential aromatherapy type of lavender oil or its combination is used in 8 articles (7 significantly decreased anxiety), 1 using bargamot and 1 using satureja. Duration of giving aromatherapy between 5-40 minutes at most 30 minutes (3 studies). A dose of aromatherapy 2 drops in 5 studies. Provision of intervention 1 times most used (5 studies), most intervention is 12 times (1 study). The longest intervention time is 4 weeks (2 studies).Conclusions: Generally recommend the use of lavender aromatherapy (lavandula angustifolia) intervention through inhalation method with a dose of 2 drops within 30 minutes to effectively decrease the anxiety.

1 INTRODUCTION

Anxiety is an emotional status experienced by clients in the community especially treated in hospitals particularly those receiving surgical or invasive procedures (Karaman et al. 2016).

Anxiety is a psychological and physiological condition with cognitive, somatic, emotional, and behavioral characteristics. This type of anxiety disorder has symptoms such as increased blood pressure, elevated high heart rate, sweating, fatigue, discomfort, pain, tension, irritability, and worried (Lee et al. 2011).

Anxiety basically is a normal reaction in humans, but if not done the right action it will be develop into chronic problems and become a habit (Soto-Vasques & Alvarado-García 2017). Anxiety is experienced in 11% - 80% of adult surgical patients (Labrague & Mcenroe-petitte 2016). Anxiety disorder symptoms experienced 4-6% of the entire population and if left untreated, 40-50% will become depressed and decided to commit suicide (Lee et al. 2011).

Pharmacologically, clients may be given sedatives such as Benzodiazepines, but it can cause side effects such as difficult of concentrating, decreased visual function, impaired mobility and activity due to hyperactivity, long-term amnesia, and decreased of cognitive function (Wood et al. 1993; Sonnenberg et al. 2012).

Non-pharmacological therapy that can be developed by the nurse is aromatherapy. Aromatherapy has several advantages for instance safely intervention, easily, cheaply, and without side effects (Ziyaeifard et al. 2016).

From the 10 recent studies (the last 10 years) about the effects of aromatherapy on anxiety after reviewed, the result showed the contradictions about the method, dose and duration as well as the resulting size. Through this systematic review we attempt to re-analyze the findings to formulate aromatherapy in order to obtain more effective results of adult clients with anxiety.

The systematic purpose of this review is to illustrate the various methodological variations

on approaches used besides the dosage and duration to analyzed the determining of standard aromatherapy interventions used to improve the effectiveness of aromatherapy interventions to reduce anxiety in adult clients in different areas of medical surgical nursing.

2 METHODS

The method used in this article was a systematic review of previous studies related to aromatherapy intervention on client with anxiety.

Aromatherapy in the context of this review was the provision of fragrances through smelling (inhalation) and massage using 100% essential oil of natural ingredients or pure essential oil that efficacious calm (anxiolitik) such as lavender, bargamot and citrus. Aromatherapy interventions were defined as fragrances or scents that gave to patients during the scheduled treatment and performed to produce the objectives.

2.1 Journal Searching Strategy

Most of the research articles are derived from searched from online computers by utilizing the following database: Science Direct, Pubmed, Ebschohost, Proquest, SAGE and Google Scholar.

Keywords were created using PICOT method analysis (Population, Intervention, Comparison, Outcome, Time). The PICOT format was used to answer research questions (Riva et al. 2012).

From the method obtained the following keywords such as : P= Patients, Adult; I= Aromatherapy; C= Randomized Controlled Trial; O= Anxiety; T=2008-2018.

2.2 Inclusion Criteria

To limit the relevant research to this systematic review then some inclusion criteria were determined:

1. The research population is an adult client both in the hospital and in the community.
2. Intervention given was used of aromatherapy.
3. Have a comparison or control, either aromatherapy with different essential oils, not aromatherapy or not treated.
4. The observed results include anxiety and can add to other things such as: pain, vital signs (blood pressure, pulse, respiration) and hemodynamic status.
5. The result used Randomized Controlled Trial (RCT).
6. Research from the last 10 years (2008-2018).
7. The research reported in English.

Table 1: Jadad research score.

Author	Score			Total Score
	Random	Blind	One Data Account	
Bikmoradi et al	2	2	1	5
Cho et al	1	0	1	2
Franko et al	2	2	1	5
Hozumi et al	2	2	1	5
Karaman et al	2	2	1	5
Ni et al	2	0	1	3
Soto-vasques et al	2	1	1	4
Tang & Tse	1	0	1	2
Wu et al	2	0	0	2
Ziyaefard et al	2	2	1	5

2.3 Selection of Relevant Study

After searched the articles, followed by screen and selected then assessed the eligibility and selected articles that meet the inclusion criteria so obtained the relevant articles. Incompatible articles were removed.

After conducted to literature search, 10 research that met the inclusion criteria were set to be reviewed in this systematic review.

2.4 Research Quality

All the studies used were experimental research design with RCT (Randomized Controlled Trial).

2.5 Measuring Instrument

Out of 10 research 6 of them used measuring instrument STAI (State Trait Anxiety Inventory) to measure the anxiety level of pre and post intervention.

STAI is a 20 item questionnaire using 4-point Likert scale. STAI is a widely used instrument with high reliability and validity (Twiss et al. 2006). The STAI is considered gold standard for assessing anxiety and has been used in more than 1000 peer reviewed studies (Franco 2016).

VAS measuring instrument (Visual Analogue Scale) or VASA (Visual Analogue Scale for Anxiety) was used in 1 study (Karaman et al. 2016).

Numeric Rating Scale as a measurement scaled tool using numbers used to measure anxiety or pain. NRS was used in 1 study (Hozumi et al. 2017)

Depression Anxiety Stress Scale (DASS 21) as a measuring tool for assessing depression, anxiety and stress levels was used in two studies (Bikmoradi et al. 2015; Tang & Tse 2014)

3 RESULTS

3.1 Study Description

Research journal searched from various databases until February 2018 obtained 236 Journal results. 196 SAGE journals, 11 Proquest, 5 Science Direct and 24 EBSCOHOST journals. From 236 were selected until remain 42 journals which relevant. Out of the 42 journals, the feasibility study were screened for 10 studies that met the eligibility criteria and accordance to inclusion criteria.

From 10 RCT studies were reviewed, all studies (100%) showed results that patients receiving aromatherapy interventions experienced a statistically significant decrease in anxiety levels.

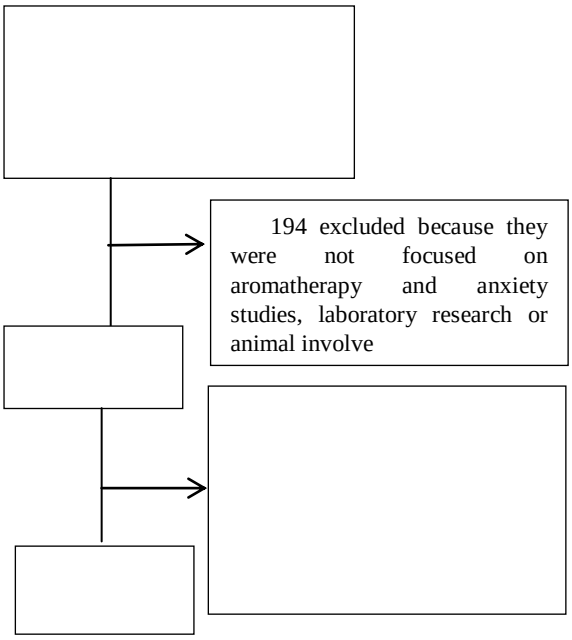

Figure 1: Flowchart selection process.

3.2 Research Sample

From 10 reviewed studies, the total sample size were 1,075 respondents. The number of samples was 25 respondents in the study and most of them were 361 respondents (Hozumi et al. 2017).

Research samples were recruited from various scopes of medical and surgical nursing areas such as postoperative CABG (Coronary Angiography By Pass), Coronary Angiography (CA), Intensive Care Unit (ICU), Pre ambulatory operations, Women with ADHD children (Attention Deficit Hyperactivity Disorder), Pre Breast Surgery, Surgery Room, Colonoscopy, Geriatric in the community and Psychotherapy Center.

3.3 Type of Aromatheraphy

On research the used of aromatherapy with various kind of essential oil ingredients were :

a. Lavender (Lavandula Angustifolia) totals of 4 studies using essential lavender oil (Bikmoradi et al. 2015; Ziyaeifard et al. 2016; Karaman et al. 2016; Franco 2016).
b. The combination of Lavender and other essential oils such as chamomile, citrus, bergamot, jojoba, osmantus (Olive) and grape fruit in 4 other studies (Tang & Tse 2014; Wu et al. 2014; Hozumi et al. 2017; Cho et al. 2013).
c. Bargamot, 1 research study using essential oil bargamot (Ni et al. 2013).
d. Satureja used in 1 study (Soto-Vasques & Alvarado-García 2017) species of satureja boliviana and satureja brevicalyx.

Most of the researchers specify essential oils and there was no research provides a choice of essential oil ingredients to the client, so in the sample determination, if the client was allergic or does not like the scent the prospective respondents were excluded (Bikmoradi et al. 2015; Ziyaeifard et al. 2016; Karaman et al. 2016; Tang & Tse 2014; Franco 2016; Hozumi et al. 2017).

3.4 Aromatheraphy Method

From the total 9 out of 10 (90%) studies reviewed using inhaled aromatherapy methods, 3 dropped (on cotton, kassa and aroma stones), 3 using evaporation (diffuser), 2 with oxygen masks and 1

Table 1.2: Comparisons of Randomized Controlled Trials Using Aromatherapy for Anxiety.

No	Author	Year	Study	Σ Sample	Type	Dosage	Duration	Method	Media	Instrument	Σ Test	Σ Group
1.	Ziyaefard et al	2017	Coronary Angiography	80 I=40 C=40	Lavender 5 drops	1 times	5’	Inhalation, 5 cms from nose	Swab cotton	Spielberger	2 times ; 30’ pre & post intervention	2 groups
2.	Bikmoradi etal	2015	Post CABG	60 I=30 C=30	Lavender 2 drops 2%	2 times; -day 2 post op -day 3 post op	@20’	Inhalation	Oksigen face mask	DASS 21	4 times ; 60’ before & after aromatherapy	2 groups
3.	Karaman et al	2016	Venous cannulation underwent surgery	101 I=51 C=50	Lavender 2 drops 1%	1 times	5’	Inhalation	Drops in gauze	VAS	before & 2’ after intervention	2 groups
4	Soto-Vasques et al	2016	Integral Psychotherapy Center	108 I=@18 C=18	-Satureja Boliviana -Satureja Brevicalyx 2 drops (2%)	12 times 6 x 1 weeks (Monday until saturday) for 2 weeks	@30’	Inhalation	Diffuser	STAI	2 times Pre-post	6 groups
5.	Cho-M.Yeon	2013	ICU Before and after PCI	56 I=28 C=28	Lavender: Chamomile: Citrus (6:2:0,5) 2 drops	3 times ; -before PCI (10 DBE) -After PCI (10 DBE) -Aroma Stone under pillow	@30’ Following morning	Inhalation	Drops in aroma stone	STAI	3 times -day 1 admission -pre & post PCI	2 groups
No	Author	Year	Study	Σ Sample	Type	Dosage	Duration	Method	Media	Instrument	Σ Test	Σ Group
6.	Ni et al	2013	Pre op ambulatory surgery	109 I=53 C=56	Bergamot	1 times	30’	Inhalation Vapor	Diffuser	STAI	2 times Pre-post	2 groups
7	Tang &	2014	Older in	82	Lavender:	4 weeks	20’	Inhalation	Aromatic	DASS-21	2 times	2 groups

	TSe		community	I=44 C=38	bergamot : lavender hidrolat 2 : 1 : 2,5	4 times and (PRN)s			spray		Pre-post	
8	Wu et al	2014	Females whose children ADHD	25 I=13 C=12	20 ml jojoba oil mix lavender 2%	4 weeks 8 session	40’	massage	-Efflurage -Friksi -Petrissage -Vibrasi	STAI	2x Pre-post intervention	2 groups
9	Franko et al	2016	Breast Surgery	93 I=47 C=46	Lavender 2 drops 2%	1 times	10’	Inhalation	Oksigen face mask	STAI	2 times Pre-post	2 groups
10	Hozumi et al	2017	Colonoscopy	361 I=71-75 C=74	-Osmantus -Lavender -Grafe fruit -Combination	1 times	During Colonos-copy	Inhalation vapor	Diffuser	NRS (1-10)	2 times Pre-post	5 groups

ICU = Intensive Care Unit; PCI = Percutaneus Coronary Intervention ; ADHD = Attention Deficit Hyperactivity Disorder ; DBE = Deep Breathing Exercise

sprayed study. One study (10%) using massage method.

3.4.1 Inhalation Techniques

Methods by dropping inhalation were done in 3 studies but with different techniques that were by dripping essential oil on cotton and placed 5 cm from the nose and then inhaled the aroma (Ziyaeifard et al. 2016). Another technique was dripped on the gauze and then inhaled with the sitting position (Karaman et al. 2016), another way was done by dripping on the aroma stones and the aroma was inhaled (Cho et al, 2013). Vaporation method used a diffuser were chosen by 3 studies (Soto-Vasques & Alvarado-García 2017; Ni et al. 2013)(Soto-Vasques & Alvarado-García 2017). (Ni et al 2013 and Hozumi et al 2017). Inhalation with oxygen mask were performed in 2 studies (Bikmoradi et al; Franco et al, 2016). Aromatic spray method was used in 1 study (Tang & Tse, 2014)

3.4.2 Massage technique

Only 1 study of 10 reviewed massage methods (Wu et al 2014). Massage was done with several techniques such as massage (efflurage), rubbing (friction), kneaded (petrissage) and vibration.

3.5 Dosage

The dosage of aromatherapy intervention was relatively varied from 1 until 12 times. A single-dose aromatherapy intervention study was conducted on 5 studies that showed the most use in the study of Ziyaefard et al 2017, Karaman et al 2016, Ni et al 2013; Franko et al 2016 and Hozumi et al 2017. Dosage of intervention 2 times in the study of Bikmoradi et al, 2015. 3 times dosage set in the research of Cho et al 2013. Dosage of at least 4 times (Tang & Tse et al 2014). 8 times dosage (Wu et al 2014) and 12 times dosage in the study (Soto Vasques et al 2016).

3.6 Duration

3.6.1 Duration of Aromatherapy Action

The duration of giving aromatherapy varies from the shortest time of 5 minutes and the longest 40 minutes. Of the 10 studies reviewed, the duration of the most used is 30 minutes. Thirty minutes were the time of aromatherapy defined by 3 studies (Soto vasques et al., 2016; Cho et al, 2013; Ni et al 2013). Two studies set the time for 20 minutes and 2 other studies set a time of 5 minutes. One study 40 minutes and the other one study set time of 10 minutes. One study (Hozumi, 2017) did not provide time limits of minutes, since interventions were given during colonoscopy action.

3.6.2 Duration of Research Intervention

The shortest duration of hours were conducted in 5 studies (Ziyaeifard et al. 2016; Karaman et al. 2016; Ni et al. 2013; Franco 2016; Hozumi et al. 2017). 2 days (Cho et al. 2013), 3 days (Bikmoradi et al. 2015), 2 weeks (Soto-Vasques & Alvarado-García 2017). The longest duration intervention was 4 weeks (Tang & Tse 2014; Wu et al. 2014).

4 DISCUSSIONS

Aromatherapy is claimed to be beneficial for mental, psychological, spiritual, and social aspects, although the quantity is less quantifiable. Aromatherapy is relatively free from the side effects compared to conventional medicine (Lee et al. 2011). No complaints about side effects of aromatherapy were reported in 361 respondents (Hozumi et al. 2017).

Essential oil is used in therapeutic, cosmetic, aromatic, fragrance / perfume, and spiritual use. Aromatherapy uses essential oil as a major therapeutic agent that is said to have a high concentration of substance that has been extracted from flowers, leaves, stems, fruits and roots and filtered from the resin (Ali et al. 2015).

4.1 The Comparison of Aromatherapy Types and Methods

The most widely used aromatherapy ingredient in reducing anxiety and depression is Lavender (Lavandula Angustifolia). In this systematic review of 8 studies using lavender, 4 of them are pure lavender and 4 other studies combine lavender with other ingredients such as bergamot essential oil, jojoba, citrus, osmantus and grape fruit by 4 studies. 7 of 8 lavender studies showed statistically that lavender can significantly decrease anxiety levels.

Lavender essential oil contains linalool and linalyl acetate. Linalool showed sedative effects and linalyl acetate showed a narcotic effect (Ali et al. 2015). Both effect cause lavender is widely used to overcome anxiety, sleep pattern disorders and improve mood.

Buckle (1998) suggests the use of lavender (lavandula angustifolia) for relaxation by inhalation or topical methods. Lavender has 3 species that have different effects of lavandula angustifolia effect relaxant, lavandula latifolia effect the opposite of stimulants and lavandula stoechas are neurotoxic, so need to be careful with recognizing and determining the type of lavender especially if the process itself (Buckle 1998).

Conflicting findings the effects of lavender on anxiety reduction was found in (Hozumi et al. 2017). This study was compared the effectiveness of 3 essential oil ingredients of olive, grape and lavender flowers. The result showed that olive oil and grapes significantly lower anxiety rather than lavender oil.

There are various methods used to benefit from aromatherapy with small doses for instance by inhalation, massage, applied to the skin surface and very rarely to used directly inserted into the internal body (Ali et al. 2015).

Inhalation methods is widely selected because of the pathways are relatively safe from possible allergies over the topical path (massage) or drunk (Ali et al. 2015). In terms of practicality, dropped way is very simple and easy to apply because without used a special tool. The evaporation method is chosen because of it volatile essential oil properties especially when exposed to extreme temperatures or by heating (Ali et al. 2015). The use of oxygen masks further maximize the quantity of essential oils that is inhaled in breath directly (Bikmoradi et al. 2015; Franco 2016). The method of spraying the scent is used for reasons of convenience to the user at home (community setting), as the respondent is the elderly (over 65 years) with the possibility of deterioration of various body functions (Tang & Tse 2014).

Only 1 out of 10 studies were reviewed using the massage method. Massage method is used because it is believed to increase lymphocyte and brain development, thus improving immunity and brain function (Wu et al. 2014). Massage was done with several techniques such as massage (efflurage), rubbing (friction), kneaded (petrissage) and vibration (Wu et al. 2014).

4.2 The Comparison of Aromatherapy Dose and Duration

Effective aromatherapy should be given only with recommended dosage, in order to produce maximum effect for the treatment of anxiety, fear and panic (Butje et al. 2008) recommend the using 5 drops of Lavender, 5 drops of Sandalwood or 2 drops of bargamot by inhalation with doses several times a day when anxiety happens.

From 4 studies using lavender, 3 research were used 2% lavender with dose as much as 2 drops, while the one other study using dose of lavender 5 drops. The dosing also varies from 1 to 12 interventions per respondent.

The duration used varied from 5 minutes to 40 minutes per intervention with the most used average was 30 minutes in 3 studies. Duration of study intervention was varying, the fastest in a few hours to the longest 4 weeks. The study intervention duration was influenced by place setting or nursing area, the type of client's illness or medical treatment.

5 CONCLUSION

The result of aromatherapy research indicate that aromatherapy with lavender or it is combination can decrease patients anxiety in various treatment settings. Aromatherapy is a safe, cheap and easy modality in managing client anxiety levels.

Generally recommend the use of lavender aromatherapy (lavandula angustifolia) intervention through inhalation method of 2 drops dose within 30 minutes to reduce client anxiety effectively.

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Chronic Sorrow At The Elderly Who Has Lost Partner With Pakurenan Culture (Extended Family) In Indonesia

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Keywords: Chronic Sorrow, Elderly, Extended Family.

Abstract: **Background:** Chronic sorrow is the ongoing disparity resulting from a loss characterized by pervasiveness and permanence. Symptoms of grief can occur and may recur periodically and potentially become progressive. One of the causes of chronic sorrow in the elderly is losing a partner. In Indonesia, the elderly who suffered a loss of partner reached 38.17% of the total elderly population in Indonesia in 2015. As many as 36.69% of them are lossing of partner due to death. One of the provinces in Indonesia, Bali, has a unique culture called Pakurenan (extended family) which makes the elderly live with their families. **Methods:** This descriptive study was conducted on 255 elderly aged 60 to 82 years who experienced chronic sorrow due their loss of partner. Chronic sorrow is judged base on the Burke/Eakes Chronic Sorrow Assessment Tool. **Results:** The results showed that 49% of elderly had chronic sorrow at pervasive stage, 28.3% at permanent stage, 18.4% at periodic stage and 4.3% at potentially progressive stage. **Conclusion:** The image of chronic sorrow in the elderly can explain that the chronic sorrow is quite high experienced by the elderly who suffered a loss of partner that need to be handled comprehensively. Elderly with Pakurenan culture (extended family) shows a result of mild chronic sorrow.

1 BACKGROUND

Chronic sorrow is the ongoing disparity resulting from a loss characterized by pervasiveness and permanence. Symptoms of grief can occur and may recur periodically and potentially become progressive (Eakes et al. 1998). One of the causes of chronic sorrow in the elderly is losing a partner. In Indonesia, the elderly who suffered a loss of partner reached 38.17% of the total elderly population in Indonesia in 2015. As many as 36.69% of them were lossing of partner due to death. There is more women elderly with widowed status (56.04%) than the men elderly. This happened due to the higher life expectancy of women compared to men's life expectancy, so that the percentage of women elderly with widowed status is higher than the men elderly (Kementerian Kesehatan RI 2016).

One of the provinces in Indonesia, Bali, has a unique culture related to residency called Pakurenan. Pakurenan is kuren (kuren in Balinese term known as family unit) who still have kinship, settling and living together within one yard (extended family) (Adnyani 2016). This culture keeps the elderly to live with their families.

Loss of partner is one of the triggers of psychological disorders in the form of recurring sadness. Elderly who experienced a loss of their partner tend to show increased symptoms of depression, which may reach a certain degree of severity (Sikorski et al. 2014; Tseng et al. 2017). Other studies also support this statement, indicating that the elderly who experienced a significantly greater loss of partner also experienced depression disorders such as symptoms of loneliness, sadness, mood depression and loss of appetite (Fried et al. 2015). In addition, the loss of a partner has a tendency to cause impaired cognitive function in the domain of executive at the elderly. This disorder is more common among women (Vidarsdottir et al. 2014).

Psychological disorders arising from loss of a partner also cause functional impairment in the elderly (Hajek et al. 2017). In addition to psychological disorders, due to loss of the partner also indirectly affects the physical of elderly, which is the occurrence of weight loss. Uncertain events,

such as mourning, some show deteriorating health conditions. The negative result of this incident poses a greater risk for elderly to be independent and at least enjoy satisfactory quality of life. When it comes to weight loss, especially unintentional weight loss, the effect may be detrimental (Mercan et al. 2016).

This study aims to identify the chronic sorrow of the elderly who loss of partner in Pakurenan culture in Indonesia and its relation to the characteristics of respondents such as age, gender, personality type, subjective health, self-ideal, self-image and self-esteem.

2 METHODS

This study uses descriptive research design with survey method. The populations in this study are elderly who experienced chronic sorrow due to loss partner in District Tegallalang, Gianyar regency, Bali. The populations in this study were taken from two villages located in Tegallalang Sub-District, Tegallalang Village and Keliki Village. The samples in this study were taken with simple random sampling based on power analysis as many as 255 respondents aged 60-82 years, losing partner less than 48 months. Exclusion criteria are: elderly with mental disorders or other chronic diseases such as dementia, Parkinson, stroke and diabetes mellitus (based on medical history); elderly outside the community (e.g. hospitals, nursing home and others).

The instrument used was the Burke/Eakes Chronic Sorrow Assessment Tool for measuring chronic sorrow (Eakes et al. 1998). Instrument of Littaeur Personality Type used to measure personality type of respondent (Littauer 1992). The 12-Item Short Form Health Survey (SF-12) to measure health perceptions (Ware et al. 1995). The Self-Attributes Questionnaire – Self Ideal Sub-Scale for self-idealizing measure (Pelham & Swann 1989). The Multidimensional Body-Self Relations Questionnaire-Appearance Scale (MBSRQ-AS) for measuring self-image of respondents (Cash et al. 1986). Rosenberg Self-Esteem which used to measure respondents' self-esteem (Rosenberg 1965).

3 RESULTS

The total of 255 elderly who experienced chronic sorrow due to loss of partners aged 60-82 years old with female gender of 69% (n=176) and male by 31% (n=79). The results of the study of Burke/Eakes Chronic Sorrow Assessment Tool showed that the majority chronic sorrow characteristics at the pervasive state was 49% (n=125), at a permanent state was 28.3% (n=72), at a periodic state was 18.4% (n=47) and at potentially progressive state was 4.3% (n=11).

Table 1: Personality Type.

Personality Type	F	%
Choleric	88	34.5
Sanguine	55	21.6
Phlegmatic	58	22.7
Melancholic	54	21.2
	255	100

Table 2: Subjective Health.

Subjective Health	F	%
Good	152	59.6
Poor	103	40.4
	255	100

Table 3: Self-Ideal.

Self-Ideal	F	%
Positive	150	58.8
Negative	105	41.2
	255	100

Table 4: Self-Image

Self-Image	F	%
Positive	158	62
Negative	97	38
	255	100

Table 5: Self-Esteem

Self-Esteem	F	%
Positive	170	66.7
Negative	85	33.3
	255	100

3.1 Personality Type

The result of study using Littaeur Personality Type Instrument showed that most personality that is choleric equal to 22.7% (n=58), followed by phlegmatic which is equal to 22.7% (n=58), sanguine equal to 21.6% (n=55) and melancholy that is equal to 21.2% (n=54).

Table 6: Distribution of Chronic Sorrow Status based on Sociodemographic Charateristics.

