

PROCEEDING
THE 1ST INTERNATIONAL CONFERENCE OF
KERTA CENDEKIA NURSING ACADEMY
2019

**Improving Quality of Life: Shifting from
Hospital-Based Care to Community-Based Care**



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**Improving Quality of Life: Shifting from
Hospital-Based Care to Community-Based Care**

Lumonir Hotel, Sidoarjo
September 7, 2019





SUPPORTED BY:



The Authors

Proceeding of the 1st International Conference of Kerta Cendekia Nursing Academy 2019

Theme: Improving Quality of Life: Shifting from Hospital-Based to Community-Based Care

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Preface: Proceeding of the 1st International Conference of Kerta Cendekia Nursing Academy (ICKCNA) 2019

Aims and Scope of the Conference

As the first held, the International Conference hosted by Kerta Cendekia Nursing Academy, Sidoarjo focuses on improving the nursing care by gathering the academicians, practitioners, and researchers which have concern in health care services fields.

The issues of community-based care have brought various considerations in many fields. The continuous health care services should sufficient and adequate distribution of resources, and expansion of health care policies. This conference covers a wide range of critically important sessions from hospital-based care to community-based care and continues to lead the way in integrating that healthcare in order to improve the clients' quality of life.

The scope of this International Conference is articles in the fields of health, public health, nursing (basic nursing, medical surgical nursing, pediatric nursing, maternity nursing, community health nursing, family nursing, emergency nursing, mental nursing, gerontic nursing, and also nursing management), and Psychological Sciences.

Paper Peer Review

All papers submitted to the Conference were reviewed using blind peer-review process. The Conference Scientific Committee decided about the acceptance or not of the submitted papers, with contribution of competent and expertise reviewers.

Thank

We would like to thank all member that participated in any way in the ICKCNA 2019 Conference and especially:

- The co-organizing Universities and Academies for their support and development of a high-quality Conference Scientific Level and profile.
- The members of the Scientific Committee that honored the Conference with their presence and provided a significant contribution to the review of papers as well as for their indications for the improvement of the Conference.
- All members of the Organizing Committee for their help, support, and spirit participation before, during, and after the Conference.
- The Session Organizers for their willing to organize sessions of high importance and for their editorial work, contributing in the development of valued services to the Conference.

CONFERENCE DETAILS

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Elsa Meilani Ekasari | Kerta Cendekia Nursing Academy, Sidoarjo

KEYNOTE SPEAKER



Assistant Professor Dr Pornchai Jullamate
(Dean of Faculty of Nursing, Burapha University Thailand)

Theme: Resilience of Elderly Patient



Professor Dr Yoshiko Tsukada
(School of Nursing, Saku University, Japan)

Theme: Quality of Life of Elderly in Japan

INVITED SPEAKER



Hem Kumar Nepal, RN, MNS

(Clinical Nurse at Quality Management Service in Mongar Regional Referral Hospital,
Eastern Bhutan)

Theme: Role of Nurse in Patient Discharge



Riesmiyatiningdyah, S.Kep., Ns., M.Kes

(Lecturer of Pediatric Nursing at Kerta Cendekia Nursing Academy)

Theme: Parenting Effects on Child's Health

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ABSTRACT OF CONFERENCE PARTICIPANTS ORAL PRESENTATION

THE INFLUENCE OF FACILITIES AND HEALTH PERSONNEL FACTORS ON THE IMPLEMENTATION OF FAMILY HEALTH DUTIES IN CONTROLLING HYPERTENSION IN THE WORKING AREA OF THE PUCANG SEWU COMMUNITY HEALTH CENTER, SURABAYA, EAST JAVA

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ABSTRACT

Background: Hypertension or high blood pressure is a condition where there is an increase in blood pressure in the arteries and is one of the conditions that usually precedes heart and blood vessel disease. Hypertension control aims to help lower blood pressure and maintain blood pressure under normal conditions. Family health care is the level of public health care that is intended or focused on the family as a unit or unit that is cared for healthily as a service and care destination as an effort to prevent disease. Efforts to control hypertension in family members suffering from hypertension are carried out through family duties in the health sector, namely: recognizing hypertension problems, making appropriate decisions in dealing with hypertension problems, caring for family members suffering from hypertension, modifying the physical and psychological environment that supports the treatment of hypertension and utilizing health facilities to overcome hypertension problems. The implementation of family health duties is influenced by several factors including facilities and health workers.

Objectives: The purpose of this study was to analyze the influence of facilities and health personnel factors on the implementation of family health tasks in controlling hypertension in the working area of Pucang Sewu Community Health Center, Surabaya, East Java.

Methods: This study uses a cross sectional design conducted in July 2018. The research subjects consisted of 120 family heads / family members who were selected by non-simple random sampling technique. Facilities and health personnel are family perceptions of the program and attitudes of health workers to control hypertension. Data on facilities and health personnel, the implementation of family health duties in controlling hypertension was obtained using questionnaires. Data was analyzed using the Pearson Correlation with significance $\alpha < 0.05$.

Results: Subject perceptions about facilities and health workers, almost all in the good category, 85.8%. The implementation of family health duties in controlling hypertension, mostly in the good category, 87.5%. There is a significant influence between facilities and health personnel factors on the implementation of family health tasks in controlling hypertension, based on the Pearson Correlation analysis showed a difference with a significant value $p = 0,000$ and significance level $\alpha < 0.05$.

Conclusion: This study showed a significant influence between the factors of facilities and health workers on the implementation of family health tasks in controlling hypertension.

Keywords: Facilities and health personnel, family health tasks, controlling hypertension.

THE EFFECT OF BREATHING EXERCISES: PURSED-LIPS BREATHING AND DIAPHRAGM BREATHING IN COPD PATIENTS

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ABSTRACT

Background: Chronic Obstructive Pulmonary Disease (COPD) is included in the four major non-communicable diseases that have a high mortality rate, which leads to high morbidity, lung disability and increased medical costs. Symptoms that appear in COPD patients are shortness of breath, coughing with or without phlegm, increased sputum production, and wheezing. An acute exacerbation of COPD event can be seen from the appearance of these symptoms repeatedly.

Objectives: This study aimed to examine the effect of breathing exercises: pursed-lips breathing and diaphragm breathing in reducing the attack frequency of acute exacerbation in COPD patients.

Methods: The method of this research was quasi-experimental: two-group, pretest-posttest design with sample size 16 (8 respondents in each group). Data was analyzed using Mann-Whitney test with significance $\alpha < 0.05$.

Results: Analysis results with Mann-Whitney test was $p = 0.00 (< 0.05)$, which means there an effect of breathing exercises: pursed-lip breathing and diaphragm breathing on decrease the attacks in COPD patients.

Conclusion: Therefore, breathing exercise needs to be scheduled as therapy for COPD patients.

Keywords: Breathing exercise, pursed-lips breathing, diaphragm breathing.

AUTOGENIC RELAXATION FOR POSTOPERATIVE CAESAREAN SECTION PAIN IN RSAD KODAM V BRAWIJAYA SURABAYA

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ABSTRACT

Background: Caesarean section contribute labor pain is no longer pain of childbirth is physiological but from cuts in the area of surgery. Postoperative pain that is felt by the patient is influenced by several factors including age, sex, attention, culture, the meaning of pain, anxiety, fatigue, coping styles and family support. When postoperative pain in patients not treated immediately will result in the patient rehabilitation process will be delayed, the patient becomes longer hospitalization, high complication rate and require more cost. In granting the nurses action in reducing pain, the nurse can provide non-pharmacological technique to reduce postoperative pain.

Objectives: The purpose of this study was to examine of autogenic relaxation on postoperative caesarean section pain in RSAD Kodam V Brawijaya.

Methods: The design of this study was experimental with one group pretest-posttest design. This study was conducted in RSAD Kodam V Brawijaya Surabaya, East Java, Indonesia. This research was Mother's population in postoperative caesarean section in RSAD Kodam V Brawijaya Regional Surabaya. The sample in this study was 30 respondents with the sampling method using purposive sampling. The measuring instrument used was a manual procedure for autogenic relaxation and the observation sheets Numeric Rating Scale (NRS).

Results: The inferential analysis with Wilcoxon signed rank test found that p value (*sig.*) is 0.000 ($\alpha < 0.05$). This result means that there is a significant difference in the pain scale before and after treatment autogenic relaxation techniques.

Conclusion: Autogenic relaxation can reduce postoperative caesarean section pain in RSAD Kodam V Brawijaya Surabaya.

Keywords: Autogenic relaxation, pain, caesarean section, postoperative.

NON-PHARMACOLOGICAL THERAPIES TO IMPROVE PATIENT SLEEP QUALITY IN ICU/CCU: LITERATURE REVIEW

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ABSTRACT

Background: Sleep is one of the basic human needs. Good sleep quality can improve repair of the disease. Sleep disorders are common in inpatient patients at CCU and ICU. The use of sedative and hypnotic medicines can significantly improve the quality of sleep, but can cause a wide range of side effects.

Objectives: The purpose of this review literature compares some of the research results on non-pharmacological therapies (eye masks, earplugs, music therapy, switching off lights, environmental modifications) in improving sleep quality to determine the best nursing action and safe to overcome patient sleep disorders by literature review and followed the PRISMA statement guidelines.

Design: Search the article using the PICO framework in the database.

Data Sources: Data sources included four electronic databases: Google Scholar, EBSCO, Science Direct, Scopus, MedLine, CINAHL, PubMed, and ProQuest, are limited to the last 10 years; 2007 to 2016

Review Methods: Data synthesis with qualitative synthesis.

Results: This article review obtained 13 international journals with RCT design and quasi-experiments. Improved sleep quality can be done in several ways; Eye mask use, earplugs, music therapy, exposure and sound reduction, the transfer of the treatment schedule outside the bedtime, and combinations.

Conclusion: Review results show the most effective action locally applied to improve sleep quality i.e. lowering lighting and noise as well as switching of treatment schedules outside of bedtime as it is easy, safe, and not Require a fee. If the intervention has not been helped can be offered eye mask, earplugs, and or music according to the choice of patients, local culture, and facilities available in the hospital. Advanced research on patients outside the ICU/CCU with more sample counts, different age and condition characteristics, longer treatment duration, and using objective sleep quality gauge such as polysomnography.

Keywords: Eye mask, earplug, music, ICU/CCU, sleep quality.

EFFECT OF SEFT (SPIRITUAL EMOTIONAL FREEDOM TECHNIQUE) THERAPY ON DECREASING LEVELS OF ANXIETY IN STUDENTS OF CLASS VIII SMP THAT WILL FACE MIDDLE SEMESTER EXAMS IN THE 4TH JUNIOR HIGH SCHOOL OF MUHAMMADIYAH SURABAYA

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ABSTRACT

Background: Students who will face an exam experiencing various psychological conditions that can cause students to become anxious. This anxiety can be due to demands from parents, school, social, even the perceptions of the students themselves related to information that has been received in preparing themselves for the exam. One of the actions that can be taken to reduce student anxiety is the therapy of Spiritual Emotional Freedom Technique (SEFT).

Objectives: The purpose of this study was the Effect of SEFT Therapy (*Spiritual Emotional Freedom Technique*) on the Decrease of Anxiety Level in Class VIII Middle School Students Who Will Face the Middle Semester Examination of the 4th Junior High School of Muhammadiyah Surabaya.

Methods: The research design was *pre-experimental, one group pretest-posttest design*. The sample in this study was all junior high school students of class VIII-C who would face the Mid Semester Examination at the 4th Junior High School of Muhammadiyah Surabaya with 30 people taken by the technique *Total Sampling*. Data analysis using the *Wilcoxon Test*, namely SEFT therapy (*Spiritual Emotional Freedom Technique*) to reduce anxiety levels.

Results: Based on the Wilcoxon Test the value of $Z = -4,956$ and the value of $p \text{ Value} = 0,000$ so that ($p < \alpha$) so that H1 accepted H0 rejected means that there is influence of SEFT therapy (*Spiritual Emotional Freedom Technique*) to decrease anxiety levels of students in class VIII who will face the exam Semester at the 4th Junior High School of Muhammadiyah Surabaya.

Conclusion: SEFT therapy can be given to students who will face the test with the approach taken spiritually, discussion and interpersonal communication by knocking 18 key points in the human body is SEFT therapy (*Spiritual Emotional Freedom Technique*). SEFT therapy can provide calmness to students psychologically.

Keywords: SEFT Therapy (*Spiritual Emotional Freedom Technique*), anxiety, emotional.

PERCEPTION OF YOUTH AGE PREGNANCY WITH STRESS FACING LABOR IN TRIMESTER III PREGNANT WOMEN IN COMMUNITY HEALTH CENTER OF TANAH KALI KEDINDING SURABAYA

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ABSTRACT

Background: Pregnancy at adolescence is at high risk because it can cause fetal death. The reproductive system in adolescents is not ready for fetal growth and development. The first experience of labor is one of the causes of stress due to a lack of knowledge

about the signs of labor and the severity of labor. Incomplete information, and not necessarily true, will lead to the perception that labor is a negative, frightening, and dangerous thing. Feeling anxious about something they will experience during labor so that it can cause stress which will affect the labor process.

Objectives: The purpose of this study was to analyze the relationship between perceptions of pregnancy and stress in facing labor.

Methods: This type of research uses the method *correlation analytic* conducted in April 2018, the population and samples of third trimester teenage pregnant women, the dependent variable perceptual and independent stress, this study used a total sampling technique, the measuring instrument used the questionnaire and used the test *chi square*.

Results: The results of the statistical test show that $p < 0.00$ ($\alpha < 0.05$) indicates that H_0 is rejected so that there is a strong relationship between the perception of pregnancy and stress facing labor.

Conclusion: Mothers who have positive perceptions or perspectives about pregnancy give rise to positive perceptions so that they do not experience stress or only experience mild stress that will help smooth the delivery process.

Keywords: Perception Pregnant, Teen, Stress, Delivery.

EFFECTS OF USE OF RED GINGER COMPRESS ON PAIN IN ELDERLY THAT SUFFER URIC ACID: CASE STUDY

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ABSTRACT

Arthritis gout is a disease that happen because of deposition crystals of sodium urate in joint that caused inflammation. This Inflammation cause pain that can make disturbing our activity. A warm red ginger compress is a one of method that can be done for reducing the pain that cause by arthritis gout. Because of red ginger contain of active components, the components consist of gingerol, ginger Dione and zingerones that has anti-inflammatory effect. The purpose of this research is to know painful of elderly who are sufferer of arthritis gout after got a warm red ginger compress. This research used case study method. To collect the data, the researcher used interview and observation. The research subject is 2 elderly who sufferer of arthritis gout. The result of the research is found that both of subject included in scale of mild pain and moderate pain. After got a warm red ginger compress, pain that felt by both subject turn into a good change. Both of them experienced a decrease in pain until pain scale 0 (no pain).

Keywords: Painful, elderly, *arthritis gout*, a warm red ginger compress.

RELATIONSHIP BETWEEN EDUCATIONAL LEVEL AND EARLY BREASTFEEDING SIDE MEAL IN GEMURUNG VILLAGE SIDOARJO REGENCY

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ABSTRACT

Background: Breastfeeding is the best meal for baby, in fact there's so many mothers give another meal for their baby before

they are ready enough to received another meal. Educational level influence ability of taking information about nutrition. Society with low educational level is stronger in defencing tradition associated with meals, thus really difficult to take new information about nutrition so they give early breastfeeding side meal to the babies under 6 months.

Objectives: This research aimed to determine relationship between educational level and early breastfeeding side meal in Gemurung Village Sidoarjo Regency.

Methods: This research uses design correlation analysis with cross sectional approach. The population in this study are all of mothers who have under 6 months baby in Gemurung Village Sidoarjo Regency in Nopember 2017 as many as 40 people. The sampling technique used is total sampling.

Results: The results suggests that most of respondents have moderate educational level, ie 57.5% respondents, and almost all of mothers give early breastfeeding side meal, i.e. 77.5%. All of mother with lower educational level give early breastfeeding side meal to their baby, it means that getting lower educational of mother raise the giving of early breastfeeding side meal to the babies.

Conclusion: Early breastfeeding side meal giving influenced by uncomfot babies factor, mother knowledge about nutrition, education, work, and exploitation of baby meal product promotion.

Keywords: Early breastfeeding side meal, educational level, mother.

BRAIN GYM IMPROVES COGNITIVE FUNCTION FOR ELDERLY WITH DEMENSIA

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ABSTRACT

Background: Dementia is a combine of clinical symptoms caused by various background diseases and is characterized by loss of short-term memory, global disorders, mental functions (including language functions), withdrawal of abstract thinking skills, difficulty in caring for himself, behavioral changes, emotional instability and loss of time recognition and place. Brain gym is one of the exercises to improve cognitive performance on elderly with dementia.

Objectives: This study was to determine the effect of brain gym on cognitive performance on elderly with dementia in Social Service Unit Tresna Werdha Jember.

Methods: A Quasy Experimental design was done to conduct 30 elderly with dementia were recruited using purposive sampling divided into 2 groups, experimental and control group. The independent variable of research this study was brain gym and the dependent variable was cognitive function at elderly. Data were collected by using MMSE score and then analyzed using Wilcoxon Signed Rank Test with level of significance $\alpha \leq 0.05$.

Results: The results identified a significant influence between the implementation of Brain Gym to improve cognitive function in the elderly with dementia.

Conclusion: Brain gym increase cognitive performance on elderly with dementia.

Keywords: Elderly, brain gym, cognitive function, dementia.

THE EFFECT OF COLD COMPRESS ON PAIN IN MUSCLE INJURY AFTER COLLECTION OF LOADS IN THE JM FITNESS CENTER, KAPAS MADYA VILLAGE, KENJERAN SUBDISTRICT, SURABAYA

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ABSTRACT

Background: Sports have become very popular among people today, someone who exercising can experience muscle injuries that will cause pain. Actions to deal with pain in muscle injury is one of them is *cutaneous stimulation* by providing cold compress therapy. The benefits of giving cold compresses are to reduce inflammation, reduce bleeding into the tissue, and reduce muscle spasms and pain.

Objectives: The aim of the study was to determine the effect of giving cold compresses on pain in muscle injury after weight training.

Methods: The research design used was *quasi-experimental* with a sample of 40 respondents divided into two groups, the control group and the intervention group in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya, which was taken by *total sampling technique*. Scale measurements use the *Numeric rating scale* (NRS).

Results: The Wilcoxon test results obtained $p = 0.000$, which indicates there is an influence of cold compresses on pain in muscle injury after exercising weight.

Conclusion: The implication of the results of this study is that giving cold compresses on a regular basis can have a significant effect on reducing pain in muscle injury after weight training.

Keywords: Pain, muscle injury, cold compress.

DIFFERENCE METACOGNITIVE SKILLS WITH ACHIEVEMENT INDEX IN NURSING STUDENTS DIPLOMA IN LUMAJANG

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ABSTRACT

Background: To realize active and independent learning need concrete ways of learning strategy and direction. According to O'Neill and Brown in Usman, Mulbar (2008) argued that metacognition is the process whereby a person thinks about thinking to develop strategies to solve problems. With metacognitive learner can build a new plan for the operation of metacognition in learning-centered planning, problem-solving, and evaluation during a learning activity. Nursing students should apply the metacognitive ability to earn achievements.

Objectives: The purpose of this study wanted to study the differences in student achievement are used with no use of metacognitive skills when performing activities of student learning.

Methods: The design used is a cross-sectional comparative study. The population is all students of Diploma in Nursing in Lumajang totaled 3 275 people taken by simple random sampling. They measure devices in the form of a questionnaire. Analysis of continuous data sample characteristics describes as mean, SD, minimum, maximum in the frequency, and percent. Differences

in metacognitive skills with student achievement index analyzed by paired sample t-test.

Results: There are differences in student achievement that using metacognitive skills with who do not use metacognitive skills while doing the learning activities indicated significance value of 0:00 with a 95% confidence interval.

Conclusion: Metacognition ability one can be used to improve the achievement of students. Learning techniques need to be implemented to stimulate metacognitive skills, and when students accustomed to applying metacognitive skills while learning the understanding of learning, especially in nursing science will increase.