	Chronic Sorrow				Total
	Pervasive	Permanent	Periodic	Potentially progressive	
	125 (49%)	72 (28.3%)	47 (18.4%)	11 (4.3%)	255 (100%)
Age group (years)					
60-74	102 (52.4%)	50 (25.6%)	34 (17.4%)	9 (4.6%)	195 (76.5%)
75-90	23 (38.3%)	22 (36.7%)	13 (21.7%)	2 (3.3%)	60 (23.5%)
Sex					
Female	83 (47.2%)	46 (26.1%)	38 (21.6%)	9 (5.1%)	176 (69%)
Male	42 (53.2%)	26 (32.9%)	9 (11.4%)	2 (2.5%)	79 (31%)
Personality Type					
Choleric	37 (42.1%)	31 (35.2%)	15 (17%)	5 (5.7%)	88 (34.5%)
Sanguine	31 (56.4%)	15 (27.3%)	7 (12.7%)	2 (3.6%)	55 (21.6%)
Phlegmatic	24 (41.4%)	13 (22.4%)	17 (29.3%)	4 (6.9%)	58 (22.7%)
Melancholic	33 (61.1%)	13 (24.1%)	8 (14.8%)	0 (0%)	54 (21.2%)
Subjective Health					
Good	117 (77%)	30 (19.7%)	5 (3.3%)	0 (0%)	152 (59.6%)
Poor	8 (7.7%)	42 (40.8%)	42 (40.8%)	11 (10.7%)	103 (40.4%)
Self-Ideal					
Positive	111 (74%)	32 (21.3%)	7 (4.7%)	0 (0%)	150 (58.8%)
Negative	14 (13.3%)	40 (38.1%)	40 (38.1%)	11 (10.5%)	105 (41.2%)
Self-Image					
Positive	116 (73.4%)	31 (19.6%)	11 (7%)	0 (0%)	158 (62%)
Negative	9 (9.3%)	41 (42.3%)	36 (37.1%)	11 (11.3%)	97 (38%)
Self-Esteem					
Positive	118 (69.4%)	39 (22.9%)	12 (7.1%)	1 (0.6%)	170 (66.7%)
Negative	7 (8.2%)	33 (38.8%)	35 (41.2%)	10 (11.8%)	85 (33.3%)

3.2 Subjective Health

The results of the study using the 12 Item Short Form Health Survey (SF-12) showed that good subjective health percentage which was 59.6% (n=152) is higher than poor subjective health percentage (40.4% with n=103).

3.3 Self-Ideal

The results of the study using the Self-Attributes Questionnaire – Self Ideal Sub-Scale showed that there is more positive self-ideal (58.8% with n=150) than negative self-ideal which was 41.2% (n=105).

3.4 Self-Image

The results using The Multidimensional Body-Self Relations Questionnaire – Appearance Scale (MBSRQ-AS) showed that positive self-image (62%, n=158) is higher than negative self-image which only 38% (n=97).

3.5 Self-Esteem

The results using Rosenberg Self-Esteem Scale showed that number positive self-esteem is more compare to negative self-esteem. The number of positive self-esteem is 66.7% (n=170) while negative self-esteem number is 33.3% (n=85).

3.6 Distribution of Chronic Sorrow Status based on Sociodemographic Charateristics

The results of the study showed that group age of 60-74 years old is mostly experience chronic sorrow at pervasive state, 52.4% (n=102) and the lowest at potentially progressive state, 4.6% (n=9). The same thing also followed by the group age of 75-90 years old which the highest percentage experience at pervasive state, 38.3% (n=23) and the lowest at potentially progressive state, 3.3% (n=2).

Women elderly are more experiencing at pervasive state, 47.2% (n=83) and the lowest at potentially progressive state, 5.1% (n=9). Meanwhile, the men elderly were also experiencing the most at pervasive state, which is 53.2% (n=42)

and the lowest at potentially progressive state at 2.5% (n=2).

Personality type of choleric, sanguine, and phlegmatic are also more at pervasive state and lowest at potentially progressive state. The difference is found at the periodic state (n=17) is more than the permanent state (n=13).

Good subjective health shows that there is more at pervasive state, 77% (n=117) and the lowest at periodic condition, which is 3.3% (n=5) and there is no potentially progressive state (n=0). Poor subjective health shows that is more at permanent and periodic conditions with the same amount, 40.8% (n=42) and the lowest at pervasive state, 7.7% (n=8).

Positive self-ideal shows more at pervasive state, at 74% (n=111) and the lowest is at periodic state, 4.7% (n=7) and there is no potentially progressive state (n=0). Negative self-ideal shows that there is more at permanent and periodic condition with equal number of 38.1% (n=40) and the lowest is at potentially progressive state of 10.5% (n=11).

Positive self-image shows more at pervasive state, 73.4% (n=116) and the lowest at periodic condition which equals to 7% (n=10). Negative self-image shows at permanent state with equal number that is equal to 42.3% (n=41) and the lowest at 9.3% (n=9) at pervasive state.

Positive self-esteem showed more number at pervasive state of 69.4% (n=118) and the lowest at potentially progressive state of 0.6% (n=1). Negative self-esteem showed more percentage in periodic state with the same amount which is equal to 41.2% (n=35) and the lowest at pervasive state which equals to 8.2% (n=7).

4 DISCUSSIONS

Pervasive chronic sorrow is felt in the early days of loss where the feeling of sadness begins to emerge and it is so deep. The next stage of chronic sorrow will enter at a permanent stage that is felt throughout their life but has not shown any significant influence. In the third stage, chronic sorrow will periodically appear especially on very strong trigger events. Poor management will result in the falling of chronic sorrow at progressive state that caused disturbances to activities (Eakes et al. 1998). Study shows more events at pervasive state which is 49%, experienced more in the early loss of partner.

Gender of the elderly who suffers from losing affects the elderly response to loss of partner. Men are shown to be able to maintain physical health better than women when they experience a loss of partner (Fry 2001). In addition to gender, age also greatly affects the preparedness of the elderly to face with the pressure of losing a partner. The older the elderly are judged to be better in the period of mourning (Brenn & Ytterstad 2016). This is similar to the results of study that show women elderly experience chronic sorrow more than the men elderly. Older age also shows better chronic sorrow conditions than younger ages.

Personality is a typical pattern of a person in thinking, feeling and behaving which relatively stable and predictable (Dorland 2012). Personality is also the total number of congenital or hereditary trends with various influences from environment and education that shape the psychological condition of a person and influence his attitude toward life (Weller 2009). Florence Littaeur developed four personality types: choleric, sanguine, phlegmatic, and melancholy. Each personality type has an influence on one's attitude and way of thinking (Littauer 1992). The results showed the type of personality of respondents is more with type choleric, followed by phlegmatic, sanguine and melancholy. Choleric tends to be more at a chronic sorrow state of pervasive state, followed by a permanent, periodic and potentially progressive state. The same things also happen with personality type of sanguine and melancholy. But the phlegmatic personality type is more at pervasive state then followed by periodic, permanent and potentially progressive state.

Subjective health is something that individuals perceive about their own health at a given point in time (Johnston et al. 2009). Subjective health in term of utility scale is highly desirable and useful for economic evaluation of treatments and medical procedures (Feeny et al. 1996). The results show the tendency of "Good" category which is more than "Poor". On the results of good subjective health tend to be more on pervasive state and followed by permanent and periodic state and without any chronic sorrow at potentially progressive state. In the results of poor subjective health tend to be more in the permanent and periodic state, followed by potentially progressive state and the last is the pervasive state.

Self-ideal is the individual's perception of how he or she should behave based on certain standards, aspirations, goals or personal judgments. Standard can relate to the type of a number of aspirations, purpose, values to be achieved. Self-ideal will create the ideals and personal expectations based on social norms (family culture) and to who wants to do (Stuart & Sundeen 1991). The results show that positive self-ideal tends to be more on the pervasive chronic sorrow state then followed by permanent and periodic state and without chronic sorrow at potentially progressive state. On the negative self-

ideal tend to be more at permanent stage of chronic sorrow, followed by pervasive state and the last is at potentially progressive state.

Self-image is a person's attitude towards their body consciously and unconsciously. This attitude includes perceptions and feelings about the size, shape of present and potential body function that are continuously modified with new experiences of each individual (Stuart & Sundeen 1991). Since born, an individual explored their body parts, received stimuli from others, then begin to manipulate the environment and begin to realize their selves apart from the environment. The way of individual sees their selves have an important impact on their psychological aspect. A realistic view of their selves in receiving and measuring parts of their body will increase the sense of comfort and avoid the anxiety (Keliat 1992). The results showed that positive self-image tends to be more on the pervasive chronic sorrow state and then followed by permanent and periodic state and without chronic sorrow at potentially progressive state. In negative self-image is more at permanent state of chronic sorrow, followed by periodic and potentially progressive state, the last is at pervasive state.

Self-esteem is a personal judgment as the results that achieved by analyzing how far the ideal self-fulfilling behavior (Stuart & Sundeen 1991). The frequency of goal attainment will result in low or high self-esteem. If individuals often fail, they tend to have lower self-esteem. Self-esteem is obtained within their self and from others. The main aspect is to be loved and receive appreciation from others (Keliat 1992). The results showed that positive self-esteem tends to be more at chronic sorrow state of pervasive then followed by permanent, periodic and potentially progressive state. Negative self-esteem is more at periodic state of chronic sorrow, and then followed by permanent, potentially progressive and pervasive state.

5 CONCLUSIONS

Pakurenan culture (extended family) in Indonesia show a chronic sorrow image that tends to be more frequent in mild conditions (pervasive) and very few at severe state. This means that the culture of Pakurenan is very good at maintaining chronic sorrow which experienced by elderly due to their loss of partner, so that chronic sorrow could be easier to be handled.

This study also explores how the characteristic of respondents related to chronic sorrow experienced. Conditions of chronic sorrow experienced by the elderly who lost their partner are strongly related to age, gender, personality type, subjective health, self-ideal, self-image, and self-esteem. Women elderly experience more chronic sorrow due to loss of partner the men. Older age also showed better chronic sorrow state than younger ages. Sanguine and melancholy personality types tend to display milder chronic sorrow state but the choleric and phlegmatic personality types tend to be more in the mild to moderate range. Subjective health, self-ideal, self-image and self-esteem showed the same thing that good subjective health, positive self-ideal, positive self-image and positive self-esteem tend to display milder state of chronic sorrow.

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An Overview of Loneliness, Anxiety and Depression Level of Elderly Suspected Relocation Stress Syndrome

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Keywords: Loneliness, Anxiety, Depression, Elderly, Relocation Stress Syndrome.

Abstract: Background : The changing of old residence to new residence would cause relocation stress syndrome. A manifestation of relocation stress syndrome that occurs in the elderly was characterized by anxiety, fear, insecurity, depression, and loneliness. Background of this study was conducted at UPTD Griya Werdha. Griya Werdha Surabaya was based on a preliminary study which involved 12 interviewees of elderly at UPTD Griya Werdha Surabaya. There were 10 elderly showed symptoms that lead to loneliness, anxiety and depression. They seemed often to aloof, sad, not excited, and woke up at night. Methods :This research used descriptive method by taking Purposive Sampling technique that based on inclusion criteria so that got the sample of 58 respondents and data retrieval done by interview. Results: The results were obtained from 58 respondents based on loneliness in medium category (94.8%) and weight category (5.2%). Anxiety level in medium category (62.1%) and weight category (37,9%). Levels of depression in the suspect category (94.8%) and depression (5.2%).Conclusions: Based on the results of these studies, it was expected that the orphanage in providing care not only focus on physical care but also psychic treatment by using therapeutic communication.

1 BACKGROUND

Changing the original residence from the old place to the new place would cause relocation stress syndrome (Stuart 2016). Manifestations of this syndrome that occur in the elderly was characterized by feelings of anxiety, fear, talking about matters relating to anxiety, feelings of insecurity, lack of confidence, the occurrence of depression, loneliness, deep sadness and changes in body weight (Stuart 2016). The mechanisms of loneliness, anxiety and depression are characterized by several symptoms, including feelings of isolation, decreased quality of sleep, elevated blood pressure, cognitive impairment, decreased quality of life, and delayed adjustment of loss and helplessness (Stuart 2016). According to De Jong Gierveld. 1998 was a situation experienced by someone as one of the unpleasant or lack of quality of a particular relationship (De Jong Gierveld 1998).The continuous loneliness of the individual indirectly caused anxiety and depression. Anxiety according to Asher et al. 2017 was a common and debilitating psychiatric disorder with an estimated lifetime prevalence rate of 12.1%(Asher et al. 2017). Based on preliminary studies with interviews and observations from 12 elderly at GriyaWerdha Surabaya UPTD there were 10 elderly showed symptoms that lead to loneliness, anxiety and depression including they seemed to often aloof, sad, not excited, often feeling sickly and often awakened at evening. Research conducted by Arslantas, et al (2015) stated, elderly who undergo long-term care in nursing homes could experience loneliness (Arslantaşet al., 2015). Pavlova et al (2015) explained they may also experience anxiety (Pavlova et al., 2015). Sudoyo (2006) described the prevalence rate of depression in Indonesia that was most prevalent in long-term care as much as 76.3% (Sudoyo, 2006). (Sudoyo 2006, Arslantas, Pavlova, 2015). Based on the data above, the placement of relocation treatment in elderly patients with a long period of time, if not handled properly would cause an increase in physical and psychosocial problems such as the occurrence of loneliness, anxiety and even depression. In addition to the occurrence of

psychosocial problems due to long-term care experienced by the elderly could also lead to death. As research conducted by Tusumura et al (2013) said there were 109 elderly deaths undergoing long-term treatment from March to October 2010 (Yasumura et al . 2013).

The mechanisms of psychological problems of loneliness, anxiety and depression that occur in the elderly in the home were influenced by several trigger factors, including; damage to physical and psychosocial aspects, traumatic experiences and striking differences between new and old environments. Its clinical manifestations were illustrated by an increase in symptoms, ie fear, lack of rest, talking about things that concern / anger from being displaced, increased confusion, sleep disturbances, and even the occurrence of morbidity (Stuart 2016)**.**

Based on the background above the researchers was interested in researching about "How the Loneliness, Anxiety and Depression Level Profile In the elderly suspected Relocation Stress Syndrome in UPTD. Griya Werdha, Surabaya?"

2 METHODS

2.1 Design and Sample

This research used Descriptive Quantitative Design with cross sectional approach. This study described the level of loneliness, anxiety and depression of elderly suspected relocation stress syndrome in UPTD. GriyaWerdha, Surabaya. The population of this research was 112 respondents. A total of 58 respondents were taken by using simple random sampling technique. Inclusion criteria in this study were elderly patients with age 60 - 95 years old, Mental State Exam score (MMSE) with total score> 21, ULCA Loneliness Scale> 60 scores, SRAS-20> 45 scores, GDS-15> 4 scores, can communicate verbally and not experiencing hearing loss (deaf), and residence stay less than 1 year. While the exclusion criteria were the respondents who did not have a history of mental disorder (Schizophrenia), respondents who refused to be participants in the study, and respondents who had bedrest total with a decrease in awareness status. This research was conducted at UPTD. GriyaWerdha, Surabaya.

2.2 Instruments

A guided or structured interview technique was used to measure loneliness, anxiety and depression. There were some questions and the interviewees had to give checklists on the multiple choices that have been provided. The research instruments used in this study for loneliness using UCLA loneliness Scale developed by Russell, Peplau, & Ferguson (1978) that consisted of 20 question items and had been tested reliability and validity with internal consistency results reported alpha coefficient of 0.96 (Russell 1996). Instruments for anxiety levels using the Self-Rating Anxiety Scale Instrument (SRAS) developed by William WK Zung consisting of 20 items referring to the anxiety symptoms in DSM-II with the closed question model (choice of 4 choices "Never (score 1) , "Sometimes" (value 2), "Some time" (value 3), "Almost any time" (value 4).Instruments for depression levels used the Geriatric Depression Scale (GDS) instrument, which contain 15 items of closed questions. Geriatric Depression Scale 15 had a sensitivity of 92% and a specificity of 89% when evaluated against diagnostic criteria(D'ATH et al. 1994).

2.3 Ethical Considerations

Before filling out the questionnaire, the researcher explained the purpose of this research to the respondents. To ensure anonymity, respondents included their initials name only. Participants were involved in the study voluntarily. Ethical approval was obtained from the ethics committee of the Faculty of Nursing Airlangga University.

2.4 Data Analysis

The data characteristic of respondent and data of loneliness, anxiety and depression were analyzed using descriptive analysis covering gender frequency distribution. The data was presented in cross tabulation.

3 RESULTS

3.1 General Characteristics of Respondents

Demographic data of respondents showed that female gender (63.8%) and Men (36.2%). Age of respondents most of the age of 60-74 years that is as

Table 1: General Data and Loneliness level.

Demographic data	Loneliness Level		Total
	Moderate	Grave	
Gender			
Male	20 (36,4%)	1 (33,3%)	21 (36.2%)
Woman	35 (63.6%)	2 (66,7%)	37 (63.8%)
Total	100	100	58

Table 2: General Data And Anxiety Level.

Demographic data	Anxiety Level.		Total
	Moderate	Grave	
Gender			
Male	8 (22.2%)	13 (59.1%)	21 (36.2%)
Female	28 (77.8%)	9 (40.9%)	37 (63.8%)
Total	100	100	58

Table 3: General Data And Depression Rate.

Demographic data	Depression Rate		Total
	Suspects Depression	Depression	
Gender			
Male	20 (36.4%)	1 (33.3%)	21 (36.2%)
Female	35 (63.6%)	2 (66.7%)	37 (63.8%)
Total	100	100	58

much (55.2%) and a small age of 85-95 years (6.9%). At most respondents' education level (36.2%) did not complete primary school and a small part (1.7%) High Descent. Based on the respondents' care, most of them were in the range of 6 months - 1 year (70.7%) and a small fraction of 0-6 months range (29.3%).

3.2 Descriptive Analysis of Loneliness Level

Based on the total score, it can be seen that the level of loneliness of the elderly is categorized into 2, namely the level of loneliness of medium and heavy.

Table 1. shows that women tend to have higher levels of loneliness than men. The loneliness of women in the weight category is higher than the moderate category of 66, 7% of the 58 elderly respondents. In addition, there were 20 male respondents who had loneliness in the moderate category (36.4%).

3.3 Descriptive Analysis of Anxiety Level

Based on the total score, the level of elderly anxiety was categorized into 2, namely the level of moderate and severe anxiety. Table 2 showed that women tend to have higher levels of anxiety than men. The loneliness of women in the moderate category was higher than the moderate category, ie 77.8% of the 58 elderly respondents. In addition, there were 13 male respondents who had anxiety level in weight category (59.1%).

3.4 Descriptive Analysis of Depression Rate

Based on the total score, the level of elderly depression was categorized into 2; depression and depression suspects.
Table 3 showed that women tend to have higher levels of depression than men. Women depression rates in the category of depression were higher than the suspect category that was 66.7% of 58 respondents' elderly. In addition, there were 1 male respondents who had depression levels in the depression category (33.3%).

4 DISCUSSION

Based on the data in Table 1, showed that gender has different effects on the frequency of elderly loneliness level. Data table 1 showed that elderly women tend to have higher levels of loneliness than older men. This was supported by Chang's research. 2018 which explained that loneliness prevalence was more dominated by women than men. But this was different from the research done by Borys & Perlman. 1985, where in the research conducted found that loneliness was more dominated by Men than women. Based on the results above it could be caused by the difference of each item type of instrument used to conduct interviews with respondents (Borys & Perlman 1985). Instruments referred to in this case was a tool that has passed the test of validity and reliability before given to the respondent.

Based on the data in Table 2, it can be seen that sex had a different effect on the frequency of anxiety level of elderly.Data table 1 showed that elderly women tend to have an even higher anxiety level than the elderly Men. This was supported by the

research Depaola et al. 2003 which explained that the anxiety level of elderly women was higher than the anxiety experienced by elderly men. In addition, research conducted by Arsher et al. 2017 explained that the problem of anxiety was higher experienced by women than with men. Based on the increasing of anxiety experienced by women was influenced by the difference of emotional expression. Women always respond something by involving their emotion while the men involving cognitive not emotion.

Based on the data in Table 3, it could be seen that gender had different effects on the frequency of elderly depression level. Data table 3 showed that elderly women tend to have higher levels of depression than men's elderly. It was supported by the research of Li et al. 2017 which explained that the depressed level of elderly women was higher than the depression experienced by elderly men. Depression level here related to the task and the role of women was very complex so that the received stress was very complex as well.

5 CONCLUSIONS

Level of loneliness, anxiety level and level of elderly depression in UPTD. GriyaWerdha was in the medium and heavy category. The level of loneliness most experienced by women in moderate and severe categories. Anxiety levels experienced by many women in moderate and severe categories. While depression rate based on table 3 also experienced by many women in the category of suspect and depression. It was influenced by emotional responders and the level of complex work that affects the emotional response provided.

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The Effect of Physical Activity to Decreased of Dementia (Mild,Moderate and Severe) in Elderly: A Systematic Review

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Keywords: Physical activity, dementia, elderly.

Abstract: Dementia is a syndrome characterized as a decrease in cognitive function, memory, language, environmental orientation, emotional control changes, social behavior, motivation and physical abilities. Physical activity is any body movement produced by skeletal muscles that require energy expenditure. Physical exercise is a non-pharmacological treatment that can be given to the elderly who have dementia. The purpose of this review is to determine the effect of physical activities on the state of dementia that occurs in the elderly.systematic Methods of the study were systematic review of dementia elderly with study selection criteria using Scopus, Science Direct, and Pubmed databases by Randomized Control Trial (RCT). The result of the 15 journals conducted and reviewed with relevant keyword The results showed that the physical activity which performed by someone who suffered from mild ,moderate and severe dementia will decrease after doing physical activity.

1 INTRODUCTION

Dementia is a progressive neurodegenerative condition characterized by cognitive impairment of memory, language, recognition and movement disturbing daily activities. Dementia is one of the most common neurodegenerative diseases in elderly people worldwide.According to (DSM IV) dementia is defined to be two.memory impairment with cognitive impairment that causes aphasia (language disorder), apraxia (motor disturbance), agnosia (decrease in object recognition) or executive function (planning, sequencing, abstract).While the latter is a decrease in functional ability such as social ability or self-care associated with cognitive deficits

Global prevalence rates About 60% of dementia cases in developed countries are caused by Alzheimer's disease and about 20% are vascular dementia. Dementia affects the elderly at a much greater rate than in younger individuals. The prevalence of dementia in developed countries under 1% for people aged 65-69 years, increased to about 35% at age 95-99 years, and prevalence doubled at the age of 65 - 99.(Atherton *et al.*, 2016)

The increased prevalence of dementia will also be followed by an increase in health costs including medical expenses, nursing costs, caregiver salaries and caregiver training costs, so there is a need for optimal care of the functional ability of the elderly. Functional ability is an important aspect in the treatment of dementia patients. Therefore, the development of nonpharmacologic interventions to reduce functional degradation in dementia patients is an important implication of elderly health (Souto *et al.*, 2016).

Many journals suggest that reducing physical activity may interfere with mental health, impair social function, occupation, health-related quality of life. In addition, depressive symptoms associated with more severe cognitive functioning occur in the elderly with dementia. Therefore, developing an effective strategy for improving cognitive function and depressive symptoms has attracted attention and alternatives that can be done in the elderly with dementia. (Groot *et al.*, 2016).

Treatment of elderly with dementia is important as it is the provision of antipsychotic atypical drugs (eg, risperidone and olanzapine) and acetylcholinesterase inhibitors, has been considered the treatment of

choice. Previous studies have suggested that the use of pharmacotherapy is accompanied by adverse events (eg, increased risk of cerebrovascular side effects and metabolic syndrome.(Groot *et al.*, 2016).

Physical exercise is a non-pharmacological treatment for dementia that has no side effects. The ultimate goal is to increase the functional potential of the depressed elderly and develop biomotor abilities to the highest degree (Karssemeijer *et al.*, 2017). Physical exercise in its execution is more focused on the process of fostering physical conditions such as physical exercise as a whole, physical exercise is one of the most important factors that should be considered as an element that is needed in the healing process in the elderly with dementia in order to achieve optimal health..

Physical activity is much done for people with dementia there are 17 studies that state it, nine of whom assess the effect of physical exercise play a role in cognition change. The authors conclude that the effectiveness of physical activity can improve cognitive abilities and other abilities that elderly people have with dementia (Atherton *et al.*, 2016)

So it can be concluded that treatment in elderly with dementia there are 2 kinds of pharmacology and nonpharmacology. Pharmacologic management of dementia has been shown to have a rapid effect but its effects are included in the short term. While non-pharmacological management can provide long-term effects and have a fairly good effectiveness (Holthoff *et al.*, 2015) .

Non pharmacological management one of them is physical latian. Physical exercise done in a planned, structured, repetitive, is a much intervention in doing so is supported by research research conducted. The results of physical exercise performed by the elderly with dementia may enhance functional ability, physical function, neuropsychiatric symptoms (especially depression), and even cognitive function (Souto *et al.*, 2016). Physical activity is often associated with a lower risk of dementia. The relationship seems not only related to the number of calories spent during exercise, but also with the number of activities that indicate that there is a synergy between exercise and cognitive stimulation. Research data have shown the relationship between physical activity with cognitive function and risk of dementia. A study showed that a physical exercise program for 6 months or about 150 minutes per week can improve cognitive function (Gitlin *et al.*, 2016).

To reduce the high incidence of dementia in the elderly. Physical activity is one of the nonpharmacologic therapies proposed as decreased incidence of dementia in the elderly it has been supported by many research studies that support it

2 METODE

2.1 Data Search dan Source

The search strategy of the journal begins by asking a research question, namely "is there any effect of physical activity on the decrease of dementia (mild, moderate, severe)?". Search results of research on all scopus indexed journals with Randomized Controlled Trials (RCT) type, related to therapy of physical activity for dementia.

The database used for journal searching is Database in Proquest, Science Direct, and scopus. Keywords used are physical activity, and dementia. The journal is limited by the publication year 2011-2018, with nursing journal areas, medicine, and psychology, as well as journals with English.

2.2 Selection Study and Criteria

The inclusion criteria set out in this criterion 1) Design a quantitative study of both observation and experimentation; 2) maximum span of 10 years ago; 3) Subjects of elderly men and women with dementia; 4) Intervention given in the form of physical activity; 5) research in select type Randomize Control Trial (RCT)

3. RESULTS

3.1 Search result and study selection

In the selection of journals to be used in systematic journal review should have the same characteristics and Feasibility study, it is assessed by using PICOT approach so it is easier and easier to understand in writing systematic review.

Population: the population used in this study was aged elderly (>60 year) with mild and severe dementia

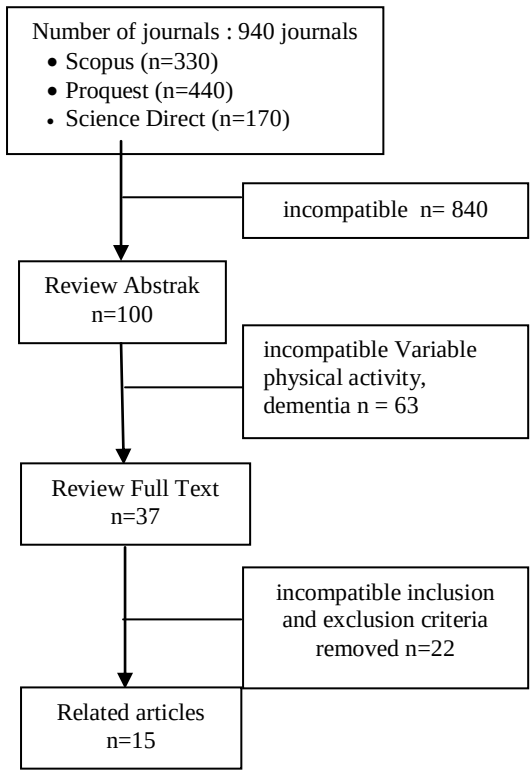
Intervensi: 1. physical activity interventions that include aerobic exercise (Atherton *et al.*, 2016), physical exercise (Souto *et al.*, 2016)(Holthoff *et al.*, 2015). The dance movement (Tin *et al.*, 2015)

handmovement program (Eggermont *et al.*, 2009) foot massage (Moyle *et al.*, 2014) daily jogging exercise (Zeng *et al.*, 2016).

Comparisson: Participants were randomized to at least one control group and the same treatment group were treated, but for the control group, the usual treatment of physical activity, while the group treatment group performed the usual treatment interventions and added with the exercise intervention..

Output: pre- and post-intervention data for both intervention and control for one or more outcomes related to physical activity and dementia. And the results are measured in DSM IV (Souto *et al.*, 2016)

Desain studi: *Randomized control trials* (RCT).



Gambar 1: Search Flow

3.2 Characteristics of the Study

Characteristics of the study are described in table 1. All the journals obtained from the results of the study have physical activity therapy performed on clients with dementia. All studies have age criteria of repondent 60 years and over. All 15 studies were clients with mild, moderate, severe dementia..

3.3 Study Review Results

Scientific study results are done by writers who get from Proquest, Medline, and Science Direct, and scopus. The overall total of all study participants was 940 with age >60 years and have a good dementia disorders were light and heavy interventions are used in all the studies are multicomponent interventions including behavioral, educational and cognitive techniques used in physical activity. With an average duration of therapy for 6 weeks with an average 24-week follow-up. From all the research mostly using measuring devices the same: Scale-cognitive subscale (ADAS-cog)(Atherton *et al.*, 2016), DSM IV (Souto *et al.*, 2016) Mini-Mental State (sMMSE) (Holthoff *et al.*, 2015) College of Sports Medicine (ACSM) (Karssemeijer *et al.*, 2017) neuropsychological, MRI and Bloodbase (Zeng *et al.*, 2016) and physical exercise its other like dance, foot massage, recreational (Souto *et al.*, 2016). increased mood with socialization (Tin *et al.*, 2015) movement of hand and finger movements (Eggermont *et al.*, 2009)

From several literature journals that have been done PICOT there is a statistically significant effect found from physical activity (physical activity) which includes aerobics, dancing, gymnastics, cycling and other physical activities provide significant results. After doing the routine and scheduled treatment

Then do measurements using measuring instruments that have berstandart. The results obtained in the elderly with both mild and severe dementia can experience significant reductions, and mempu improve the quality of life of the elderly.

4 DISCUSSION

The authors selected 15 journals with similar characteristics in the systematic writing of this review. The authors chose to look at the influence between physical activity and the incidence of dementia occurring in the elderly. From the review several studies have shown that the application of physical activity to treat patients with mild and severe dementia showed significant results on the decline of dementia status in different measurements using Scale-Cognitive subscale (ADAS-cog)(Atherton *et al.*, 2016), DSM IV, (Souto *et al.*, 2016), Mini-Mental State (sMMSE) (Holthoff *et al.*,

2015) College of Sports Medicine (ACSM) (Karssemeijer *et al.*, 2017) neuropsychological, MRI and Bloodbase (Zeng *et al.*, 2016). Of all the results shown lead to improvement of the incidence of dementia in the elderly, which in doing intervention and physical training.Physical.

activity One non-pharmacological approach is the use of activities that utilize the individual's ability to engage as well as the social role, which is very useful for his or her interests, thus people with dementia can effectively engage in daily activities, thereby reducing the symptoms of depression. Activities are adjusted to the ability of the elderly, so as to prevent the occurrence of saturation and discomfort.(Gitlin *et al.*, 2016)

Scheduled exercise programs that are easy to apply in the treatment of dementia significantly reduce the signs of neuropsychiatric signs and symptoms in patients suffering from moderate and severe (Fleiner *et al.*, 2017) signs of neuropsychiatric and dementia symptoms include various symptoms of depression, agitation and apathy. Both became the most common. Thus physical activity can be termed as an alternative non pharmacological treatment that can be done in patients with dementia, it also has many advantages among them can be easily applied in daily activities, but to get the results the maximum physical activity (physical activity) is done in a scheduled and routine so that will get the maximum results (Rathore, 2017)

4.1 Implications

The results of various research reviews can be implicated in the nursing sphere especially on mental nursing. Which in the client with dementia both mild moderate and severe by doing physical activityis one of non-pharmacological skills and handlers that can reduce the incidence of dementia in the elderly.

physical activity is one form of nursing intervention that can be easily applied in daily activities and is non-pharmacological, and can also provide nursing orders. However, it is still necessary to do a more in-depth study, sehinnga physical activity can be applied and entered in a sensual intervention, especially in patients with dementia.

5 CONCLUSION

In conclusion, this review indicates that physical activity in clients with dementia can be lowered according to the results of research indicating that physical activity with various types of physical exercise has a significant effect on the incidence of dementia experienced by the elderly. This can be used as a guide and become a reference for further research that is tailored to the demographic client's characteristic

Non-pharmacological therapy, such as physical activity intervention, is an interesting alternative or add-on for non-pharmacological therapy when cognitive symptoms in patients with dementia (Groot *et al.*, 2016)

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Systematic Review
Depression and Relationships to the Quality of Life Menopause Women

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Keywords: Depression, Menopause, Quality of life.

Abstract: Background: Depression is a psychological change that occurs mostly in menopausal women. there are studies explaining the symptoms of depression that arise when women experience menopause and its relationship to quality of life. The purpose of this research to review evidence of the relationship between menopause and depression, and between depression and quality of life that is one of the main symptoms of menopause. Method: A systematic review was conducted based on literature published between 2002 and 2018. Using medline, science direct, JAMA, Pubmed and PsychINFO databases. The key terms "depression"," menopause "," climacterium "," quality of life ", are incorporated into the search. Results: Ten studies reported an association between menopause and depression, eight studies that investigated the association between depression and quality of life. Women with low levels of depression and a positive attitude towards menopause have positive body image values. Conclusion: There are studies that provide solid data on the prevalence of depression that meets the diagnostic criteria, as well as the suitability of the measuring instruments used to assess the quality of life. It takes a good management strategy to reduce the severity of depression so as to improve the quality of life menopausal women.

1 INTRODUCTION

Menopause is a normal process have symptom in a woman's life that is marked by the cessation of the menstrual cycle. During menopause, women recognize various transitional changes in physical and psychological traits. Psychological changes are often felt include anxiety, fear, irritability, irritability, difficulty concentrating, nervousness, feeling of no use, stress and depression (Terauchi et al., 2017). Depression is a cause of health disability in women with a lifetime prevalence of more than 20%. Depression becomes a major contributor to the burden of disease in the future (Mathers and Loncar, 2006). In the National Comorbidity Survey (NCS) in the United States, the prevalence of severe lifelong depressive disorder was 12.7% for men and 21.3% for women (Kessler et al., 1993), and more recent data presented nearly doubled risk of severe depression in women (OR=1.7, CI 95% 1,5-2,0) (Jung et al. 2015).

Several prospective cohort studies have reported an increase in symptoms of depression during the menopausal transition period of two to three fold, but less is known about the trajectory of depressive symptoms during menopausal transition and factors that modify the association between menopausal stage and its symptoms (Hickey et al 2016) . More than 80% of women experience physical or psychological symptoms in the year approaching menopause with various stresses and distributions in their lives, which can lead to a decline in quality of life (QOL) (Nisar & Sohoo, 2009). QOL has been defined by the World Health Organization (WHO) as an 'individual' perception of their position in life in the context of the value and cultural system in which they live and in relation to their goals, expectations, standards and concerns. discussed the contribution of nursing research on socio-demographic factors to the relationship between menopausal symptoms and QOL (Binfa et al., 2004; Karaçam & Seker, 2007). Furthermore, most studies were conducted in developed countries with

different socio-cultural realities , which may affect not only QOL perceptions but also experience of menopausal symptoms, because experience during menopause varies among different ethnic groups (Mirhaghjou et al., 2016).

This systematic review provides a critical survey of the literature on the relationship between depression and menopause as well as examining the implications of such research in the future and for clinical intervention. There are two prominent main areas: First, the relationship between depression and menopause and Second, the relationship between depression and the quality of life of menopausal women. This is a theoretical and clinical interest highlighting the mechanisms by which both may be related, and may also inform therapeutic interventions for menopausal symptoms.

2 METHOD

Study published between 2002 and 2018, Using medline, science direct, JAMA, Pubmed and PsychINFO database. The key terms "depression", "symptoms of depression," menopause "," climacterium "," quality of life ", are incorporated into the search. The study included if they reported original research investigating the relationship between depression and quality of life. Articles are also obtained via email warning service publishers and search reference manuals identified as many as one hundred and eighty articles, but most of these are clinical studies of health psychology at menopause. Ten studies reported an association between menopause and depression, eight studies that investigated the association between depression and quality of life. Women with low levels of depression and a positive attitude towards menopause have positive body image values. In this study also measured factors such as the use of hormone therapy, lifestyle, as an important predictor of depression trigger No dot should be included after the section title number.

3 RESULTS

Table 1 reports findings from a prevalence study of depression associated with menopausal events. Ten studies have shown that menopause has a significant relationship to the incidence of depression. Five studies suggest that depression occurring in menopausal women is associated with the somato-vegetative and urogenital symptoms that accompany the woman (Danny Salazar-Pousada et al., 2017; R. Muharam et al., 2017; M. Terauchi et al., 2017; Hongyan Zang et.al, 2016; Katherine E et al., 2016). Two other studies suggest, the incidence of depression in menopausal women is associated with past life events (Suzanne C. et al, 2016; Katherine E et al, 2016).

The use of instruments for measuring depression has different validations in the same depression cases. Two research findings using the beck depression questionnaire (R. Muharam et al, 2017, Nulufer Erbil, 2017), two research findings using self-rating depression scale (SDS) to establish a diagnosis of depression (Hongyan Zang et al., 2016; Yuko Kai et al, 2016). Four epidemiologic studies related to depression and menopause using the same measuring tool that is Center for Epidemiologic Studies Depression Scale (CESD-10), (Danny Salazar-Pousada et al., 2017; Suzanne C. et al., 2016; Martha Hickey et al., 2016; Katherine E et al., 2016). Two other research findings used the Hospital Anxiety and Depression Scale (HADS) to measure symptoms of depression (M. Terauchi et al, 2017; Suzanne C. et al, 2016). The use of different measuring instruments can affect the outcome of depression levels in menopausal women. Not yet validly validated the use of instruments in the measurement of depression and menopause widely.

A study conducted by community-based Martha Hickey et al (2016) with a sample of as many as (N = 13,715 menopausal women aged 45-50 years) revealed that depressive symptoms followed different trajectories during the menopausal transition. Most women have stable symptoms, but about 9% have increased symptoms and the same proportion (8.5%) of symptoms decreases. Increased depressive symptoms do not depend on vasomotor symptoms but are associated with oophorectomy and initiate or discontinue hormone therapy. This is in contrast to other studies that clearly indicate the effect of depressive events with menopausal women. It should be reviewed also other factors such as values, culture and education that differ from each other can affect the individual experience in receiving stimuli due to menopause.

Health and wellbeing of menopausal women has become a major public health in the world today. More than 80% of women experience physical or psychological symptoms in the year approaching menopause with various pressures and distributions in their lives, which leads to a decline in their quality of life (Mirhaghjou et al., 2016). A total of eight findings show that depression associated with

3.1. The prevalence of depression during the menopausal transition.

No	Authors	Sample	Design	Depressive Measure	Findings	Comments
1	Danny Salazar-Pousada et al (2017)	864 women aged 40 to 65 from various South American countries (Afro-Colombian, n=215), Ecuador (Mestizo, N=202), Peru´ (Quechua at high altitude, n=231), and Paraguay (Mestizo, n=216).	a cross-sectional multicenter study	the 10-item Center for Epidemiologic Studies Depression Scale (CESD-10)	Median total CESD-10 score for all sites was 7.0, with a 36.0% (n=311) having scores equal to 10 or more (suggestive of depressed mood).	depressed mood (higher CESD-10 total scores) was significantly associated with ethnicity,hot flush severity, hormone therapy use, sedentary lifestyle, postmenopause, perceived unhealthy status, and lower education
2	R. Muharam et al (2017)	The number of participants as many as 133 female subjects aged between 45 and 55 years	Cross-sectional	Depression was measured by Beck Depression Inventory-II (BDI-II)	depression (12.8%). Somato-vegetative symptoms 50.4% and urogenital symptoms 75.9%	There was a significant correlation between depression and somato-vegetative (p = 0.008) as well as urogenital complaints among women undergoing menopausal transition
3	Nulufer Erbil (2017)	109 samples Women who have entered menopause naturally or because Operation	Cross-sectional	Beck Depression Inventory (BDI)	The rate of women who fit the borderline evaluation for depression was 27.5%.	Women with low depressive symptom severity and positive attitudes towards menopause had higher positive body image scores.
4	M. Terauchi et al, (2017)	351 women aged 40–76	cross-sectional	Depressive symptoms were assessed using the Hospital Anxiety and Depression Scale (HADS)	feeling unattractive : depression (adjusted odds ratio (OR) 1.35; 95% confidence interval (CI) 1.24–1.47)	Feelings of unattractive ness are highly prevalent in peri- and post menopausal women. Such feelings are associated with depressed moods, poor memory, and unsatisfactory sexual relationships.
5	Hongyan Zang et.al, (2016)	743 participants with age range 40-60 years	Cross-sectional	Depression status in evaluation using the Self-rating Depression Scale (SDS)	The prevalence of depression was 11.4%. Depression is common in participants with poor sleep (95% CI, 3.61, 10.03) or with vasomotor symptoms (VMS) (OR, 2.03; 695% CI, 1.20, 3.44)	There is a significant relationship between depression, vasomotor symptoms (VMS) and sleep disorders tend to change with menopausal status

No	Authors	Sample	Design	Depressive Measure	Findings	Comments
6	Suzanne C. et al, (2016)	A total of 518 Hong Kong Chinese postmenopausal women aged 50 to 64 years	cohort study	Depressive symptoms assessed with the 20-item CES-D	118.9% had CES-D score > 16 at 5-year (T2)	There is a relationship between life events and depressive symptoms among early Postmenopausal
7	Yuko Kai et al, (2016)	Forty Japanese women, partisipan sebanyak 40 orang aged 40 to 61 years di bagi menjadi kelompok kasus dan kontrol	randomized controlled trial	Depressive symptoms were assessed using the Self-Rating Depression Scale	Over half of the participants were postmenopausal (55.0%) and had depression (62.5%)	the Self-Rating Depression Scale scores significantly decreased in the stretching group compared with that in the control group
8	Martha Hickey et al, (2016)	13,715 women aged 45 to 50 years	cohort study	Depressive symptoms were measured using the Center for Epidemiologic Studies Depression scale (CESD-10)	Latent class analysis indicated four distinct profiles of CESD-10 scores over 15 years: stable low (80.0%), increasing (9.0%), decreasing (8.5%), and stable high (2.5%).	Increasing depressive symptoms were independent of vasomotor symptoms but were associated with oophorectomy and stopping or starting hormone therapy.
9	Osvaldo P et al, (2016)	1,612 women aged 45 to 55 years	Cross-sectional	Depressive symptoms were measured using the depression had Patient Health Questionnaire (PHQ-9) scores of at least 10	Among the women included in the survey, 8.2%, 11.5%, and 13.0% of women in premenopause, MT, and postmenopause had PHQ-9 at least 10	whereas major depression was present in 2.2%, 3.4%, and 3.6% of them. Reproductive status did not affect the prevalence of major depression
10	Katherine E et al, (2016)	438 women aged between 45 and 55 years	prospective study	Depressive symptoms were assessed using the Centre for Epidemiological Studies Depression Scale	Increasing age was associated with a reduction in depressive symptoms $F(1,559)=14.83$, $P<0.001$ and negative mood $F(1,935)=14.97$, $P<0.001$	Women's experience of negative mood and depressive symptoms was highest during the menopausal transition and lowest in the late postmenopause

3.2: The relationship between depression on the quality of life of menopausal women.

No	Authors	Sample	Methodology	Measure	Findings	Comments
1	Mamun Ibn Bashar et al, (2018)	A total of 435 responders aged (≥ 17) years	cross sectional	using a structured questionnaire where is inaacluded the information of MENQOL and one of the main outcomes "depression" is measured by beck depression inventory.	mean depression score (29.40 ± 6.42) of menopausal women who have any difficulty in concentrating is higher than mean depression score (20.89 ± 6.64) of menopausal women who have no difficulty in concentrating. Another six factors (osteoporosis, heart-beating, fatigue, pressure, tingling, headaches) of MENQOL-symptoms were significantly correlated with depression and P-values are 0.000, 0.000, 0.000, 0.033, 0.006, and 0.002, respectively. Finally the presence of "difficulty in concentrating" and "fatigue" are strongly associated factors with depression score (P < 0.001)	The early postmenopausal women have to face more psychological problems (e.g., depression) compare to others. Among postmenopausal women, there is no significant relation between depression and vasomotor symptom (e.g., hot-flashes) perspective to menopausal female society of Bangladesh
2	Kawsar Ahmed et al, (2016)	150 participants Were age between 50 and 70 years old	cross-sectional study	questionnaires and computer-guided	Results indicated that feeling tired or lacking in energy and dizziness (83%) and depression (82%) have worst impact on QOL among all factors, respectively.	early menopausal women are facing more physiological problems than the late menopausal women on their QOL
3	*B. Ceylan and N. Özerdoğan (2014)*	1030 women, aged 40–59 years.	cross-sectional	using the Menopause-Specific Quality of Life (MENQOL) questionnaire and a questionnaire developed and drawn up in line with the literature	Significant differences were found between the subdomain mean scores on the MENQOL according to menopausal periods (p □ 0.000). Significant differences were detected in all subdomain mean scores of the MENQOL questionnaire according to age groups, perception of income, education, parity and body mass index (p □ 0.05)	In women in the climacteric period, the time that quality of life is the most affected among all the menopausal periods is the postmenopausal period

No	Authors	Sample	Methodology	Measure	Findings	Comments
4	Syed Shahzad Hasan et al, (2016)	Sampel sebanyak 640 dengan diabetes type 2	cross-sectional	Delusions Symptoms States Inventory (DSSI) instrument was used to identify symptoms of depression and 5anxiety, The M6ENQOL is a vali dated instrument used to measure quality of life	Women with diabetes had higher depressive (11.8% versus 8.4%) and anxiety (8.4% versus 6.6%) symptoms compared to women without diabetes. Women without diabetes had significantly higher scores for the sexual domain compared to women with diabetes (4.20 versus 3.21, p = 0.001).	The odds that a postmenopausal woman with diabetes was depressed or anxious on the DSSI scale increased significantly when the MENQOL score on the physical, vasomotor, and psychosocial domains increased by one unit. Both diabetes and psychological problems have negative impact on MENQOL. Our findings support the view of screening postmenopausal women with diabetes for depressive and anxiety, to improve overall quality of life
5	Seyedeh Nooshaz Mirhaghjou et al (2016)	675 menopausal women aged between 40 and 60 years	cross-sectional survey	Quality of life was assessed by Menopause-Specific QOL (MENQOL) Questionnaire	vasomotor: 2.14 ± 1.49; psycho-social: 1.56±0.85; physical: 1.91±0.52 and sexual: 1.37±1.05. Comparing the median of the studied domains, physical domain had the worst score in menopausal women. Pain in joint and muscle, one item of physical domain, had the highest score	menopause-related symptoms had negative impact on QOL
6	Ning Sun et al (2017)	327 community women age 30–65 years old.	Prospective longitudinal study design	instrument including the Chinese version of the Menopause-Specific Quality of Life Questionnaire was used to obtain data.	Significant differences were observed in vasomotor, physical and sexual scores at baseline and follow-up (P < 0.05). Significant differences in vasomotor scores were observed between baseline and follow-up for women in the premenopausal and Late	Menopause might have a negative impact on QOL independent of age in community-based women in China. There seemed to be a potential model

No	Authors	Sample	Methodology	Measure	Findings	Comments
					MT stages (P < 0.05). There were significant differences in psychosocial and physical scores between baseline and follow-up in the Late MT stage (P < 0.05).	of the relationship of menopause status to change in QOL, but this needs supporting evidence from longer longitudinal studies
7	Ozlem et al (2007)	A total of 40 postmenopausal women, at 45 to 70 years	cross-sectional	The depression level was evaluated by Hamilton Depression Rating Scale (HAM-D), health related quality of life was evaluated by Assessment of Health Related Quality of Life in Osteoporosis (ECOS-16) and the severity of the pain was measured by visual analogue scale (VAS).	observed that HAM-D scores and the VAS scores were higher in patients with osteoporosis (p<0.001, for both). ECOS-16 scores were greater in women with postmenopausal osteoporosis than in healthy controls (p< 0.001), further ECOS-16 scores was negatively correlated with bone mineral density in femoral neck and lumbar region (r=-0.405, p<0.001, r=0.404, p<0.001).	It is possible to conclude that quality of life and psychological status may be impaired in osteoporosis. Postmenopausal women may need not only drug treatment but also psychological support in the management of osteoporosis.
8	Mark A. Et al, (2002)	A total of 2763 post menopausal women with documented coronary artery disease mean age 67 years old	A randomized placebo controlled double blind trial control	Physical activity measured by the duke activity status index, energy/fatigue and mental health measured by RAND scale, depressive symptoms measured on the burnam screening scale	Scores declined significantly for physical function (-3.8;<.001), mental health (-0.6;P=.05). depressive symptoms were not significantly changed (P=.20)	Hormone therapy has mixed effects on quality of life among older woman

menopause has a negative impact on the quality of life.

Research conducted by Mamun Ibn Bashar et al, (2018) states psychological problems suffered by many women post-menopause early compared with menopausal women in general. The study also found no significant association between symptoms and symptoms of depression. It is also unclear whether the symptoms of depression precede or follow vasomotor symptoms. The perceived severity of vasomotor symptoms is influenced by attitudes toward menopause, and dispositional optimism (Elavsky and McAuley, 2009) or changes in family life (Hardy and Kuh, 2002), suggest that there are a number of important psychological variables in understanding the relationship between depression and quality life.

Research conducted by Kawsar Ahmed et al, (2016) and B. Ceylan and N. Özerdoğan (2014) show that psychological problems are suffered by those who experience early menopause followed by a decline in the quality of life of these women. In addition, comorbid diseases such as diabetes mellitus, heart attack and osteoporosis are also the trigger factors for depression that negatively affect quality of life (Ozlem et al., 2007; Syed Shahzad Hasan et al., 2016; Seyedeh Nooshaz Mirhaghjou et al, 2016), the condition which can exacerbate a person's depression level. It is likely that the conceptual model of depression on vasomotor symptoms needs to incorporate a variety of obvious psychological variables, not only covering contextual factors such as stress events, but also cognitive factors as well as social support from the surrounding environment.

4 DISCUSSION

This study aims to examine the relationship between depression and menopausal transition, and critically examine its relation to quality of life. The small number of studies identified confirms that the relative neglect of anxiety occurring against depressive disorders in other age groups (M. Terauchi et al, 2017), also applies to women in middle age. The hypothesis shows that depression rates increase in women with early menopause and a negative quality of life associated with several factors, namely income, education and body mass index (B. Ceylan and N. Özerdoğan, 2014). Predisposing factors that affect the incidence of depression on quality of life are the presence of comorbid diseases such as diabetes mellitus, heart attack and osteoporosis (Ozlem et al, 2007).

Another literature states that the depressed conditions experienced by menopausal women is the effect of vasomotor symptoms that arise when a person is in menopause transition. This hypothesis goes against the other published literature. Studies of depression in menopause are largely influenced by vasomotor symptoms and urogenital complaints. Hormonal and lifestyle changes are indirect factors that lead to a decline in the quality of life. Symptoms of depression appear can not be attributed directly to menopause, but there are other known risk factors such as anxiety and anxiety, including stressful life events.

Improving the quality of one's life is influenced about the positive way of looking at the changes that occur in the body. In addition, the influence of education, income, support and health status shows a significant association of depression at the time a person enters the menopausal transition (Danny Salazar-Pousada et al, 2017). The condition of severe depression also shows a direct effect as a cause of poor quality of life.

5 CONCLUSIONS

The published research on the relationship between depression and menopausal transition tends to be adequate for the size of depression, and to conclude high levels of "depression" because menopause is affected by several factors: vasomotor symptoms and health status that impact on quality of life. Improving the quality of one's life is influenced how a positive view of the changes that occur in the body. In addition, the influence of educational factors, income, support and health status on acceptance of menopausal status.

There are studies that provide solid data on the prevalence of depression that meets the diagnostic criteria, as well as their relation to quality of life. The use of different measures of depression in menopausal women need to be standardized in order to avoid significant differences when the research is done in different areas. It takes a good management strategy to reduce the severity of depression so as to improve the quality of life of menopausal women.

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THE PSYCHOLOGICAL BURDEN OF CAREGIVER WITH A FAMILY MEMBERS OF SCHIZOPHRENIA: A SYSTEMATIC REVIEW

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Keywords: psychological, burden, family, schizophrenia.

Abstract: Introduction: Mental health is still one of the significant health problem in the world, including in Indonesia. Approximately 90% of schizophrenic lives with family hence the role of caregiver in the family felt important. The growing burden and caregiver tasks can cause the incidence of psychological distress such as depression, stress and anxiety. Methods: Literature searches with the keyword do in some of the major databases such as Proquest, Scopus, and Google Scholar with the limitation of the time used is the journal from January 2011 until February 2018. Results: As many as thirteen research raised in this study, almost all of which state that the psychological burden felt by the caregiver are described with stress, depression and anxiety that is on moderate to high level. Conclusion: Caring for families with psychiatric raises the psychological problems on caregiver, this thing needs to get the handling to lower the psychological burden experienced by caregiver, with decreased psychological burden expected caregiver can take care of with a maximum.

1 INTRODUCTION

Mental health is still one of the significant health problem in the world, including in Indonesia. According to the WHO (2016), there are about 35 million people are affected by depression, 60 million people affected by bipolar disorder, 21 million from which are schizophrenia, and the rest (47,5 million) are dementia. Schizophrenia is a severe mental disorder, characterized by of deep thought, affect, perception, language and sense of self disorder (WHO, 2014). Approximately 90% of schizophrenic lives with family hence the role of caregiver in the family felt it important (Chadda, 2014). A good interaction between families with clients is an attempt of action that can prevent the occurrence of recurrences in patients of schizophrenia (Sariah, Outwater and Malima, 2014). In addition to concern for the patients of schizophrenia, families also need to get attention on the aspects of the physical and psychosocial well-being, because the process can interfere with family health care (Vitaliano, Zhang and Scanlan, 2003).