Keywords: Metacognitive, achievement index, student.

THE COMPARISON BETWEEN PROGRESSIVE MUSCLE RELAXATION AND SLOW DEEP BREATHING EXERCISE ON BLOOD PRESSURE IN HYPERTENSIVE PATIENTS

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ABSTRACT

Background: There has been an epidemiological transition in which non-communicable diseases dominate compared to infectious diseases. One of the fastest growing non-communicable diseases is hypertension. Non-pharmacological treatment that can be done, is progressive muscle relaxation and slow deep breathing. In hypertensive patients, it is recommended to regulate pattern of breath and recommended for those who feel restless, but do not use in lowering blood pressure. Likewise, muscle relaxation in general only use for bed rest and never given special relaxation to lower blood pressure.

Objectives: This study aims to analyze the differences in blood pressure of hypertension sufferers who are given progressive muscle relaxation and slow deep breathing.

Methods: This research was conducted on May 24 - July 2, 2018, *Quasi-experimental design with Non-Equivalent Pretest-Posttest Design and Comparisons Group design*. Sampling technique used is *Non-Probability with Consecutive* with 48 samples.

Results: This research concluded that there was no significant difference between the progressive muscle relaxation group and slow deep breathing against decrease blood pressure with the results p value (0.273).

Conclusion: Many factors can be influencing this result that is age, education, (history of hypertension & time suffering from hypertension), (smoking history, duration, and number of packs / day), stress level and hypertension medication.

Keywords: Blood pressure, progressive muscle relaxation, slow deep breathing.

CADRE'S EMPOWERMENT AND COUNSELING IN INCREASING SOCIETY'S BEHAVIOR ABOUT CONTENT AND EFFECT OF PESTICIDES ON FRESH VEGETABLES

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ABSTRACT

Background: The growing health problem in Indonesia is a cancer, one of causes is that food which is consumed containing carcinogenic. Society's knowledge is very dominant affected toward action/behavior which is done toward choice, food processing which is consumed in daily, especially highlanders who really like consuming fresh vegetable. Unconsciously, by improper processing, pesticide or other chemical substances containing in vegetable which is in human body. It is still underestimated by the public, even health officer, it can be known from health counseling especially about health-food of free pesticide or the proper steps is very rare to be done.

Objectives: Through community service we want to give knowledge about pesticide with purpose in order to change society's behavior about content and effect of pesticide on fresh vegetable in Sumbergepoh to be better.

Methods: The community service using lecture method, discussion, role play, and mentoring the cadres and Sumbergepoh society, that was held on September- November 2016. Analysis data used frequency distribution.

Results: From the result of community service obtained were as many as 48 counseling participants with the pre-test score 46.8 and post-test score 87.94. The result is a significant increase in knowledge of 0.000 with t score=16.9. While 95% CI between -46.8 – -36.7, meant the effect was strong because it was not passing number 1; giving treatment can increase 3-4x knowledge compared with not to be given.

Conclusion: Based on the evaluation result could be concluded that participants of counseling were very enthusiast toward materials which explained. And also, they would implement in their home. The activity was so beneficial to increase knowledge and improve society's behavior in processing fresh vegetable toward pesticide.

Keywords: Health education, knowledge, behavior content and pesticide effect of fresh vegetable.

PROACTIVE PUBLIC HEALTH APPROACH TO PREVENTION OF OCCUPATIONAL DISEASE ON FARMERS IN LUMAJANG

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ABSTRACT

Background: Occupational Disease is a disease caused by work, work tools, materials, processes, and work environment. Safe work behavior is a systematic application of someone to work on safety issues in the workplace to avoid work-related illnesses. Through the Proactive Public Health Approach, it is expected to be able to prevent Occupational Diseases.

Objective: This study aimed at analyzing the relationship between occupational disease and proactive public health approaches in Lumajang District.

Methods: This research is quantitative research, which used a descriptive-analytic study with cross-sectional. The sample in this study was 164 respondents from February until May 2019, with the sampling method using purposive sampling. Data presented in the form of Spearman's Rho Correlation test 0.05 statistical test with a value of α .

Results: Based on the results of data analysis by most respondents (50.6%), the proactive public health approach is a category, and having an occupational disease is often a category (54.3%). The results of data analysis used Spearman's Rho showed that p-value = 0.001 with correlation coefficient $r = 0.674$ means the level of relationship is a strong category.

Conclusion: Trauma and pesticides cause problems of occupational diseases that arise often. Farmers are expected to pay more attention to the method or method of using and preventing occupational diseases. So, the role of nurses or Occupational Health Nursing (OHN) in agriculture must be increased.

Keywords: Occupational illness, pro-active public health approach, farmer.

INDIVIDUAL HEALTH BELIEFS ABOUT OSTEOPOROSIS ON ADULT SELF-CARE BEHAVIOR IN MOJO SURABAYA

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ABSTRACT

Background: Osteoporosis occurs due to imbalance between new bone formation and bone resorption resulting decline in bone mass so that bones become prone to fracture. Person with osteoporosis should have good health beliefs toward their illness in which affect to how they do self-care properly.

Objective: This was a descriptive study that aim to identify the individual characteristics and health beliefs about osteoporosis on adult self-care behavior.

Methods: The sample was 30 adults with osteoporosis in community that selected by simple random sampling technique. The data analysis using PLS (Partial Least Square). The variable in this study were the individual characteristics, individual health beliefs about osteoporosis, and their self-care behavior.

Results: The data analysis using PLS (Partial Least Square) got three points; there were significantly influence of individual characteristics toward their health beliefs ($t = 2.20, > 1.96$), significantly influence of individual health beliefs toward their self-care behavior ($t = 3.90, > 1.96$), and influence of individual characteristics toward their self-care behavior ($t = 0.34, > 1.96$).

Conclusion: Nurses should educate the community about osteoporosis including perceptions of susceptibility and severity, barriers, benefits and self efficacy about a healthy diet, activity (exercise) and decreased risk. Control program that is comprehensive, integrated, lifelong and gradually implemented urgently needed to overcome this.

Keywords: Osteoporosis, health beliefs, self-care behavior.

THE IMPORTANT OF SOCIAL SUPPORT FOR QUALITY OF LIFE PEOPLE WITH SPINAL CORD INJURY: A PERSPECTIVE

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ABSTRACT

Spinal Cord Injury (SCI) is one of the most overwhelming events for the sufferer and their family. It is a medically complicated and life-disrupting condition. In the past, SCI related to very high mortality rates. Nowadays, the evolution of the medical technology and advance care are transforming the situation. Better medical services give the people that suffer SCI more ability to survive, live and flourish after the devastating injury (Maholtra, Bhatoe, & Sudambekar, 2010; WHO, 2013). However, it is not a simple situation for restoring their condition after the life-changing incident.

Keywords: Social support, quality of life, spinal cord injury, perspective

PARENTAL BEHAVIORS IN INFLUENCING DENTAL CARIES OCCURRENCE AT THE FIRST AND SECOND GRADERS OF ELEMENTARY SCHOOL

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ABSTRACT

Background: In 2007-2013, the prevalence of dental caries occurrence in Indonesia was reportedly high. No less than 63% of Indonesian people, especially children, had suffered from the mouth and dental diseases; one of which was dental caries. Parental behaviors were suspected as the most influencing factor to affect the level of the mouth and dental cleanliness on children. Those behaviors included cognitive (knowledge), emotion (attitude), and conative (skill) aspects.

Objective: This research is intended to investigate parental behaviors that influence dental caries occurrence at elementary school students.

Methods: This research constitutes cross-sectional research through purposive-sampling technique, with the use of logistic regression test.

Results: The results of two-fold logistic regression test had indicated that skill aspect resulted in 0.003 of p-value and 0.197 of OR, which defined that skill had contributed to dental caries occurrence with 19.7% of the degree of contribution.

Conclusion: The components of parental behaviors for dental care comprised some key aspects, such as knowledge, attitude, and skill. Out of the three, poor parental skill was allegedly more influencing upon dental caries occurrence at children.

Keywords: Parental behaviors, caries knowledge, dental caries, elementary school students.

THE EFFECT OF DIABETIC FEET SPA THERAPY TO BLOOD GLUCOSE LEVEL AND SLEEP QUALITY OF DIABETES MELLITUS PATIENT

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ABSTRACT

Background: Diabetes Mellitus (DM) is one of metabolic disease disorder marked by the emergence of hyperglycemia. The effect of hyperglycemia is the blood glucose going up and sleep disorder. The non-pharmacological management can be done is diabetic feet spa therapy to prevent hyperglycemia.

Objective: The purpose of this study is to analyzes the effect of diabetic feet spa to blood glucose and sleep quality of DM patient.

Methods: This study employing Quasy Experiment pre post control group design method. Population in this study are 41-50 years old of DM Type 2 patients. Sample that used are 60 respondents, then divided into intervention group and control group, sampling technique with simple random sampling. Data collection applied diabetic feet spa observation sheet; instrument that used is glucometer to assess blood glucose level and assess sleep quality using PQSI questionnaire. Data analyzed with Wilcoxon and t test with $\alpha = 0.05$.

Results: Result of the study showed that there are differences on sleep quality on group who given intervention diabetic feet spa and control group p value = $0,000 < \alpha (0,05)$ and finding a difference on blood glucose level to group who given diabetic feet spa intervention and control group ($t = 12,34$; p value = 0,000).

Conclusion: Diabetic feet spa able to smoothing the blood circulation, lowering muscle tone stiffness, relax, feel refresh, analgesic and sedative effect. Those effect able to improving blood glucose level and sleep quality. Diabetic feet spa is recommendable for non-pharmacological therapy in sleep quality and blood glucose level on patient DM type 2.

Keywords: Diabetic feet spa, blood glucose level, sleep quality.

SELF-EFFICACY AND SELECTED DEMOGRAPHICS AS DETERMINANTS OF THE FAMILY BEHAVIOR ON EXAMINATION FOR PATIENTS WITH TUBERCULOSIS IN PAMEKASAN

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ABSTRACT

Background: Tuberculosis is still a global health problem, particularly in Pamekasan. The family support to do examination for patient with tuberculosis is inadequate. There was a limited literature exploring the factors associated with the Family Behavior on Examination for Patients with Tuberculosis.

Objective: This study aimed to analyze the correlation between self-efficacy, demographics and Family Behavior on Examination for Patients with Tuberculosis in Pamekasan.

Methods: This research was conducted through cross-sectional design. A number of 379 respondents were invited from 8 clinics using a two-stage cluster sampling. This study was conducted from December 2016 to August 2017. The Bivariate analysis was tested using Chi-square while multivariate analysis was examined through logistic regression.

Results: The most respondents who did not do examination for patient with Tuberculosis was > 50 years old and have low level of education. The bivariate analysis showed that only self-efficacy and education level have relationship with the behavior of self-examination among family of patients with Tuberculosis (p -value < .05). The positive relationship indicates that the higher score of self-efficacy and education level the greater the effort of family to do examination for patient with Tuberculosis (p -value < .05).

Conclusion: The self-efficacy and level of education have significant influence toward the behavior of self-examination, therefore it can be reference for health practitioner and researcher to promote health behavior among family of patient with Tuberculosis.

Keywords: Behavior, family, self-examination, self-efficacy, tuberculosis.

THE RELATIONSHIP OF INDIVIDUAL CHARACTERISTICS AND NURSES CARING BEHAVIOR IN JOMBANG GENERAL HOSPITAL

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ABSTRACT

Background: Public demands for the quality of health service increase highly and become the responsibility of hospitals. One factor affecting the quality of health services is nurses in providing nursing care (Mailani, 2017).

Objective: The purpose of this study was to determine the relationship between individual characteristics with nurses caring behavior at Jombang General Hospital.

Methods: The research design used in this research is correlation analytic with cross sectional approach. The population used was all nurses in 4 internal rooms of the Jombang General Hospital with total sampling technique. The number of samples in the study were 58 nurses. The instruments used were questionnaires and analysis tests using Spearman-Rank.

Results: The results showed that the majority of respondents were 38 female respondents (65.5%), 35 respondents aged 3-45 years (55.2%), 40 respondents educated d3 nursing (70.7%), 47 respondents are married woman (81%), 21 respondents are working 1-5 years (36.2%). There are 45 respondents (77.6) have Nurse caring behavior. Based on Spearman-Rank test results, there is a relationship between age and nurses caring behavior with Sig. (2-tailed) 0.03 < 0.05 and there is also a relationship between the length of work and the Sig. (2-tailed) 0.01 < 0.05.

Conclusion: The good caring nurse behavior towards patients will improve the quality of hospital services and a good image for the hospital itself. This is because most of the number of employees in the hospital are nurses and automatically the most services are also provided by nurses.

Keywords: Caring, nurse, individual characteristics.

COGNITIVE STIMULATION THERAPY ON ELDERLY WITH DEMENTIA IN PANTI WERDHA PANDAAN, PASURUAN

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ABSTRACT

Background: Everyone will experience an aging process that lead to the vary emotionals feeling and conditions. Periods from birth to death including to sequences of unpredictable life events that relate to physical maturation and carrying out age-related roles in which need preparation to bear the new role and the new situation (Little William, 2014).

Objective: The purpose of this study was to examine the effect of cognitive stimulation therapy on Elderly with Dementia in Panti Werdha Pandaan, Pasuruan.

Methods: A quasi-experimental design was used in this study. There were two groups, experimental and control group. The experimental group received Cognitive Stimulation Therapy within 2 weeks. Before and after the intervention, both group measured their cognitive functions by using the Mini Mental Status Examination (MMSE). Researcher assisted by four volunteers to do the pre and post test. Data entry and statistical analysis was performed using SPSS version 18. The significant level of statistical tests was set at 0.05. descriptive and t-test statistics were used. Kolmogorov-Smirnov was used to test for normal distribution. Paired t-tests assessed the differences in cognitive ability mean scores at pre-test and post-test within the experimental and control groups. Independent t-test assessed the difference in cognitive ability mean scores from pre-test to post-test between experimental and control groups.

Results: The results showed that the experimental group post test scores are much higher than pre-test ($p = 0.000$). it means an increase in cognitive function after being given CST. In control group there are differences in pre-test and post-test scores bit the differences is not significant ($p = 0.547$).

Conclusion: This study focuses on the administration of CST in elderly with mild to moderate dementia. The hope is to provide CST therapy then there will be an increase in cognitive function.

Keywords: Cognitive stimulation therapy, dementia, elderly.

THE EFFECT OF PIPER BETLE LEAF EXTRACT LOTION TO OLDER PEOPLE SKIN MOISTURE

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ABSTRACT

Background: Elderly has obvious anatomic and physiological changes in all of their body systems. Some of common skin problems are xerosis, the appearance of skin folds, skin damage due to moisture problems, and impaired wound healing. There is one alternative skin care that can be applied and has been scientifically reviewed such as utilization of green betel leaf (*Piper betle* L.). This plant is scientifically proven to have antibacterial activity.

Objective: The aim of this study is to provide an alternative skin care for elderly people who are frequently in contact with urine and faecal using betel leaf.

Methods: The research design used in this study was quasi-experimental with a pre-test and post-test approach in the treatment group.

Results: Statistical analysis showed that the water content of the skin in the control group showed a result of $p = 0.325$ ($p > 0.05$) and the oil content in the control group showed a result of $p = 0.783$ ($p > 0.05$). It can be concluded that there is no significant effect between bathing in the normal way with the level of skin moisture. The treatment group showed that the water and oil content had a value of $p = 0,000$ ($p < 0.05$).

Conclusion: Based on the results of research and discussion it can be concluded that the administration of betel leaf extract lotion (*Piper beetle*) significantly influences the skin's moisture.

Keywords: Skin moisture, piper beetle, older people.

APPLICATION OF CLASSIFICATION AND REGRESSION TREE (CART) ON LIFE INDEPENDENCY BASED ON FUNCTIONAL CAPACITY AND HEALTH CONDITION OF OLDER ADULTS IN KASIN VILLAGE BARENG HEALTH CENTER, MALANG

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ABSTRACT

Background: The independence of life in the older adults is very dependent on the ability of the to adjust themselves to the changes that occur. Health conditions, social conditions and economic conditions are factors that have a relationship with the independence of the older adults. The Joint Health Center is one of the health service facilities in Klojen Sub-district of Malang city that provides health services for the older adults.

Objective: This study aims to identify the independence of the older adults in Kasin Village, the Work Area of the Bareng Health Center in Malang City in fulfilling daily activities based on health conditions and functional capacity of the older adults.

Methods: The design of this study was cross-sectional study with older adults' respondents aged 60 years and over in Kasin village, 142 of the Bareng Health Center working areas, taken randomly. The instruments used were IADL, AMT, GDS along with a research questionnaire. Data were analyzed by CART method using Salfold Predictive Modeller.

Results: The classification results show that 78.2% of the older adults are classified as independent. CART analysis shows that the daily menu consumed by the older adults is the best sorting variable with the highest goodness of split value of 0.1125041, use of stairs 0.1045829, daily physical activity 0.0826270, and current health perception 0.0813413. The accuracy value obtained is 95.83%, the sensitivity value is 82.88% and the specificity value is 87.10%.

Conclusion: Daily menu consumed by the older adults and current perceptions of health are variables that contribute to the independence of the older adults based on health condition factors, while the use of stairs, daily physical activity, home improvement are functional capacities that contribute to the independence of the older adults.

Keywords: Classification, CART, independence, older adults.

THE EFFECT OF BOILED GINGER DRINK JAHECANG ON BLOOD PRESSURE REDUCTION IN HYPERTENSION PATIENTS IN THE HAMLET OF BABAN AROSBAYA VILLAGE AROSBAYA DISTRICT BANGKALAN REGENCY

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ABSTRACT

Background: Blood pressure was the power needed for blood to flow in blood vessels and circulate in all tissues of the human body. The Lack of physical activity can result in a variety of complaints, characterized by a decrease in pulse rate and a decrease in the amount of blood pumped in each beat. Treatment of hypertension was divided into two namely pharmacology and non-pharmacology. Pharmacological management for hypertension was the provision of antihypertensive with the aim of preventing hypertension complications with the smallest possible side effects.

Objective: The purpose of this study was to determine whether there was an effect of giving ginger drink to reduce blood pressure in patients with hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency.

Methods: The research design uses Quasy Experiment with pre-test and post-test control group design. The population was 21 respondents. Samples taken with the technique of Random Sampling, amounting to 20 respondents. The research data was taken by observation of blood pressure, after tabulating data obtained using Independent T-Test with a significance level of 0.05.

Results: Research shows that the experimental group that was given the ginger drink got a value of 154.44 mmHg with a change in value of 131.11 mmHg. Whereas in the control group which was not given ginger drink got a value of 153.00 mmHg with a change in value of 142.00 mmHg. From the statistical test results obtained 0.000 because of the sign value (2-tailed) < 0.05 , the hypothesis of research H₀ is rejected and H₁ was accepted, meaning that there was an influence of ginger drink on reducing blood pressure in patients with hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District Bangkalan.

Conclusion: The ginger drink there are several components and compounds that can reduce blood pressure in people with hypertension. Potassium which can affect the effects of diuretics resulting in an increase in intracellular Na and affect vasodilation of blood vessels so that blood vessels circulate smoothly resulting in a decrease in blood pressure.

Keywords: Ginger drink, blood pressure, hypertension.

CORRELATION BETWEEN MENSTRUAL PAIN AND LEVEL OF CORTISOL AMONG NURSING STUDENT OF NAHDLATUL ULAMA UNIVERSITY, SURABAYA

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ABSTRACT

Background: The stress faced by the final student due to the demands of completing a thesis on time triggers the activation of the HPA axis so that it can increase the secretion of the cortisol

produced by the adrenal cortex. Increased cortisol secretion increases uterine muscle contraction thereby aggravating menstrual pain.

Objective: The purpose of this study was to analyze the correlation between cortisol levels and menstrual pain in nursing students of Nahdlatul Ulama University, Surabaya (UNUSA).

Methods: This study is an analytic observational with cross sectional approach. Population of this study were all nursing students who met the inclusion and exclusion criteria. The subjects of this study were 46 people selected through purposive sampling. Data was collected through observations with VAS and cortisol laboratory results. Data were analyzed by using Spearman rank test.

Results: The results showed that: 1) All students experience menstrual pain 2) Cortisol levels in all students are still in the normal range 3) There is a correlation between cortisol levels with menstrual pain ($p = 0.009$).

Conclusion: Increasing cortisol levels are followed by aggravating menstrual pain. Future research is expected to examine other factors that cause menstrual pain in final semester students.

Keywords: Endorphin massage, menstrual pain, primary dysmenorrhea.

ABSTRACT OF CONFERENCE PARTICIPANTS POSTER PRESENTATION

MONTHLY INCOME OF FAMILY, EDUCATIONAL LEVEL, KNOWLEDGE, AND EATING BEHAVIORS AMONG PEOPLE WITH TYPE 2 DIABETES MELLITUS IN SIDOARJO

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ABSTRACT

Background: Many factors can influence the choice of food and diet of people with type 2 diabetes mellitus, including personal dimensions (socioeconomic, educational level, and knowledge), behavioral pattern, and environmental characteristics (Savoca and Miller, 2001).

Purpose: This study aimed to describe and examine the relationship between monthly income of family, educational level, knowledge, and eating behaviors among people with type 2 diabetes mellitus in Sidoarjo.

Methods: The design of this study used a cross-sectional method to measure the relationship of several variables. The population in this study were all diabetics in the working area of the Sidoarjo Community Health Center. The sampling technique used is cluster random sampling. The total of samples in this study were 117 respondents with inclusion criteria, among others aged 20-60 years, can read, and want to participate in this study. Data collection using demographic data questionnaire (DDQ) for monthly income of family and educational level, eating behavior is measured by self-management dietary behaviors questionnaire (SMDBQ), and knowledge is measured by diabetes knowledge questionnaire (DKQ). The data of this study was analyzed using Pearson Correlation with significance $\alpha \leq .05$.

Results: Based on the results, it found that educational level, monthly income of family, and knowledge had positive relationship with eating behaviors ($r = .60, p < .001$; $r = .61, p < .001$; $r = .33, p < .001$, respectively). Educational level and monthly income of family had positive relationship with knowledge ($r = .21, p < .05$; $r = .31, p < .001$, respectively). And also, educational level had positive relationship with monthly income of family ($r = .63, p < .001$).

Discussion: With the results of this study, health workers are expected to create programs to improve eating behavior in people with type 2 diabetes mellitus that are adjusted to the condition of patients with type 2 diabetes mellitus.

Keywords: Eating behaviors, monthly income of family, educational level, knowledge, type 2 diabetes mellitus.

RELATION BETWEEN FAMILY SUPPORT AND ANXIETY IN PREOPERATIVE PATIENTS IN INDONESIA

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ABSTRACT

Background: Preoperative procedures as the part of perioperative period should be taken place completed and proper regarding to the patients' needs. Once the patient has decided to be operated, they may experience unpleasant feeling created by the prospect of surgery. Therefore, nurse involves all available support at the first place including the family support for patients.

Purpose: This descriptive correlational study aimed to examine the family support relate to anxiety of patients undergoing surgery in Indonesia.

Methods: A 36 patients undergoing surgical in Delta Surya Hospital Sidoarjo participated on this study and were assessed their perceived of family support using Depression Anxiety Stress Scale (DASS) questionnaire and their anxiety level using The Personal Resource Questionnaire (PRQ) 2000. The data of this study was analyzed using Spearman's rho analysis with significance $\alpha \leq .05$.

Results: Spearman's rho analysis reported there was a negative correlation between perceived family support and anxiety level, which was statistically significant ($r = -0.543, p = 0.001, < 0.05$).

Discussion: The attachment of family before surgical would decrease the patient's anxiety level. Implementation of preoperative education and psychosocial intervention should be addressed in order to achieve the expected perioperative patients outcomes.

Keywords: Family support, preoperative's anxiety, patients undergoing surgery.

ISSUES AND TRENDS IN NURSING ADMINISTRATION: NURSING STAFF SHORTAGE

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ABSTRACT

Nursing shortage is an internationally recognized crisis and the biggest challenge in achieving the health system effectiveness. This paper sought to review literature on issues and trends in nursing administrations. Conceptual Framework for Nurse Shortage; Nursing Role Effective model, community-based model and Moos and Schaefer (1993) integrative conceptual framework and Donabedian (1980) were used to guide the study. The findings revealed that nurse staffing is associated with both nurse and patient negative outcomes. It was recommended that an improvement to nurse's work environments and an increase in incentives may retain nurses in the profession and also attract young people into the profession.

Keywords: Nursing administration, nursing staff, health system, nursing shortage.

THE INFLUENCE OF PASSIVE RANGE OF MOTION (ROM) ON LOWER EXTREMITY IN POSTOPERATIVE PATIENTS WITH SPINAL ANESTHESIA IN RUMKITBAN SIDOARJO

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ABSTRACT

Background: Patients to be operated will receive anesthesia, one of which is spinal anesthesia. Patients who receive spinal anesthesia are usually transferred to the recovery room to stabilize the condition. Some actions that can increase venous return and normal blood circulation flow, one of which is the action of range of motion exercises (ROM).

Purpose: The purpose of this study was to identify the effect of passive range of motion exercises (ROM) on the motor response of the lower extremity in postoperative patients with spinal anesthesia in Rumkitban Sidoarjo.

Methods: This study used a Quassy experimental design with a one group pretest-posttest approach. The number of samples were 25 people and collected using incidental sampling techniques. The data obtained were then analyzed using the Wilcoxon test with $p \leq 0.01$.

Results: As many as 80% of postoperative patients with spinal anesthesia who are given passive range of motion exercises (ROM) can achieve Bromage score 2 in the first 2 hours after surgery. Wilcoxon test results indicate that the p value (0,000). The conclusion of this study is that passive range of motion exercises (ROM) can improve the lower limb motoric response in postoperative patients with spinal anesthesia.

Discussion: The main task of nurses in the recovery room is to observe blood pressure, respiratory status, oxygen saturation, and level of consciousness. In addition, nurses must apply passive range of motion exercises to postoperative patients to accelerate the patient's recovery from the effects of anesthesia.

Keywords: Passive Range of Motion, lower limb motoric response.

RELATIONSHIP WITH THE LEVEL OF ANXIETY HEMODINAMIC STATUS (PULSE) IN PATIENTS PRE SECTIO CAESARIA OPERATIONS IN A UNIT OF THE CENTRAL SURGICAL (UBS) OF MUSLIM HOSPITAL OF SITI HAJAR, SIDOARJO

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ABSTRACT

Background: Most women want to do surgery Sectio Caesarea for avoiding pain and for ease of parturition. The most common response in patients with preoperative one of which is a response to psychological (anxiety), mental patients who will be facing surgery should be prepared because there is always the possibility of anxiety and fear (Stuart in Hand, et al, 2014).

Purpose: The purpose of this study was to identify the Relationship Research methods anxiety with hemodynamic status (Pulse) patient preoperative Sectio Caesarea in the

Central Surgery Unit of Muslim Hospital of Siti Hajar, Sidoarjo.

Methods: Research type is quantitative with correlational research design using Cross Sectional. In this study rated independent and dependent variables simultaneously at one time so there is no follow-up (Nursalam, 2014). This study will link between the level of anxiety with the hemodynamic status (Pulse). This study using incidental sampling technique of sampling. The population are the womwnt who will to parturition sectio Caesaria operation at the Central Surgical Unit (UBS) of Muslim Hospital Siti Hajar Sidoarjo on April 5 to May 5, 2018. Research tool used include HARS questionnaire used as a measure of anxiety, Hamilton Anxiety (HARS) with a total of 14 statements and the total value of 56.

Results: The majority of respondents are severe anxiety was to Pulse at 14 people (23.3%), while a small portion of respondent's anxiety level is severe anxiety with the Pulse is equal to 3 (5%). Based on the analysis using analysis *Kendall's Tau* note that the p value 0.000 is smaller than α (0.05) means that there is a relationship between the level of anxiety in Pulse.

Discussion: Anxiety is felt to increase the sensitivity to a stimulus that overreact in the circulatory system that cause the veins and small blood vessels to constrict very strong and than held in response to the pulse (Semiun, 2010).

Keywords: Hamilton Anxiety Rating Scale, Sectio Caesarea, pulse.

NURSE'S EFFORTS TO TRANSFORM OF NURSE ROLES IN PRIMARY HEALTH CARE FROM PROMOTIVE TO CURATIVE IN MANAGING PATIENTS WITH ACS IN PRIMARY HEALTH CARE MALANG REGENCY, EAST JAVA, INDONESIA

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ABSTRACT

Background: Acute Coronary Syndrome (ACS) is a sudden reduction disorder in the coronary bloodstream that is life-threatening and as a source of morbidity and mortality. Nurses n Primary Health Care have an important role for health problems in the community in a preventive, curative, and rehabilitation. This requires that the role nurses not only do promotive actions but also curative in handling patients with ACS.

Purpose: The purpose of this study was to explore nurses in primary health care had an important role to transform from promotive but also curative managing Patients with ACS in Primary Health Care.

Methods: This research used qualitative method with descriptive-phenomenological approach by using the process of analysis of Clark and Brown, 2013.

Results: Four themes were successfully obtained from 8 participants, namely: Efforts to improve quality, Harmony team in Collaboration, The Need for improving nurse quality, Multi-working of nurse with additional duty.

Discussion: The implementation of emergency care services at the primary health care was based on the nurses' awareness of roles in providing holistic nursing care to patients with ACS related to prompt and appropriate relief in order to save the lives of patients. The role of nurses from the focus to the community was promotive but now requires nurses to have good skills in curative actions. Therefore, it is necessary to develop nurses' skills to continue to improve the service of patients with ACS in

the primary health care so that they can become the first level of health services that are relied on by the community.

Keywords: Nurses role, Acute Coronary Syndrome, Emergency Nursing, Primary Health Care.

THE RELATION SHIP BETWEEN NURSE PERFORMANCE AND INPATIENT SATISFACTION IN THE JASMINE ROOM OF DELTA SURYA HOSPITAL, SIDOARJO

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ABSTRACT

Background: The quality of health services is a level of service perfection that is carried out in accordance with established standards of ethics in order to increase satisfaction for each patient. Nurse performance is the work of nurses in the form of actions or practices that are easily observed or assessed. By improving the performance of nurses, the quality of service in the hospital will significantly continue to provide satisfaction to patients and the community.

Purpose: This descriptive correlational study aimed to identify the relationship between patient satisfaction and nurse's performance, especially in hospitalized patients.

Methods: A 35 hospitalized patients in Delta Surya Hospital Sidoarjo participated on this study and were assessed their perceived of nurse performance using Independent Variable questionnaire and their satisfaction level using Dependent Variable. This questionnaire instrument uses two types of statements, positive statements and negative statements, each 24 items.

Results: SPSS results that an Asymp.Sig (2-sided) value of 0,000 was seen. Because the Asymp.Sig (2-sided) value <0.05, it can be concluded that there is a significant relationship between nurse performance with patient satisfaction.

Discussion: Customer satisfaction occurs when needs, wants, and their expectation can be fulfilled. And nursing services by wholeheartedly, equally regardless of rank, ethnicity, race, religion or profession will have an impact on patient satisfaction.

Keywords: Patient satisfaction, nurse performance, inpatient room.

AWARENESS ON HEALTH EFFECTS OF SMOKING AMONG SECONDARY SCHOOL CHILDREN IN BANGLADESH

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ABSTRACT

Background: Trends of smoking among the secondary school children have been increasing across the globe. According to Global Youth Tobacco Survey (GYTS), in Bangladesh about 3%

secondary school children were tobacco smokers and 2% students were cigarette smoke in Bangladesh, whereas, globally 21% secondary school students were smoked tobacco.

Purpose: The purpose of this study is to assess the awareness on health effect of smoking among secondary school children.

Methods: A descriptive correlational study was conducted among 98 secondary school children who were read in class nine and ten in rural area. Convenience sampling technique was used to select the study participants. Data was collected by self-administered structured questionnaire. Descriptive analysis such as – frequency, percentage, mean and standard deviation was used to describe the sample characteristics. The Pearson product moment correlation co-efficient, two sample t-test and ANOVA test were used to describe the relationship among variables.

Results: A total 98 students in the age group of 14-17 years mean age 15.3 (.840) years. The awareness level on health effects of smoking mean score was 3.17(.290) relatively high among the participants. The result also revealed that age ($p=.036$), sex ($p=.033$), class ($p=.000$), parents' marital status ($p=.047$) and friend smokers ($p=.023$) were statistically significantly correlated with students' level of awareness on health effects of smoking.

Discussion: The findings of the study indicate that majority of the students were highly aware on harmful health effects of smoking. Despite high awareness level of effects of smoking

Keywords: Awareness, health effects, smoking, secondary school children.

KNOWLEDGE AND PRACTICE OF WEANING AMONG BANGLADESHI LACTATING MOTHER

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ABSTRACT

Background: Weaning is the introduction of food and fluids than breast milk and the transition to a solid diet along with breast milk. It's gradually starting around the age of 6 months. Weaning is a best process involving nutrition; immunological, biochemical and psychological adjustments.

Purpose: The aim of the study was to explore the level knowledge and practice of lactating mothers' regarding weaning in Bangladesh.

Methods: A descriptive study was conducted at three EPI centers in Noakhali Municipality, Noakhali. A purposive sampling technique was used to recruit the sample that has 6 - 12 months of aged baby. The estimated sample size was 120 lactating mothers. Researcher was use developed questionnaires these are socio-demographic characteristic of mothers, mothers' knowledge related information regarding weaning, mothers' practice related information regarding weaning. Data was analyzed by using descriptive statistics, *t*- test and Pearson correlation. Significance level 0.05 was considered in this study.

Results: The mean age of the mothers was 25.18, (SD \pm 4.32). Most of the subjects were Muslim. The results revealed that the lactating mothers reported moderate level of total knowledge, with the mean score was 16.13 \pm 4.32 and the low level of total practice, mean score was 2.83 \pm .27. There were significant factors related to knowledge level were: non-Muslim mothers' ($p = .05$), higher educated ($p = .03$), get information from relative/others ($p = .05$), and start weaning ($p = .01$). Significant factors related to practice were older mothers' age ($p = .002$), having baby more than one ($p = .05$) and having older child age ($p = .001$), higher

educated ($p = .008$), and period of weaning ($p = .01$). There was no relationship between total knowledge and total practices of weaning among lactating mothers' ($r = .02, p = .82$).

Discussion: The findings of this study indicated that the mothers who had higher education, more than two babies, and non-Muslim mothers especially were high knowledge and practice regarding weaning. Therefore, the nurses and other health care provider should consider the following characteristics like low educated mothers, prime mothers, starting of weaning, and Muslim mothers especially. Thus, we can prevent of our infant mortality and morbidity regarding weaning practices in Bangladesh as well as abroad.

Keywords: Knowledge, practices, lactating mother, infant, weaning.

ANKLE PUMPLING EXERCISE AND LEG ELEVATION IN 30° HAS THE SAME LEVEL OF EFFECTIVENESS TO REDUCING FOOT EDEMA AT CHRONIC RENAL FAILURE PATIENTS IN MOJOKERTO

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ABSTRACT

Background: One manifestation of fluid balance disorders in patients with chronic kidney failure is edema, which if untreated can causes complications in various body systems including the respiratory system, cardiovascular system, and hematology.

Purpose: The purpose of this study was to determine the effectiveness of ankle pumping exercise and leg elevation to edema reduction at patients with chronic renal failure in Mojokerto.

Methods: The research design used was Quasi Experimental Design using the Non-Equivalent Control Group design. The sampling technique used was consecutive sampling; the number of samples taken was 30.

Results: The results stated in the ankle pumping exercise group and the leg elevation group, through the Wilcoxon test both showed a significant decrease in edema with a value of $P = 0.001$ ($\alpha = 0.005$). In the comparison between ankle pumping exercise intervention and leg elevation, based on the Mann-Whitney test, P value = 0.248 ($P > 0.05$) which means there is no significant difference of the ankle pumping and the leg elevation to the decrease the grade of edema in patient's chronic kidney failure.

Discussion: Ankle pumping and leg elevation have the same level of effectiveness in reducing leg edema. So, we can choose the one of these which suitable for patient's condition.

Keywords: Edema, ankle pumping exercise, leg elevation in 30°, chronic kidney failure.

NURSE MOTIVATION IN ADMISSION A NEW PATIENTS AT MENUR PSYCIATRIC MENTAL HOSPITAL SURABAYA

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ABSTRACT

Background: Mental disorders are defined as mental states that make people unable to relate to reality (Stuart, 2016). Mental disorder is a disease that is becoming and becoming a global trend globally, 1 in 4 people suffer from mental disorders both in developed and developing countries.

Purpose: The purpose of this study was to explore the motivation of nurses in the admission of new patients at Menur Psychiatric Mental Hospital Surabaya.

Methods: This type of research is a qualitative research with an interpretive phenomenological approach. Information was obtained by interviewing 12 nurses as participants in the activity of admitting new patients.

Results: Nurses are encouraged to engage in new patient admission activities influenced by two external factors, namely the existence of competence and autonomy that has the value of incentives and internal factors, namely the drive within themselves to maintain the quality of nursing services and maintain social relations with superiors.

Discussion: Mastery expertise and skills of the new admissions nurse are needed to strengthen the independence of the nursing team leader in conducting new patient admissions and the nursing team members' self-understanding of their involvement in the social environment of the patient care room to foster initiative to engage in the process of admission a new patient.

Keywords: Admission of new patients, competence, autonomy, social relations.

Material of Keynote Speaker 1 (Assistant Professor Dr Pornchai Jullamate)

Theme: Resilience of Elderly Patient

ELDERLY SITUATION IN THAILAND AND COMMUNITY BASED CARE FOR OLDER ADULTS: A CASE OF SAENSUK MUNICIPALITY

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Thailand is currently facing one of the most rapid rates of population ageing in the developing world. Thai older person or the “elderly” or “senior citizen” means a person age over 60 completed years and who has Thai nationality. This definition was announced since 2003 according to the Elderly Person Act. Thailand’s National Statistical Office (1998) reported the proportion of Thais who are elderly rising from 4.8% to 6.3% between 1970 and 1990. By 1996 older persons comprised 8.4% of the Thai population. According to The Foundation of Thai Gerontology Research and Development Institute Annual Report, in 2017, the number of Thai elderly was 11 million out of the total of 65.5 million, or approximately 17 per cent of the total population. However, it is the speed at which the Thai population is aging that is truly remarkable. It is projected that, in the coming 4 years, Thailand will become a “complete-aged society,” when the proportion of older persons age 60 or older reaches 20 per cent of the total population. Soon, Thailand will reach 20 million older persons and, importantly, those in the most senior age group (80 years or older) will more than double, from 1.5 million in 2017 to 3.5 million in the coming 20 years. Thailand has done little to prepare itself for this demographic trend in general, in terms of its older population, and in terms of eldercare. For instance, the Thai government seemed slow in recognizing the importance of welfare for the elderly until 1992, when it adopted the 1992–2011 National Long-Term Plan of Action for the Elderly.

Older persons are to be valued, respected, and honored by younger people particularly in the family. Thai family members especially adult daughters or sons continue to be the main person to provide care for their aged parents, and often also for their extended family elders, once the elders are no longer able to fully take care of themselves. Thai people strongly believe in the ‘gratitude system’ which obligates them to show gratitude to their parents. Therefore, Thai eldercare is mainly provided by informal caregivers in the family when the elderly are no longer able to fully take care of themselves. At this time it is clear that eldercare in Thailand is almost entirely informal care.