The increasing burden of family care tasks and can cause the incidence of psychological distress such as depression or anxiety (Ong *et al.*, 2016). The psychological burden experienced by the caregiver who takes care of the client of schizophrenia are at a moderate level, 56% feel frustrated, 66% feel stress and anxiety 37.9%. The ongoing anxiety and a long period of time and cannot be solved then it can cause depression. The depression experienced by 29% caregiver and 5% of them experienced severe depression (Gupta *et al.*, 2015). The impact felt by the families by the presence of family members experiencing schizophrenia is the high economic burden, the burden of family emotions, stress against a patient's behavior distracted, impaired in performing activities of daily household and the limitations of social activities. The views of the public or the public stigma against psychiatric disorders, sufferers of the soul

Considered diseases caused by sin from her family and is a disgrace for the patient and his family, so that there are still many families who hide their family members misbehaving souls, families feel ashamed, disappointed, and despair (WHO, 2003). The burden of care on Schizophrenia include psychological and emotional problems like sadness, distress, feelings of loss, the negative stigma, low self esteem and lack of productive role (Awad and Voruganti, 2008). The abundance of the burden faced by families become families in providing family care against family members who experience schizophrenia. The family suffered a lot of pressure in the face of stressfull situations in treating families with schizophrenia. This situation can disrupt the structure and

function of families unless they can adapt with the new situation (Vaghee, Rezaei and Chamanzari, 2017).

2 METODE

Search strategy study that is relevant to the topic is done using the database Proquest, Scopus, and Google Scholar with the limitation of the time used is the journal from January 2011 until February 2018. Keyword that is used is "psychological, burden, family, schizophrenia", abstract and fulltext articles in review to choose the studies in accordance with the criteria. Criteria for inclusion in this review is the psychological burden, on a family caregiver with schizophrenia. Journal searches using keywords at the top get 15 journals and articles that fit the criteria for inclusion there are 13 journals.

3 RESULT

Journals that were investigated in this study is a research journal that uses descriptive method and cross sectional. Whole journal using the questionnaire results can illustrate the demographic characteristics, and the psychological burden of caregiver schizophrenia. The sampling method used in the study, namely a number of 13 research has been conducted in random. Random sampling or random is important so that research results can be generalized to the population and suppress the occurrence of bias in research. The criteria of inclusion and ekslusi must be considered in the selection of the sample, such as in the study inclusion criteria mentioned include the caregiver is a family, has been caring for more than 6 months, and taking care of the family home of schizophrenia. Of 13 such research, shows that the level of psychological burden on journal showed levels of moderate to severe, with the female caregiver shows a higher burden than men, and lower education have a high load, as well as economic factors can also cause psychological burden on a family.

4 DISCUSSION

From 13 researches shows that family caregiver with schizophrenia has psychological burden experienced. This psychological burden experienced caused by several factors, including education and economic's factors. The psychological burden on a caregiver can be a severe problem or hinder cargeiver in conducting treatment to the family member with schizophrenia.

5 CONCLUSION

The results of the review on the psychological burden of families with family members of schizophrenia can be used as a rationale, that a caregiver experiencing schizophrenia psychological impact than do care to family who experience schizophrenia, it is necessary the intervention of the nurse to reduce the psychological burden of caregiver.

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The Effectiveness of CBT In Reducing Depression: A Systematic Review

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Keywords: depression, cognitive behavior therapy, therapy depression.

Abstract: The purpose of making this Systematic Review is to evaluate effectiveness of Cognitive Behavioral Therapy as a depression intervention in lowering depression levels. Keywords used, namely: depression, cognitive behavior therapy, therapy depression. Journal article search is done electronically using multiple databases: DOAJ, Sage, Proquest, JAMA Net, Google Scholar. The year limit used is 10 years (2007 -2017). From the literature search results obtained fourteen selected journal articles. The thirteen studies raised in this study all have control groups. There are 3 studies conducted at the age of the child, 9 studies in adulthood, 1 study at the age of the elderly. In improving the next Systematic Review, it may be necessary to note the homogeneity of age groups. So that more can focus in doing evaluation

1 INTRODUCTION

Depression is a disturbance of feelings experienced by individuals of different ages and may interfere with various aspects of life's functions, ranging from motivation, emotion, cognitive, behavioral, and biological (Gilbert, 2000). Depression occurs in all ages of human development, ie from infancy to elderly.

The prevalence of depression in children is estimated to be 0.5-2%. In certain populations it is estimated to reach 10-20% with clinical problems. The cause of depression in children is not known for certain, but this can lead to various symptoms, among others: facial expressions sedi, easy to shed tears, irritability, withdraw from the interests that can usually be fun,

Interventions to overcome depression are now widely developed through biological and psychological approaches, as well as a combination of both. Both of these approaches proved effective for treating depression in the elderly (Das, Greenspan, Muralee, Choe & Tampi, 2007). The biological approach is done by administering antidepressant medicines by skilled medical personnel. Psychological approaches include psychotherapy, such as Cognitive Behavioral Therapy (CBT), Interpersonal Therapy (IPT), and Dialectical Behavioral Therapy (DBT) therapy.

Cognitive Therapy- Behavior is a therapy that combines cognitive and behavioral aspects. This therapy by approaching the client to recognize negative thoughts that can lead to negative perceptions and emotions. Improper thoughts and emotions will affect the behavior of individuals, until it is considered to require therapy (Kennerley & Kirk, 2007).

2 METHOD

Literature searches are performed in major databases such as PROQUEST, DOAJ, SAGE, JAMA Net, and GOOGLE SCHOLAR by including keywords: depression, cognitive behavior therapy, depression therapy. The time limit used is 2007 to 2017. Finally got 13 articles that meet the inclusion criteria. Inclusion criteria of the article are: 1) depressed patients, 2) the treatment provided is cognitive behavior therapy, 3) the parameters assessed is decreased depression level.

Depression rate parameters assessed using a highly variable instrument. The instruments include: using Beck Depression Inventory (BDI), scalewas, locally validated versions of Posttraumatic UCLA Stress

Reaction Disorder Index (range, 0-4). nonparametrict Friedman or Wilcoxon standard on

SPSS software, Geriatric Depression Scale (GDS) and Brief Depression rating Scale (BDRS.

3 RESULT

3.1 Depression in children

Research Dikla Eckshtain and Scott T. Gaynor (2011) stated that the total samples meeting the inclusion criteria were as many as 15 children in open clinical trials. The measuring tool used Scale Revised rating is semi structured interviews analyzed using standard Friedman or Wilcoxon nonparametrictes on SPSS software. Cognitive Behavioral Therapy (CBT) using 16 session combinations of 7 sessions. This study was followed up for 1 month and 6 months after the intervention, which resulted in a significant decrease in depression rate in all respondents.

The study of David A. Brend et al (2015) states that a total sample of 316 respondents met the inclusion criteria. Randomized design of clinical trials. CBT interventions are given weekly for 90 minutes in 6 sessions. Scalewas gauges are used to measure depression levels. After follow-up the results showed the depression rate decreased significantly.

Laurra K. Muray et.al's (2013) study indicated that the total sample was 131 people as the treatment group, and 126 as the control group. Design a randomized clinical trial study between Cofnitive Behavioral Therapy (CBT) interventions with ordinary care. CBT intervention was conducted in 10-16 sessions. The measuring instrument used is using locally validated versions of UCLA Stress Posttraumatic Disorder Reaction Index (range, 0-4). Results at follow up, mean item changes in symptom trauma score were -1.54 (95% CI, -1.81 -1.27), 81.9% reduction, for TF-CBT and -0.37 (95% CI, 0.57 to-0.17), 21.1% reduction, for the TAU group. The mean change of Item for a function is-0.76 (95% CI, -0.98 to -0.54), 89.4% reduction, and -0.54 (95% CI, 0.80 to -0.29), a reduction of 68.3%, for TF-CBT and TAU groups, respectively. The difference in the changes between the groups was statistically significant for the outcome (p, 0.001).

3.2 Depression in adulthood

Research Hapsarini Nelma (2012) states that the total sample used is 1 (one) person that meets the inclusion criteria include: 1) in Diabetes Mellitus type 2 patient with GDP> 150mmhg, 2) experience of depression, accidental sampling, 3) are willing to be respondents. The measuring tool used to assess the level of depression is Beck Depression Inventory (BDI). The intervention was conducted in 6 meetings, with 1 pre-intervention session, 8 intervention sessions, and 1 post-intervention session. The meetings take place twice a week, each meeting takes 60 minutes. After the intervention there was a significant decrease in depression rates in 2 participants, but in another participant, the decrease in depression was not significant, probably influenced by higher rates of depression early in the assessment and a history of major depression.

Research conducted by Kenneth E. Freeland at.all (2010) states that the study was conducted in patients with depressed heart failure, and in getting respondents as many as 158 people who meet the criteria of inclusion. The study was conducted in a clinical trial with a single blind result. After 6 months of cognitive-behavioral therapy, 73% of respondents were able to complete with lower depression score on Beck Depression Inventory (BDI-II).

Research conducted Elizabeth O Elizabeth O'Connor et.al states that depression screening in pregnant and postpartum women, then there are 9 respondents who meet the inclusion criteria. This study was conducted in clinical trials. After Cognitive-Behavioral therapy, after 3-5 months follow-up showed that there was a decrease in depressive symptoms assessed using Postnatal Depression Scale.

In the study of S. Darius Tandon et.al states that in the working population of adolescents and young adults the need for mental health interventions to reduce symptoms of depressive disorders. The study design is quasi-experimental study. After recruitment was obtained as many as 517 respondents who meet kreiteria inclusion. Cognitive-Behavioral Therapy is done on site for 30 minutes, this is done continuously for 1 year, then do follow-up, in get decrease significantly decrease of symptoms of depression.

Evan M. Forman et.al (2007) stated that the total respondents were given as many as 109 people. With the design of clinical trials. Interventions of CBT and CT were performed. respondents were given the right to terminate therapy whenever they wanted, so there were some respondents who did not complete the intervention until it was completed. Respondents who performed the intervention to completion showed a significant decrease in depression rates, as indicated by the results of BDI-II measurements.

Steven D. Hollon et.al (2014) states that the total number of respondents who met the inclusion criteria of 452 participants, 227 were randomized to CT combined with ADM Treatment groups, and 225 for the treatment of group ADMs alone. Patient designs were randomly assigned to ADM alone or CT treatment combined with ADM treatment. Treatment was continued for 42 months until recovery was achieved. The survival analysis based on the hazard subdistribution model used for the treatment outcome model. cognitive therapy combined with drug treatment enhanced relative rate of recovery relative to drug alone; These effects may be limited to patients with severe nonchronic depression.

Constance Guille et al (2015) states that the number of respondents who met the inclusion criteria was 199. Randomized clinical trial design was conducted at 2 university hospitals with 199 internships from several specializations during the 2009-2010 academic year or 2011-2012. The study was conducted from May 2009 to June 2010 and May 2011 through June 2012, and data were analyzed using intent-to-treat principles, including recent observations. INTERVENTION Trainees were randomly assigned to two study groups (wCBT and attention-control group [ACG]), and completes a study that lasts 30 minutes each week for 4 weeks before starting the apprenticeship. The results show that there is a decrease in suicidal intentions.

Zindel V. Segal et.al (2010) states that the total number of respondents selected because menmenuhi inclusion criteria as many as 160 people. The research design used was randomized for 18 months. Patient's intervention in remission discontinues them antidepressants and attended 8 weekly group sessions of MBCT, continued to take their therapeutic doses of antidepressant drugs, or the active drug was stopped and diverted to the placebo. Results: The intention-to-treat analysis showed significant interactions between the acute phase quality of remission and subsequent prevention of relapse in randomized patients (P = 0.03). Among the unstable delivery services (1 or more Hamilton Rating Scale for Depression scored 7 during remission), patients in both MBCT and maintenance treatments showed a 73% decrease in hazard compared to placebo (P = 0.03), while for delivery services stable (All Hamilton Scale Rating for the Depression score? 7 during remission) there is no group difference in survival.

Erik Anderson et.al (2012) in his study stated that the total respondents used as many as 128 people who meet the criteria of inclusion, with design doubleblind randomized clinical trials for 12 weeks. Having done DCS actions when combined with CBT will give a significant effect.

In Meta Analysis Erica S. Weizt et al (2014) claimed to obtain abstract 14902 source data after randomized clinical trials where and ADM were compared in patients with depressive disorders. shows that the base of depression severity is notmoderate reduction in depressive symptoms between CBT and ADM in outcomes ($\beta = 0.00$; P = 0.96). The same result is seen using BDI. Basic depression severity is also not moderate probability of response (OR, 0.99; P = 0.77) or remission (OR, 1.00; P = 0.93) between CBT and ADM.

3.3 Depression in the elderly

Retna Arjadi's research (2012) states that the total sample used is 3 (three) elderly people who experience depression, selected by accidental sampling. Measurements used to assess depression levels are Beck Depression Inventory (BDI), Geriatric Depression Scale (GDS) and Brief Depression rating scales (BDRS). Measurements are made at the beginning and end of CBT intervention. The intervention was conducted in 10 meetings, with 1 pre-intervention session, 8 intervention sessions, and 1 post-intervention session. The meetings take place twice a week, each meeting takes 60 minutes. After the intervention there was a significant decrease in depression rates in 2 participants, but in another participant, the decrease in depression was not significant, probably influenced by higher rates of depression early in the assessment and a history of major depression.

4 CONCLUSIONS

Cognitive Behavioral Therapy (CBT) is a form of mental exercise, especially depressed patients. CBT makes significant improvements in the depression therapy stage to practice over and over again. Of the 13 studies examined proved that CBT could be another benefit found to reduce depression levels, it is expected to be an alternative in rehabilitation of depressed patients to achieve better quality of life..

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Effect of Play Therapy With Puzzle On The Level Concentrations of Mental Retardation Children In SLB C Ruhui Rahayu Samarinda

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Keywords: Puzzle Play Therapy, Level Concentration, Children's Mental Retardation

Abstract: **Background**: Mental retardation is understood as a form of limitations in functioning themselves with a below-average IQ of 70. One of the problems in children with mental retardation is difficulty in concentrating (concentration). Children have difficulty concentrating, fast switching, less responsive and less well in completing the task. This problem can be addressed through play therapy. Games that can be used as a therapy is therapy to play puzzle is an educational game designed to explore the potential of children, including the ability to concentrate. **Method**: Pre-Experimental Desaigns with one group pre test and post test design. The sample in this study 27 children. Sampling using probability sampling with the kind of simple random sampling technique. The analysis is wicoxon. **Results**: The Wilcoxon test value ρ value 0,000 <α 0.05, which means that Ho was rejected and Ha accepted. These results indicate that there are significant play therapy with a puzzle on the level of concentration of mentally retarded children at SLB C Ruhui Rahayu Samarinda. **Conclusion**: Based on the results of this study concluded that there are significant play therapy with a puzzle on the level of concentration of mentally retarded children at SLB C Ruhui Rahayu Samarinda.

1 INTRODUCTION

Children with special needs are children with special characteristics. These children are usually different from ordinary children and do not always show mental, emotional or physical disabilities. One of the children with special needs often encountered in the community is a child with mental retardation, or is often familiar with other words tunagrahita. Spiritual regeneration is a term for mentally retarded individuals with limited intelligence capabilities, below the average IQ of 70 or below 70.

According to a World Health Organization (WHO) study in 2009, the number of children with mental retardation in the world accounts for 3% of the total population. Between 2006 and 2007, there were more than 80,000 people in Indonesia with low intelligence. This number increased rapidly in 2009 with 100,000 patients. In 2009, this increased by approximately 25% (Ministry of Health, 2009).

The prevalence of mental retardation is about 1% in a population. In Indonesia mental retardation is a big problem because 1-3% of the population of Indonesia suffers mental retardation, which means from 1000 population estimated 30 population suffers mental retardation with 80% light mental retardation, moderate mental retardation 12%, very mental retardation weight 1%.

Based on data recorded by the Directorate of Fostering PK-LK Dikdas East Kalimantan Province in 2011/2012 children who experienced mental retardation in East Kalimantan from elementary school to junior high school as many as seven hundred forty three children, while for data of children with mental retardation in Samarinda year 2011/2012, for elementary level recorded as many as one hundred sixty eight children and junior high level as much as sixty five children. So the total of mentally retarded children in Samarinda is two hundred and thirty three children.

Patients with mental retardation is very difficult to concentrate. This problem because children

experience difficulty in focusing, where the range of attention narrow and quickly switch, so less responsive in accepting the task and less well in completing the task. The intended concentration is to focus all the power of attention on a situation. In this concentration mental involvement in detail is necessary, so as not to pay attention to it (Sadirman, 2007). The more severe the degrees of retardation, the lower the ability to remember.

They have difficulty focusing on relevant stimuli during the learning process (Mary Beirne-Smith, R. F. 2003). To deal with problems in children mental retardation can be through therapy. Types of therapy that can be used in dealing with the problems of children with tunagrahita, among others, reading therapy, behavioral therapy, speech therapy, socialization therapy, music therapy, brain gym therapy, and play therapy. Play therapy can be used in sharpening the ability of children retardation concentration, through play activities all aspects of child development are developed so as to train children's intelligence. One of the games that can be used as a therapy for children mental retradasi that is playing puzzle therapy. Puzzle play therapy is an educative game designed to explore the abilities of children, including the ability of children to concentrate.

On December 3, 2015, the researcher conducted a preliminary survey to find the data of mental retardation children at SLB C Ruhui Rahayu. From the results of the preliminary survey in obtaining data of elementary school children from grade one to sixth grade amounted to forty-three students. Children who have mental retardation of forty children and three other children have autism. The result of interview with one of SLB teacher C Ruhui Rahyu said, do not provide special service of therapy in handling child of mental retardation. The schools only provide general subjects such as mathematics, Indonesian, IPA, and others. Subjects are matched to the grade level of the child.

Puzzle play therapy is expected to help overcome the problem of mental retardation child concentration. Therapy to play puzzle on improving mental retardation children concentration in SLB C Ruhui Rahyu Samarinda has never been done. Based on the above background, researchers interested to examine the "Influence of Puzzle Play Therapy Against Mental Retardation Concentration Children Level at SLB C Ruhui Rahayu Samarinda".

2 METHODS

This study used experimental design of pre-experimental descendants using one group pre test and post test design to get more accurate result, because it can compare with the condition before given treatment.

This research was conducted at SLB C Ruhui Rahayu Samarinda. The population of mentally retarded children is 40 children who follow the education at SLB Ruhui Rahayu Samarinda with 10% precision then the sample according to the study amounted to twenty eight children. Sampling in this research using probability sampling method with simple random sampling technique.

3 RESULTS

Category Level Concentration Before Playing Therapy By Puzzle respondents first measured the concentration category scores. Here are the pre test results: Based on table 3.1 the results of the concentration level category before the play therapy with the puzzle of the number of 27 respondents who entered in the low concentration category there are nine children with percentage 33.3%, eighteen other children included in the category of moderate concentration with a

Table 1: Levels of concentration prior to puzzle therapy.

Concentration Level	**concentration before**		**concentration after**	
	Frekuensi∑	Presentase %	Frekuensi∑	Presentase %
Low	9	33,3	0	0
Medium	18	66,7	5	18,5
Hight	0	0	22	81,5
Total	27	100,0	27	100,0
Variable	**After doing Puzzle therapy**			
	Nilai z	P Value		
Before Puzzle therapy	-4,623	0,000		

percentage of 66.7%, and no children are included in the high category. The results of the data after being given play therapy was an increase of five children with moderate concentration category with the percentage of 18.5% and twenty two other children included in the high concentration category with the percentage of 81.5%.wilcoxon test result with $\alpha = 0,05$ got the value of Z equal to -4,623 with p value 0.000. Because the value of p Value <value of α, then Ho is rejected, it means there is a significant change between the value of concentration level category before and after given playing therapy with puzzle at SLB C Ruhui Rahayu Samarinda.

4 DISCUSSION

Based on the data above shows before the treatment with puzzle with nine children included in the low category with the percentage of 33.3%, eighteen children entered in the category of moderate concentration with the percentage of 18% and no children included in the category of high concentration levels. After the play therapy with the puzzle there is an increase in concentration that is there are five children with medium concentration level with the percentage of 18.5%, high concentration level category there are twenty two children with percentage of 81,5%, and there is no children who fall into category low. This means that children who enter the category of low concentration levels before doing puzzle therapy is now increasing and included in the category of moderate or high concentration levels. So even with the category of moderate concentration levels before doing puzzle play therapy increased and included in the category of high concentration levels.

Mental retardation is a state of stalled or incomplete mental development, characterized primarily by the occurrence of skill constraints during development, affecting overall intelligence, such as cognitive, linguistic, motor and social abilities.

The American Association on Mental Deficiency (AAMD), defines mental retardation encompassing two major dimensions of adaptive behavior and intelligence. Mental retardation is defined as a condition in which general intellectual functioning below the normal average is accompanied by a deficiency or constraint in adaptive behavior that arises in the period of development.

Melly (2010) expresses the benefits of playing puzzles among other things, fine motor training (the ability of hand muscles and fingers), improves cognitive skills (ability to learn and solve problems), and improves social skills. Puzzles can train hand and eye coordination of the child to match the puzzle pieces and arrange them into one whole picture. Playing a puzzle requires perseverance, patience and takes time to think.

One of the problems with a child's mental retardation is that it is distracted by his concentration because it is easily disturbed by the situation around him. Factors that affect concentration include anxiety, depression, anger, worry, fear, hatred and resentment, a noisy and messy learning environment, physical health condition, boredom for lessons or schooling. This is also what the child mentions in mental retardation. Concentration problems in child mental retardation can be handled by providing educational games. Landreth (2001) argues that playing as therapy is one of the tools used in helping children overcome the problem, because for children to play is a symbol of verbalization.

A puzzle game is an educational game that requires patience and persistence of children in assembling it. Some of the benefits of playing a puzzle are like improving thinking skills and getting kids to concentrate, training hand and eye coordination to match puzzle pieces and composing them into a single image, improving cognitive skills, and learning to socialize if one puzzle is played by two or more children .

Su"udi (2011) reveals that puzzle is an activity that is one of the tools that can mencerdaskan cognitive ability, so as to improve the imagination and creativity of logical thinking.

Researchers berwaysumi type of puzzle that is suitable for children mental retardasi is Jigsaw puzzle. Because this type of Jigsaw puzzle can be played in all ages. However, it should be noted in the provision of this puzzle must be considered at the level of ability of players, especially in children. Jigsaw puzzles provide benefits such as improving eye coordination, increasing motivation and concentration. If the puzzle game is played continuously slowly mentally the child will get used to be calm, diligent, and patient in accomplishing something.

Playing a puzzle will train the child's memory of the image on the puzzle. Children will be memorized and trained to unite puzzle pieces easily to the right place. The satisfaction he gets when he finishes the puzzle is one of the

motivating generators to try new things for him. Match one color to another, or match one picture to another, the brain will release the hormone dopamine.

When placing the puzzle piece in the right position and completing the whole picture, it encourages the production of dompamine, a neurotransmitter in the brain that regulates mood and affects concentration and motivation. Dompamine is a neurotransmitter that forms in the brain and other organs. Neurotransmitter is a compound that delivers signals or stimuli between nerve cells with other cells. In the brain (central nervous system) dompamine has a role in regulating movement, learning, memory, emotion, pleasure, sleep, and cognition. So in the completion of the puzzle game, the child's brain is trained to stay focused concentrate on completing the game (Parenting, 2012). So with the therapeutic playing of a puzzle performed continuously will increase the concentration of mental retardation children.

4 CONCLUSION

From result of bivariate analysis got significant value 0.000 which mean there is difference of value of level category of concentration before doing play therapy with value of level category of concentration after doing play therapy. Judging from the result ρ value 0,000 <α 0.05 which means Ho rejected and Ha received. So it can be concluded that there is influence play therapy with puzzle to the level of mental retardation children concentration in SLB C Ruhui Rahayu Samarinda.

Based on the results of research conducted can be given some suggestions to related parties related to:

1. Expected to the principal or the head of the foundation for the development of children with special needs, especially in people with mental retardation to apply the therapy to play puzzle on certain days in school. For example 2 or 3x a week for ± 30 minutes.
2. For parents who have mentally retarded children the results of this study can be applied at home as a kind of educational games and train children's motor and help children in centralizing perahatiannya.
3. For the next researcher the results of this study can be used as refrensi materials and if you want to do the same research with this research can use the control or comparison group.

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Effectiveness Psychoeducation Parenting Support for Stress Mother of Childern with Autism Spectrum Disorder: A Systematic Review

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Keyword: Psychoeducation, Parenting Support, *Stress* Mother, Children Autism Spectrum Disorder

Abstract: Autism spectrum disorder is a neurodevelopment disorder that affects children in communication, social interaction and behavior, most autistic children have unpredictable behaviors, this is what makes parents experience stress, parents who have children with autism have a higher level of stress in comparison with the parents in general, the highest level of stress generally occurs in the mother compared to the father, the level of stress on the mother affects the pattern of care in children, so if the mother stress in giving the pattern of care in children with autism it can give adverse effects on children of the provision of psychoeducation parenting support greatly affect the pattern of mother's parenting with children with autism spectrum disorder, and effective in reducing stress in the mother. Methods of the study were systematic review of psychoeducation parenting support for mother of childern ASD with study selection criteria using Scopus, Science Direct, and Pubmed databases by Randomized Control Trial (RCT). The result of the 20 journals conducted and reviewed, psychoeducation parenting support may decrease stress mother. In addition, psychoeducation parenting support can change parenting mother and reduce stress for mother. The conclusion is psychoeducation parenting support can decrease stress for mother.

1 INTRODUCTION

Autism Spectrum Disorder is neurodevelopmental disorder that affects child's ability to communicate, social interaction, and behavior (Hemdi and Daley, 2017) Some studies show that parents with children with autism experience high levels of stress after being diagnosed in their child

Levels of stress on different fathers and mothers who have different autistic children (Hill-chapman, Herzog and Maduro, 2013) Stress in the father when caring for children with autism spectrum disorder caused by child cognitive problems, whereas in mothers in children and sensory executive dysfunction may provide stressful effects on the mother, stress levels mother are much higher than in fathers, this is what triggers parents lack of expertise in understanding children with autism (García-lópez, Sarriá and Pozo, 2016)

The degree of stress in the elderly is influenced by the lack of parental abilities in provide care for children with autism. The real early difficulties are parents, especially mothers (Craig *et al.*, 2016) sometimes moms are difficult to understand autistic children and do not understand what they should do to their children. Mothers often try to help their children but tend to always have difficulties in the implementation. One of the factors that inhibit the development of autistic children is the parents' uncertainty about the child's future. Several studies have shown that effective early intervention can make a tremendous difference to the development of autistic children (Rayan and Ahmad, 2016) lack of attention from parents with children with autism is an additional problem that accompanies autistic children such as sensory disorders, specific language disorders, impaired coordination of motory, emotional, and behavior (Stuttard *et al.*, 2014) This complex developmental disorder not only affects parents but also affect how parents should interact with autisti children.