Community based care is another important option to provide care for older adults in Thailand because of insufficient formal care provided by the government or for-profit organizations. Saensuk municipality entered aged society since 2014 with the ratio of elderly aged 60+ at 12.55 per cent. This is one of the reasons why Saensuk municipality (where Burapha University is located) has launched “Community-based Elderly Care Project in Saensuk Municipality, Chonburi Province, Thailand from 2016 – 2018” with the collaborations of 4 major institutions -- Burapha University (Faculty of Nursing), Saensuk Municipality, Saku University, and Saku City. This project was financially supported by Japanese International Cooperation Agency (JICA). It finally enhances quality of life of elderly people as aimed as well as increase capabilities and competencies of both professionals and non-professionals man power to provide care for older adults. Additionally, this community-based project can also strengthen partnership between many government and private organization. It is also a good model for other cities to learn and apply for providing care of their senior citizen.

Material of Keynote Speaker 2 (Professor Dr Yoshiko Tsukada)

Theme: Quality of Life of Elderly in Japan

COMMUNITY-BASED CARE FOR THE ELDERLY IN SAKU CITY, NAGANO, JAPAN & INTERNATIONAL COOPERATION IN THAILAND

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Community-based care for the elderly is becoming a focused problem in Asian countries. Now, I will look over current statistics of Indonesia, Japan and Thailand. Population of Thailand is 67,000,000 which is a half of Japan. Then population of Japan is 127,740,000 which is about a half of Indonesia. Population of Indonesia is 261,110,000, 2017, many most among three countries, however elderly ratio of Indonesia over 65 years old is still low, 5.45% is the condition of aging society. Elderly ratio over 65 years old of Thailand is 11.83%. But in Thailand elderly person is considered over 60 years old, and the ratio is a little over 14% which is the sing of aged society. As for Japan, everyone can recognize the condition of super-aged society. Japan's life longevity (average of male and female, Global Note 2017) is the longest in the world.

Japanese government came out the policy to prolong healthy longevity in super-aged society. It is the comprehensive community-based care. It is to provide more community services, establish more elderly care facilities to meet various needs of the elderly and more home-visit nursing and rehabilitation care, so that elderly persons can live in their familiar hometown till the end of life. One community area for the comprehensive public services is the rage of one Junior High School. The more community-based care services develop, the earlier the patient can be discharged from hospital. Japanese government is going to decrease number of beds of hospitals. Hospital care is more expensive than community-based care.

There are two kinds of insurance in Japan to support our medical and welfare services since 1961. One is National Health and Medical Care Insurance. This insurance is for medical care and covered all the nation. Each adult pays 30% medical fee for each consultation. Children from age 0 to 15 years old is free. Another insurance is Long-Term Care Insurance enacted since 2000. This insurance is for care of the elderly, 65 years old and above. All the nation over 40 years old must pay premium every month. Then when we became 65 years old and above, we can get care services paying only 10% of expenses for each time. There are some exceptional cases of disability persons.

Now, I want to touch upon the situation of Saku city where we are from. As you see the table below, there are many types of elderly care facilities.

Table 1. Elderly Care Facilities in Saku city

Populations	99,429 (April 1, 2017)
Elderly ratio	29.9% (65 years old and over, as of Oct., 2017)
Longevity	male 81.7 years old female 88.0 years old (2010)
Health & medical institutions	Hospital 7 public health center 4
Care facilities for the elderly	Health Care Facilities for the Elderly 6 Day Care Service Centers (Facilities) 63 Special Type (Long-Term Care) Elderly Care Home 8 Home-Visit Nurse Station 13 Helper Station 49

In Saku city, we are super-aged situation, elderly ratio 2019 is 32%. One of three persons is over 65 years old and above. Elderly persons can use facilities and home-visit services after examined to be covered by Long-Term Care Insurance. In this way, work load of caregiver, mainly family can be reduced. Family caregiver does not need to stop working due to care of old parents. Especially in Saku city, people respect prominent knowledge and skill of home-visit health and medical specialists. More elderly patients choose to stay at home till the end of life with home-visit medical care.

Since 2016, Japanese government announced the policy, “Asia Health Human Well-Being Initiative” aiming international cooperation in Asian countries. The aim is to share Japan’s experiences on countermeasures, welfare equipment, human resource equipment and architectural design of elderly care facilities and so on.

In this regard, I noticed different condition of elderly care between Saku city and Bangsaen city (Saensuk Municipality) when I visited Burapha University in 2013 for international study of our nursing students. This was the starting point to conduct “Community-based Elderly Care Project in Saensuk Municipality, Chonburi Province, Thailand from 2016 – 2018”. Major purpose was to strengthen capability of nurses and health volunteers. Because number of nurses in Saensuk Municipality was only 9 for more than 800 elderly personnel. In the project, we did training in Japan and Saensuk Municipality. Nurses and health volunteers worked hard. They applied oral care, nutritional teaching method and home-based rehabilitation and nursing. All health volunteers who came to Saku city for training were much inspired and motivated with new knowledge and skill.

After training, we distributed a questionnaire to health volunteers and 48 of them answered to the question, “Do you provide proper consultation when the family have problems with care?” Before the project, 11 health volunteers answered, “I did much.” But after one year of the project, 21 health volunteers said, “I did much.” The number increased twice as many. Also, they commented:

- Before the project, I could not do because I didn’t have knowledge of care and rehabilitation.
- After training, I got self-confidence and I could do care services.
- I could understand the life-style of the patient from the past till now.
- I feel pleasure to work as a health volunteer and I am proud of it.

Finally, I want to conclude in listing common issues between two cities and strength. Saku city and Bangsaen city have the same problem to decrease ratio of the elderly who have life-related diseases. When the condition gets worsened, it will be the causes of stroke, heart diseases and dementia. As for strength of Bangsaen city, we understood that friendly relationship among neighbors are well continued. Another point was that health volunteers’ home-care services are completely free. While the strength of Saku city is to have Long-Term Care Insurance for the elderly, and continuous care from hospital to home are well implemented.

Material of Invited Speaker 1 (Hem Kumar Nepal, RN, MNS)

Theme: Role of Nurse in Patient Discharge

DISCHARGE PLANNING AND ROLE OF NURSE

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ABSTARCT

Promotion of discharge planning began in the United States in 1960s. It is viewed as a method to ensure that patients post discharge needs are met to enable them to function at optimal levels after they return home. Hospital discharge is complex and is a vulnerable stage in the patient care pathway and is an important component of nursing (Reiley, Lezzoni, Phillips, Davis, Tuchin, & Calkins, 1996).

Discharge planning is defined as a process made up of several steps whose immediate goal is to anticipate changes in patient care and whose long-term goal is to ensure continuity of health care (Rorden and Taff (1990). It is an interdisciplinary approach to continuity of care and includes identification, assessment, goal setting, planning, implementation, coordination, and evaluation. It is the quality link between hospitals and the community (NSW, 2005).

Good discharge planning is designed to facilitate safe, efficient and effective transition of a patient from hospital to the community (Oxtoby, 2016). Initiation of discharge care planning before separation from the hospital improves quality of life and satisfaction among patients and families with discharge care (Preen, Bailey & Wright, 2015).

Effective discharge planning is crucial to care continuity and is a critical patient care function for nurses. The primary role of a nurse is to advocate and care for individual patient and support them through health and illness. However, there are various roles and responsibilities like assessment of patients following nursing process, patient care, advocator, decision maker and educator. Effective discharge planning improves the quality of care and helps to prevent post discharge complications and improves quality of life in the community. Communication is one of the major factors to enhance effective discharge planning process in which the nurses play a major role.

INTRODUCTION

Promotion of discharge planning began in the United States in 1960s. It is viewed as a method to ensure that patients post discharge needs are met to enable them to function at optimal levels after they return home. Although its importance is increasingly recognized, this concept has not been a strong feature in health system across the world and is still not being well practiced (Watts & Gardner, 2005). Discharge from the hospital is often seen as a need to vacate the bed rather than being a planned process (Draper, 1999). Despite advance in research and policies, studies continue to find worryingly routine levels of patient harm during their stay in the hospital and after discharge from the hospital (Waring, Marshall, Bishop, Sahota, Walker, & Currie, 2014). Hospital often discharges patients with insufficient planning, poor instruction, inadequate information, lack of co-ordination among members of health care team, and poor communication between the hospital and community (Lin, Cheng, Shih, Chu, & Tjung, 2012). Hospital discharge is complex and is a vulnerable stage in the patient care pathway and is an important component of nursing (Reiley, Lezzoni, Phillips, Davis, Tuchin, & Calkins, 1996). The purpose of my presentation is to discuss the definition of discharge planning, its importance, and the roles of nurses in discharge planning.

IMPORTANCE OF DISCHARGE PLANNING

Definition of discharge planning

A number of definitions are offered in the literature. Anderson and Helms (1994) define discharge planning as the process of coordinating the delivery of health care services beyond the hospital services. Similarly, the American Nurses Association defines discharge planning as the part of the continuity of

care process which is designed to prepare the patient for the next phase of care and to assist in making any necessary arrangements for that phase of care. Likewise, Mcginley (1996) defines discharge planning as an ongoing process that facilitates the discharge of the patient to the appropriate level of care. It involves a multidisciplinary assessment of patient/family needs and coordination of care, services and referrals. The most comprehensive definition of discharge planning is provided by Rorden and Taff (1990) which not only focus on medical needs but also their psychological, economic and social circumstances and is define as a process made up of several steps or phases whose immediate goal is to anticipate changes in patient care and whose long term goal is to ensure continuity of health care. The process begins with early assessment of anticipated patient care needs: includes concern for patient's total wellbeing; involves patient, family and care givers; interactive communication as planning progresses; places a priority on collaboration and coordination among health care professionals involved; results in mutually agreed upon decisions about the economic and appropriate options for continuing care; and is based on thorough up to date knowledge of available continuing care resources. Therefore, discharge planning is an interdisciplinary approach to continuity of care and is a process that includes identification, assessment, goal setting, planning, implementation, coordination, and evaluation. It is the quality link between hospitals and the community (NSW, 2005).

Good discharge planning is designed to facilitate safe, efficient and effective transition of a patient from hospital to the community (Oxtoby, 2016). It focuses on the continuity of care and support short- and long-term health of an individual. Good discharge planning identifies potential issues for clients navigating living independently in the community after a hospital stay to decrease post discharge complications and unplanned hospital readmissions; support appropriate provision of the community health and support services and increase satisfaction (Discharge planning Resource Guide, 2016). Length of hospital stay, rate of unplanned readmission, rate of nursing home placement, level of patient and family satisfaction, increased post discharge quality of life and decrease mortality have been identified and used as indicators to measure the outcome of effective discharge planning (Lin, Chen, Shih, Chang & Chu, 2013). Evidences shows that initiation of discharge care planning before separation from the hospital improves quality of life and satisfaction among patients and families with discharge care (Preen, Bailey & Wright, 2015). A Meta –analysis showed that comprehensive discharge planning plus post discharge support for patients with congestive heart failure reduced readmission rates significantly and improved health outcomes such as survival and quality of life (Phillips, Wright and Kern, 2014). Similarly, Lin, Wang and Chang (2004) found improved patients' satisfaction and improve physical outcomes and quality of life in hip fracture patients. With discharge planning, there were significant increase in the proportion of patients with a timely and informative risk screening, referrals to community health services providers, and improved communication processes between hospital staff and community health service providers in rural hospitals (Bolch and Johnston, 2005). Further, involvement of nurse in the discharge planning process improved the patient satisfaction (Foster, Clark, & Menard, 2005).

Key principles of effective discharge planning

Effective discharge planning is crucial to care continuity. Although the principles of discharging patients from hospital to the community have not changed over many years, the process of discharge planning has changed over the years considering the complex needs of the population particularly with the aging population (Glaeconomics, 2018). National Institute for Innovation and Improvement (2009) provides a ten steps process for planning the discharge of patients and are describe below:

1. Start planning before or on admission

Planning starts on admission and includes risk assessment. The principle is to anticipate potential delays in management and prepare patient for early discharge.

2. Identify simple or complex needs

Identify and recognize simple discharge which can be executed at ward level with the multidisciplinary team. However, patients with increased health and social needs are considered to be a complex discharge and should plan accordingly.

3. Develop clinical management plan within twenty-four hours of admission

Patients admitted to the hospital must have a care plan process and the engagement of multidisciplinary team. The management plan should engage and focus the whole multidisciplinary team with the patient to plan the aspects of care required leading to discharge.

4. Coordinate the discharge process
Although most clinical areas have systems in which coordinators are allocated to discharge planning, there is lot of disparity between the roles. The role of discharge coordinator includes communication, working with MDT and assessment.
5. Set expected date of discharge within 48 hours of admission
Patient's discharge date is estimated as early as possible to guide the discharge planning process and is refined with regular reassessment of the patient's progress according to the clinical management plan.
6. Review clinical management plan daily
The clinical management plan is reviewed daily to assess the patient's readiness to leave the hospital. It is to update the plan of care with MDT and the patient.
7. Involve patients and families
This aims at managing patient /family expectations and understanding potential complexities and challenges. It mainly involves therapy and social care partners.
8. Plan discharges and transfers to take place over all seven days of the week
To deliver continuity of care for the patient hospital and community services must be made available all over the week with support from the services like x-ray, therapists, transport, district nursing and community health services.
9. Use a discharge checklist 48 hours before transfer
A single discharge checklist involving primary and social care involvement is use to ensure that activity in the planning and pre-discharge are not missed.
10. Make decisions to discharge and transfer patients each day
Nurse led discharge will never replace the role of the MDT and other decision makers on discharge planning. Therefore, it is crucial that nursing grasps the opportunity to develop this new way of working for the wellbeing of the patient and their families.

ROLE OF NURSE IN DISCHARGE PLANNING

Planning for hospital discharge is an important component of nursing since 1998. As acute hospital length of stay decreases and care shifts increasingly to communities and homes, nurses must become more adept at preparing patients for discharge. Discharge planning has emerged as a critical patient care function for nurses in recent years. Although the discharge planning is multidisciplinary in nature, it is one of the prominent roles for the nurses as patients are in close proximity on a continuous basis, 24 hours per day and is a constant member in the multidisciplinary team (Watts and Gardner, 2005). Further, registered nurses have accountability in the discharge planning process. American Nurses Association of the Code of Ethics for Nurses states that "All nurses need to anticipate future long-term needs of the patients and incorporate measures in discharge planning to address those needs" (Beck, Miller and Adams, 1993). Similarly, Fiesta (1994) emphasis that nurses are involved in providing discharge instruction to patients and failure to do so has resulted in liability issues for nurses. Therefore, it is of great importance to understand the role of nurse in discharge planning.

Effective discharge planning is usually associated with a number of common activities and procedures along the care pathway where nurses play a pivotal role. The primary role of a nurse is to advocate and care for individual patient and support them through health and illness. However, there are various other roles and responsibilities of a nurse in discharge planning.

Assessment of the patient's discharge needs

The nurses are responsible to assess patients for their discharge needs. Assessment includes patient physical and psychological needs and must involve their families. The nurse is responsible to require specific skills in conducting an assessment of the patients. The assessment includes the level at which the patient and family understands the patient's medical condition and the reason for hospitalization and their expectations. Other assessment includes the patient ability to accomplish the activity of daily living; desire and motivation to learn; physical and cognitive limitations; access to transportation; availability of care giver to assist with the care needs at home; need for special equipment, supplies and medication. In brief, nurse role from admission to discharge includes:

On admission the nurse is responsible to prepare detailed and accurate patient record and review assessment information. During admission the role of nurse is to undertake regular assessment of patient

condition to identify and assess opportunity for discharge; discuss with patient and family about the needs. At least 48 hours prior to discharge the nurse coordinates about estimated date of discharge and review assessment criteria and initiate referrals to community health-care providers. Day of discharge the nurse contact family and caregivers to confirm follow-up care arrangements; check documentation completion; issue discharge letter and confirm follow-up.

Patient Care

A nurse is a caregiver for patients and helps to manage the needs of the patients. Throughout the treatment process, the nurse follows the progress of the patient and acts accordingly with the patient's best interests in mind. The nurse is responsible for holistic care of patients, which encompasses the psychosocial, developmental, cultural, and spiritual needs of the individual.

Advocator

The patient is the first priority of the nurse. The role of the nurse is to advocate for the best interests of the patient and to maintain the patient's dignity throughout treatment and care. This may include making suggestions in the treatment plan of patients, in collaboration with other health professionals. This is particularly important because patients who are unwell are often unable to comprehend medical situations and act as they usually would. It is the role of the nurse to support the patient and represent the patient's best interests at all times, especially when treatment decisions are being made.

Decision maker

A nurse is directly involved in the decision-making process for the treatment of patients. It is important that they are able to think critically when assessing patient signs and identifying potential problems so that they can make the appropriate recommendations and actions. As other health professionals, such as doctors or specialists, are usually in charge of making the final treatment decisions nurses are responsible to communicate the information regarding patient health.

Educator

Nurses are also responsible for ensuring that patients are able to understand their health, illnesses, medications, and treatments to the best of their ability. This is of essence when patients are discharged from hospital and will need to take control of their own treatments. Therefore, the nurse role as educator includes explaining the patients and their families what to do and what to expect when they leave the hospital or medical clinic. They should also make sure that the patient feels supported and knows where to seek additional information, if needed, is crucial.

CONCLUSION

The hospitals often discharge patients with insufficient planning, poor instructions, inadequate information, lack of coordination among healthcare team, and poor communication. Effective discharge planning improves the quality of care and helps to prevent post discharge complications and improves quality of life in the community. Communication is one of the major factors to enhance effective discharge planning process in which the nurses play a major role.

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Material of Invited Speaker 2 (Riesmiyatiningdyah, S.Kep.Ns., M.Kes)

Theme: Parenting Effects on Child's Health

INTEGRATIVE HOLISTIC PARENTING EDUCATION PROGRAM (BKB) IN ENCOURAGING CHILDREN CREATIVITY IN INDONESIA

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ABSTRACT

The theme of 74th Indonesia Independence Day is creating the superior human resources. A first and foremost environment in developing the human resources is the parents. The involvement of parenting influences the growth and development of individual since born. Therefore, the government concerns the family development through integrative holistic parenting education programs. One of the programs is *Bina Keluarga Balita* that provide the effective parenting activities for child age under 6 years old. The program helps parents to use the practices at home, namely, stimulating creativity development by using household materials for educational toys. This article discussed and suggested further research relate to the integrative holistic parenting education program in encouraging children creativity in Indonesia.

INTRODUCTION

Quality of human resources is one of important aspects in achieving the goals of national development. Attainment of quality of human resources through education and health plan should be considered on foregone. The first 1000 days of life (or also called golden age) is crucial period for optimum education, social, and health care plan. As mentioned on the mission of government, the realization of a great nation started by Indonesian people whose physical and mental health, social well-being, intelligent, and competitive (BKKBN, 2019).

Huge number of children in Indonesia become challenge on providing sufficient and efficient health services across country. Another phenomenon happen is less of parenting time for children due to working parents (for economic, career goal, or pursue personal passion), and lack of awareness (knowledge and skill abilities on parenting). It excuses the parents to take the thoughtless and careless ways in which lead to a poor parenting. As happens recently, they let their kids to watch television alone or play the gadget overtime that implied the parents have no quality time to be side on their kids and lack of the involvement on stimulating their kids' growth and development.

Parents should more involved with parenting responsibilities while keep perform their other roles. Today's parents are interested in learning everything they can about parenting through some ways such as from their parents' experiences, sharing with other parents, the parenting class, or learn on the internet. In Indonesia, there accurate and easy access information's regard to family planning from the National Board on Family Planning (known as *Badan Kependudukan dan Keluarga Berencana Nasional*, BKKBN) that spread the programs across country start on community-based health care. One of the programs is *Bina Keluarga Balita* (BKB) that be discussed on this article.

PARENTING EDUCATION PROGRAM IN INDONESIA

In an effort to encourage family development and parenting education across Indonesia, there four government ministries that currently involved in parenting education (Tomlinson & Andina, 2015):

1. The Ministry of Health runs the *Kelas Ibu* program for pregnant women and mothers of children younger than five years old
2. The BKKBN runs the *Bina Keluarga Balita* program for parents of children younger than six years old, often in coordination with early childhood education programs
3. The Ministry of Social Affairs operates two programs, *Taman Anak Sejahtera* and *Program Keluarga Harapan* for families in poverty

4. The Ministry of Education and Culture has two new grant initiatives, one for parents of children from birth to age six years, and the other for parents of infants and toddlers (from birth to age three years).

The BKKBN extends the governmental tasks in area of population control and family planning. According to the Strategic Planning of BKKBN 2015-2019, in order to improve the family development regarding parents' understanding on child outcomes, the BKKBN runs the integrative holistic *Bina Keluarga Binaan* program for parents of children from birth to age six years which covers aspects of health, nutrition, care and protection. The main role of parents is providing care for children, involving in their growth and development, and encouraging the character of superior human resources; whereas parents create a positive and creative learning environment (BKKBN, 2019).

Since the establishment of integrated health services to community-based care, several programs have been delivered in attempts to enhance the target on Community Health Extension Post (known as *Posyandu*), Early Childhood Development (*Pendidikan Anak Usia Dini*, PAUD), and Toddler-Family Group (*Bina Keluarga Balita*, BKB). *Posyandu* focuses on maternal and child health, PAUD provides learn and play time for children with curricula, and BKB offers the approach parenting abilities for family (BKKBN, 2019). Implementation of those programs facilitate the low welfare family in obtaining information, training, and any kind of learning program due to their inability to reach the education achievement that other families gain it easier. However, the activity of agency limited on profound family education throughout community-based health services because tend to do organizing and reporting tasks.

A study conducted by Oktriyanto (2016) found the significant of participation family on the BKB program. They showed the improvement of quality parenting compared to the family who did not join on BKB program. The study as expected BKKBN in addressing the program that helping the parents to increase their ability in contributing their kids' growth and development holistically. The children require stimulation of physical, cognitive, mental, social, emotional, and spiritual in terms of character building from their environment, specifically from parents (BKKBN, 2014). However, the execution of program needs all health care providers including volunteers of primary health care workers (known as *Kader*). *Kader* is selected by the villagers and taught by health care providers to promote the programs widespread. Their effectiveness role stated on the study (Riesmiyatiningdyah, 2016) that there was significant correlation between the mothers' knowledge about growth and development of child age 0 – 6 years old with the involvement of *Kader* BKB ($\alpha \leq 0.05$). It needs more research study to support the result and relate other factors of effectiveness the parenting education program.

HOW DO CHILD AGE 0 – 6 YEARS OLD DEVELOP CREATIVITY?

Parents are the first and foremost environment for children to learn how to eat, walk, talk then know self-identity and character (Puspitawati, 2012; Wahyu, 2019). The 0 – 6 years child is play and learn period, thus require parents' concern in creating the space for stimulating creativity of children. In this age, the growth is in the function of thinking and skills. The child is introduced and started enjoying to the environment around the home with the household materials. These interaction between parents and children at home become learning and playing time that stimulate the growth and development of children. Craft skill is one of the methods of using household materials as toys for child age 0-6 years old. It utilizes their creativity and imagination in their own best possible ways. The household items involve develop Childs' motor skills through cutting or stringing process. Its processes also stimulate their developing socialization, emotional, and creativity. There are huge references for parents to provide the educative environment in terms of creativity development on their home. All they need is managing their resources to increase ability of parenting. This issue should be assessed deeper and wider thus parents could implement on daily activities.

CONCLUSION

Program of *Bina Keluarga Balita* is one of parenting education program in Indonesia as effort to encourage the involvement of parents to raise their children in terms of the superior human resources achievement. The program facilitates the parents to use their resources to stimulate the children's creativity in easy and simple way at home.

SUGGESTION

There are limitation researches relate to the effectiveness parenting education programs, the influencing of children creativity developmental, and examine the correlation between those variables. The author intents to conduct the research study with this issue among parents in Sidoarjo, and suggests to another researcher to discover the related topic.

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ORAL PRESENTATION

ORIGINAL RESEARCH

THE INFLUENCE OF FACILITIES AND HEALTH PERSONNEL FACTORS ON THE IMPLEMENTATION OF FAMILY HEALTH DUTIES IN CONTROLLING HYPERTENSION IN THE WORKING AREA OF THE PUCANG SEWU COMMUNITY HEALTH CENTER, SURABAYA, EAST JAVA

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ABSTRACT

Background: Hypertension or high blood pressure is a condition where there is an increase in blood pressure in the arteries and is one of the conditions that usually precedes heart and blood vessel disease. Hypertension control aims to help lower blood pressure and maintain blood pressure under normal conditions. Family health care is the level of public health care that is intended or focused on the family as a unit or unit that is cared for healthily as a service and care destination as an effort to prevent disease. Efforts to control hypertension in family members suffering from hypertension are carried out through family duties in the health sector, namely: recognizing hypertension problems, making appropriate decisions in dealing with hypertension problems, caring for family members suffering from hypertension, modifying the physical and psychological environment that supports the treatment of hypertension and utilizing health facilities to overcome hypertension problems. The implementation of family health duties is influenced by several factors including facilities and health workers.

Objectives: The purpose of this study was to analyze the influence of facilities and health personnel factors on the implementation of family health tasks in controlling hypertension in the working area of Pucang Sewu Community Health Center, Surabaya, East Java.

Methods: This study uses a cross sectional design conducted in July 2018. The research subjects consisted of 120 family heads / family members who were selected by non-simple random sampling technique. Facilities and health personnel are family perceptions of the program and attitudes of health workers to control hypertension. Data on facilities and health personnel, the implementation of family health duties in controlling hypertension was obtained using questionnaires. Data was analyzed using the Pearson Correlation with significance $\alpha < 0.05$.

Results: Subject perceptions about facilities and health workers, almost all in the good category, 85.8%. The implementation of family health duties in controlling hypertension, mostly in the good category, 87.5%. There is a significant influence between facilities and health personnel factors on the implementation of family health tasks in controlling hypertension, based on the Pearson Correlation analysis showed a difference with a significant value $p = 0,000$ and significance level $\alpha < 0.05$.

Conclusion: This study showed a significant influence between the factors of facilities and health workers on the implementation of family health tasks in controlling hypertension.

Key words: Facilities and health personnel, family health tasks, controlling hypertension.

INTRODUCTION

Family health care is the level of public health care that is intended or focused on the family as a unit or unit that is cared for healthily as a goal of service and care as an

effort to prevent disease. Family as the smallest unit in the family community is an important component in the implementation of family health care in realizing a healthy Indonesian society

including controlling hypertension in all family members through the implementation of family health duties in the health sector.

Hypertension or high blood pressure is a condition where there is an increase in blood pressure in the arteries and is one of the conditions that usually precedes heart and blood vessel disease. In the early stages of hypertension, it often has no symptoms even though it has been diagnosed with hypertension. This causes patients not to seek treatment immediately so that hypertension will develop and cause heart disease, blood vessels, kidney failure and stroke. In addition to causing prolonged suffering to sufferers, it will also cause high health costs to be incurred. The World Health Organization (WHO, 2010 in Idaiani, 2016) reports that among non-communicable diseases the burden of heart and blood vessel disease ranks highest at 36.7 trillion USD. The increasing prevalence of hypertension from year to year besides being caused by an increase in population, also due to unhealthy lifestyles include unhealthy diets where lack of vegetable and fruit consumption, lack of physical activity, smoking habits and lack of public awareness to check health and control blood pressure if you have been diagnosed with hypertension. Hypertension control aims to help lower blood pressure and maintain blood pressure under normal conditions (Gunawan, 2001 in Andala S, Hermansyah, Mudatsir, 2016).

The task of family health in controlling hypertension is: recognizing hypertension problems, taking the right decisions in overcoming hypertension problems, caring for family members who suffer from hypertension, modifying the physical and psychological environment that supports the treatment of hypertension and utilizing health facilities to overcome hypertension problems. There are several factors that influence the implementation of family health duties in controlling hypertension (Green and Kreuter (2005) in (Glanz K, Rimer BK, Viswanath K, 2008) including enabling factors (enabling factors) which are factors that originate from the

environment or policy make it possible to support the implementation of family health duties. The enabling factor consists of: government policies, health facilities and health workers. This study aimed to analyze the influence of facilities and health personnel factors on the implementation of family health tasks in controlling hypertension.

METHODS

Study Design

The study design was used cross sectional study.

Setting

This research was conducted in at the Public Poly and Elderly Integrated Service Post in the working area of Pucang Sewu Community Health Center in July 2018.

Research Subject

The population in this study were all families who went to the Community Health Center in July - August 2018. The sampling technique used was non simple random sampling and obtained a sample of 120 people.

Instruments

Sample identity is obtained by interview using a sample identity form that contains the name, gender, age, level of education, and status in the family. Data on facilities and health personnel factors, data on the implementation of family duties in controlling hypertension were obtained by conducting interviews using questionnaires that had previously been tested for validity and reliability.

Data Analysis

Data was analyzed using the Pearson Correlation with significance $\alpha < 0.05$.

Ethical Consideration

This research obtained permission from National Unity and Politics of Surabaya City.

RESULTS

Family Characteristics in The Working Area of Pucang Sewu Community Health Center, Surabaya, East Java

Table 1. Description of Family Characteristics in The Working Area of Pucang Sewu Community Health Center, Surabaya, East Java - July 2018 (n = 120).

Characteristics	Amount (n)	Percentage (%)	Total	
			Amount	Percentage
Gender				
Man	32	26.7	120	100
Woman	88	73.3		
Age				
21-30 years old	8	6.6		
31-40 years old	18	15.0	120	100
41-50 years old	20	16.7		
> 50 years old	74	61.7		
Level of Education				
College	18	15.0		
High School	55	45.8	120	100
Junior high school	21	17.5		
Elementary school	26	21.7		
Status in family				
Head of family	56	46.7	120	100
Family members	64	53.3		

Sources: Primary Data of Questionnaire, July 2018

Based on the results of the study obtained 120 respondents in accordance with predetermined criteria. The characteristics of the respondents are known to be mostly female (73.3%) and over 50 years old (61.7%). Meanwhile, the education level of the respondents was at most high school level (45.8%) and family status more than half were family members (53.3%).

Factors of Facilities and Health Personnel to Control Hypertension

Based on table 2, Family perceptions of facilities and health personnel factors about controlling hypertension were almost entirely in the good category (85.8%), sufficient categories (10.0%) and less categories (4.2%).

Table 2. Factors of Facilities and Health Workers for Controlling Hypertension in The Working Area of Pucang Sewu Community Health Center, Surabaya, East Java - July 2018 (n = 120).

Factors of facilities and health personnel	Amount (n)	Percentage (%)
Well	103	85.8
Enough	12	10.0
Less	5	4.2
Total	120	100

Sources: Primary Data of Questionnaire, July 2018

Implementation of Family Health Duties in Controlling Hypertension

Table 3. Family Health Tasks in Controlling Hypertension in The Work Area of Pucang Sewu Community Health Center, Surabaya, East Java - July 2018 (n = 120).

Implementation of family health duties in controlling hypertension	Amount (n)	Percentage (%)
Well	105	87.5
Enough	9	7.5
Less	6	5.0
Total	120	100

Sources: Primary Data of Questionnaire, July 2018

The implementation of family health duties in controlling hypertension consists of the ability of the family to recognize hypertension problems, the ability of the family to make the right decisions in overcoming hypertension problems, caring for family members suffering from hypertension, modifying the physical and psychological environment that supports the treatment of hypertension and utilizing health facilities to deal with hypertension problems almost all of them are included in the good category (87.5%), sufficient category (7.5%) and less category (5.0%).

Effect of Facilities and Health Personnel on the Implementation of Family Health Duties in Controlling Hypertension

Pearson test results correlation effect of facilities and health personnel on the implementation of family health duties in controlling hypertension showed a significant effect (Sig 0.00 <0.05).

DISCUSSION

Factors of Facilities and Health Personnel to Control Hypertension

Factors originating from health facilities in this case are Community Health Center and health workers. Support for facilities and health personnel for families in controlling hypertension is almost entirely good, different results are shown by Abdullah et al. (2017) who show that the support of enabling trend factors is not good. Maharani R, et al. (2016) found that the role of health workers was more dominant in controlling hypertension.

Community Health Center is a comprehensive health service that includes curative, preventive, promotive and rehabilitative services. The Community Health Center functions as a center for community health development in its area, fosters community participation in its working area in order to improve the ability to live healthier and provide comprehensive and integrated health services to the community in the region. The implementation of the function of the Community Health Center is carried out by health workers in the Community Health Center through counseling activities on healthy living behavior, providing guidance to the community on how to explore and use existing resources effectively and efficiently (Effendi F & Makhfudli, 2009)

The role of Community Health Center and health workers in controlling hypertension can be done through improving public health counseling programs specifically on controlling hypertension through increasing the implementation of family health tasks, namely: recognizing hypertension problems, making appropriate decisions in dealing with hypertension, caring for family members suffering from hypertension, modifying the environment physical and psychological support for the treatment of hypertension and utilizing health facilities to overcome hypertension problems.

Implementation of Family Health Duties in Controlling Hypertension

The task of family health in controlling hypertension shows results that are dominated by good categories, in contrast to previous studies on the control of hypertension in adult Indonesians where it was found that only one third of hypertensive patients realized that they were suffering from hypertension. Although most hypertension patient underwent treatment for hypertension, only a quarter of them could achieve a controlled condition of hypertension (Hussain M.A, et al, 2016). In addition Puspita E, et al (2017) also in their study found that the level of adherence to taking medication for hypertensive patients was mostly not compliant compared to those who obeyed, with the distribution of obedient patients having higher family support compared to patients who did not adhere to taking medication (Puspita E et al., 2017).

Family health tasks include: recognizing health problems, making appropriate health action decisions, giving care to sick family members, modifying the environment or creating a healthy home atmosphere and referring to public health facilities. In carrying out the five family health tasks, they must be related to each other and need to be done by the family, with help and guidance by nurses so that the family can fulfill the implementation of the family health duties (Effendi F & Makhfudli, 2009).

The high number of families who can carry out family health duties properly in terms of controlling hypertension, is associated with family characteristics that are dominated by the level of senior secondary education, thus showing good results. Another thing that supports this result is the possibility because most families are hypertensive patients who have carried out a lifestyle as hypertensive sufferers, and of course the implementation of family duties in controlling hypertension will also be good.

Effect of Facilities and Health Personnel on the Implementation of Family Health Duties in Controlling Hypertension

There is a significant influence between the factors of facilities and health workers on the task of the family in controlling hypertension (Sig 0.00 is smaller than 0.05).

Factors of facilities and health personnel include: Government policies, facilities and health workers. The importance of government policy in the health sector is a legal umbrella of actions in the health sector, supported by adequate health facilities so as to enhance the government's role in providing support for controlling hypertension. Besides that, the availability of reliable health workers is able to provide assistance to families at risk of hypertension or families whose family members already suffer from hypertension.

CONCLUSION

Factors of facilities and health personnel affect the implementation of family health duties in controlling hypertension in the working area of the Pucang Sewu Community Health Center, Surabaya, East Java.

SUGGESTION

With the results of the study, it can be used as input for health care providers to pay attention to the service system, the availability of facilities and health personnel who can properly deliver programs on hypertension as a way to increase family duties in controlling hypertension among members who have suffered it.

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ORIGINAL RESEARCH

THE EFFECT OF BREATHING EXERCISES: PURSED-LIPS BREATHING AND DIAPHRAGM BREATHING IN COPD PATIENTS

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ABSTRACT

Background: Chronic Obstructive Pulmonary Disease (COPD) is included in the four major non-communicable diseases that have a high mortality rate, which leads to high morbidity, lung disability and increased medical costs. Symptoms that appear in COPD patients are shortness of breath, coughing with or without phlegm, increased sputum production, and wheezing. An acute exacerbation of COPD event can be seen from the appearance of these symptoms repeatedly.

Objectives: This study aimed to examine the effect of breathing exercises: pursed-lips breathing and diaphragm breathing in reducing the attack frequency of acute exacerbation in COPD patients.

Methods: The method of this research was quasi-experimental: two-group, pretest-posttest design with sample size 16 (8 respondents in each group). Data was analyzed using Mann-Whitney test with significance $\alpha < 0.05$.

Results: Analysis results with Mann-Whitney test was $p = 0.00 (< 0.05)$, which means there an effect of breathing exercises: pursed-lip breathing and diaphragm breathing on decrease the attacks in COPD patients.

Conclusion: Therefore, breathing exercise needs to be scheduled as therapy for COPD patients.

Key words: Breathing exercise, pursed-lips breathing, diaphragm breathing.

INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable, and treatable disease that has the characteristics of persistent respiratory symptoms and limited airflow, due to airway and alveolar abnormalities which are usually caused by exposure to gas or harmful particles (GOLD, 2017).

The prevalence of COPD is expected to increase due to an increase in the life expectancy of the world's population. According to WHO predictions, the COPD which is currently the fourth leading cause

of death worldwide is estimated to be the third leading cause of death in the world by 2030 (WHO, 2012). Based on Riset Kesehatan Dasar (RISKESDAS) in 2013, the prevalence of COPD by 3.7%, the incidence of this disease increased with age and was higher in men (4.2%) compared to women (3.3%), and COPD ranked sixth out of ten causes of death in Indonesia. Based on number of COPD patients in Indonesia with a prevalence of 3.6%, the COPD patients in East Java province ranks fifteenth (RISKESDAS, 2013). Meanwhile, the number of COPD patients

in outpatient department in Rumah Sakit Paru Surabaya was 45 patients in January 2018.

The most common symptom in COPD patients is shortness of breath, coughing with phlegm or can also appear without phlegm, sputum production, wheezing and tightness in the chest, including decreased activity, fatigue, decreased weight, anorexia, etc. (GOLD, 2017).

Repeated attacks in patients with COPD can also reappear where it is the degree of frequency of recurrence of COPD symptoms as measured by various symptoms such as phlegm cough, shortness of breath (dyspnea), wheezing, and decreased activity in the form of how often these symptoms recur within weeks, months, and years (Dikrullah, 2013). Recurrent attacks in patients with COPD are mostly caused by failure of treatment programs, sufferers still smoking, the presence of excessive physical activity factors where patients often work hard, respiratory tract infections, allergen factors, pollution and exposure to cigarette smoke, and emotional stress factors (Dikrullah, 2013).

COPD management is by providing education as preventive and promotive effort, giving drugs, oxygen therapy, mechanical ventilation, and nutrition that can minimize the incidence of recurrent attacks of COPD patients. However, there is also proven management of medical rehabilitation or pulmonary rehabilitation from Randomized Controlled Trials (RCTS) on the benefits of pulmonary rehabilitation that can show improvement in shortness of breath, exercise capacity, quality of life and is an additional therapy for relieving symptoms of breathing exercises: pursed-lips breathing and diaphragm breathing (PDPI, 2011). Breathing exercises: pursed-lips breathing and diaphragm breathing are also part of

nursing actions in their role as rehabilitators included in nursing treatment (Mangunegoro, Amin, & Yunus, 2001).

Breathing exercises in patients with COPD are intended to improve respiratory function, also aimed at training patients to regulate breathing if they feel a sudden onset of shortness of breath, and can increase comfort. Therefore, we would like to conduct the research "The Effect of Breathing Exercises: Pursed-lips Breathing and Diaphragm Breathing in COPD Patients".

METHODS

Study Design

A quasi-experimental, two-group, pretest-posttest design was used.

Setting

This research was conducted in the outpatient department of Lung Hospital, Surabaya.

Research Subject

Population for this study was 45 COPD patients in outpatient department in Lung Hospital, Surabaya. Inclusion criteria were 40-75 years of age, lives around the hospital, and commit to receive the treatment. Exclusion criteria were having complications of COPD and received such this treatment before. Purposive sampling technique was used to selected participants. Sample size was 16 that divided to experimental group (8 respondents) and control group (8 respondents). Researchers collected data before and after intervention.

Instruments

The researchers collected first data using observations form that include characteristics and frequency of breathing pattern. The experiment group received breathing exercise: pursed-lip breathing and diaphragm breathing for 4 weeks from

the researchers as per the manual of breathing exercise, and the control group received regular program from hospital. The last data was collected at the fourth week using the observations form as same as the first one.