Parenting patterns of parent are very influential in children, especially in children with disorders such as autism spectrum disorder (Boyd *et al.*, 2017) The parenting pattern involves the mother and father, in general, parents who have children with

autism spectrum disorder experienced stress disorder, mother's stress level is higher than the father (Iadarola *et al.*, 2017)

This suggests that high-stress moms need strategies to manage their own stress levels, additional stress that may arise from behavioral problems in their child as well as strategies for dealing with behavioral problems in children that may manifest themselves as stressful (Hemdi and Daley, 2017) Stress in mothers with children with autism spectrum disorder should be given special intervention, so as not to become a mental health disorder (C. *et al.*, 2015)

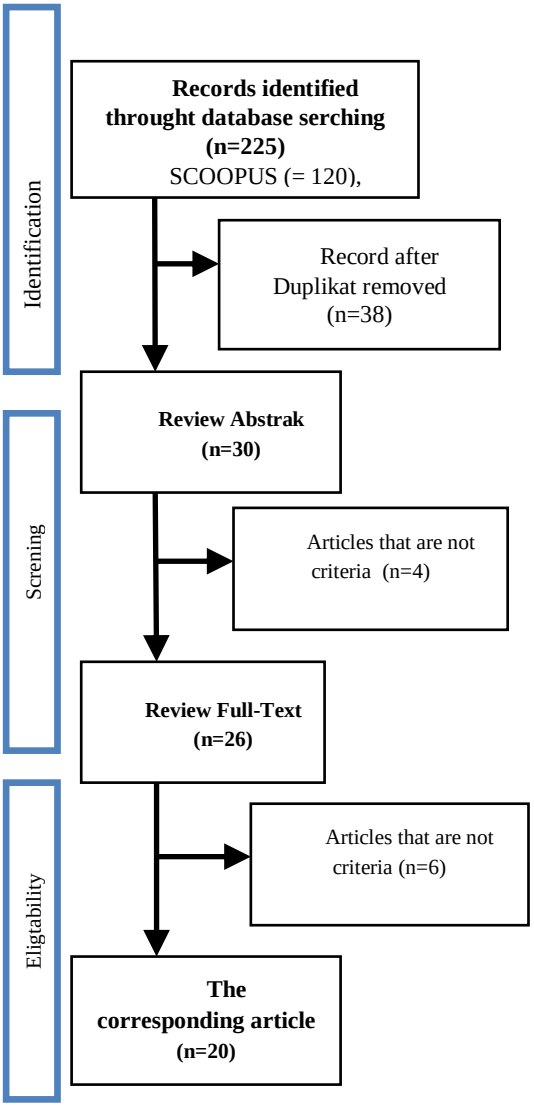
Therefore mothers should receive guidance and assistance on how they should provide good parenting in children with autism spectrum disorder, so that mothers and children are able to interact and communicate effectively (Yu *et al.*, 2016)

The alternative to reducing stress mather is psychoeducation for mothers, some psychoeducation studies has been shown to reduce family stress and improve outcomes in some populations (DaWalt, Greenberg and Mailick, 2018) In addition, psychoeducation is an important component in the treatment of children after diagnosis of ASD, psychoeducation can also be given to children, since psychoeducation has been shown to improve outcomes for children with neurodevelopmental non-ASD (Gordon *et al.*, 2015) the problem of stress mother with child autism spectrum disorder this researcher give simple solution in the form of giving parenting program on parents. Research on handling to reduce stress in the mother in giving parenting in children with autism spectrm disorder(DaWalt, Greenberg and Mailick, 2018). Some studies have also mentioned various attempts have been made to provide parenting methods to parents with children with autism, such as interventions give full attention to children by providing a positive coping in the elderly with children with autism, in addition there are also parenting support programs in parents with children with autism spectrum disorder

2 METHOD

2.1 Data Source and Search

The search strategy of the journal begins by asking the research question psychoeducation and support parenting. We used search in the preparation of systematic review begins with topic selection, then



keyword is specified. The keyword used is *Parenting*, AND *Parent Stress* AND *Autism spectrum disorder*. Journal search in the SCOPUS database and Sience Direct restrictions on the results of the journal conducted are published journal year published from 2008-2017, conducted the last 10 years in journal search, in the journal *Nursing*, *Psychologi*, *Disabilitas*, *Child*, and *Psychiatri*. The search using the above keywords with the restrictions used obtained 225 related journals, The author conducted an online reference search on SCOOPUS and Science Direct with Parenting Keywords, Parent Stress and Autism Spectrum Disorder obtained 225 articles (120 from SCOOPUS and 105 from Science Direct). A total of 38 duplication articles were found, 30 screened articles. After screening with abstract review, 26 articles

were obtained. Then a review of the content of the entire article and the entry criteria are as many as 20 articles. Then do the selection on the journal and decided 20 journals accordingly. 17 journals were reviewed using a research design *Randomized control trials* and 3 studies use *case* studi and 20 studies are quantitative studies

2.2 Study Characteristics

The feasibility of the study was assessed using the PICOT approach. Population: parent research population, families with children with autism spectrum disorder. Intervention:

1. Intervention Multiple component parenting program for parents who have children with autism spectrum disorder, including the combination of two or more elements is usually considered part of the parenting program (Stress, Ansietas, Behavior, Cognitif , Autism Spectrum Disorder)
2. Psychoeducation Support Parenting (Stress, Ansietas, Behavior, Cognitif, Autism Spectrum Disorder)

Comparisson: participants were randomized to at least one control group with non-intervention conditions, such as the control wait list group

Output: pre- and post-intervention data for both intervention and control for one or more parenting-related outcomes, including the main outcome of the Parenting Stress Index (PSI), Parenting sense of efficacy, the ECBI-IS Intensity Scale (IS) and the ECBI-Problem Scale " (PS), Parenting Sense of Competence Scale (PSOC) and Aparenting efficacy subscale (PSOC-Efficacy) for.

Study design: Randomized control trials (RCTs).

3 RESULT

3.1 Study Results and Selection Selection

The results obtained from the database Scopus, PubMed, Sage Jornals, Springer Link, and Science Direct. The results obtained 225 results of the journal. All the journals that have been obtained are then screened according to the area of Medicine, Nursing, Disabilitas Child, and Psychology. Of the StudyThe total number of participants in the entire study was 2107 with parents who had anxiety / stress that has a child with autism spectrum disorder. Interventions used in all studies are intervention parenting support programs With an average duration of therapy for 3 weeks with a mean follow-up of 12 months. Of all the research most use the same measuring tool that is: *Parental Stress Index (PSI), Parenting sense of efficacy, ECBI- IS Intensity Scale" (IS) and the ECBI-Problem Scale" (PS), Parenting Sense of Competence Scale (PSOC) dan Aparenting efficacy subscale(PSOC-Efficacy)*

3.2 Post-treatment Effect

Significant effects were found statistically from psychiatric support parenting for post-intervention outcomes to follow-up. Significant results were found in the provision of psychiatric support parenting through counseling media researchers accompanied by certified therapists

4.DISCUSSION

Review of several studies indicates that the application of psychiatric parenting support to reduce stress and anxiety in the elderly, parenting shows significant results on pre and post outcame is *Parental Stress Index (PSI), Parenting sense of efficacy, ECBI- IS Intensity Scale" (IS) and the ECBI-Problem Scale" (PS), Parenting Sense of Competence Scale (PSOC) and Aparenting efficacy subscale (PSOC-Efficacy).* The results indicate parenting influence on the parents and the changes in stress levels, depression and anxiety.

Parenting support and parent education programs for parents with autistic children consistently show positive outcomes for both parents and children. For parents, parenting support programs have a direct impact on knowledge, skills, and performance and the side effects of decline stress and marital conflict and bring a positive effect on the parents (Kuravackel *et al.*, 2017)

Most parenting program interventions have been designed to teach deep parents implement specific strategies that focus on support and children. Several studies have evaluated parenting parenting program training interventions, where interventions are designed primarily for the benefit of parents in focusing on children with autism spectrum disorder (Hemdi and Daley, 2017)

Some parenting programs for parents (PT) have been developed to teach new skills, overcome skill

deficits, or reduce behaviors that interfere with children with ASD, Studies of PT for children with ASD and disruptive behavior have shown a decline in children with behavioral disorders (Iadarola *et al.*, 2017).

Child parenting strategies that have children with ASD, parenting programs can affect children, children tend to be more controlled than that parenting programs linked to parenting styles and outcomes in child health care develop the " beginning " of the model between parental involvement in child health care. (Whittingham *et al.*, 2009a).

Psychoeducation programs specific parenting support, involving parents. This program was developed to address specific problems in ASD children, aimed at improving social behavior and language improvements, as well as to reduce inappropriate behavior, once the giving by the therapist produces better results for Autism children by following up than clinical treatment (Whittingham *et al.*, 2009b)

In addition the latest program, Co-parenting refers to how parents relate to one another specifically in their role as parents. Co-parenting positives are generally considered to include reciprocal involvement, and consistent support among caregivers. This concept has been studied mainly in families with children who typically develop co-parenting begin to apply to parents with ASD children work with each other in parenting (Thullen and Bonsall, 2017)

Other parenting programs such as CBT CBT programs can affect and lower anxiety parents, and can make support for parents and can control positively, controlling anxiety and stress in the elderly can affect the improvement in caring for children with autism spectrum disorder. Parents also report that involvement in the care of children can help them feel more competent in helping their child (Maughan and Weiss, 2017)

4.1 Implications

The results of various research reviews can be implicated in the realm of mental nursing. Which psychoeducation parenting support can be a consideration and development of therapy that can be used by specialist ners. The existence of parenting with various types of therapy can be an innovation in nursing orders, especially nursing soul. But in its application in Indonesia needs to be further research by adjusting the characteristics of existing clients in Indonesia.

5 CONCLUSION

Research has shown that parental psychoeducation support has an effect which is significant to changes in parenting, and stress in mother have children with autism spectrum disorder that is given by the therapist. This can be used as a reference for further research that is tailored to the criteria of parents who experience stress when giving parenting in children with autism spectrum disorder in Indonesia

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The Effectiveness of Cmhn (Community Mental Health Nursing) to Improve Mental Health in the Community: A Systematic Review

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Keywords: CMHN (Community Mental Health Nursing), mental health.

Abstract: Introduction: One of the efforts to improve mental health in the community, one of them in Indonesia is the presence CMHN program. CMHN is a health care approachcommunity-based mental, where all the potential in thecommunity activelyinvolved (Permenkes 406, 2009), as well as efforts to realize the mental health services with the aim of untreated patients in the community will get better service. The purpose of this study is to determine, describe and analyze previous research that examines the various applications CMHN to improve the mental health community. Methods: The literature search was done on several major databases such as proquest, ScienceDirect, DOAJ, sagepub, MEDLINE and google scholar with a time limit used is January 2014 to December 2017. Results: The results of the training and empowerment of mental health workers that the research could improve the ability of mental health cadres in carrying out its role in the community. Results of research on early detection in each group showed that there is an increased knowledge and awareness about the importance of mental health. Results of research on the empowerment of families in caring for their family members who have mental disorders, that there is a decrease in the symptoms signs of mental disorder and independence of patients were quite good. Conclusion: From the journals were found about the effectiveness CMHN that program CMHN a positive impact for the development of mental health in the community and to improve mental health in the community, whether it was research conducted on a group of nurses Health Center, a group of health workers and groups of family or society itself.

1 INTRODUCTION

Mental health problems are still much to be addressed in the community, such as deprivation to clients with mental disorders. One effort to improve mental health in the community is the presence CMHN (community mental health nursing) program.CMHN is a health care approach community-based mental, where all the potential in the community actively involved (Permenkes 406, 2009), as well as efforts to realize the mental health services with the aim of untreated patients in the community will get better service. CMHN basic formation is a prolonged conflict with the tsunami and earthquake of 26 December 2004 in Nanggroe Aceh Darussalam (NAD) has passed, but the impact is still felt by all people with various conditions. These impacts may include loss of relatives, loss of property, damage to the environment, and so on. CMHN program, the form alert village mental health, including: Education mental health for a healthy society, education of mental health for the risk of psychosocial problems, mental health education to the public that one of the family members had a mental disorder, Therapeutic activity for patients with mental disorders independently, Rehabilitation for independent mental patients and nursing care for the families of patients with mental disorders.

CMHN program objectives is increase the knowledge, skills and attitudes of nurses in providing nursing services for the community mental health in order to best achieve community mental health.The principles used in the implementation of community mental health services is to be following:affordability, fairness, human rights protection, integratedand sustainable,

effective and zoning service obligation (Permenkes 406, 2009).

Based on this background, the researchers took the topic of effectiveness CMHN (community mental health nursing) to improve mental health in the community.

2 METHOD

2.1 Search strategy

The research was drawn from a review of national and international journals. This study systematically reviewed and identified through a search-based computer from Science Direct, Proquest, Ebsco, JPER and google scholar from 2012 to 2017 by using a combination of keywords CMHN (Community Mental Health Nursing), mental health nursing, public health nursing and than training of mental health workers. Moreover, in the reference section of the articles identified from the database search and learned to find the relevant citations. Drawn from a comprehensive literature research has been done a few years earlier.

2.2 Inclussion Criteria

In this study, researchers determined the criteria for inclusion of some of the articles were taken as follows:

1) Mental health training
2) Empowerment of mental health cadre
3) The role of mental health workers
4) Early detection and community mobilization
5) The health worker / nurse
6) Community mental health nursing (CMHN) conference website.

3 RESULT

Depression screening at a community health fair: descriptives and Treatment linkage(Kiel j. Opperman, Devin m. Hanson, &, paul a. Toro, 2017), showed that more than a quarter of the participants were screened positive for at least simtomalaogi moderate depression. Who screened positive, 35.8% met the local psychiatric nurse for consultation. In the six-month visits, none of the participants who had been given a referral to make an appointment at a community mental health agency.

Village cadres training Undaan Lor mental health by means of early detection with classification method (Anny Rosiana, rizka Hima, sukesih 2015). Results: The volunteeris aware ofmental health problems , volunteers were able to explain about mental health and how to handle it alone, is capable of early detection, mobilized people to participate in healthy group counseling, risk and disruption. Mobilization of the community who have mental disorders to follow TAK (Therapy Group Activity). Cadre is also able to perform reconciliation and reporting cases.

Sustainabiliy factor related with the implementation of Community Mental Health Nursing (CMHN) in South and West Jakarta (Neng Esti Winahayu, Budi Anna Keliat,Ice Yulia Wardani, 2015). The results showed a significant relationship between sustainability factors with CMHN implementation. Results of interviews with stakeholder analysis about 8 sustainability factor is divided into several themes: a positive opinion of stakeholders on cmhn (their nursing care to patients, detect new cases, and reduce the stigma) and efforts for sustainability of CMHN (improving perception, budget planning, and socialization).

Early detection picture of mental health in rural districts Ranjeng and Cilopang Sumedang (Titin Sutini and Oktavia Nur Hidayati, 2017).The results showed an increase in knowledge scores between before and after training. The increase knowledge of rural communities ranjeng average total (65), and an increase in knowledge of rural communities Cilopang (64). This activity has not been able to reach the majority of people in the two villages.

Effect of training of cadres of the ability of cadres carry out patient care at home Mental disorders (Ni Made Dian Sulistiowati, Kadek Eka Swedarma, Ari Made Oka K, Menik Komang Sri K, 2015).Of the overall activities, it can be seen an increase in ability between before and after training of mental health workers.

Standby mental health training to increase the knowledge of cadres in RW 06 and RW 07 villages Rowosari District Tembalang Semarang (Eni Hidayati, Khoiriyah, Fatkul Muhammad Mubin, 2015).The knowledge and skills of cadres has increased in eight training organized team.

Empowering families and mental health cadres in the management of patients with chronic low self-esteem with a model approach precede l. Green, rw 06, 07 and 10 north of Bogor New ground(Desi Pramujiwati, Budi Anna Keliat And Ice Yulia Wardani, 2013). Nursing care Results showed a decrease in the signs and symptoms of chronic low

self-esteem with increased ability of patients was higher in the group of patients who received CBT, FPE and supportive therapy Rather than the group receiving CBT and FPE and getting CBT.

Science and technology for society (IBM) Mental health cadre groups in the village Pasuruhan holy Kidul district in the effort. Empowerment of mental health volunteers to improve the independence of the method of "one volunteer one patient"(Anny Rosiana M, Yuli Setyaningrum, Noor Azizah, 2016). After training a cadre of mental health, ladies cadre There is increased knowledge and generated health data currently resident in rw 10 Early detection classification methods such as healthy families, family risk, and their families with assistance Disorder patients by cadres nearby.

The training of specialists in Family and Community Health Nursing According to the supervisors of the teaching units(Enrique Oltra-Rodrígueza, José Ramón Martínez-Rierab, María Isabel Marmol-López c, Francisco Javier Pastor-Gallardod, Elvira Gras-Nietoe, Ana Holgado-Fernándezf, on behalf of the Grupo Investigador " AEC-especialidad EFyC, 2017.The results showed a high heterogeneity in the activities developed in the training. The average rotation of public health was 7.07 weeks, with a range of 0 --- 16 weeks. In the mean number of educational sessions is $ 2.69 in two years. Average number of research projects is 1:19. Categories that appear on the strengths and difficulties associated with the educators, the environment in which the training takes place, the structure of the teaching unit, organization and teaching the official program of the specialty, external support and theoretical training.

Innovative models of nursing care and culture of health: Early evidence(Grant R. Martsolf, PhD, MPH, RN, Tamika Gordon, MS, Linnea Warren May, MPH, Diana Mason, PhD, RN, FAAN, Cheryl Sullivan, MSES, Antonia Villarruel, PhD, FAAN, 2016)The model is designed nurses were focuse on issues related to health culture, making it a potentially context and useful to examine how other service providers may contribute to a culture of health.

Overview of Mental Health Literacy Health Cadre Endang R. Surjaningrum The analysis shows the level cadres ability to identify cases of depression is quite good compared to the case of psychotic, although the term used is not appropriate. Kader was also able to identify the existence of cases of mental health in the environment. In terms of knowledge of the recommendations, the majority of cadres to refer to professionals and also provide practical recommendations that can be run in daily life.

Effect of Mental Health Cadre Training On Self Efficacy And Skills In Early Detection of Serious Mental Illness Psychosis In the village Banyuroto Nanggulan District of Kulon Progo Regency (Praise Sutarjo).Mental health cadres training in the treatment group and the control group showed significant results to changes in self-efficacy (p-value <0.000 and p-value 0.035). Different test post test 1 and 2, the training cadre of mental health in the treatment group showed no significant results to changes in self-efficacy (p-value 0.895), whereas the control group showed a significant (p-value 0.047). Different test in treatment and control group pre-post test 1, showed that the training cadre of mental health significantly to changes in self-efficacy cadre of mental health (p-value <0.000) but not significantly to changes in skill cadre of mental health (p-value 0.184). Based on the different test both treatment and control groups in the pre-post test 1 and post test 1 and 2, showed that a significant mental health cadres training to changes in mental health worker skills (p-value 0.005 and p-value 0.034)

4 CONCLUSIONS

Of journals found about the effectiveness CMHN, CMHN that the program had a positive impact for the development of community mental health and can improve mental health in the community, whether it was research conducted on the group health center nurse, health worker groups and family groups or society itself.

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Systematic Review on the Effectiveness of Music Therapy on Anxiety and Vital Signs of Patients with Mechanical Ventilation

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Keywords: music therapy, music intervention, anxiety, mechanical ventilation, critical care.

Abstract: The purpose of this studies to examine the effect of music therapy on decreased anxiety levels and changes in vital signs in patients with mechanical ventilation. The sample of the journal reviews are the patients with mechanical ventilation in the intensive care unit. They are divided into intervention groups and control groups. The data collection is done by giving treatment of natural music instrument with music player and headset. Then the data was taken before and after treatment with anxiety measurement using Spielberger State-Trait Anxiety Inventory, VAS (visual analog scale), and measurement of vital signs of blood pressure observation, MAP (mean arterial pressure), pulse, respiratory rate (RR), oxygen saturation (SpO2). T-test data analysis technique is used to compare mean pre and post treatment in one group, test of difference between groups using chi square test. While Mann-Whitney test, multivariate analysis of variance (MANOVA) are used to adjust research data's scale. All of the journal reviews showed the results that client's anxiety level decreased after giving the music therapy intervention. Vital signs showed statistically significant differences between treatment group and control group where vital signs were more stable in the treatment group than in the control group.

1 INTRODUCTION

Anxiety is a natural condition that has ever experienced by every human being, where the individual feels fear or loss of confidence the effects of the stressor that comes from within himself and his environment. Patients admitted to hospitals due to severe major illness should be treated in ICU chambers and should use hemodynamic monitors as well as respirators or ventilators. The noise of the noise can be one of the stressors that make the patient feel anxious in the ICU room, especially the patient with the level of consciousness composmentis or full awake. In patients with prolonged use of mechanical ventilation, there is an increased risk of mortality, morbidity and duration of care in the intensive care unit (ICU), and deterioration in quality of life (Mohammed S. Elbouhy, et al, 2014). The causes of patients experiencing difficulties during the weaning process, around 10-25% are due to undergoing mechanical ventilation processes of patients may experience fear, agitation, discomfort, immobility, dyspnoea, confusion, communication problems and inability to relax (Hunter et al., 2010).

If anxiety is not managed properly, it can disrupt the patient in the recovery process and prevent the breathing exercise from mechanical ventilation. Failure in mechanical ventilation weaning experiments can cause fear in patients to affect the patient's psychological state (anxiety) and the patient's physiological (vital signs) function (Liang, Z et al, 2016). Anxiety can also trigger sympathetic nerve activation, which can lead to tachycardia, increased respiratory rate, increased blood pressure, and airway narrowing, and leads to fatigue (Thomas, 2003; Wong et al., 2001). Interventions by exploring the use of Nature-based sound therapy can provide a nonpharmacological approach to reducing anxiety during the weaning process, by listening to nature-based sound through headphones, as effectively reducing anxiety in patients using mechanical ventilation by reducing potential danger of physiological response (Aghaie, B et all 2013).

2 METHOD

This method begins with a search journal using the PICO framework, then determines the keywords: "therapy, music intervention, anxiety, mechanical ventilation, critical care" to search for journals in English through multiple databases such as E-Resources, Sage Journal, Pro Quest, Google Scholar, Science Direct. The study population was patients treated in intensive care room.

Intervention in the review of this research is the provision of natural sound music therapy or instrument sound by using music player and headphones. the implementation of music therapy listening interventions from several journals reviewed 30 to 90 minutes with an average sound pressure level of 25-50 dB. Measurement of anxiety using Spielberger State-Trait Anxiety Inventory questionnaire, VAS (visual analog scale). And measurement of vital signs from blood pressure observation, MAP (mean arterial pressure), pulse, respiratory rate, oxygen saturation (SpO2).

3 RESULT

3.1 Influence of music on Anxiety level

According to Aghaie et al (2013) study results revealed that the intervention group had much lower levels of anxiety and agitation than the control group, was found between the anxiety score ($p < 0.002$) The estimate of the regression parameters for the group variable was 1.33. This means that the chances of having an anxiety score higher in the control group. And statistical results for agitation ($p < 0.001$) in the two groups. The estimated regression parameter for the variable group is 2,927, which means that the control group is likely to have high scores on agitation. Measurements of anxiety and agitation levels were assessed using the Face Anxiety Scale (VAS) and Richmond Agitation Sedimentation Scale.

In the Saadatmand study, et al (2013), there was found a significant difference between the anxiety scores of the two groups ($p<0.001$). Means The estimated regression parameter for the variable group is 1.496. This means that in the control group anxiety scores opportunities have a higher value. Anxiety levels were recorded using Face Scale Anxiety (VAS), the degree of agitation measured using the Richmond Agitation Venetian Genetic Scale (RASS) Score. There was a significant difference between the agitation score in the two groups ($p<0.001$). The estimated regression parameter for the variable group is 2.418. This means that the chances of the control group having higher agitation scores. The study used anxiety measurements from Spielberger's State-Trait Anxiety Inventory. Results from the study of wong et al (2001) showed that music therapy was more effective in reducing anxiety than rest periods that were not disturbed by statistical results ($P < .01$). Subjects (respondents) who received music therapy reported significantly less anxiety with posttest results (10,1) than subjects (respondents) in the control group (16.2) (Chlan, 2009). From several studies that have been done, the results obtained that music intervention can reduce the level of anxiety in patients with mechanical ventilation.

3.2 The effect of music on the hormone cortisol

To see deeper levels of anxiety experienced by patients other than the visual scale, as well as questionnaires, some researchers used the cortisol hormone indicator. In the Chlan study, et al 2012 measured anxiety by looking at the UFC values suggesting that controlling the severity of disease, gender, and normal UFC values (29-45 mg / day), the results of the UFC analysis showed no significant differences between treatment groups as well as control during undergoing mechanical ventilation. However, in the results of the study from Beaulieu-Boire, et al 2013 said that a significant reduction in blood concentration of cortisol and prolactin and a significant increase in the ratio of adrenocorticotropic hormone (ACTH) / cortisol during listening to music compared with listening shamMP3. Blood cortisol decreased after listening to music (815 ± 126 pre-vs. 727 ± 98 nmol / L post-music-MP3, $P = .02$) but not in the placebo control arm (741 ± 71 before vs. 746 ± 68 nmol / L post-sham-MP3, $P = 0.83$).

3.3 Influence of music on vital signs.

The influence of music intervention on hemodynamics, according to Liang Z, et al (2016) There was a significant decrease in clinical symptoms for shortness of breath and anxiety ($p = 0.04$). And a significant decrease of respiratory frequency (RR) with results ($p < 0.01$) and heart rate with results ($p = 0.02$). Significant changes do not show any formic artery pressure (MAP) or arterial oxygen value (SpO2). In the second

experiment, researchers reported a significant decrease in HR, RR, systolic and diastolic BP ($p < 0.05$) when music was administered for the same valency compared to controls (no music).

Saadatmand, et al (2013) suggested, mean systolic blood pressure was significantly lower in the intervention group on all four at the time of measurement ($p < 0.001$). The mean pulse rate decreased significantly ($p < 0.001$) between the two groups according to the time of administration. In the treatment group the heart rate decreased and tended to be more stable than the control group. The results showed statistically significant results ($p < 0.001$) Respiration frequency between the two groups, in the respiratory treatment group became slow and deeper than the control group. Results from the study of wong et al (2001) that blood pressure and respiratory rate did not show significant differences in both treatment and control groups at the same time. However, a significant difference was observed at the end of the intervention (after 30 minutes) between the 2 conditions of the group that listened to music and the resting group with the outcome of music therapy superior to the rest period.