Data Analysis

Data was analyzed using the Mann-Whitney test with significance $\alpha < 0.05$.

Ethical Consideration

Data collection procedure were started with approved by the Institutional Review Board of Lung Hospital, Surabaya (No. 003/05/EC/KEPKRS/2018), and all participants signed consent forms indicating their willingness to participate in this study.

RESULTS

The experiment group had a greater reduction in attack frequency (mean pretest 7.88 and mean posttest 5.88) than the control group did (mean pretest 7.38 and mean posttest 7.88). The difference between the groups statistically significant $p = 0.00 (<0.05)$ that there was effect of breathing exercises: pursed-lips breathing and diaphragm breathing on reducing the attack of frequency in COPD patients.

DISCUSSION

This study result on the experiment group (mean pretest 7.88 and mean posttest 5.88) consistent with some previous researches that breathing exercise significantly ($p = 0.00, < 0.05$) improves the breathing pattern of patients with COPD (Ellida, 2006; Widowati, 2010). The similar study conducted with COPD patients in Surakarta showed significant difference among the control group (mean 359.7 ± 75.53) and treatment group (mean 270.47 ± 57.69) (Widowati, 2010). The effectiveness of breathing exercise: pursed-lips breathing

and diaphragm breathing indicated in increasing Peak Expiratory Flow Rate (PEFR) (mean 236.67), decreasing pulse (mean 64.00), decrease of respiratory rate (mean 21.56) and decreasing of subjective symptoms and the patients feel better (Ellida, 2006). Breathing exercise needs to be understood and applied especially to patients with respiratory problems. The absences of changes in conditions and reduction in symptoms in the control group (mean pretest 7.38 and mean posttest 7.88) due to some factors such as lack of knowledge regard to the breathing exercise, excessive physical activity, emotional stress factors, and treatment failure.

Pursed-lips breathing aims to increase end expiratory volume and increase final inspiration, and achieve more controlled and effective ventilation. Breathing exercise: pursed-lips breathing for COPD patients can stimulate a slow, better breathing pattern, and help control the respiratory rate in turn this positive effect is related to the technique of the ability to reduce channel narrowing air during recurrence of the disease (Muttaqin, 2014). Diaphragm breathing trains the main muscles of breathing that works during expiration, as the most important component of the respirator pump. The process helps to reduce the release of trapped air, and controls expiration on emptying of the alveoli with the result there is an increase in vital lung capacity (Dachman & Wilson, 2014). Pursed-lips breathing can be done and trained separately with diaphragm breathing, but the functions of both exercises can be used to help produce effective ventilation and respiratory control in order to improve quality of life by preventing acute exacerbations, relieving symptoms, and slowing the progressive deterioration of lung function (Singh & Singh, 2012).

CONCLUSION

Breathing exercises: pursed-lips and diaphragm breathing reduce the frequency of attacks in COPD patients, which can be seen from the decrease chronic cough, chronic phlegm, shortness of breath, and wheezing. During to routine check in outpatient department, this exercise could be taught as pulmonary rehabilitation treatment in order to patient be able to manage breathing properly and decrease the attack frequency of acute exacerbation.

SUGGESTION

Further research is needed regarding breathing exercise especially in relation to decreasing the frequency of attacks with the addition of various other symptoms and larger sample.

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ORIGINAL RESEARCH

AUTOGENIC RELAXATION FOR POSTOPERATIVE CAESAREAN SECTION PAIN IN RSAD KODAM V BRAWIJAYA SURABAYA

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ABSTRACT

Background: Caesarean section contribute labor pain is no longer pain of childbirth is physiological but from cuts in the area of surgery. Postoperative pain that is felt by the patient is influenced by several factors including age, sex, attention, culture, the meaning of pain, anxiety, fatigue, coping styles and family support. When postoperative pain in patients not treated immediately will result in the patient rehabilitation process will be delayed, the patient becomes longer hospitalization, high complication rate and require more cost. In granting the nurses action in reducing pain, the nurse can provide non-pharmacological technique to reduce postoperative pain.

Objectives: The purpose of this study was to examine of autogenic relaxation on postoperative caesarean section pain in RSAD Kodam V Brawijaya.

Methods: The design of this study was experimental with one group pretest-posttest design. This study was conducted in RSAD Kodam V Brawijaya Surabaya, East Java, Indonesia. This research was Mother's population in postoperative caesarean section in RSAD Kodam V Brawijaya Regional Surabaya. The sample in this study was 30 respondents with the sampling method using purposive sampling. The measuring instrument used was a manual procedure for autogenic relaxation and the observation sheets Numeric Rating Scale (NRS).

Results: The inferential analysis with Wilcoxon signed rank test found that p value (*sig.*) is 0.000 ($\alpha < 0.05$). This result means that there is a significant difference in the pain scale before and after treatment autogenic relaxation techniques.

Conclusion: Autogenic relaxation can reduce postoperative caesarean section pain in RSAD Kodam V Brawijaya Surabaya.

Key words: Autogenic relaxation, pain, caesarean section, postoperative.

INTRODUCTION

Caesarean section contribute labor pain is no longer pain of childbirth is physiological but from cuts in the area of surgery. International Association for the Study of Pain (IASP) in 2017, defines pain as an unpleasant situation that comes from a certain area, which is caused by damage to tissue and associated with the past experience of the person concerned. Pain is subjective and there is no individual who experienced the same pain (Potter & Perry, 2006).

According to the World Health Organization (WHO) figures Caesarean section with fairly large at around are 10-15%, per 100,000 normal delivery since it increases the incidence of caesarean section in both the developed and developing countries (WHO, 2015). The rise of caesarean births has been the subject of continuing debate. Although often a necessary or desirable procedure, caesarean delivery may also be medically unnecessary (Dosa, 2001). The incidence of Caesarean section in Indonesia,

according to national survey data in 2015 was 921,000 deliveries of 4.039 million or 22.8% of deliveries (Ministry of Health). Caesarean section tendency East Java, the number in 2014 - 2015 amounted to 3,401 operations of 170,000 deliveries, or about 20% of all deliveries (East Java Provincial Health Office, 2016).

According to research by Sommer et al (2008) the prevalence of patients with postoperative major surgery who experience moderate to severe pain as much as 41% of patients postoperatively on days 0, 30% of patients at 1, 19% of patients on day 2, 16% of patients on days 3 and 14% of patients on day 4. This is in line with research conducted Sandika et al, (2015) which states that 50% of patients experiencing severe pain postoperative and 10% of patients experienced moderate to severe pain.

Postoperative pain that is felt by the patient is influenced by several factors including age, sex, attention, culture, the meaning of pain, anxiety, fatigue, coping styles and family support (Potter & Perry, 2006). When postoperative pain in patients not treated immediately will result in the patient rehabilitation process will be delayed, the patient becomes longer hospitalization, high complication rate and require more cost. This is because the patient focuses all his attention on the pain felt (Smeltzer and Bare, 2008).

The role of the nurse in the management of postoperative pain which includes pain assessment, providing independent actions of nurses, collaboration and evaluation of pain. In the postoperative assessment of pain patients who used the nurse is reviewing the OPQRSTUV instruments (onset, provoking, quality, region, severity, treatment, understanding, value) (Tamsuri, 2007). The importance of nurses assessing pain is to determine the next course of

action. Assessment of pain can be done by reviewing the patient's pain, observe the nonverbal reactions of the patient, using therapeutic communication techniques, environmental control patients (Bulechek, 2013; Sandika et al, 2015).

In granting the nurses action in reducing pain, the nurse can provide non-pharmacological and pharmacological action. Non-pharmacological actions include assessing pain, provide actions, monitor the pain felt by the patient, provide measures to prevent complications, educate patients and families. While pharmacological actions that nurses perform actions collaboration with physicians, namely analgesics (Tamsuri, 2007). Other nurses' action is to re-evaluate the patient's perceived pain postoperatively. All actions of nurses are very important because it can reduce the pain felt by the patient postoperatively (Sandika et al, 2015). From the background of the problem above the researcher was conducted research about "Autogenic Relaxation for Postoperative Caesarean Section Pain in RSAD Kodam V Brawijaya Surabaya". The purpose of this study was to examine of autogenic relaxation on postoperative caesarean section pain in RSAD Kodam V Brawijaya.

METHODS

Study Design

An experimental, one-group, pretest-posttest design was used.

Setting

This study was conducted in RSAD Kodam V Brawijaya Surabaya, East Java, Indonesia.

Research Subject

This research was Mother's population in postoperative caesarean section in RSAD Kodam V Brawijaya Regional

Surabaya, East Java, Indonesia who met the inclusion criteria: 1) level consciousness is compos mentis 2) adult age 3) can follow the instructions 4) can read and write. The sample in this study was 30 respondents with the sampling method using purposive sampling.

Instruments

The measuring instrument used was a manual procedure for autogenic relaxation and the observation sheets Numeric Rating Scale (NRS).

Data Analysis

The data has been analyzed using Wilcoxon signed rank test with significance level of 5%.

Ethical Consideration

This research has gone through a standard operating procedure in the Merdeka University Surabaya and obtained permission from the head of RSAD Kodam V Brawijaya Surabaya.

RESULTS

Based on the results of the collection of data from 30 respondents obtained the general data of respondents that included age, educational level, and number of pregnancies.

Characteristics of Respondents by Age

Table 1. Distribution of Frequency of Respondents by Age in RSAD Kodam V Surabaya (n = 30).

No.	Age (Years)	Frequence (%)
1	20-26	1 (3.3%)
2	27-32	20 (66.7%)
3	32-40	9 (30%)
Total		30 (100%)

Based on table 1 of the 30 respondents 20 years of age found that as many as 1 (3.3%), while those aged 21-30 years were 20 people (66.7%) and 31-40 years of age amounted to 9 people (30.0 %).

Characteristics of Respondents by Educational Level

Table 2. Distribution of Frequency of Respondents by Education in RSAD Kodam V Brawijaya Surabaya (n = 30).

No.	Education	Frequency (%)
1	SD	0 (0%)
2	SMP	1 (3.3%)
3	High School	23 (76.7%)
4	College	6 (20%)
Total		30 (100%)

According to the table 2 from 30 respondents obtained educated respondents (SD) of 0 (0%), for (SMP) of 1 (3.3%), SMA as many as 23 people (76.7%), and highly educated (S1) of 6 (20.0%).

Characteristic of Respondents by Number of Pregnancies

Table 3. Distribution of Frequency of Respondents by Pregnancy in RSAD Kodam V Brawijaya Surabaya (n = 30).

No.	Gestation	Frequence (%)
1	First	10 (33.3%)
2	Second	20 (66.7%)
Total		30 (100%)

Based on table 3 of the 30 respondents obtained First Pregnancy as many as 10 people (33.3%) and second pregnancy were 20 people (66.7%).

Comparison of Level of Pain Before and After Giving Autogenic Relaxation in Post Caesarean Section in RSAD Kodam V Brawijaya Surabaya

Table 4. Comparison of Level of Pain Before and After Giving Autogenic Relaxation in Post Caesarean Section in RSAD Kodam V Brawijaya Surabaya (n = 30).

Intensity	Relaxation	
	Pre	Post
Not Pain	0	0
Mild Pain	3 (10%)	18 (60%)
Moderate Pain	16 (53.3%)	10 (33.3%)
Severe Pain	11 (36.7%)	2 (6.7%)
Total	30 (100%)	30 (100%)

From table 4 of the total 30 respondents obtained the following results, for mild pain after autogenic relaxation techniques there is an increase from 10.0% to 60.0%, for the pain was from 53.3% to 33.3%, while for the pain there is a weight reduction of 36.7% to 6.7%.

The inferential analysis with Wilcoxon signed rank test found that p value (*sig.*) is 0.000 ($\alpha < 0.05$). This means that the autogenic relaxation can reduce post-operative caesarean section pain in RSAD Kodam V Brawijaya Surabaya.

DISCUSSION

According to Potter & Perry (2006), pain is a condition that is uncomfortable feeling caused by a particular stimulus. Pain stimulus can be a stimulus that is both physically and mentally. Pain is subjective, so everyone is not the same response when they felt pain. Pain can't be measured objectively, such as by using a blood test. People who feel the pain that can measure the level of pain experienced.

Caesarean section is one alternative for a woman to choose childbirth in addition to their medical indications and indications of

non-medical, caesarean section will decide the continuity or linkage network because incisions (cuts) that would create pain receptors so that the patient will feel pain, especially after effects anesthesia consumables. The pain can cause people to respond to the stressor which is biologically and this can lead to physical and psychological behavioral responses. Poor pain management will lead to decreased quality of life and prolong time to hospitalization, i.e. more than 4 days (Sariyem, 2016).

From the observations of researchers from a total of 30 respondents feel pain before being given autogenic relaxation techniques with mild pain level 3 respondents, 16 respondents moderate pain and severe pain 11 respondents. Before awarded autogenic relaxation techniques, respondents were only given analgesics to address the issues they are experiencing pain. The knowledge and skills of patients on non-pharmacological therapy to reduce pain intensity is still limited. Lack of education about non-pharmacological therapy to the respondent made the poor knowledge of the respondent in addressing the problem of pain they feel (Gerbershagen et al, 2011).

From the research results Nisa, Murti, Qodrijati (2014), the perception of pain every patient is different so we need exploration to determine the value of such pain. According Nurdin, Kiling and Rottie (2013), differences in the level of pain perceived by respondents due to their ability to respond to individual attitudes and perception of pain experienced. The ability to perceive pain is influenced by several factors and vary among individuals. Although a person exposed to the same stimulus, one can experience a different pain intensity. In other words, although all respondents experiencing the same operation that is caesarean section, pain felt

different because there are many factors that can affect the pain scale.

Factors that may affect pain scale in this study was the environment, general condition, situational, sex, emotions, past experiences, anxiety and personality, social and cultural, age, cognitive function, confidence. All these factors can combine to affect a person's pain scale. As to overcome the pain in every surgery showed that the use of pharmacological therapy along with a therapeutic non-pharmacological help patients adapt to the pain so as to improve the quality of life, reduced use of analgesics, patients can immediately return to work, and provide different views about the pain and impact in the lives of patients (Karlstrom et al, 2007).

Results of statistical test by Wilcoxon signed rank test with significance $\alpha = 0.05$ then obtained p value = 0.000, which means rejected the null hypothesis. This shows that there is a significant difference in the pain scale before and after treatment autogenic relaxation techniques.

Relaxation techniques autogenic a relaxation technique based on the concentration using the body's perception that has health benefits that allow the body can feel the change in the physiological response of the body that is emotional, sensory and subjective such as decreased postoperative, Sensation quiet mild and warm that spreads throughout the body is the effect that can be felt from autogenic relaxation. Topcu and Findik (2012) found that, as that relaxation exercises play an effective role in pain control after surgery, even before the relaxation exercises, the pain was reduced with each passing postoperative day.

Relaxation autogenic a relaxation technique based on the concentration using the body's perception that has health benefits that allow the body can feel the change in the physiological response of the

body that is emotional, sensory and subjective such as decreased postoperative pain is a very annoying problem in patients when the pain did not immediately addressed will be bad for the body. Smith et al. (2018) found that relaxation techniques may help women manage labour pain. The use of some relaxation therapies may possibly be helpful with reducing the intensity of pain, and in helping women feel more in control and satisfied with their experience of pain.

In autogenic relaxation, things become a principal recommendation is surrender herself so as to enable the various regions within the body (arms, hands, legs and feet) to be warm and heavy. Warm and heavy sensation is caused by the transition of blood flow (from the central body to the desired area of the body), which acts as an internal message, soothes and relaxes the muscles around it (Asmadi, 2008; Kusmiran, 2014). From the observation researchers noticed that administration of relaxation techniques autogenic effect on pain reduction and provide a positive impact to the respondent even able to change the mood, and emotion enhances memory and provides a unique opportunity to interact and build emotional closeness to nurses and anyone who helped give direction autogenic relaxation techniques.

CONCLUSION

From the statistical test Wilcoxon signed rank test showed significant p value 0,000 with $\alpha = 0.05$, was found using SPSS as a support so that it can be concluded that the $p = 0.00 < 0.05$, which means there is the influence of autogenic relaxation techniques with decreased post-operative caesarean section pain in RSAD Kodam V Brawijaya Surabaya.

SUGGESTION

The use of autogenic relaxation techniques can be used as an alternative for nursing actions to reduce pain in post-operative caesarean section patients.

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LITERATURE REVIEW

NON-PHARMACOLOGICAL THERAPIES TO IMPROVE PATIENT SLEEP QUALITY IN ICU/CCU: LITERATURE REVIEW

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ABSTRACT

Background: Sleep is one of the basic human needs. Good sleep quality can improve repair of the disease. Sleep disorders are common in inpatient patients at CCU and ICU. The use of sedative and hypnotic medicines can significantly improve the quality of sleep, but can cause a wide range of side effects.

Objectives: The purpose of this review literature compares some of the research results on non-pharmacological therapies (eye masks, earplugs, music therapy, switching off lights, environmental modifications) in improving sleep quality to determine the best nursing action and safe to overcome patient sleep disorders by literature review and followed the PRISMA statement guidelines.

Design: Search the article using the PICO framework in the database.

Data Sources: Data sources included four electronic databases: Google Scholar, EBSCO, Science Direct, Scopus, MedLine, CINAHL, PubMed, and ProQuest, are limited to the last 10 years; 2007 to 2016

Review Methods: Data synthesis with qualitative synthesis.

Results: This article review obtained 13 international journals with RCT design and quasi-experiments. Improved sleep quality can be done in several ways; Eye mask use, earplugs, music therapy, exposure and sound reduction, the transfer of the treatment schedule outside the bedtime, and combinations.

Conclusion: Review results show the most effective action locally applied to improve sleep quality i.e. lowering lighting and noise as well as switching of treatment schedules outside of bedtime as it is easy, safe, and not Require a fee. If the intervention has not been helped can be offered eye mask, earplugs, and or music according to the choice of patients, local culture, and facilities available in the hospital. Advanced research on patients outside the ICU/CCU with more sample counts, different age and condition characteristics, longer treatment duration, and using objective sleep quality gauge such as polysomnography.

Key words: Eye mask, earplug, music, ICU/CCU, sleep quality.

INTRODUCTION

Sleep is one of the basic human needs to restore health, energy and physical well-being. At bedtime, certain hormones such as serotonin and growth hormone will undergo chemical changes and improved cellular nutrients. Sleep disorders often occur in patients treated in the CCU and ICU which can increase blood pressure and heart rate. Approximately 56% of patients with acute coronary syndrome suffer from this problem (Abolhassani SH., 2006). Results of studies in Shahrekord-Iran,

expressed approximately 51% of patients with congestive heart failure suffered from sleep disorders (Babaii, Atye, et.al., 2015). Sleep disorders are usually influenced by several factors, among others; Environmental factors (sound/hustle), continuous lighting, 24-hour care activity, discomfort/pain, isolation, treatment activity and psychological stress related to a life-threatening illness or complications from illness (Li, S.Y., et.al., 2011).

Improving sleep quality in ICU and CCU patients is important because it can

cause an increased risk of infections, complications, ductility hospital stay and mortality (Li, Shu-Yen, et.al., 2011). The use of sedative and hypnotic drugs can significantly improve the quality of sleep, but can lead to a wide range of side effects (Babai, Atye, et.al., 2015). Complementary Therapies (music therapy, use of eye masks, earplugs, environmental modifications and nursing actions) can also improve the quality of sleep without serious side effects (Saeedi M. et.al., 2012; Jones C et.al., 2012). Various studies have been conducted to explain the effect of the use of nonpharmacological therapies on the sleep quality of patients treated in the CCU/ICU. But there are still some limitations such as; Methods, time span, scope, measuring instruments, and research populations so that it has not quite concluded the influence of the use of non-pharmacological therapies on the quality of sleep patients with those treated in ICU/CCU.