4 CONCLUSION

The anxiety felt by the patients in the intensive care room by mechanical ventilation creates a physiological effect and an unpleasant psychological experience for the patient. Like the endotracheal tube, the patient can not speak, eat, or swallow. Psychological stress includes unknown and thirsty fear, insomnia, anxiety, pain, immobility, noise, confusion, loneliness, helplessness, sensory and overload deficiencies, inability to match the breath pattern with the ventilator, and the fear during suctioning the endotracheal tube. Anxiety is associated with increased heart rate and blood pressure and other changes that can have a negative impact on treated patients (Chlan, 2009). Music interventions can reduce stress response, reduce anxiety of patients with mechanical ventilation, and encourage overall relaxation responses by reducing stress-inducing stimuli, and synchronizing body rhythms such as breathing and heart rate, and positively influencing emotional feelings from listening to music. This relaxation response can lower the heart's workload and oxygen consumption, which increases ventilation more effectively and accelerates ventilator weaning (Hetland et al, 2015).
The musical effects given to the patient have benefited from the action of suppression on the sympathetic nervous system, resulting in decreased adrenergic activity. Potentially, music may also trigger the limbic system in the brain to release endorphins, neu-rotransmitters that play an important role in enhancing safety (Liang Z, et al., 2016), while those associated with cortisol hormone according to the results of Chlan's study, 2012) revealed that while music does not reduce cortisol significantly, cortisol is seen from stress integrative biomarkers ie UFC (urine-free cortisol) .While listening to music is an activity aimed at stress reliever The process of listening to music will cause a decrease in adrenaline so as to decrease the level of anxiety then stimulates the expenditure of endorprin, phenylethilamine that affects the mid brain secrete GABA (gamma-aminobutyric acid) and beta endorprin to eliminate pain neurotransmitters that can cause analgesic effects and affect the mood that eventually occurs relaxation.

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Family And Counsellor Experience For Schizophrenic A Research Based On Community Health Mental Policy

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Keywords: family and counsellor experience, schizophrenic.

Abstract: Background To describe family and counsellor experience for schizophrenic a research based on community health mental policy Methods A Qualitative study with 2 focus groups made up of 2 primary healthcare professionals from the public health center and 8 family of schizophrenic. The focus groups were audio-recorded and the results transcribed. The analysis involved: a) Reading of the data looking for meanings b) Coding of the data by themes and extracting categories c) Reviewing and refining codes and categories d) Reconstruction of the data providing an explanatory framework for the meanings e) Discussion about the interpretations of the findings and f) Discussed with relevant professionals. Data regarding thematic content were analyzed. Results : Some families have abbility to identify patients' problem, activity of patients, give drug to patients, and go to public health care comunity. Counsellor had given support to family, given health colsultation and training program in order to make schizophrenic patients able to work independently. The patients' family hope to get some helps and the patients can get better. The barriers in patients care are the distance of health care facilities location from patients' house, economic problems of patients' family, patients have no intention to get medication, low suppot from policy maker and comunity. Conclusions: family and counsellor experience several barriers which need goverment and community support job vacant especially for schizophrenic patients. In this case political will take important role.

1 INTRODUCTION

Schizophrenic has caused a decrease in productivity and quality of life. Government efforts to prevent and reduce the impact of mental disorders is to provide mental health services to the community through mental health care system starting from the primary, secondary and tertiary levels. However, if it is linked to the burden of costs to be incurred, then the approach to the community will be more effective and efficient. Mental health services center in the past are specialistic and developed for mental health services center and hospital.

Today's mental health services are undergoing fundamental changes, from closed mental health services care to open services. In the treatment of mental disorders, the individual-clinical approach shifts to social productivity in accordance with the development of community mental health concepts. Community Mental health services are plenary, because the level of service is complete, consisting of specialist, integrative mental health services and with resources derived from the community. Services are provided on an ongoing basis, for both healthy and sick, at home and at health facilities, and for all ages. All the potentials and resources of the community are utilized to create an independent society.

Preliminary study results indicate that there are families who are unable to recognize family health problems. The family is not aware of the mental health problems facing family members. They tend to close themselves and advise family members who are mentally disturbed to be at home only. Patient cure indicators, are also not well understood by the family. They assume that the patient's soul is in good condition when not angry. Patients who sleep a lot and wandering is considered as a natural thing.

The role of public health services center counsellors, and families in the care of patients with mental health disorders vital to improve the quality of life of patients. Ministry of Health regulations regulate the implementation of community mental health, but has not run optimally. An evaluation of

family roles and counsellors is required in the care of schizophrenic patients.

2 METHODS

The aim of this study was to describe family and counsellor experience for schizophrenic a research based on community health mental policy. This qualitative study was performed using focus groups (FGs) composed of doctor, nurse and family of schizophrenic. The research team was made up of experts in qualitative evaluation and research. The study was carried out in madiun during year 2017.

3 RESULT

Some families have abbility to identify patient's problem, activity of patients, give drug to patients, and go to public health care comunity. Counsellor had given support to family, given health colsultation and training program in order to make schizophrenic patients able to work independently. The patients' family hope to get some helps and the patients can get better. The barriers in patients care are the distance of health care facilities location from patients' house, economic problems of patients' family, patients have no intention to get medication, low suppot from policy maker and comunity.

4 DISCUSSION

There is a false perception in families where patients who are not angry are said to have recovered. Demanding on signs and symptoms of schizophrenia in the form of lazy activities, alienation, sleep, and hallucinations then the patient is still categorized as schizophrenia. The family does not know the signs and symptoms of schizophrenia, so that his family's perception has healed if not angry.

Theoretically the term remission (symptomatic relief) shows the patient, as the result of medication therapy is free from the symptoms of schizophrenia, but does not see whether the patient is able to function or not. The term recovery (cured completely) usually includes in addition to free from symptoms of hallucinations, delusions and others, the patient can also work or study according to expectations of the patient's own circumstances. In order to achieve a condition of healing and functioning, a schizophrenic patient requires medication, psychological counseling, social counseling, vocational training, and equal opportunities for all like other community members. It should be realized that the role of the family is very important in the healing efforts of schizophrenics. Family sufferer is very important source to facilitate psychosocial care, so do not stay away from patient, pay attention and affection so that patient do not feel ostracized.

If it is related to the level of family education, most informants have a history of primary school education. At the education level, the family is not easy to understand the problems faced by the family. One of the family duties in the field of health is to know family health problems. Health is a family need that should not be ignored because without health everything will not mean and because of health sometimes the power of resources and family funds run out. The inability of families to recognize health problems in the family one of them caused by lack of knowledge. Lack of family knowledge about understanding, signs and symptoms, care and prevention resulted in not optimal care.

The second patient's family experience is not knowing the side effects of the drug. Psychotic drugs have side effects making the patient drowsy. When the patient sleeps a lot after being given the drug, the family feels this effect interferes with the patient's life. The impact of this family's ignorance causes the medication that should be given, to be discontinued.

Theoretically treatment with antipsychotics effectively reduces the rate of occurrence of relapse but 30% - 40% of patients relapse at one year after discharge from hospital even though they continue taking the drug. Combining antipsychotic treatment with a psychosocial approach is an effective way compared to just the drug in preventing relapse in schizophrenic patients. The components of psychosocial therapy include:

a. Family and patient psychosis: patients, families and key people around the patient need to learn as much as possible about what is schizophrenia, how to treat it so that knowledge and skills are developed to prevent relapse.
b. Collaboration makes decisions: it is important for patients, families, and clinicians to decide together about therapy and its goals. If the patient has improved, he can be part of this decision-making.
c. Symptom monitoring and treatment: careful monitoring can convince patients to drink and

identify early signs of relapse so prevention can be done.

d. Assistance in the search for health services, insurance, etc.: Patients sometimes need help in finding other health services such as medical, dental, or seeking health insurance. The therapy team, patients and families should try to explore what sources can be obtained or provided. Included in it if the patient has started to want to work, find a suitable job.
e. Supportive therapy: including emotional support and reassurance and encourage healthy behavior of patients and help patients accept the situation.
f. "Peer support / self help group": the presence of a group that has regular meetings depends on the needs and concerns of the group. Speakers can be invited to provide knowledge, there are also discussions and sharing that can be mutually reinforcing.
g. Set up a meeting schedule with your doctor.
h. Assertive community treatment.
i. Psychosocial rehab: help patients train skills with the goal of obtaining or keep the job.
j. Psychiatric rehab: teaching the patient the skills that making it able to achieve goals in the work, education, socialization and residence.
k. Rehabilitation of work: work training and training program which can help patients to men.

There is no single schizophrenic patient who has productive activities such as work, crafting and others. This can be caused by two factors: willingness and opportunity in work. There is an opinion that schizophrenia patients are actually able to work, but the result has been comfortable with not working already get the desired, then the patient becomes lazy to work.

Opportunity factors are influenced by 2 things: job training and job field itself. The main search for the study area is farm laborers. There is no special skill required in working as a farm laborer, but because the work is considered heavy the schizophrenic patient who wants to work as a farm worker does not exist.

Job training in the research area was never held. This situation makes the patient unable to work independently or self-employed. Sawmills around the study area do not provide patients the opportunity to work due to fear if the patient is angry.

The absence of positive activity in schizophrenic patients causes the patient to be alone. Patients feel unnecessary and useless so will isolate themselves. Isolation of self is the beginning of the hallucination. Patients who have hallucinations have the potential to commit acts of violence and endanger the public.

Next is a complaint about the patient. There are variations of patient complaints that are forgetful, irritable, not sleeping, lazy bathing, and bed wetting. Schizophrenic patients experience impairment in thought processes and emotions. This is in accordance with Eugen Bleuler's theory that in schizophrenic patients highlight the main symptoms of this disease is a divided soul, the cracking or disharmony between the process of thinking, feeling and deeds. Bleuler states schizophrenic patients experience primary symptoms such as impaired thinking processes, emotional disturbances, impaired will and autism and secondary symptoms of delusions, hallucinations and catatonic symptoms or other psychomotor disorders. As a result of this disorder the patient becomes forgetful, irritable, sleepless, lazy bathing, and bedwetting

In addition to Eugen Bleuler theory there are other theories that mention schizophrenia is caused by dopamine enzyme abnormalities in the brain's nervous system thus disrupting the systemic functions and nerve impulses of the brain. This condition causes neurotrasmitter failure in processing information to the brain resulting in unnecessary responses such as auditory hallucinations both visual and auditory, the existence of wisdom (false beliefs that are contrary to reality) resulting in abnormal behavior, delusion is the belief that a person seems to experience something (imaginary), chaotic communication, aloof and uncontrollable.

There are various activities in the treatment program that is to give medicine, not take medication, and do not regularly give medicine. Treatment programs can be divided into 3 stages: drug taking in health facilities, drug administration to patients and evaluation of treatment outcomes. At the stage of taking medication at a health facility (faskes) some families may take their own medications, some are facilitated by health cadres and others do not take medication. There is a long distance constraint between the faskes and the residents' house making the residents unable to take the drugs, besides the lack of attention of the policy holder for the formation of mental health cadres makes the drug is not well distributed.

The problem in the administration of drugs by the family is the way of giving medicine to the patient. When the drug is mixed with bananas or rice, the patient will recognize the food has been given the drug so it is not consumed by the patient.

There are no specific techniques that mention how to administer drugs to schizophrenic patients. Need for an evidence based study on how to administer drugs to schizophrenic patients. n medical guidelines, patients with psychiatric or schizophrenic disorders will be given antipsychotic medication, this drug serves to to calm the patient on anxious or chaotic mind state, with relaxation and sleepy effects. Generally Schizophrenia patients will use this antipsychotic drug in the long run and some even up a lifetime. Given the large and long-term side effects, the dosage of the drug to the patient should be closely monitored. However, other treatments for schizophrenia that can be given are systematic Holistic Therapy Methods with Thibbun Nabawi and Eastern medicine that have been proven to successfully cure Schizophrenia patients such as Acupuncture Brain Stimulation and improvement of organ function. Ruqyah shariah or Qur'an Healing is a method of listening to the holy Theses of the Qur'an that simultaneously stimulates the brain, it can be medically proven that Ruqyah can stimulate neural networks throughout the body to the brain and also with God's permission blessing the Qur'an. (This program is very safe and open to all Religions, as belief and Religion are rights of Asasi). Cupping or hijamah-or cupping blood works to remove toxins in the blood, prevent blood clots, repair organs and bruise at the head point can improve brain nerve function. Religious deepening therapy works to stabilize emotions, focus and tranquility and closeness to God. Totok Nerves are useful for improving blood syringe and ensuring the body's nerves work best. Herbalogy is a standardized herbal therapy. Hypno therapy by exploring the subconscious and providing positive suggestions to improve psychological abnormalities. Psychological rehabilitation with persuasive approach method - cognitive, mental improving, behavioral correction with discipline reinforce rights and responsibilities, so that this therapy is able to form and stimulate normal behavior. Cognitive therapy and socialization.

Counselors have attempted to apply for training to labor agencies, health offices and NGOs. The relevant agency does not respond to the proposed job training proposal. Support from related offices can be psychosocial rehabilitation that is to help the patient train the skills with the aim of obtaining or maintaining the job, psychiatric rehabilitation is to teach the patient the skills that make him achieve the goals in the work, education, socialization and residence, and rehabilitation work that is work training and training program which can help patients to become full time workers.

The role of counselor is to eliminate the stigma of schizophrenia as an incurable disease. This view has been formed as a community attitude toward people with mental disorders. This has shaped the stigma and construct of social understanding of what is meant and the meaning of schizophrenia so that patients are excluded.

The first effort to be done to optimize the role of cadres is the elimination of stigma. Stigma is a multi-component concept that involves social labeling, stereotyping, and exclusion, loss of status, discrimination, all of which play a role in different forces between stigma and stigmatized groups (Szeto 2011). The stigma in a still-growing society about mental disorders has made people with mental disorders have difficulty in getting their privileges right. Kapelowicz et.al states that the stigma of the patient's family is affected by the frequency of contact with the patient and the symptoms / behaviors shown. The stigma in the society that people with mental disorders is strange, dirty, raging and unable to meet his personal needs.

Rusch et al. 2015 explains that the stigma is divided into two things: public stigma (public stigma) and stigma in the person (self stigma). Components in the stigma of society include stereotype, prejudice, and discrimination. Components of stereotypes in the stigma of society include negative beliefs about particular groups of people including incompetence, weakness, and harm. In the prejudice component there are elements of agreement on trust or negative reactions such as anger and fear. In the discrimination component there are elements of behavioral responses to judge such as avoiding to work and providing opportunities for household activities.

In the family constraints of distant health facilities, lack of funds and difficulties in providing drugs, while the constraints of counselors namely support related agencies, the role of society, funds, poverty of society, and knowledge of the community. The above obstacles can only be overcome with the support of related parties. Researchers can not provide concrete solutions, because the cost, thought, energy and time to solve the problem of schizophrenic patients takes a long time and a great cost.

5 CONCLUSIONS

family and counsellor experience several barriers which need goverment and community support job vacant especially for schizophrenic patients. In this case political will take important role

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Effectiveness of Family Psychoeducational to Improve Quality of Life Patients with Bipolar Disorder : A Systematic Review

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Keywords: Family Psychoeducational, Quality of Life, Bipolar Disorder.

Abstract: Psychoeducational interventions for family carers and patients with bipolar disorder are effective for improving compliance and preventing relapse. Whether benefit from these interventions on quality of life bipolar disorder has been little explored. This systematic review investigated the effectiveness of psychoeducation for family carers outcome on quality of life patients with bipolar disorder. We searched for Randomised Controlled Trials (RCTs), published in English in two databases. Fifteen RCTs were included, interventions duration ranged from 6 to 96 weeks. Family psychoeducational effectiveness on quality of life patients with bipolar disorder included reducing internalized stigmatization, efficacy in reducing symptom severity, extending the time to relapse and improving the social outcome.

1 INTRODUCTION

Bipolar Disorder (BD) is a severe, chronic and recurrent disorder which ranks sixth in Global Burden of Disease Classification and produces a high degree of economic burden worldwide. BD represents a critical public health problem, due to its lifetime prevalence and related high degree of comorbidity, chronicity, and disability. The illness also presents considerable treatment challenges. Those affected by it must usually continue treatment throughout their lifetime (Candini et al., 2013).
Beside a highly recurrent and disabling conditions bipolar disorder also marked by major depression and manic/hypomanic episodes. Bipolar disorder is associated with significant impairment in personal and social functioning for the individual and their caregivers (Hubbard, Mcevoy, Smith, & Kane, 2016).

Various psychological therapies have been shown to be effective for the treatment of mood disorders. Among them, family psychoeducation has demonstrated efficacy in reducing symptom severity and extending the time to relapse (Morokuma et al., 2013).

Several psychosocial interventions have been proposed to supplement pharmacotherapy in order to improve the outcome of people suffering from this disorder.

Bipolar disorder is a life-long recurrent illness which has an increasingly negative impact on patients and their families by causing difficulties in social adjustment.

Psychoeducation has proved tobe more effective when elatives are included in thetreatment programme. Infact, thefamily may play a significant role in bipolar disorder, similar to schizophrenia.

Psychoeducational intervention for family carer for people with psychosis and effective for improve compliance and prevent relapse. Psychological interventions on top pharmalogical treatment can improve the outcome of bipolar disorder. Psychoeducation has proved to be more effective when relatives are included in the treatment programme (Andrea Fiorillo et al., 2015).

Psychoeducation is defined as a systematic, structured and pedagogic approach to the illness and its treatment (Gumus, Buzlu, & Cakir, 2015).

Psychoeducational interventions generally emphasize the presentation of factual information about mental illness and treatment in order to address misperceptions and these interventions generally provide optimistic. Psychoeducation also

is an effective adjunct to medications in Bipolar disorder (Bilderbeck et al., 2016).

The family have a significant role to reducing internalized stigmatization and symptom severity, also improve the social outcome.

Psychoeducational interventions generally emphasize the presentation of factual misperceptions and these interventions generally provide optimistic messages about the treatability of mental health problems (Çuhadar & Çam, 2014).

The family have a significant role to reducing internalized stigmatization and symptom severity, extending the time to relapse also improve the social outcome.

The current systematic review to assess the effectiveness of psychoeducation on family carers outcome and its influence on quality of life patients with bipolar disorder.

2 METHOD

2.1 Search Strategy

A literature search was performed. Relevant articles published between 2008-2018 were obtained by searching in two electronic databases: Scoopus and Sciencedirect. We searched for Randomized Controlled Trials (RCTs), relevant with family psychoeducational for quality of life patients with Bipolar disorder.

2.2 Study selection, inclusion and exclusion criteria

Initial screening of study titles, abstracts and full text articles was undertaken by authors. The whole review team reviewed the searches, abstract and full-text screening, and data extraction results.

We included studies which investigated psychoeducational interventions which primarily aimed to provide information about illness and symptom management of bipolar disorder. We excluded interventions on other illness.

3. RESULTS

3.1 Search results

The databases search resulted in 1325 records; of these 15 studies met all inclusion criteria and were included in this review.

3.2 Family psychoeducational

Brief group psychoeducation for caregivers mean scores increased on Burden Assessment Scale, knowledge and bipolar disorder self-efficacy. Participants who attended the psychoeducational group reported significant reduction in burden, improvements in knowledge of bipolar disorder and bipolar disorder self-efficacy (Hubbard et al., 2016).

Family psychoeducational also improvement of patients social functioning, besides patients on stage 1 benefited from caregiver psychoeducation by having longer time to recurrence (Andrea Fiorillo et al., 2015).

The interventions may be more useful in patients at earlier stages of bipolar disorder (Reinares et al., 2010). Psychoeducational family interventions for bipolar disorder are feasible in routine care (Andrea Fiorillo et al., 2015).

A short course of family psychoeducational and skill training may enhance relational functioning and health in adolescents with bipolar disorder (Donnell et al., 2017). Interpersonal effectiveness skills assist patients in improving relationships in their lives (Van Dijk, Jeffrey, & Katz, 2013).

Psychoeducation program and discussions were presented to family about understanding Bipolar Disorder and its etiology, familiarization with symptoms of mania and hypomania, understanding sign of depression and other psychological episodes, awareness of causes and prognosis, education about the function, types and adverse side effect of mood stabilizer medication, functions, types and adverse effects of antimanic and antidepressant medications (Javadpour, Hedayati, Dehbozorgi, & Azizi, 2013).

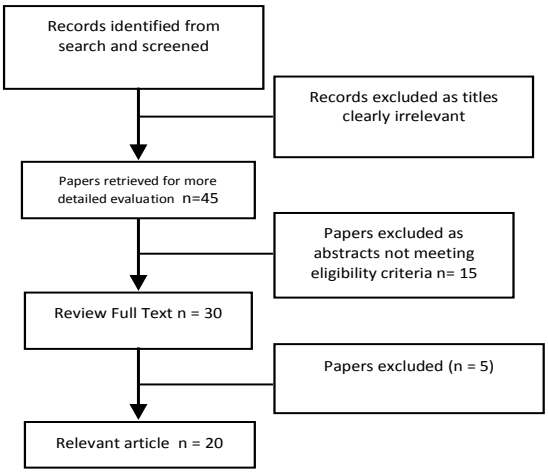

Figure 1: Flow diagram illustrating data collection strategy.

All of those aspect will be influence in quality of life patients with Bipolar Disorder. Psychoeducation intervention delivered to family have significant improvement in all areas of quality of life, number of relapse and hospitalization due to recurrence of BD and medication compliance.

Adolescent in family focused theraphy had greater improvements in quality of family relationships and physical wellbeing. In other hand a short course of family psychoeducation may enhance relational functioning and health in adolescents with Bipolar Disorder (Donnell et al., 2017).

Disability Assessment Schedule (DAS) global score was lower in patients receiving the psychoeducational family interventions (Andrea Fiorillo et al., 2015).

4 DISCUSSION

From the findings of this systematic review it can be concluded that psychoeducation is an approach which combined educational psychotherapeutic and experiential elements. A psychoeducation program prepared to minimize internalized stigmatization in patients diagnosed with BD (Çuhadar & Çam, 2014).

Psychoeducation also useful for family in terms of increased knowledge and reduced burden. After increased knowledge about bipolar disorder, family involved in patient treatment adherence. On the other hand recurrence was less and treatment adherence was better, they showed that the average plasma lithium level of the patients more stable (Eker & Hark, 2012).

Most treatment trials in BD, especially in younger populations, focus on symptom remission with little consideration of psychosocial functioning or life satisfaction. Adolescence is a challenging development stage, and is rendered even more challenging by the introduction of the diagnosis and treatment of an emerging bipolar condition. Treatments that enhance Quality of Life may improve an adolescent's sense of well-being, promote healthier decision making, and increase protective factors within the family and peer environment that may foster healthier living. The use of family educational and skill-based treatments as adjuncts to pharmacotherapy in the early stages of bipolar disorder may help adolescent patients to live more satisfying lives and reduce the burden of care on family members during a critical period of their lives

In RCT of family psychoeducation, several carers of patients were allocated to group: Multifamily Group psychoeducation and Solution Focussed Group Therapy. There was an improvement in quality of life for people affected by bipolar disorder whose carers attended both group (Madigan et al., 2012).

Family psychoeducation contributed to a better outcome in terms of time to recurrence. The caregiver task of supervising the patient has been associated with emotional exhaustion and subjective burden, thus we shall not ignore that burn out might influence caregivers treatment response (Gumus et al., 2015).

Very important to maintaining the family to following the psychoeducational session that may have some positive improvement in Quality of Life (enhance relational functioning and health) patients with Bipolar Disorder (Donnell et al., 2017). Psychoeducation also associated with a modest improvement in health status and higher costs than group peer support (Camacho et al., 2017).

The techniques of psychoeducation can used relaxation, positive thinking, pleasant activities and social skills as psychoeducative methods (Javadpour et al., 2013).

Family psychoeducational may be program psychoeducation in routine mental health service is an effective way to prevent hospitalisation and decrease hospital days in pharmacologically treated patients with Bipolar Disorder. Family psychoeducation promotes improvement in illness course by preventing acute phases and enhancing mood stability and consequently, improvement in the quality of life for people with Bipolar Disorder (Candini et al., 2013).

The hospitalisation prevention effect we observed suggests the programme's potential for preventing recurrences, or at least intervening in a timely and effective way, due the fact that patients learn to recognise the early signs of recurrence through psychoeducation. This adjunctive approach can there o reserve to foster improvement and stabilisation of the disorder's overall course, improving the quality of life for patients and their family members.

Our results suggest that, in patients on an early stage of the illness, caregiver psychoeducation contributed to a better outcome in terms of time to recurrence. This highlights that aspects such as functioning and illness severity, may modulate response to psychological treatments, as remarked by the positive results on Stage I patients compared to the lack of prophylactic efficacy of caregiver

psychoeducation amongst those patients on advanced stages.

4.1 Implications

According to result previous studies, psychoeducation is a standard of care in the management of bipolar disorder patients. Psychoeducation for family also have some positive effects to help patients with bipolar disorder increase the quality of their lives by developing their knowledge about bipolar disorder, including information about the recurrence rate of the illness, medication and its adverse effects, triggering factors, adherence to drugs, how too control symptoms, stress management, the risk of suicide, the avoidance of use of alcohol and the importance of leding well-structured life.

Furthermore, family psychoeducation is defined as a preventing recurrences in patients with bipolar disorder that can increase the time period between recurrences and reduce the hospitalization rate.

Psychoeducation was effective in increasing patient adherence. For BAD patient prone to non-adherence adherence to treatment can be increased, rehospitalization can be prevented and quality of life can be improved by means of providing a psychoeducation program about illness, symptoms and reasons for illness, course of disease, treatment andways of coping with the illness. Therefore, it is important that the nurses in psychiatry clinics motivate the patients in their ambulatory treatment period to take psychoeducation courses.

Psychoeducational family interventions are feasible in routine care for the treatment of patients with bipolar 1 disorder and their relatives and main obstacles are related to the organization of mental health centres and not to the characteristics of the intervention it self (A. Fiorillo et al., 2016).

5 CONCLUSION

This study highlights to involved psychological intervention early in the course of the illness as some treatment may be more useful in patients with bipolar disorder. A randomized controlled trial explored the efficacy of a psychoeducational family interventions for caregivers of individuals with bipolar disorder.

Psychoeducation for caregiver has shown to improve long-term outcome in patients with bipolar disorder. Family intervention and interpersonal social rhythm therapy have shown prophylactic efficacy when added to pharmacotherapy in bipolar disorder. So, implementing psychological intervention very important in the course of the illness.

With structured psychoeducation programs, patients can increase the quality of their lives by developing their basic knowledge about BD, including information about the recurrence rate of the illness, medication and its adverse effects, triggering factors, the importance of adherence to drugs, how to control the symptoms, stress management, the risk of suicide, pregnancy, stigmatization, recognition of early recurrence symptoms, the avoidance of use of alcohol and other substances and the importance of leading a well-structured life.

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Diabetes Self Management Education (Dsme) through Calendar Media Increase of Foot Care Adherence of Type 2 Diabetes Mellitus (Dm) Clients

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Keywords: Diabetes Self Management Education, foot care adherence, DM, calendar.

Abstract: Foot problem is often the most common cause of DM clients to be hospitalized. The most common cause of DM foot problem is a sensory neuropathy resulting diabetic ulcers. Nurse as educator should educate the clients for the prupose of increasing foot care adherence. One form of education that can be given to type 2 DM clients is Diabetes Self-Management Education (DSME) through the calendar media. The purpose of this study was to analyze the effect of Diabetes Self- Management Education (DSME) through calendar media on foot care adherence of type 2 DM clients. Method: This study was a quasi-experimental pretest-posttest research with two-group design and used purposive sampling technique. Forty (40) respondents were divided into treatment and control groups. Samples were taken from the population of type 2 DM clients who followed the Prolanis program at Muhammadiyah Clinic of Lamongan who met the sample criteria. The independent variable was DSME through calendar medis and dependent variable was of foot care adherence, instrument using Nottingham Assessment of Functional Footcare (NAFF) and observation sheet using Wilcoxon Rank and Mann Whitney. Result: The result showed that there was a significant increase of adherence level with ρ value = 0,000 using Mann Whitney test after receiving DSME intervention through calendar media. Discussion: DSME interventions through calendar media can increase foot care adherence because every DSME session explains DM as well as its management and every calendar sheet contains a message for daily foot care. Suggestions for further research to examine DSME through calendar media on changes in blood sugar level and HBA1c DM type 2 clients.

1 INTRODUCTION

Diabetes Mellitus (DM) clients who have elevated glucose levels will lead to advanced glycation end products (AGEs) (Xing et al., 2016), with increasing AGEs becoming free radicals that cause arteriosclerosis that will lead to various vascular complications such as neuropathy, nephropathy, retinopathy, coronary heart disease, and stroke. Arteriosclerosis leads to the flow of blood and nutrients that are discharged into the disrupted tissues that will lead to bruising, cold feet, easily injured, infection in the legs is also difficult to recover. In addition to arteriosclerosis, DM clients also experience neuropathy that causes the feet can not feel the heat, pain, tingling. Therefore, the client will not be able to feel the wound, neuropathy will also weaken the leg muscles so that change the movement and shape of the foot, changes in pressure on the feet will gradually trigger injury (Tandra, 2013).

Problems on the feet become the most common cause DM clients are forced to undergo hospitalization at the hospital (Tandra, 2013). Foot ulcers are one of the most common problems affecting about 5% of diabetic clients each year. After ulceration of the skin, 33% of ulcers do not heal and up to 28% can result in amputation. The most common cause of DM leg problems is sensory neuropathy (Shearman, 2016). The consequences of this peripheral neuropathy (10-60%) will cause diabetic ulcers (Brownrigg et al., 2011). Based on a preliminary study at the Muhammadiyah Lamongan Treatment Center on September 15, 2017 from 10 DM type 2 clients following Indonesian Goverment Chronic Disease management program (PROLANIS), 10 clients (100%) experienced low adherence to foot care.

Table 1: Adherence level in the treatment group and control group, before and after intervention on October-November 2017.

Adherence	Intervention Group				Control Group				*Mann Whitney*
	Pre test		*Post test*		*Pre test*		*Post test*		
	Σ	%	Σ	%	Σ	%	Σ	%	P = 0.000
High	0	0%	19	95%	0	0%	0	0%	
Moderate	20	100%	1	5%	20	100%	19	95%	
mild	0	0%	0	0%	0	0%	1	5%	
Total	20	100%	20	100%	20	100%	20	100%	
Mean	44,20		83,55		46,3			47,5	
SD	7,84		6,621		5,545			8,382	
Wilcoxon	ρ =		0,000		ρ =		0,267		

Strategies that can be used to prevent the occurrence of ulcers and further complications in type 2 DM clients include client education, multidisciplinary management, rigorous monitoring, and prevention of foot care (Brownrigg et al., 2011). One form of education that can be given to DM type 2 clients is Diabetes Self Management Education (DSME). According to Funell (2011) DSME is a process that facilitates knowledge, skills and self-care capabilities (self-care behavior) that is needed by diabetes clients. This is supported by the Orem DSME theory aims to improve the self-care agency, While the self-care agency can change any time influenced by predisposing factors such as knowledge, the role of nurses as Nursing Agency helps to maximize the ability of self-care implementation on DM type 2 clients through education in the form of DSME by using media. One of the educational media is with the calendar media that clients and family can expect to see every day about how self-care DM. A calendar medium containing material on DM can be used as a guide or a client's knowledge guide on diabetes mellitus management. Calendars can be viewed daily by clients, so DM clients do not have to feel difficulty in implementing the DM program. According to Inarto (2013), the information conveyed through the calendar can be read repeatedly because the calendar will be used for 12 months so that the calendar can be used as a medium to get a response to the information submitted.

2 METHOD

The method used in this research was Quasy Experiment with the design of pre-post test control group design. The study was conducted at Muhammadiyah Lamongan Treatment Center on October 30 – November 30, 2017.

The population of the study were DM type 2 clients at Muhammadiyah treatment center that was 110 people. Sampling was done by using purposive sampling technique. The total sample size were 40 patients, divided into 20 clients as control groups and 20 clients as treatment groups. The independent variable was DSME with calendar media, and the dependent variable is foot care compliance.

The instruments used in this study were DSME calendar and NAFF (Nottingham Assessment of functional Footcare) questionnaire and observation sheet. Data were analyzed using Wilcoxon Signed Rank Test and Mann Whitney U Test with significance level ≤0,05. This research has passed the ethics review and been certified Ethical Approval with No 538-KEPK taken by the Faculty of Nursing, Universitas Airlangga.

3 RESULT

Table 1 explained that in the treatment group, all respondents in the pre test were included in the category of dutifully performing foot care with mean values of 44.20 and SD 7.84. Data of post-test distribution in treatment group showed that 19 people (95%) experienced an increase in compliance level of respondents' foot care, which showed that almost all respondents were obedient in foot care as well as an increase in mean value of 39.35.

Pre-test in the control group showed that all respondents were in the category well-dutiful in performing foot care with a mean value of 46.3, while the control group's post test data showed that almost all respondents were dutiful to perform foot care with 95% (19%) percentage, however there are 5% (1 persons) who are less obedient to perform foot care with.

Result of statistic test using Wilcoxon Signed Rank Test in treatment group obtained value ρ = 0,000, while in control group got result ρ = 0,102. Mann Whitney statistical test results in both groups obtained ρ = 0,000. It means that DSME

intervention with calendar media can improve foot care adherence in DM type 2 clients.

4 DISCUSSION

DSME actions through calendar media increase the unity of DM type 2 clients in performing foot care.

DSME calendar media interventions conducted in the treatment group consisted of 4 sessions, intervention in the form of counseling and training skills with demonstrations such as the third session that is teaching foot care, by teaching the correct foot care skills DM clients can manage the disease properly so that the Self Care Agency increased. This also fits the understanding According to Funnell (2011) DSME is an ongoing process undertaken to facilitate the knowledge, skills, and abilities of DM clients to perform self-care.

In the control group, health counseling was conducted through a pro-active program every once a month, with the theme of DM. The health counseling has not been focused on a specific DM management material such as foot care so that the respondents are not aware of the importance and the proper way of foot care , as well as the effect of apabia foot care is not done regularly.

Based on the research results of Central DuPage Hospital (2003) in Kusnanto (2017) DSME is divided into four sessions. Each session is held for ± 60 minutes with the topic of each session different. Before the first phase, it is preceded by the initial meeting and at the end of the follow-up activities of each session. Respondents will more easily understand the explanations given by researchers because the material presented indirectly the overall material about DM but gradual and more specific discussion. In the material control group presented directly the whole material about DM from basic concept to its management so that the ability to recall information by the respondent is minimal. Gradual health education in the provision of materials will improve client knowledge that affects the compliance of foot care.

According to Norris (2002) DSME interventions can increase the knowledge of DM clients and their families about DM and its management as well as improve the psychosocial status of DM clients and their families with regard to beliefs and attitudes toward treatment and coping mechanisms. In the intervention treatment group given not only focused on the client but also to the family. DSME uses both direct and indirect counseling methods by encouraging the participation and cooperation of DM clients and their families. The family is part of the closest and inseparable client. With such support will lead to trust DM clients in managing the disease. Families will be able to remind clients if the family also understands about DM and its management. In the health counseling control group conducted only followed by the client alone without any assistance from the family so that families in participating in the management of DM become less optimal. The family plays an important role in the success of DSME because with family involvement the client can control the DM management independently.

Calender can be a good medium to get the reader's response to messages or information submitted and can be read repeatedly because the calendar is used for 12 months (Intarto, 2013). Everyday clients and family can view this calendar so they always read over and over again how to manage DM like foot care. Families can also remind each time the client must perform foot care by looking at the calendar. In addition to the material about DM and the management of this calendar also contains the schedule of physical exercise and blood glucose examination as well. In this calendar there is also writing to do foot care every day. The media used for health education are increasingly being seen by the respondents, the higher the success rate that will be achieved is the compliance of foot care.

According to Edgar Dale (1994) in Nursalam and Effendi (2008) using print media involving images of the target ability to recall the given information of (30%). Calendar is part of the print media, in this calendar is explained about DSME materials starting from session 1 to session 4, the treatment group can look back on this calendar after it is explained by the researcher so that it can recall again to what has been described.

5 CONCLUSION

Conclusion: Diabetes Self Management Education (DSME) through calendar media can improve compliance for foot care for DM type 2 clients because each DSME session describes DM and management, family involvement, and every calendar sheet there is a message for daily foot maintenance that can be repeated at any time

Recommendation: In further research it is suggested to examine DSME through calendar media to changes in blood sugar values and HBA1c DM type 2 clients

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Correlations between Age, Gender and Medical History to Colonization of Candida Albicans in Cerebrovaskular Accident Patients in Jombang

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Keywords: *candida albicans*, stroke, Cerebrovaskular accident, age, medical history, gender.

Abstract: Cerebrovascular accident (CVA) is a sudden neurologic disorder that occurs due to restriction or cessation of blood flow through the arterial supply system of the brain. CVA causes paralysis, impaired consciousness, difficulty swallowing, and decreased oral hygiene resulting in oral infections. The purpose of this research is to know the description of the amount of colonization of candida albicans on CVA clients in RSUD Jombang. The design of this research is descriptive quantitative. The sample in this study were patients treated in stroke room of 40 people, selected by using simple random sampling. The result of this study found that 52.5% of CVA patients were male sex, most (50%) of respondent age was 49-59 years. History of the disease that the patient has 52.5% is hypertension. Most of the 75% is the first CVA attack. The condition of candida albicans infection may be related to gender, history of the disease and type of stroke.

1 INTRODUCTION

Cerebrovascular accident (CVA) is a sudden neurologic disorder that occurs due to restriction or cessation of blood flow through the arterial supply system of the brain (Price & Wilson, 2006). The effects of stroke can cause paralysis, paralysis, loss of facial sensation, speech impediment, difficulty swallowing, impaired consciousness and decreased oral hygiene quality (Lam, 2007).

Indonesia is the country with the largest number of stroke sufferers in Asia (Yoshida, 2009). The number of stroke patients in East Java is ranked fourth in Indonesia (RISKESDAS, 2013).

One aspect of the fulfillment of basic human needs according to Henderson nursing theory is self-care in the form of oral hygiene or oral hygiene (Brady, 2011). Self-care deficit of oral hygiene can cause an effect on stroke patients that is the emergence of various problems of *Candida Albicans* microorganisms, dental plaque and dental caries, even pneumonia. In the oral cavity and saliva appears various pathogens such as bacteria, fungi and viruses. Such pathogens can cause infection and increase the risk of secondary infection if no oral hygiene treatment is done properly (Bethesda, M. D., 2015). Clinical evidence suggests a link between aspiration of pneumonia and oral health conditions: caries, periodontal disease, and poor hygiene (Dai, 2015).

Oral hygiene needs to be done to reduce the risk of secondary hospital infections as well as to prevent oral health problems (Kim et al., 2014). Knowing that the increasing importance of oral hygiene relationship of pasiene stroke and the number of *candida abicans* appear, this study aims to give a picture of stroke patients and the amount of *candida albicans* that appears.

2 METHODS

The design of this research is quantitative descriptive that aims to know the description of the number of colonization *candida albicans*. The sample of the study was CVA patients in High Care Unit chambers of 40 people. Inclusion criteria in this study, stroke clients, clients with dysphagia, clients with age 45-70, and no oral infections. Exclusion

criteria in this study, the clients are restless or uncooperative, clients with consciousness decline, and clients using oral appliance. The sampling technique used to take the sample is simple random sampling.

3 RESULT

3.1 Characteristics of Respondents

3.1.1 Age

The following table describes the age description of respondents.

Table 1: Description of Age in High Care Unit Room On January 22 - February 13, 2018.

Characteristics	Mean	SD	Minimum-maximum
age	54,30	9,8992	38-70

The average age of respondents is 54.30 years, with a minimum age of 38 years and a maximum age of 70 years.

3.1.2 Gender

The following table describes the gender description of respondents

Table 2: Gender description in High Care Unit Room On January 22 - February 13, 2018.

Characteristics	Frequency (people)	Percentage (%)
Gender		
Man	21	52,5
Woman	15	47,2
Total	40	100

Respondents' gender was almost equal between 52.5% and 47.5%, respectively

3.1.3 Disease History

The following table describes the description of disease history of respondents:

Most of respondent's disease history were hypertension (52,5%), diabetes 15%, cholesterol 5%, 5% gout, CHD 5% and no history 17,5%. This may increase CVA risk and aggravate the CVA condition causing *candida albicans* infections.

Table 3: Description of disease history of respondents in High Care Unit Room On January 22 - February 13, 2018.

Characteristics	Frequency (people)	Percentage (%)
a. Hypertension	21	52,5
b. Diabetes	6	15
c. Cholesterol	2	5
d. Gout	2	5
e. CHD	2	5
f. There is no	7	17,5
Total	40	100

3.1.4 CVA Attack History

The following table describes the CVA attack history description, which is:

Table 4: Description of CVA attack history in High Care Unit Room On January 22 - February 13, 2018.

Characteristics	Frequency (people)	Percentage (%)
Attack I	30	75
Attack II	10	25
Total	40	100

Most respondents were the first CVA attack (75%)

3.2 Candida Albicans

The following table describes the description of the number of colonization of *candida albicans*,:

Table 5: Description of the number of colonization of *candida albicans* in High Care Unit Room On January 22 - February 13, 2018.

Variable	N	mean	SD	Min-max
the number of colonization of *candida albicans*	40	39,02	11,883	13-59

explains that the risk factor for stroke patients is age in the final adult phase until the elderly are 45-65 years old.

The results also obtained data that as much (52.5%) of respondents have male gender. The description is in line with the Hidayah and Maryatun (2013) study which also obtained data that male sex has a higher risk of stroke than women. Based on the results of the study explained that the sex of men associated with the occurrence of mouth infections in the form of *candida albicans* due to smoking habits, drinking coffee and oral hygiene.

The results obtained data that history of the disease can cause stroke and exacerbate the condition of stroke. The history of most diseases is hypertension, then diabetes, cholesterol, and heart disease. It is in harmony with PERDOSSI, (2013), states that the most risk factors for stroke is hypertension, followed by diabetes, cholesterol and heart disease.

A history of disease in stroke patients can also increase the occurrence of *candida albicans* infection conditions such as diabetes and hypertension. Predisposing factors play a role in facilitating invasion of *candida albicans* into human tissue because of changes in oral flora balance or changes in local and systemic defense mechanisms. Blastospores develop into a false hyphae and the pressure from the false hyphae destroys the tissues, so invasion into the tissues can occur. Virulence is determined by the ability of the fungus to damage tissue and invasion into the tissues

The results also obtained data that a history of stroke can cause *candida albicans* in the mouth. In line with research conducted by J. Ory et al (2016), explains that stroke patients with various attacks can cause the appearance of *candida albicans* caused by various factors. In the first stroke attack can cause infection because it is a condition of the first basic needs limitations for patients and patients are unable to perform oral hygiene. In the second attack resulted in a more severe stroke so that the appearance of candida getting bigger.

The results also suggest that in stroke patients can appear *candida albicans* with a mean value of 39.02 with min-max value of 13-59. This is in accordance with research J. Ory et al (2016), explaining that in stroke patients can appear *candida albicans* in the oral cavity. *Candida albicans* are found in the areas of the cheek mucosa, tongue, saliva and soft palate.

Candida albicans has the character of penetrating the mucosal epithelial cell area. Oral cavity is one type of mucosal epithelial cells so that *candida albicans* is easy to develop.

The number of colonies may vary by patient. This difference can be caused by several factors, among influencing factors is the condition of saliva. Saliva has a variety of components that serve to defend the body against infection of microorganisms, among which are various proteins such as lyzozyme, bactericidal / permeability increasing protein (BPI), peroxidise, IgA and IgG are different concentrations in each individual. Saliva acidity (pH) also affects the amount of candida, acidic saliva (low pH) will increase the amount of *candida albicans*

5 CONCLUSION

Stroke patients can occur equally among women and men from the 38-70 year age range. In stroke patients with limited mobility, decreased awareness, previous history of the disease and a history of stroke may exacerbate the condition of the stroke resulting in higher levels of relief. The degree of dependence and limitations on the fulfillment of these needs led to the emergence of colonization of *cadida albicans* in the oral cavity. *Candida albicans* appears in all stroke patients with varying amounts due to different pH conditions of the patient's oral cavity.

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Mindfulness-based on Eating Improving Dietetic Measure Outcomes: Systematic Review

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Keyword *: mindfulness, eating, diet.*

Abstrak: The use of mindfulness skill is increasing, its popularity and interest as an intervention appears to be growing. One of them as an intervention in weight management and eating through mindfulness-based on eating. Various literature explores the effect of mindfulness in general with emotional output and well being. This systematic review will examine the effects of mindfulness-based on eating as a major therapy with output related to diet from various aspects of physical, biochemical, and behavioral result. We identified articles through databases searching: Science Direct, Sage, Proquest, Springerlink, EbscoHost, and Google Scholar published between (2010-2018). Nine articles were analyzed and selected from 843 journal articles found for this systematic review. Most of the studies show that mindfulness-based on eating are recommended for the management of diet programs including improving eating related behavior, and affecting the biochemical and physical bodies. However, many of these studies have a disadvantage in term of method and sample size, we suggest to do further research with good preparation in all aspect to determine effectiveness the intervention.

1 INTRODUCTION

Some literature says clinical interventions based on mindfulness skills are increasingly clarified with increasing frequency and interest in health scopes for the use of attention techniques seems to be growing rapidly (Baer, 2003; Goodwin et al., 2017). Mindfulness can be interpreted as being fully present from moment to moment with full awareness of one's emotional state, physical condition and environment. The practice of mindfulness in evidence is also increasingly applied to the treatment of chronic diseases (Fung et al., 2016). Several training programs based on mindfulness have shown positive in eating habits and emotional well-being through various research studies (Pintado-Cucarella & Rodríguez-Salgado, 2016).

Mindfulness exercise during feeding activities enhances the body's physiological alert response during hunger and satiety and increases self-awareness through internal dialogue that contributes to the re-patterning of behavioral behaviors (Re-patterning behavior) (Tak et al., 2015). In dietetics, mindful eating strategies have been utilized primarily in the management of obesity and eating disorders (Fung et al., 2016). Attention to the sensations, thoughts, and feelings during mealtime is related to regulation, emotion, and self-acceptance so as to reduce the problematic eating behavior so that one is able to make their own decisions about what, when, and how much food to consume (Alberts et al., 2012).

Food consumption directly affects the supply of nutrients and energy needed to sustain life (Cruwys et al., 2015). It is widely recognized that healthy nutritious foods are essential for human health and well-being. Poor dietary eating patterns and poor diet can contribute to poor health and become a risk factor for the development of non-communicable diseases that are the current trends, leading to the cause of death globally (Leech et al., 2015).

In addition to physical activity, Adjustment to the right diet program is considered a vital component in managing weight and chronic illness accompanied by optimizing nutritional status and health (Kristensen & Køster, 2014). Health outcome measures should be valid, reliable and measurable within a certain timeframe. An outcome generated by a dietary intervention intends for the client to have and be able to achieve the goal of a treatment plan for a diet program and the achievement of nutritional wellbeing. Measurement of dietary

outcomes is a component of monitoring and evaluation of a nutritional model and dietetic treatment. British Dietetic Association (BDA) divide diet outcomes to different parts of the domain including physical domains associated with anthropometry and body, biochemical domin associated with biochemical indicators and chemical performance of the body, and behavioral change domains related to trust, behavior, attitude, motivation and compliance such as restrictive eating, increased consumption of health food (fruit, vegetables or rich nutrient food) (BDA, 2011).

2 METHOD

We identified articles through databases searching: Science Direct, Sage, Proquest, Springerlink, EbscoHost, and Google Scholar published between (2010-2018), search terms include using keyword "Mindfulness", "Eating", and "Diet". Nine articles were found that suitable with inclusion criteria. Experimental research articles that examine mindfulness-based on eating or mindful eating interventions as the main therapies in the health sciences of adolescents or adults who impact on diets and articles that include English in the inclusion criteria. We exclude the articles if the target population is focused on children, mindfulness therapy in general and is a combination therapy.

3 RESULT

Searching through the database obtained 843 research articles. We selected articles based on inclusion criteria and excluded articles that did not meet inclusion criteria.

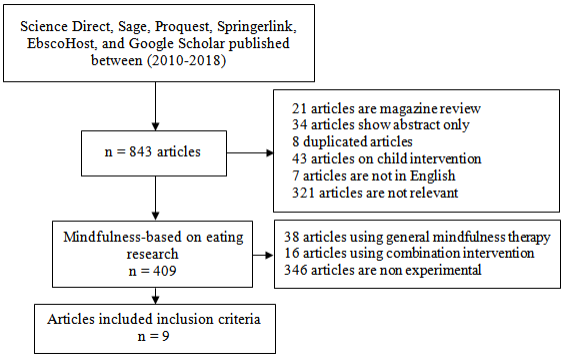

Figure 1: Flowchart articles retrieval process.

The data retrieval process is shown in figure 1. Nine journals that have been founded, collected and analyzed obtained the following results (table 1). Four articles of RCT design (Kristeller & Wolever 2014; Mason et al., 2016; Miller et al. 2012; Miller et al., 2014) three articles have an experimental design (Allirot et al., 2017; Alberts et al. 2012; Timmerman et al., 2017) an article clinical trial (Mason et al., 2017)) and one article shows a pilot study (Dalen et al., 2010).

Four of the 9 articles provided mindfulness-based on eating interventions on obesity or overweight, one article on eating disorders, two articles implemented this intervention in the case of diabetes mellitus and one article tested the effect of mindful eating on chronic kidney disease patients, but there was one article that did not mentions the targets for this intervention, but the intervention is aimed at adult women by showing the BMI provision as one of the inclusion criteria. The results obtained in each article are varied. The researchers categorized the results of the diet based on the effect of mindfulness-based on eating up to 3 diet yield domains, ie phsycal domain (table 2), biochemical domain (table 3) and behavioral domain (table 4).

3.1 Mindfulness-based on eating on physical dietetic domain

BMI and weight have been measured as outcomes in mindfulness-based on eating exercises in several studies (Alberts et al., 2012; Dalen et al., 2010; Mason et al., 2016; Miller et al., 2012; Miller et al., 2014; Kristeller & Wolever 2014; Timmerman et al., 2017). Dalen et al., (2010) in the MEAL (Mindful Eating and Life) study, compared BMI and weight measurements at baseline with follow-up 12 months after the intervention obtained a mean BMI decreased from 37 kg / m2 to 35.7 kg/ m^2 and weight decreased significantly from 101 kg to 97 kg (For a mean BMI and weight loss of 1.3 kg /m^2 and 4 kg ($p < 0.01$). BMI and weight also measured in the baseline to post intervention were reduced from 32.02 kg /m^2 to 31.57 kg/ m^2 ($p = 0.04$) with weight loss of 203.21 kg to 199.91 kg ($p = 0.03$) after mindful eating program in the dietary intake setting in patients chronic kidney disease (Timmerman et al., 2017). In contrast to Alberts et al (2012) with his research through mindfulness-based eating program, the BMI score in the intervention group before and after the treatment resulted in decreased BMI in small significance ($p = 0.07$).

Tabel 1: All the studies have been summarized in the review.