The purpose of this study is to conduct literature review of the effectiveness of nonpharmacological therapy (eye mask, earplugs, music therapy, reducing lighting, sound modification of environmental noise, transfer of treatment schedules outside of sleep hours) to Quality of sleep, comparing the research results to the similarities, advantages, and disadvantages of each study to conclude where the best interventions can be applied locally, as well as determining the research gap as research advice Next. The literature of this review is presented in the form of articles consisting of; Abstract, introduction, methods, outcomes and discussion, implications for practice, conclusion, bibliography, and attachment.

METHODS

Literature review begins with the search articles using the PICO framework. A reviewed journal population is an ICU or

CCU patient. The intervention is the installation of eye masks compared to; Earplugs, music therapy, exposure reduction, noise reduction, and or combinations that can significantly improve sleep quality. The keywords used; Eye masks, earplugs, music, noise, and sleep quality on Google Scholar databases, EBSCO, Science Direct, Scopus, Medline, CINAHL, PubMed, and ProQuest. Search of English-language journals is limited to the last 10 years starting from 2007 to 2016. The search results obtained 18 articles then studied critically, leaving 18 international journals with RCT (Randomized Controlled Trial) design and quasi-experiments.

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. For more details see Figure 1 following PRISMA.

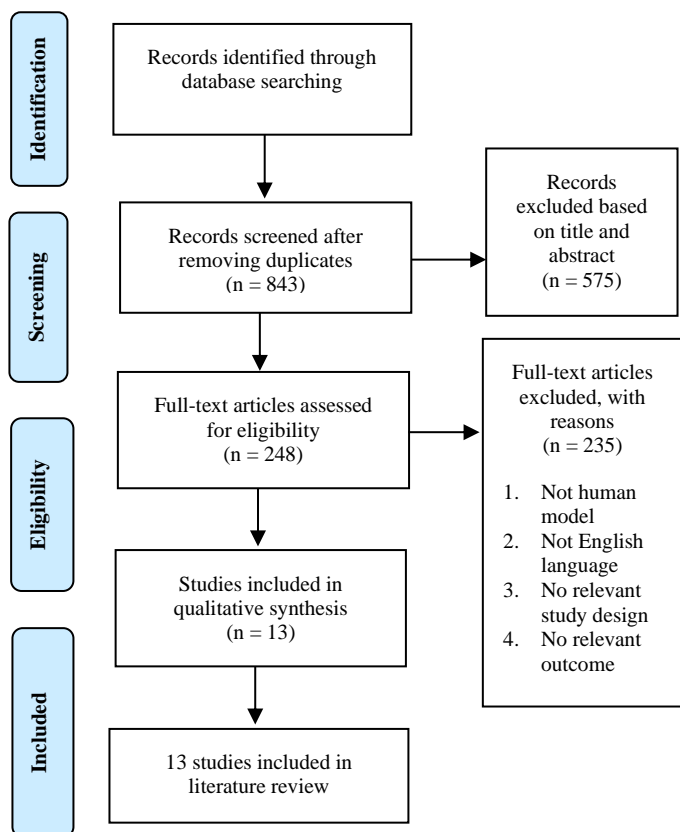


Fig. 1. Flow Diagram

RESULTS

Eye Mask

There are three studies conducted to prove the effectiveness of eye masks to improved sleep quality in cardiac patients at the CCU in different hospitals in Iran include; Mohammad Daneshmandi, et.al. (2012), Mashayekhi, et. el. (2013), and Atye Babaii, et.al. (2015) using the design of the RCT (Level 2 of the 7 levels of evidence) in 60 cardiac patients aged > 18 years. Two studies use the PSQI (Petersburg's Sleep Quality Index) gauge and 1 using VSH (Verran and Snyder-Halpern Sleep Scale). The third result of the study showed that eye masks could significantly improve sleep quality in heart patients.

Earplug

There are two journals examining the effectiveness of earplugs for the enhancement of ICU/CCU patient sleep quality. Carrie J Scotto, et.al. (2009)

Examining 88 ICU patients aged > 18 years (49 intervention /39 control), quasi-experimental design with post-test-only design in Midwestern US with VSH measuring instrument. The treatment group was installed earplugs for 1 night at night sleep, 12 respondents drop out (7 because of a falling-earplugs or because the respondent felt uncomfortable using it, 5 was not resumed due to decreased conditions or needed treatment Special). The results showed the use of earplugs improves the quality of sleep subjectively without disturbing the treatment action.

Fateme Neyse, et.al., (2011) examined 60 cardiac patients at CCU > 18 years of age in Tehran Iran with an RCT pre-posttest design. 60 patients divided into 2, 30 mounted earplugs, 30 without earplugs, no one to drop out. The installation of earplugs is performed every night during the patient in the hospital. The sleep quality is measured using PSQI prior to mounting the earplugs and at the end of the hospitalization (posttest). The results showed that the use of earplugs could improve sleep quality (p value < 0.05) in the treat group compared to the control group. Eye Mask and Earplug Yazdannik, et.al. (2014) Conducted research on 50 ICU patients > 18 years in Isfahan with RCT cross over design. Respondents were divided into 2 groups, no one dropped out. The measurement of sleep quality is done after both groups are done intervention using VSH. The results showed that treatment had a positive effect on sleep effectiveness and there was a significant difference (P. < 0.001) between the treatment group and the control group.

Year 2015, Dave, ET. Al. conducted the same study in 50 ICU patients in India aged 20-70 years with the same design (RCT cross over design), but using a different measuring instrument namely RSCQ (Richards Campbell Sleep

Questionnaire). Respondents divided 2 groups; nothing is drop out. The results showed that there was a significant difference in sleep quality when treatment with no treatment ($P < 0.001$).

Controlling Night-Time Noise

The research was conducted by Shu-Yen Li, et al. (2011) with a quasi-experimental design in 60 > 18-year-old surgical patients in ICU in Taiwan. 60 patients divided into 2, 30 treatment groups given the sleep care guidelines for noise and light reduction, 30 control groups receiving routine maintenance. 5 patients drop out because of loss of follow up so at the end of the study group treatment 28 patients and control group 27. The measuring instruments used are SICUQ (Sleep in The Intensive Care Unit Questionnaire), RSCQ, and meter sound meter which are used to monitor noise levels from 11:00 p.m. – 07.00 a.m. continuously in the bedside and nursing station in Surgical ICU. The RSCQ score indicates that the quality of sleep in the treatment group is higher than the control group ($p < 0.05$).

Combination of Eye Mask, Earplug, and music

The study conducted Min-Jung Ryu, et al. (2011) in 58 PTCA (Percutaneous Transluminal Coronary Angiography) patients ≥ 20 years at the CCU. Research using the design of the RCT, divided into 2, 29 patients (treatment group) installed earplugs + Eye shield + music that triggers sleep for 52 minutes at the beginning of 10 pm (only 1 night), 1 patient drop out due to taking sleeping medicine, 29 patients (group Control) installed earplugs + Eye shield without music, 1 person drop out because it is moved into the room. The morning at 7 am performed sleep quality measurements using VSH and sleep

quantity was measured using a questionnaire that contained about the total number of hours of sleep. The results showed the earplugs + Eye shield + Music treatment group to experience improved quality ($P = 0.001$) and the quantity ($P = 0.002$) of sleep significantly compared to no music in the control group.

Rong-Fang Hu, et.al., (2015) conducted RCT research on 45 ICU patients aged ≥ 40 years, divided into 2; 25 treatment groups (combining between earplugs, eye masks, and 30-minute music delivery at the 9 pm until 6 am) compared to 25 control groups that did not do any intervention. 5 Respondents group treatment drop out; 2 experiencing complications post serious surgery, 2 refused to wear earplugs + eye masks, and 1 refused to be heard of music. Subjective sleep quality measured Day 1 or 2nd after moving from ICU using RCSQ. In addition, levels of melatonin and cortisol are also evaluated before surgery and after surgery. The results showed the use of earplugs + eye masks + music helped improve the perception of sleep evidenced by the higher subjective sleep quality in the intervention group compared to the control group (the < 0.05 P value) and this treatment Does not affect the level of melatonin and cortisol at night.

Hua Wei Huang, et.al. (2015) conducted the same research but added treatment with oral melatonin administration with RCT-cross over design conducted on 40 ICU patients aged > 18 years. The treatment process is divided into two phases, the first phase divided by 2 groups (20:20) then the second phase is divided into 4 (10:10:10:10) which are given different interventions. The measuring instruments used include; PSG (Polysomnography), Subjective Sleep quality (visual analog scale), and Serum melatonin concentration. The results

showed that the use of melatonin is better in improving sleep quality compared to the use of earplugs and eye masks. The result of the evaluation of the respondent's response to the use of eye masks and earplugs was found that the eye mask was more comfortable, easier, and more effective than earplugs.

DISCUSSION

This review literature identifies 6 interventions to improve the sleep quality of patients in the ICU/CCU include; The use of eye masks, earplugs, music therapy, reducing lighting reduces environmental noise in bedtime, switching of treatment schedules outside of sleep hours, as well as combinations of earplugs + Eye mask + music with/without melatonin, which are all proven Effective for improving sleep quality. Earplugs are reportedly some of the respondents experiencing discomfort in usage.

In terms of design, 9 journals use RCT and 2 quasi for so this review is quite strong based on the level of evidence. In terms of measuring instruments, 10 journals use subjective measuring instruments and 1 journal using PSG (Polysomnography) that uses healthy respondents in ICU setting. PSG is the gold standard for measuring sleep objectively with high accuracy, but it is not easy to apply to patients in ICU because it is expensive and requires manipulation that can interfere with the treatment process in ICU/CCU.

Review results show that all given treatment (eye mask, earplugs, reduce exposure, reduce noise, divert maintenance schedules outside of sleep hours, nor any combination of earplugs + Eye mask + music) can improve sleep quality Subjectively. Review results can only be applied to adult ICU/CCU patients who are conscious, non-complications, and cooperative so that they cannot be used in

patients who have decreased awareness, anxiety, or ventilators. It is also not applicable to different age characteristics and other inpatient rooms.

Implications of Practice

From some treatments, the possible actions can be applied locally that reduce exposure, reduce environmental noise, divert maintenance schedules outside of sleep because it is easy, effective, and not cost. This can be a supportive therapy in patients who are experiencing sleep disorders before collaborating with medical treatment. When exposure reduction, environmental noise lowering, and the transfer of treatment schedules outside the sleep hours do not help improve sleep, patients can offer additional therapies such as eye masks, earplugs, or combinations of eye masks + Earplugs + music adapted to the habits of patients, cultures, and facilities available in hospitals.

Limitation

There are some limitations in this study. That is a small sample size. More research needs to be done to learn the effectiveness of non-pharmacological therapies to improve patient sleep quality in ICU/CCU, as this will allow the transfer of findings.

CONCLUSION

Sleep is one of the basic human needs. Sleep disorders often occur in patients treated in the CCU or ICU. This review literature identifies 6 interventions to improve sleep quality in ICU/CCU patients include; Use of eye mask, earplugs, music therapy, reduce lighting and environmental noise in bedtime, transfer of treatment schedules outside of night sleep hours, as well as a combination of Eye mask + earplugs + music with/without melatonin, all of which proved effective To improve

sleep quality. Review results concluded the most effective action in improving sleep quality to be applied locally which is lowering lighting and noise, as well as switching of maintenance schedules in the sleep because it is easy, safe, and does not require Cost. However, it can only be applied to adult ICU/CCU patients who are conscious, non-complications, and cooperative so as to not be generalized to different age, condition, and setting characteristics such as in inpatient rooms other than ICU/CCU. Advanced research is required in patients outside the ICU/CCU with more sample count, different age and condition characteristics, longer treatment duration, and using objective measuring instruments such as polysomnography.

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ORIGINAL RESEARCH

EFFECT OF SEFT (SPIRITUAL EMOTIONAL FREEDOM TECHNIQUE) THERAPY ON DECREASING LEVELS OF ANXIETY IN STUDENTS OF CLASS VIII SMP THAT WILL FACE MIDDLE SEMESTER EXAMS IN THE 4TH JUNIOR HIGH SCHOOL OF MUHAMMADIYAH SURABAYA

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ABSTRACT

Background: Students who will face an exam experiencing various psychological conditions that can cause students to become anxious. This anxiety can be due to demands from parents, school, social, even the perceptions of the students themselves related to information that has been received in preparing themselves for the exam. One of the actions that can be taken to reduce student anxiety is the therapy of Spiritual Emotional Freedom Technique (SEFT).

Objectives: The purpose of this study was the Effect of SEFT Therapy (*Spiritual Emotional Freedom Technique*) on the Decrease of Anxiety Level in Class VIII Middle School Students Who Will Face the Middle Semester Examination of the 4th Junior High School of Muhammadiyah Surabaya.

Methods: The research design was *pre-experimental, one group pretest-posttest design*. The sample in this study was all junior high school students of class VIII-C who would face the Mid Semester Examination at the 4th Junior High School of Muhammadiyah Surabaya with 30 people taken by the technique *Total Sampling*. Data analysis using the *Wilcoxon Test*, namely SEFT therapy (*Spiritual Emotional Freedom Technique*) to reduce anxiety levels.

Results: Based on the Wilcoxon Test the value of $Z = -4,956$ and the value of $p \text{ Value} = 0,000$ so that ($p < \alpha$) so that H_1 accepted H_0 rejected means that there is influence of SEFT therapy (*Spiritual Emotional Freedom Technique*) to decrease anxiety levels of students in class VIII who will face the exam Semester at the 4th Junior High School of Muhammadiyah Surabaya.

Conclusion: SEFT therapy can be given to students who will face the test with the approach taken spiritually, discussion and interpersonal communication by knocking 18 key points in the human body is SEFT therapy (*Spiritual Emotional Freedom Technique*). SEFT therapy can provide calmness to students psychologically.

Key words: SEFT Therapy (*Spiritual Emotional Freedom Technique*), anxiety, emotional.

INTRODUCTION

Generally, when approaching the Exam, students experience feelings of nervousness or anxiety, from this feeling arises a feeling of lack of confidence. The fact that feeling nervous and anxious is not only experienced when students will face the Middle Semester Exams but also other school exams. Devaney (2010) explains

that anxiety can influence student achievement. Although the students have learned long ago, and prepare as much as possible for the exam, there is something that affects the students' work on the problems that feelings of anxiety or nervousness arising from within, then the student fails in doing a variety of school exams.

Dawood (2016) states that anxiety is a general phenomenon that is a cause of poor academic performance in students. Someone experiencing feelings of anxiety, nervousness, or tension in the face of an uncertain situation, means that person is experiencing anxiety. The learning process often makes teenagers experience stress and anxiety because of the many demands and expectations that must be met both from the school and family environment. This anxiety will affect the outcome of achieving targeted students (Tresna, 2011). Academic values obtained from an examination are considered as manifestations of student achievement in the academic field. If students successfully pass the test with good grades, students are considered successful in answering the demands of the school and family in the academic field. Meanwhile, students who get poor results from a test will give birth to problems in students, especially the lack of interest in the world of education (Faried & Nashori, 2012).

Hall, B. & Tyish (2005) state the results of a study conducted by Hill & Sarason regarding children's anxiety measured using the TASC (Test Anxiety Scale Children) that 4-5 million elementary school children and junior high school students have a strong experience of anxiety in the exam. Related to this, Santrock (2007) explains that students have a high level of anxiety because the expectations of parents are unrealistic about the abilities possessed by children. The national prevalence of anxiety disorders is experienced by middle school students in Indonesia as much as 4.7%. Whereas in East Java there is a percentage of 68.3% of junior high school students experiencing anxiety. In Surabaya itself, the prevalence level of anxiety for junior high school students is 20.2% (Health Department, 2017).

The phenomenon of high anxiety in facing examinations on students, of course, can hinder the learning goals that students want to achieve. Tresna's (2011) study found anxiety facing exams was triggered by uncontrolled states of mind, feelings and motor behavior. Uncontrolled cognitive manifestations cause the mind to become tense, uncontrolled affective manifestations lead to feelings of bad things happening, and uncontrolled motoric behavior causes students to become nervous and trembling when facing an exam. State of anxiety experienced continuous Siwa if allowed then that anxiety resulted in negative behavior of students to the school, such as: rejection of school, low self-esteem, withdrawal, reluctant to appear, and not confident. Faried & Nashori (2012) said that anxiety can be controlled by self-control in a person. Self-control is related to how individuals control their emotions as well as their inner drives. The ability to control themselves allows someone to behave more directed and can channel the impulses in themselves correctly and not deviate from the norms of society. Self-control is focused on strengthening yourself positively, punishing yourself, manipulating emotional conditions, monitoring yourself so you can control anxiety, which consists of concentration, not trusting yourself, often thinking about danger, anxiety, and worry.

Therefore, anxiety is just as important to study in increasing self-confidence, so anxiety needs to be overcome. In terms of overcoming anxiety, students need a problem solving to improve their ability to prepare for the exam and reduce anxiety. One of the methods needed is using the SEFT (*Spiritual Emotional Freedom Technique*) to help students reduce anxiety levels.

METHODS

Study Design

This study was a *pre-experimental* study with research *one group pretest-posttest design* which revealed a causal relationship by involving one group of subjects. The group of subjects was observed before the intervention was then observed again after intervention. After intervention, researchers compared the results of pre-tests with post-test results (Nursalam, 2016).

Table 1. Drawing Design Research *one-group pretest-posttest design*.

Subject Pre	Treatment of	Post-Test
KO Time 1	I Time 2	O1 Time 3

Description:

- K : Subject (class VIII middle school student)
O : Observation of anxiety level before intervention
I : Intervention (SEFT therapy)
O1 : Observation of the level of anxiety after intervention

Setting

This study was conducted in the 4th Junior High School of Muhammadiyah Surabaya.

Research Subject

The population in this study were all students VIII-C in the 4th Junior High School of Muhammadiyah Surabaya with number of 30 students. The sample in this study was all students of class VIII-C who would face the Mid Semester Examination at the 4th Junior High School of Muhammadiyah Surabaya, amounting to 30 students.

Instruments

The measuring instrument used was a manual procedure for Spiritual Emotional Freedom Techniques and the observation sheets Numeric Rating Scale (NRS).

Data Analysis

The data has been analyzed using Wilcoxon signed rank test with significance level of 5%.

Ethical Consideration

This research has gone through an ethical test from the STIKES Bodhi Iswara Surabaya and obtained permission from the Head of the 4th Junior High School of Muhammadiyah Surabaya.

RESULTS

Based on the results of the collection of data from 30 respondents obtained the general data of respondents that included age and gender.

Characteristics of Respondents by Age

Table 2. Distribution of Frequency of Respondents by Age in the 4th Junior High School of Muhammadiyah Surabaya (n = 30).

Age (Years)	Amount (frequency)	Percentage (%)
12	1	3%
13	10	34%
14	15	50%
15	4	13%
Total	30	100%

Based on table 2 found that half of students as many as 15 respondents (50%) aged 14 years old and a small age of 12 years old students namely 1 student with a percentage of 3%.

Characteristics of Respondents by Gender

Table 3. Distribution of Frequency of Respondents by Gender in the 4th Junior High School of Muhammadiyah Surabaya (n = 30).

Gender	Amount (frequency)	Percentage (%)
Male	17	57%
Female	13	43%
Total	30	100%

According to the table 3 obtained the sex of class VIII-C students is partly dominated by male students as many as 17 students (57 %) and 13 students almost half were female with a percentage of 43%.

Cross Tabulation of Anxiety Levels Before and After SEFT Therapy Students of Class VIII-C at the 4th Junior High School of Muhammadiyah Surabaya

Table 4. Cross Tabulation of Anxiety Levels Before and After SEFT Therapy Students of Class VIII-C at the 4th Junior High School of Muhammadiyah Surabaya (n = 30).