Study	Design	Intervensi/Lenght	Target population / sample	Diet Outcome	Measures	Main finding
(Dalen et al., 2010)	Pilot study	MEAL class includes an eating exercise and several common meal situations (hungry, full, alone, social)/ 6 weeks, 3-month follow-up (12 weeks)	Obesity/ 10 Adults	BMI Weight C-reactive-protein Eating behavior	*Binge EatingScale* (*BES*), Weight and waist/hip measurements	Statistically significant increase in measures of decreases in weight, eating dis-inhibition, binge eating and C-reactive protein
(Allirot et al., 2017)	Experimental study	Mindful eating include watching video, tasting session, Buffet-Style Snack/ not reported	Not mentioned / 70 adult women	Food choice and liking Energy intake Macronutrient (fat, protein, carbohidrat)	Tasting session on a 100-mm electronic VAS. FIZZ, Weighing food	Mindful group showed a reduced number of high-energy-dense food items eaten and a decreased energy intake, fat and protein except carbohydrates. There were no differences in liking of the four finger foods between participants in the mindful and control conditions
(Mason et al., 2016)	RCT	Mindful eating/12 weekly sessions, 3 biweekly sessions, and one session 4 weeks later	Obesity/ 194 Adults	Eating of sweets, fasting glucose	The Block FFQ, standardized clinical assays	Mindfulness group showed increased maintenance of fasting glucose from baseline to 12 bulan post intervensi. Increases of mindful eating were associated with decreased eating of sweets and fasting glucose levels among mindfulness group participants
(Kristeller et al., 2014)	RCT	Mindfulness-Based Eating Awareness Training (MB-EAT)/ 12 session (9 weekly session, 3 monthly booster session)	Obese or overweight/ 150 individuals	Weight loss, BMI, Binge eating disorder	Calibrated scale, Binge Eating Scale (BES)	Results showed 28% of the MB-EAT group lost more than 5 pounds (lbs) during treatment. Compared with the control wait-list group, the MB-EAT group showed significant differences in binge eating disorder scale (BED) after 1 and 4 month intervention, 95% of

Study	Design	Intervensi/Lenght	Target population / sample	Diet Outcome	Measures	Main finding
						MB-EAT group did not show BED criteria after 4 months after intervention.
(Miller et al., 2014)	RCT	MB-EAT for Diabetes (MB-EAT-D) dibandingkan dengan smart choice (SC) DSME-based/8 weekly, 2 biweekly, one and 3-month follow-up session)	Diabetes melitus/ 52 Adult	Weight loss, Energy, Nutrition outcome expectations	Electronic scale, food frequency questionnaire (FFQ), positive and negative expectations regarding healthy food choice, glycemic and quality of life regarding eating behavior	There was no significant difference in weight loss between MB-EAT-D and SC groups. Significant improvement was obtained in the outcome expectations aspect of nutrition and disinhibition control regarding eating behavior in both groups
(Alberts et al., 2012)	Experimental study	MBCT-based eating intervention/ 8 week	Disorder eating/ 26 woman	BMI, Food craving, Dichotomous thinking (good or bad food)	Weight measure (kg), The Dichotomous Thinking Scale (DTS), General Food Craving Questionnaire Trait (G-FCQ-T)	The intervention group showed a significant decrease in the aspects of food craving and dichotomous thinking. Marginally significant decrease BMI for those in the experimental condition
(Timmer man et al., 2017)	Experimental study	Self management of dietary intake using mindful eating (SM-DIME)/ 6 weekly	Mild to moderate chronic kidney disease/ 19 partisipant	Wight, BMI, Dietary intake	Weight measured using calibrated beam medical scale and height using stadiometer, three 24-h dietary recalls	Weight loss and BMI were significantly in the respondents group after intervention, but not the dietary intake
(Miller et al., 2012)	Prospective randomized controlled trial	MB-EAT for Diabetes (MB-EAT-D)/ 3 month intervention, 8 weekly and two biweekly	Diabetes melitus/ 52 Adult	Dietary intake Weight Waist Circumferenc e, HbA1c, Fasting glucose	Food frequency questionnaire (FFQ), electronic scale (Tanita crop), standar enzymatic procedure	There were significant differences between the two groups seen in the dietary intake / 1000 kcal aspects of trans fat, total fiber and sugar. Decreased energy and energy load also occurred significantly but differences in weight, waist circumference and gycemia were not statistically significant

Study	Design	Intervensi/Lenght	Target population / sample	Diet Outcome	Measures	Main finding
(Mason et al., 2017)	Single-arm clinical trial pre-post intervention design	Self paced smartphone-delivered intervention using mindful eating/ 28 days	Overweight or obese/ 104 partisipan	Craving related eating Weight	Food craving questionnaire-trait-reduced (FCQ-T-R), self-report questionnaire, weighed on Tanita BC-568	Decreased craving related eating behavior and self reported overeating behavior (trait food craving) significantly. This decrease is also associated with significant weight loss for timely completers

Tabel 2: Changes in physical outcome domain in the mindfulness-based on eating intervention group.

Dietetic domain	Study	Outcome measure	Difference changes post intervention (M±SD)	Follow up (M±SD)	p value
Physcal	(Dalen et al. 2010)	BMI	n/a	-1.3 kg/m^2	< 0.01
	(Alberts et al, 2012)	BMI	-0.38 kg/m^2*)	Not given	0.07
	(Timmerman et al. 2017)	BMI	-0.45 kg/m^2*)	n/a	0.04
	(Kristeller et al. 2014)	BMI	-0.09 kg/m^2*)	0.42 kg/m^2*)	NS
	(Dalen et al. 2010)	Weight	n/a	-4 kg	< 0.01
	(Kristeller et al. 2014)	Weight	-10.67 lbs*)	-10.72 lbs*)	NS
	(Timmerman et al. 2017)	Weight	-3.3 kg*)	Not given	0.03
	(Miller et al. 2012)	Weight	n/a	-1.53	0.07
	(Miller et al. 2014)	Weight	n/a	-1.53	0.07
	(Miller et al. 2012)	Waist circumference	n/a	-2.48 cm	0.052

*) Difference changes within intervention group between baseline or pre test to post test or follow up p value < 0.05

Kristeller et al (2014) also tested the effect of MB-EAT (Mindfulness-based on Eating Awareness Training) program in reducing BMI 39.63 kg / m2 at baseline condition to 39.54 kg /m^2 after 1 month of intervention with an average weight loss of 10.67 lbs , but after 4 months of follow-up BMI increased to 40.05 kg /m^2 with an average weight loss of 10.72 lbs. Although BMI and weight were not the main focus of this study, the practice of mindfulness in this study predicted improvements in some variables including BMI and weight (r = -0.33, p <0.05). Conducted two studies to compare the effect of MB-EAT-D with SC in patients with diabetes mellitus including weight and waist circumference as the output seen (Miller et al., 2012; Miller et al., 2014). Measurement the effect of interventions on baseline conditions to 3 months of follow-up post-intervention. The results showed no significant difference in body weight between the MB-EAT-D group compared with the SC group (-1.53 ± 0.54 kg vs. -2.92 ± 0.54 kg, p = 0.07). Neither the waist circumference results obtained significant differences in the two groups after 3 months of follow-up (-2.48 ± 0.80 vs. -4.71 ± 0.81, p = 0.052).

3.2 Mindfulness-based on eating on biochemical dietetic domain

Biochemical values were measured in several studies of dietary intervention. It can also be found in several studies of the influence of mindfulness-based on eating related diet programs (Allirot et al., 2017; Dalen et al., 2010; Mason et al., 2016; Miller et al., 2012; Timmerman et al., 2017). Allirot et al (2017) in his research that aims to determine the effect of mindful eating on energy intake through macronutrient measurements such as fat, protein and

carbohydrates. Regarding macronutrient intake, energy intake from lipids and proteins was lower in the mindful condition than in the control condition (135.54 ± 17.98 kcal vs 190.41 ± 21.04 kcal, p = 0.024 for lipid; 39.45 ± 4.88 kcal vs 53.77 ± 6.25 kcal, p = 0.049 for protein) except carbohidrat (28.10 ± 4.95 kcal vs 28.10 ± 3.40 kcal, p = 0.111).

Dalen et al (2010) also showed significant results in other biochemical measurements such as the value of C-reactive protein after 12 weeks of follow-up of the study of the MEAL program. Statistically significant decrease in levels of C-reactive protein from 0.30 mg / dl to 0.24 mg/ dl (p <0.04). Biochemicals that commonly seen especially in patients with diabetes mellitus is fasting glucose and HbA1c. Miller et al (2012) measured many aspects of biochemical such as fasting glucose and HbA1c through comparing MB-EAT-D and SC groups under baseline conditions to 3 months of follow-up after mindful eating interventions. There were no significant differences in both groups in the fasting glucose (-5.43 ± 8.38 mg / dl vs. -14.68 ± 8.60 mg / dl, p = 0.442) and HbA1c (-0.83 ± 0.24 mg / dl vs. -0.67 ± 0.24 mg/ dl, p = 0.622). Mason et al (2016) also measures fasting glucose as the main output in mindfulness-based on eating program.

Tabel 3: Changes in biochemical outcome domain in the mindfulness-based on eating intervention group.

Dietetic domain	Study	Outcome measure	Difference changes post intervention (M±SD)	Follow up (M±SD)	p value
Biochemical	(Dalen et al. 2010)	C-reactive	n/a	-0.06 mg/dl*)	<0.04
	(Miller et al. 2012)	Trans fat	n/a	0.05g	0.048
		Cholesterol	n/a	-4.01mg	0.582
		Total sugar	n/a	-1.50g	0.044
		Total fiber	n/a	0.86g	0.022
		HbA1c	n/a	-0.83%	0.622
		Fasting glucose	n/a	-5.43 mg/dl	0.442
		Total energy	n/a	-490 kcal	0.219
	(Mason et al. 2016)	Fasting glucose	0.00*)	-0.10 mg/dl*)	0.63/ 0.28
	(Allirot et al. 2017)	Carbohidrat	28.10 kcal	Not given	0.111
		Lipid	135.54 kcal	Not given	0.024
		Protein	39.45 kcal	Not given	0.049
		Total energy	275.55 kcal	Not given	0.024
	(Timmerman et al. 2017)	Protein	-0.5 kcal*)	Not given	0.92
		Carbohidrat	-7.25 kcal*)	Not given	0.32
		Total fat	-4.07 kcal*)	Not given	0.22

*) Difference changes within intervention group between baseline or pre test to post test or follow up
p value < 0.05

There were no significant differences in the intervention group at baseline 6 months after the intervention (86.8 ± 8.5, p = 0.63) and 12 months of follow-up (86.9 ± 8.5, p = 0.28), unfortunately the study showed that the control group increased the fasting glucose after 12 months of follow-up (p = 0.035) than in the intervention group, while post 6 months of intervention and 12 follow-up in the intervention group were predicted to decrease glucose fasting significantly at both time (p = 0.009; p = 0.0023).

Miller et al (2012) also assessed other biochemical levels such as trans fat, cholesterol, total sugar, total fiber and total energy. Significant differences were obtained after 3 months of intervention between the MB-EAT-D group and the SC group at levels of trans fat (0.05 ± 0.10 kcal, p = 0.048), total sugar (-1.50 ± 2.95 kcal, p = 0.044) and total fiber (0.86 ± 0.70 kcal, p = 0.022). A significant reduction in total energy and glycemic load can be seen after 3 months of intervention in both groups of MB-EAT-D and SC groups (p <0.0001). Contrast to the results of research conducted by (Timmerman et al., 2017) through self-management mindful eating program to test its influence on dietary intake. Decreased levels of fat, protein and carbohydrate post intervention were not statistically significant on each (-4.07 kcal, p = 0.22; -0.5 kcal, p = 0.92; -7.25 kcal, p = 0.32).

3.3 Mindfulness-based on eating on behavioral dietetic domain

Behavioral outcomes in the diet associated with behavioral changes in eating activities including those related to thinking in determining an attitude such as Alberts et al (2012) study tested the dichotomous thinking as one of the outcomes to be seen as a result of the influence of mindfulness-based interventions. Dichotomous thinking is a fragile cognitive condition where reality in terms of polarities is good and bad in food. The results showed a reduction in dichotomous thinking scale (DTS) scores in the experimental group after intervention based on mindfulness (2.48 ± 0.32 to 2.10 ± 0.57, p = 0.03).

Dalen et al (2010) looked at the outcome of binge eating, eating of sweet and eating disinhibition in his research on the influence of mindful eating program. The results showed that there was a significant decrease in BES score from baseline to post 6 weeks and post 12 weeks of intervention (9.2 ± 5.1, p = 0.003; 7.2 ± 2.3, p = 0.001) with decreased eating of sweet behavior in the mindfulness group seen from the count of sweet foods consumed in 24 hours but not statistically significant either 6 month or 12 month post intervention (8.4 ± 7.3%, p = 0.54, 8.2 ± 6.2%, p = 0.12). Nevertheless mindful eating can predict reduction of negative eating behavior in the intervention group at 6 month and 12 month post intervention (p = 0.003; p = 0.108) than control group (p = 0.579; p = 0.611). Eating disinhibition also significantly decreased after 6 weeks and 12 weeks post intervention from baseline condition (6.4 ± 2.8, p = 0.05; 4.5 ± 2.5, p = 0.02) through TEFQ score measurement. Research Kristeller et al (2014) also showed positive results in lowering binge eating as a result of mindfulness-based on awareness training (MB-EAT) program. Obtained lower BES scale in the MB-EAT group than in the PECB group and wait list at 1 month and 4 month post intevention (15.24 ± 9.06; 13.53 ± 9.12, p <0.001). The MB-EAT group also didn't meet BED criteria as much as 95% of participant after 4 month intervention.

Food craving is measured as an outcome in 2 related studies mindfulness-based on eating that is Mason et al (2017) and Alberts et al. (2012). Both showed positive results in reducing the scale of food craving. Through the FCQ-T-R measurement, the food craving scale for the intervention group decreased from -15.19 (p <0.001) after treatment, ssimilar to Alberts et al (2012) research, the scale of food craving decreased after the provision of mindfulness-based interventions on eating behavior. In the intervention group showed a reduction in food craving score difference of -0.38 through measurements using GFC-Q-T after treatment of baseline conditions (p = 0.03). Measurements of self-report questionnaire also showed a decrease of scale of food craving in the intervention group -21.39 after treatment (p = 0.001). Consumption of healthy food behaviors including fruits and vegetables can be an outcome as a result of behavior in diet programs seen in research of Miller et al (2014) comparing the effectiveness of conscious eating (MB-EAT-D) with diabetes self-management (SC) in diabetic patients not showing (0.24 ± 0.28, p = 0.022, 0.04 ± 0.28, p = 0.606) and fruit (0.27 ± 0.14, p = 0.049, 0.20 ± 0.14, p = 0.155) in the feeding group post-intervention mindful and follow up 3 months. However, positive results were obtained on the nutritional outcome expectation in the MB-EAT-D group in both post-intervention and 3 month follow-up through the assessment of positive and negative expectation regarding healthy food choice, glycemic control and quality of life (1.35 ± 0.20, 1.32 ± 0.20, p <0.0001).

Tabel 4: Changes in behavioral outcome domain in the mindfulness-based on eating intervention group.

Dietetic domain	Study	Outcome measure	Measurement	Difference changes post intervention (M±SD)	Follow up (M±SD)	p value
Behavioral	(Dalen et al. 2010)	Binge eating	BES	-7*)	-9*)	0.003/ 0.001
	(Dalen et al. 2010)	Eating disinhibition	TFEQ	-3.1*)	-5*)	0.05/ 0.02
	(Allirot et al. 2017)	Food choice and liking		7.03 (LED Savory)	Not given	0.60
				7.38 (HED Savory)	Not given	0.22
				7.15 (LED Savory)	Not given	0.49
				7.20 (HED Sweet)	Not given	0.76
	(Mason et al. 2016)	Eating of sweet		-3.2%*)	-3.4%*)	0.54/ 0.12
	(Mason et al. 2017)	Food craving	FCQ-T-R	-15.19*)	Not given	<0.001
			Self-report questionnaire	-21.39*)	Not given	<0.001
	(Kristeller et al. 2014)	Binge eating	BES	15.24	13.53	<0.001
	(Miller et al. 2014)	Nutrition outcome expectation		1.35	1.32	<0.0001
	(Miller et al. 2014)	Serving of fruit		0.27 kcal	0.20 kcal	0.049/ 0.155**)
	(Miller et al. 2014)	Serving of vegetables		0.24 kcal	0.04 kcal	0.022/ 0.160**)
	(Alberts et al. 2012)	Food craving	GFC-Q-T	-0.54*)	Not given	0.02
	(Alberts et al. 2012)	Dichotomous thinking	DTS	-0.38*)	Not given	0.03

BES = Binge Eating Scale; TFEQ = Three-Factor Eating Questionnaire; FCQ-T-R = Food Craving Questionnaire-Trait-Reduced; GFC-Q-T = General Food Craving Questionnaire Trait; DTS = The Dichotomous Thinking Scale; LED = Low Energy Dense; HED = High Energy Dense

*) Difference changes within intervention group between baseline or pre test to post test or follow up

**) p value < 0.0125

p value < 0.05

4 DISCUSSION

Research articles have been featured in this systematic review of dietary outcomes derived from the effects of mindfulness-based on eating grouped under several outcome domain physical, biochemical and behavioral patterns. Most studies show positive outcomes in the physical aspects associated with physical body changes that resulted in weight loss, waist circumference and significant BMI rates in most research articles. Mindfulness-based therapy can help a person to lose weight and improve health through restoring a person's ability to detect and respond to natural body cues that are hunger and satiety signals (Dalen et al., 2010).

The practice of mindfulness in eating activities also regulates an excessive eating process by increasing appreciation of food in smaller portions and controlling the cycles of the desire to eat (Warren et al., 2017; Kristeller et al., 2014). Awareness while eating is easier to reduce the frequency of overeating or eating compulsively so that the impact on the intake taken (Peluso et al., 2016). It has believed to affect body weight and BMI due to mindfulness-based on eating form adaptive eating behavior will directly affect the portion and intake of food obtained by the body to allow for weight loss.

Attention while eating also has a positive effect on emotional response and stress (Warren et al., 2017). Emotional eating increases the consumption of fats and sugars resulting in an increase in energy intake and an impact on weight gain (Mason et al., 2016). There are three research articles that test the value of fat and sugar levels consumed after eating inetrvensi with mindfulness. The three articles showed significant results in lowering the level of fat and sugar consumption after intervention and follow-up. Perceptions of food taste are considered

as internal food stimuli that are affected by the appearance, texture, sound and food temperature that affects a person likes food. In addition to focusing on weight management, mindful eating also examines one aspect of paying attention to the nature sensory of food and its effects in laboratory setting (Seguias & Tapper, 2018).

Mindful eating has been found in several studies that focusing on food sensory sensations is associated with a reduction in intake of food intake and contributes to the caloric intake and nutritional content contained in the food consumed and come in along with the consumed intake that will appear in the biochemical condition of the body. As well as the effect on portions and food intake, the adjustment of appropriate food choices is also predicted due to the attention that is present in the mindfulness of the eating activity (Seguias & Tapper, 2018). Eating mindfully positively impacts subjective expectations and food pleasures, even on foods normally considered neutral (Jiang et al., 2014).

The articles reviewed above have unequal results and it can not be ascertained that their effects do not always appear in all aspects of the biochemical tested in one study, but from some aspect to be seen at least one or more biochemical marker values can be seen to have the effect of mindful eating. This may be because the intake of food intake is individualized and depends on the type and amount of intake consumed that varies. Behavioral outcomes due to the effects of mindfulness-based on eating exercises are mostly found in this research article can be seen in article reviews working on cases of obesity and over-eating (44.4%). This is also supported by Beshara et al (2013) which shows the relevance of mindful eating intervention with serving size including emotional and disinhibition eating on the research.

Most of the results significantly decrease excessive eating behavior (binge eating), craving eating, and eating disinhibition. Attention to eating activities is associated with the emergence of the calm characteristics of ego, wisdom, altruism, the sense of interdependence with all living things, openness to change, low negative influences, and physical and psychological wellbeing so that conscious eating will help increase the enjoyment of food in people with neophobic disorders, picky eating behaviors, or poor dietary practices (Hong et al., 2014).

Mindful eating is also believed to provide information on the constraints that may arise in the size control measures serving (eating behavior) that can be seen from the calculation of the scale of eating emotionally and disinhibited (Beshara et al., 2013). Attention to eating activities can also help a person maintain awareness to make choices that support their own health by considering the factors as well as the impact of food selection (Verstuyf et al., 2012). It is thought that the pressure-reducing process is felt during meals, thus reducing the risk of eating emotionally, including the role of self-cognitive controls reducing impulsive reactions in feeding activities, the ability to overcome food cravings, and the selection of foods that indirectly establish appropriate dietary patterns.

5 CONCLUSION

This study evaluated the effect of mindfulness-based on eating on the measurement of dietetic outcomes in various health problems. Nine research articles have been summarized in this study. The research articles tested showed mixed results on dietetic outcomes both physical, biochemical and behavioral, but each article had a significant positive outcome in one or more aspects of dietetic outcome in each study. Most of the studies show that mindfulness-based on eating are recommended for the management of diet programs including improving eating related behavior, and affecting the biochemical and physical bodies. However, many of these studies have a disadvantage in term of method and sample size, we suggest to do further research with good preparation in all aspect to determine effectiveness the intervention.

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Role of Family Members in the Treatment of Tuberculosis Patients: A Systematic Review

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Abstract: Tuberkuosis (TB) is an infectious disease transmitted through droplet in the air by the sputum of a patient who has a positive that is spread at the time of cough and can kill about two million people per year. In the worldwide, TB disease increased dramatically. Ineffectiveness of TB programs is one of the causes of increasing TB disease. Partisipation of family member is needed in implementation TB programs. The purpose of this research was to examine the effectiveness of family member's roles in the treatment of TB patients. The keywords were "Family Members, Family Support, Family Intervention, Tuberculosis, Direct Observation Therapy". Journal article are made through several databases including Google Scholar, PubMed and Science Direct that start from 2013 up to 2018. The results showed that the role of family members in TB treatment is very important and beneficial, in addition to helping the achievement of TB treatment success targets, nationally and internationally, family members can become health promotion partner for their own family members and the community.

1 INTRODUCTION

The results of the Household Health Survey show that after cardiovascular and respiratory disease, tuberculosis (TB) is the third leading cause of death and the first ranks of infectious diseases. TB is an infectious bacterial disease caused by Mycobacterium tuberculosis and it's a major killer of an infectious agent worldwide, especially in Asia and Africa. Generally attack the lungs, so was called pulmonary tuberculosis, but can also attack other organs such as lymph nodes, membranes of the brain, skin, bones, joints, intestines, kidneys, and other organs so it's called Extra Lung disease. (Puspita, Christianto & Yovi, 2016).

According to the University of Stellenbosch Information Center, TB disease is referred to by some as "The Mother of Diseases" and is a contagious disease that can spread like wildfire. TB is associated with poverty, population density, alcoholism, stress, drug addiction and malnutrition. In addition, the disease spreads easily in crowded and densely populated, poorly ventilated, and among malnourished people. This causes TB to be known as a disease of poverty. (Narasimhan, 2013).

Several interventions have been undertaken and examined to reduce the spread of TB disease, such as finding cases, improving nutrition, providing medication and others. However, some programs are unsuccessful in their implementation due to several factors, such as economics, knowledge, culture and patient compliance with treatment.

The study, conducted by Dodor (2008), aims to evaluate the nutritional status of TB patients when they were first diagnosed with TB and have not started treatment, indicating that the mean BMI at initial enrollment was 18.7 kg / m2, 51% of TB patients were assessed to be malnourished, of which 24% had mild malnutrition, 12% moderate and 15% severe. Two months after starting medication the average BMI was 19.5 kg / m2, with the number of patients experiencing malnutrition decreased to 40%, with percentage 21% malnutrition mild, 11% moderate and 8% severe malnutrition. In the study it was explained that nutritional status was significantly associated with age, marital status, monthly income (occupation), education level, confidence to avoid certain types of food and close relatives at the start of TB treatment. These findings indicate the need for nutritional support during TB

treatment, supported by various factors: age, sex, marital status, income, education level, trust and family support.

Meanwhile, another study by Newell, Baral, Pande, et. al. (2006), 549 patients were allocated to the DOTS community and 358 patients were allocated to DOTS family members. DOTS communities and DOTS family members achieved a success rate of 85% and 89% (respectively, with the odds ratio of DOTS community success relative to DOTS family members, 0.67 [95% CI 0.41-1.10], p = 0.09). The estimated case-finding rate is 63% with community strategy and 44% through DOTS family members.

Based on the above explanation can be concluded that the family have an important role in the success of treatment and treatment of tuberculosis.

2 METHOD

This review are made through several databases including Google Scholar, PubMed and Science Direct that start from 2013 up to 2018 dan the keywords were "Family Members, Family Support, Family Intervention, Tuberculosis, Direct Observation Therapy". Articles selected for review according to inclusion criteria. The inclusion criteria in this systematic review are 1) RCT research design, 2) the treatment involves the family, 3) the sample is patient TB and or their family. Articles that meet the inclusion criteria are 6 articles.

3 RESULT

Six articles have been collected, analyzed and scored. The results obtained are as follows: in a study conducted by Ayles, Muyoyeta, Du Toit, et. al. (2013), explains that among the two interventions are community-level enhanced tuberculosis case-fi nding (ECF) and household levels of tuberculosis-HIV care, which is used to measure the burden of tuberculosis, which effectively gives the indicator decrease the burden of tuberculosis is the communities receiving the household intervention. Where in the household intervention is built on traditional psychosocial counseling models to encourage and support household members to assess their risks and vulnerabilities to HIV and tuberculosis and to facilitate relationships in proper diagnosis, care and prevention both within the home and through services there is. This household counseling model empowers households, and through their neighbors, families, and eventually the community, to seek early treatment when the symptoms of tuberculosis begin.

This is in accordance with research conducted by Greg, Nguyen, Dinh, et. al. (2018), which explains that Household-contact investigation plus standard passive case finding is effective in finding TB cases. In 36 districts included in the intervention group, 180 out of 10,069 registered contacts had tuberculosis (1788 cases per 100,000 population), compared with 110 of 15,638 contacts (703 per 100,000) in the control group (relative risk of primary outcome in the intervention group, 2, 5; 95% confidence interval [CI], 2.0 to 3.2; P <0.001); the relative risk of smear-positive disease among household contacts in the intervention group was 6.4 (95% CI, 4.5 to 9.0, P <0.001).

Research conducted by Khachadourian, Truzyan, Harutyunyan, et. al. (2015) also explained that through the intervention People-centered tuberculosis can support its adoption in countries with similar health and economic profiles. In such interventions patients and family members receive counseling, knowledge, stigma reduction, and improved drug adherence, as well as reminders through Short Message Service (SMS).

Other studies conducted by Dave, Shah, & Nimawat et. al. (2016) show that from 624 children with newly diagnosed TB, 359 (58%) in the intervention group (DOT by family members) the success rate of treatment reached 344 (95.8%) and 265 (42%) (DOT as usual treatment) with treatment success rate of 247 (93.2%) (p = 0.11). It is concluded that DOT provided by family members is not inferior to DOT given by non-family members among new TB cases in children and can achieve successful international achievement.

The same role as DOT was also shown in a study conducted by Newell, Baral, Pande, et. al. (2006), the results of the study showed that of the 358 enrolled into the family-member DOTS group, 319 (89%) were successfully treated.

The role of the family in the treatment of tuberculosis is also shown in the study conducted by Li, Wang, Tan, et. al. (2017), which explains that through family comprehensive support for tuberculosis patients, can improve adherence and good outcomes in the treatment of tuberculosis patients so as to provide a reference value to the management of tuberculosis patients.

Another effect of the role of the family in the treatment of tuberculosis is related to health costs.

Based on research conducted by Hunchangsith, Barendregt, Vos, et. al. (2012), the health benefits through DOT by family are 9400 (2005 international dollars [I $]) disability-adjusted life years (DALYs) (95% uncertainty interval 7200 to 25,000) and it means that the family-member DOT is a cost-saving intervention.

4 DISCUSSION

The literature study in this study is about the role of the family in the treatment and treatment of tuberculosis. All reviews indicate that the family plays an important role in the treatment and treatment of tuberculosis. At ZAMSTAR intervention (Zambia, South Africa Tuberculosis and AIDS Reduction) consisting of two types of intervention: a community-level enhanced case-finding (ECF) intervention and a strategy of combined tuberculosis-HIV activities at the household level. This study shows that household intervention is more effective at reducing the burden of disease, as it can improve community screening so early prevention of tuberculosis is possible.

In the DOT strategy research by family members may be said to be more effective because it is associated with the geographical conditions of the patient's residence in the hills and mountains, which does not allow nurses or DOT officers and patients to meet so that involving the family in DOT intervention is one strategic and profitable way too saving on treatment costs for tuberculosis. In addition to patients there is no need to make clinical visits to nearby services and health personnel do not need to always make visits to the patient's residence.

5 CONCLUSION

The results showed that the role of family members in TB treatment is very important and beneficial, in addition to helping the achievement of TB treatment success targets, nationally and internationally, family members can become health promotion partner for their own family members and the community.

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