			Posttest				
			Normal	Light	Medium	Heavy	Total
Pretest	Medium	Frequency	4	5	0	0	9%
		pre-test	44.4%	55.6%	0%	0%	100%%
		post-test	80%	83.3%	0%	0%	30%
		% Of total	13.3%	16.7%	0%	0%	30%
	Heavy	Frequency	0	1	9	0	10%
		pre-test	0%	10%	90%	0%	100%%
		posttest	0%	16.7%	64.3%	0 %	33.3%
		% Total	0%	3.3%	30%	0%	33.3%
	Panic	Frequency	1	0	5	5	11%
		pre-test	9.1%	0%	45.5%	45.5%	100%%
		post-test	20%	0%	35.7%	100%	36.7%
		% total	3.3%	0%	16.7%	16.7%	36.7%
Total		Frequency	5	6	14	5	30
		% pre test	16.7%	20%	46.7%	16.7%	100%

Based on table 4 showed that students of class VIII-C as many as 4 students during the pretest experienced moderate levels of anxiety while post-test did not experience anxiety, and 5 people others experience mild anxiety. 1 person at the pretest experienced severe anxiety when the posttest experienced mild anxiety while 9 other students at the time of the posttest experienced moderate anxiety. 1 student at the time of pre-test post-test experience panic when not experiencing anxiety, 5 students when post-test anxiety and 5 others were currently experiencing severe anxiety post-test so that the total number of 30 students.

DISCUSSION

Levels of Pre-Giving SEFT (Spiritual Emotional Freedom Technique) Therapy

Based on table 4, the level of anxiety before administration of SEFT therapy (*Spiritual Emotional Freedom Technique*) obtained almost half (37%) of anxiety at the panic level and the lowest percentage of 30% of students experienced moderate anxiety.

According to Suliswati (2014) panic is a loss of control, it is unable to do anything even with orders. There is an increase in motor activity, reduced ability to relate to others, perceptual aberrations and loss of rational thought, unable to function effectively. Usually accompanied by personality disorganization.

Many factors influence the level of anxiety, namely age. Anxiety disorders begin in the early teens, between the ages of 14 and 25 years, but the numbers continue to increase after the age of 35 (Puri, Laking, & Treasaden, 2011). Another factor that affects anxiety is suppressed emotions where anxiety can occur if an individual is unable to find a way out for his own feelings in this personal relationship, especially if he suppresses anger or

frustration for a very long time. In line with the theory, according to Vienna (2010) states that students have bad thoughts when going to take an exam, this affects student performance while doing the exam. The mind is based on negative thoughts that cause anxiety or anxiety in students. Other opinions reveal that students experience anxiety or fear when facing an exam, it can be seen from physical, psychological, social symptoms. If students experience anxiety when they want to take an exam, he will experience a decreased performance, so students become less optimal in doing the exam. Anxiety in addition to being influenced by internal factors is also influenced by external factors such as family support, and the environment. So, from that the importance of cooperation between teachers, families, and researchers to support each other in order to improve the quality of life of students.

Level of Anxiety After Giving SEFT (Spiritual Emotional Freedom Technique) Therapy

Based on table 4 showed that the level of anxiety after therapy in class VIII-C with a total of 30 students almost half with a percentage of 46% had moderate anxiety and a small percentage of students with a percentage of 17% did not experience anxiety and experience severe anxiety, on anxiety before and after administration of therapy p value = 0,000, which means that there is a significant difference between the level of anxiety before administration of therapy with after therapy. According to Suliswati (2014) mild anxiety is divided into two categories, which are mild and mild for a long time. This anxiety is very beneficial for the development of one's personality, because this anxiety can be a challenge for an individual to overcome it. Mild anxiety that appears briefly is a reasonable anxiety that occurs to

individuals due to threatening situations and the individual cannot overcome it, resulting in anxiety. This anxiety will be beneficial for individuals to be more careful in facing the same situations in the future. Old mild anxiety is anxiety that can be overcome but because the individual does not immediately address the cause of anxiety, then the anxiety will settle for a long time in the individual. While moderate anxiety is an individual focusing only on the mind that is of concern to him, there is a narrowing of the perception field, can still do something with the direction of others.

One of the factors that influence anxiety is influenced by gender. The number who suffer from both acute and chronic anxiety reaches 5% of the population, with a ratio between women and men 2 to 1 (Hawari, 2014). Women are more at risk of experiencing stress in response to psychological disorders, but male coping mechanisms are higher in dealing with problems (Yeh, Wen, & Chang, 2008). Gender / gender is closely related to disease response, anxiety, and coping use in dealing with health problems (Ratnawati, 2011). In line with the theory above, the results of data analysis are many male students who are more prone to experience levels of anxiety than severe levels, panic becomes mild and normal.

In addition to this the *Spiritual Emotional Freedom Technique* (SEFT) developed from *Emotional Freedom Technique* (EFT), combines spiritual elements in the stages of their implementation. The goal is to see human potential as a whole, thoroughly and explore the deepest human potential, one of which is *Spiritual*. In the *Spiritual Emotional Freedom Technique* (SEFT), the spiritual element refers to the transpersonal psychological approach. Transpersonal in its technique has a goal to *re-connect an individual with the source of wisdom that is*

in it, combining between *conscious ego* and *subconscious* that is inside with the aim of activating and developing an individual's ability to heal himself. The definition is also supported by transpersonal views expressed by Vaughan, saying that one of the assumptions underlying transpersonal psychotherapy is that every human being has a movement for spiritual growth, the capacity to learn and grow throughout life, and this process can be facilitated by psychotherapy. In line with the above opinion, Rowan stated that psychotherapy is about someone's courage to open what is inside him. Spiritual methods are also a way of venturing to open what is inside. Therefore, psychotherapy means it is also a spiritual practice (Praise & Vigor, 2015).

Based on the above description *Spiritual Emotional Freedom Technique* (SEFT) which also consists of three phases including *the sett-up*, aims to ensure that the body's energy flows are directed appropriately. The step is to neutralize psychological resistance which is usually in the form of spontaneous negative thoughts or negative unconscious beliefs. If it is understood in religious terms, *the set-up* is a submission prayer to God Almighty, *the settlements* consist of 2 activities which are the first to say the surrender sentence which can be in the form of prayer and receive for what happens to him with great sincerity and sincere (Zainuddin, 2012). The same surrender attitude or sentence is thought to give an optimistic attitude to someone so that positive feelings arise such as feeling happy, feeling happy, satisfied, successful, feeling loved, or feeling safe

SEFT (Spiritual Emotional Freedom Technique) Therapy for Decreasing Anxiety Levels

The level of student anxiety will be different from one another because it is influenced by how to deal with each

individual's different problems. One method that can reduce anxiety, is to use SEFT therapy (*Spiritual Emotional Freedom Technique*) so that it results in anxiety and decreased anxiety. This can be proven by decreasing the number of anxieties according to table 5.6 which obtained p Value = 0,000, meaning that there are differences in anxiety levels before and after intervention. Anxiety is a normal concomitant of the growth of new experiences, and the discovery of one's own identity and the search for meaning in life. Conversely, pathological anxiety is a response that is not appropriate to the stimulus given based on the intensity or duration. Anxiety includes several biological systems, especially in the brain. Some of these systems include: (1) autonomic systems of *neurotransmitters* which include norepinephrine, serotonin, GABA (*Gamma Aminobutyric Acid*), and *aplasia*, (3) brain imaging studies, (4) genetic researchers, (5) neuroanatomic considerations which include the limbic system and cerebral cortex (Kaplan, Sadock, & Grebb, 2010).

The use of *Emotional Freedom Technique* (EFT) for acupuncture points strengthens cognitive and components *exposure* serves to show a reduction in fear after stimulation *acupoint*. In Church (2012) study states that acupuncture that uses functional magnetic resonance imaging to measure its impact on the brain, acupuncture was found to directly modulate the stress response by decreasing the regulation of *hyperarousal* amygdala and other structures from the limbic system. In line with this statement Cherkin, also explained that the pressure at the acupuncture point had been found to be as efficacious as needling acupuncture.

In the clinical realm EFT itself has been used as a valid method in many studies in the field of study. In his research, one of

the figures who helped develop *Emotional Freedom Technique* (EFT) stated that the therapy fulfilled the standard criteria of APA (*American Psychological Association*), where EFT has been used in several studies and practices widely including summarizing studies on (1) psychological conditions such as anxiety, depression, phobias, and posttraumatic stress disorder (PTSD), (2) physiological problems such as illness and autoimmune conditions, (3) professional and sports performance, and (4) physiological mechanisms of EFT Clinical measures and several other experiments. Three important ingredients of the clinical *Emotional Freedom Technique* (EFT) are explained: *exposure*, *cognitive shift*, and acupuncture. This is evidence of an important element in EFT's success (Church et al., 2012).

According to Bakara, Ibrahim, & Sriati (2012) this spiritual belief will provide a sense of calm and positive hope for those who experience pain, so that it is expected to reduce anxiety. Spiritual therapy gives rise to relaxation and health responses, can lead to confidence in self-care, and is beneficial to anxiety and panic in terminal patients that can lead to calmness.

Calm or in psychology is called relaxed by Maimunah & Retnowati (2011) stating is a method used to help humans learn to reduce or control physiological reactivity which causes problems for themselves besides relax is used to reduce individual physiological turmoil and bring individuals into a state calmer both physically and psychologically. One study has proven that the relaxation intervention approach given to pregnant women has not found a significant result that is able to reduce anxiety.

Based on the above description *Spiritual Emotional Freedom Technique* (SEFT) which also consists of three phases including *the sett-up*, aims to ensure that the

body's energy flows are directed appropriately. The step is to neutralize psychological resistance which is usually in the form of spontaneous negative thoughts or negative unconscious beliefs. If it is understood in religious terms, *the set-up* is a submission prayer to God Almighty, *the settlements* consist of 2 activities which are the first to say the surrender sentence which can be in the form of prayer and receive for what happens to him with great sincerity and sincere (Zainuddin, 2012).

Attitude or a similar sentence is alleged resignation will give an upbeat attitude in a person that appears positive feelings like happiness, joy, satisfaction, success, feel loved, or felt safe. Emotional attitude with God. So, in similar conditions, humans are in a calm and normal state, in the balance of chemical compounds and body hormones. In other words, the condition of its nature, in accordance with the nature of its occurrence, is physically and mentally healthy (Zainuddin, 2012).

CONCLUSION

Based on the research that has been done on the effect of therapy SEFT (*Spiritual Emotional Freedom Technique*) to decrease the anxiety level of junior high school students of class VIII which will face Middle Semester Exam in the 4th Junior High School of Muhammadiyah Surabaya can be concluded that:

1. The level of anxiety of students of class VIII-C in the 4th Junior High School of Muhammadiyah Surabaya before being given SEFT therapy (*Spiritual Emotional Freedom Technique*) almost half experienced panic.
2. Anxiety level class VIII-C in the 4th Junior High School of Muhammadiyah Surabaya after therapy is given SEFT (*Spiritual Emotional Freedom Technique*) almost half experiencing moderate anxiety and mild.

There SEFT (*Spiritual Emotional Freedom Technique*) therapeutic effect to decrease the level of anxiety in the eighth-grade junior high school students who will face Middle Semester Exam in the 4th Junior High School of Muhammadiyah Surabaya.

SUGGESTION

To reduce the anxiety level of students in facing the exam, the school can work together with health workers who master SEFT (*Spiritual Emotional Technique*) Therapy to do the SEFT Therapy.

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ORIGINAL RESEARCH

**PERCEPTION OF YOUTH AGE PREGNANCY WITH STRESS
FACING LABOR IN TRIMESTER III PREGNANT WOMEN IN
COMMUNITY HEALTH CENTER OF TANAH KALI KEDINDING
SURABAYA**

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ABSTRACT

Background: Pregnancy at adolescence is at high risk because it can cause fetal death. The reproductive system in adolescents is not ready for fetal growth and development. The first experience of labor is one of the causes of stress due to a lack of knowledge about the signs of labor and the severity of labor. Incomplete information, and not necessarily true, will lead to the perception that labor is a negative, frightening, and dangerous thing. Feeling anxious about something they will experience during labor so that it can cause stress which will affect the labor process.

Objectives: The purpose of this study was to analyze the relationship between perceptions of pregnancy and stress in facing labor.

Methods: This type of research uses the method *correlation analytic* conducted in April 2018, the population and samples of third trimester teenage pregnant women, the dependent variable perceptual and independent stress, this study used a total sampling technique, the measuring instrument used the questionnaire and used the test *chi square*.

Results: The results of the statistical test show that $p < 0.00$ ($\alpha < 0.05$) indicates that H_0 is rejected so that there is a strong relationship between the perception of pregnancy and stress facing labor.

Conclusion: Mothers who have positive perceptions or perspectives about pregnancy give rise to positive perceptions so that they do not experience stress or only experience mild stress that will help smooth the delivery process.

Key words: Perception Pregnant, Teen, Stress, Delivery.

INTRODUCTION

Adolescents are a transition person who gradually exhibits the characteristics of a woman or a man until it reaches biological maturity, his soul develops from childhood to adulthood, and his socio-economic conditions change from dependence on parents to be gradually free. The main problem faced by teenagers today is the faster the reproductive age comes. If a hundred years ago a woman got her first menstruation (*menarche*) at the age of 17 years, then at this time the average age of a

woman getting her first period is 12 years old. Marriage and pregnancy in adolescence contain a number of bad risks in the long term (Nurhajati, 2012). The reproductive age range that is still long, women who marry and become pregnant at the age of adolescents will have the opportunity to have large numbers of children at the end of their reproductive age. Facing labor is one of the factors that can cause stress, considering that it is not only *somatic* but *psychosomatic*. Primigravida pregnant women usually get

information about labor coming from friends and family. The information obtained usually tends to be limited to individual experiences and is only limited to pain and pain experienced during labor. Incomplete information, and not necessarily true, will lead to the perception that labor is a negative, frightening, and dangerous thing. Feeling afraid of something they will experience during labor so that it can cause stress which will affect the labor process.

The causes of stress include; stressors from outside the organization (*extra organizational stressors*), stressors from within the organization (*organizational stressors*), stressors from groups within the organization (*group stressors*), stressors from within the individual (individual stressors) (Anatan & Ellitan.2009). Based on the initial survey in October 2017 at the Community Health Center of Tanah Kali Kedinding, in 1 week there were 8 pregnant women who were partnered with young age 6 people expressed stress facing their labor. They said that this happened because of the first experience of labor. So that they are afraid of pain and the dangers that arise during childbirth.

Stress is one of the causes of prolonged labor at risk of fetal death, labor \pm 5% of causes of maternal mortality in Indonesia. The Indonesian Demographic and Health (SDKI) survey results in 2012 showed that the Infant Mortality Rate (IMR) was 32/1000 live births, Maternal Mortality Rate (MMR) of 359 / 100,000.

According to Farida (2014) in adolescents the reproductive organs are functioning which are characterized by the occurrence of menstruation, enlarged breasts, growth of hair in the armpits and genitals but are not ready for fetal growth. This condition can endanger the fetus and the risk of maternal and fetal death will occur. In addition, changes in the

psychology of adolescents also change marked by sensitive, temporal, excessive reactive and negative emotions that can perceive this pregnancy in accordance with growth and development. Pregnancy in young adolescents can also cause stress, the first experience of labor is one of the causes of stress due to a lack of knowledge about the signs of labor and the severity of labor so that the stress experienced by *primigravid* continues and increases during the pregnancy will have implications for the mother's soul and the baby in the womb makes it difficult for labor. Stress can be caused by many factors. Elements that greatly affect the labor process and cause stress in pregnant women at a young age are the irregular contractions of the uterus and pain before labor.

Nurses as active health workers provide related information about the physiology of pregnancy and signs of labor carried out in the form of counseling programs where pregnant women in the third trimester and how to control stress.

The purpose of this study was to analyze the relationship of perceptions of pregnancy with stress facing labor.

METHODS

Study Design

This type of research is a correlation analytic study with an approach Cross Sectional.

Setting

This study was conducted at the Community Health Center of Tanah Kali Kedinding in the District of Kenjeran Surabaya, conducted in April 2018.

Research Subject

The population is pregnant women in the third trimester primigravida age at the Community Health Center of Tanah Kali Kedinding, Kenjeran District with 36

respondents. Sampling was conducted at the Community Health Center of Tanah Kali Kedinding, Kenjeran District Surabaya using the total sampling technique with a sample of 36 respondents.

Instruments

Data on pregnancy perception and labor stress data were collected by questionnaire sheet.

Data Analysis

Data analysis was tested using SPSS 20.0 with statistical tests *Chi Square*.

Ethical Consideration

This research has gone through an ethical test from the Adi Husada Nursing Academy, Surabaya and obtained permission from the Health Resources of Surabaya Health Department.

RESULTS

Based on the results of the collection of data from 36 respondents obtained the general data of respondents that included age, Educational Level, Occupational, Pregnancy Perceptions, and Stress Level.

Characteristics of Respondents by Age

Table 1. Distribution of Frequency of Respondents by Age in the Community Health Center of Tanah Kali Kedinding in April 2018 (n = 36).

Age	Frequency	(%)
13-15 th	8	22.2
16-19 th	28	77.8
Total	36	100

Based on table 1 found that most of the respondents' age in the Community Health Center of Tanah Kali Kedinding, Surabaya aged 16-19 years, as many as 28 respondents (77.8%).

Characteristics of Respondents by Gender

Table 2. Distribution of Frequency of Respondents by Educational Level in the Community Health Center of Tanah Kali Kedinding in April 2018 (n = 36).

Educational Level	Frequency	(%)
Elementary School	14	39
Junior High School	12	33.3
Senior High School	10	27.7
Total	36	100

Based on table 2 found that most of the respondents' educational level at the Community Health Center of Tanah Kali Kedinding which has elementary school, as many as 39 respondents (39%).

Characteristics of Respondents by Occupational

Table 3. Distribution of Frequency of Respondents by Occupational in the Community Health Center of Tanah Kali Kedinding in April 2018 (n = 36).

Occupational	Frequency	(%)
Working	10	27.8
Not working	26	72.2
Total	36	100

Based on table 3 found that most respondents work in the Community Health Center of Tanah Kali Kedinding which does not work, as many as 26 respondents (72.2%).

Characteristics of Respondents by Pregnancy Perceptions

Table 4. Distribution of Frequency of Respondents by Pregnancy Perceptions in the Community Health Center of Tanah Kali Kedinding in April 2018 (n = 36).

Pregnancy Perception	Frequency	(%)
Positive	30	83.3
Negative	6	16.7
Total	36	100

According table 4, it shows that the perception of mothers in Community Health Center of Tanah Kali Kedinding had positive perception of pregnancy by 30 people (83.3%).

Characteristics of Respondents by Stress Level

Table 5. Distribution of Frequency of Respondents by Stress Level in the Community Health Center of Tanah Kali Kedinding in April 2018 (n = 36).

Stress Level	Frequency	(%)
Normal	4	11.1
Mild	25	69.5
Moderate	7	19.4
Amount	36	100

Table 5 displays that stress levels mothers face normal labor 11.1%, mild 69.5% and moderate 19.4%.

Examination of Correlation of Pregnancy Perceptions and Stress Levels in Facing Labor in Pregnancy Trimester III at Youth Age

Table 6. Correlation of Pregnancy Perceptions and Stress Levels in Facing Labor in Pregnancy Trimester III at Youth Age in the Community Health Center of Tanah Kali Kedinding in April 2018 (n = 36).

Stres	Positif		Negatif		Frekuensi	%
	Frekuensi	%	Frekuensi	%		
Normal	4	11,1	0	0	4	11,1
Ringan	20	55,5	5	14	25	69,5
Sedang	6	16,6	1	2,8	7	19,4
Berat	0	0	0	0	0	0
Sangat berat	0	0	0	0	0	0
Jumlah	30	83,2	6	16,8	36	100

Uji Chi Square p=0,00 α<0,05

Based on Table 6 shows that 4 respondents (11.1%) have positive and not stressed perceptions, while those who experience stress mild there were 25 respondents (69.5%). The results of test *chi square* showed that $p = 0.00$ showed that there was a relationship between the perception of pregnancy and stress in facing labor.

DISCUSSION

Pregnancy perceptions

Based on the results of the study in table 6, it shows that most of the 30 respondents with a percentage of 83.3% who were observed showed positive perceptions. Perception is a process that involves the entry of messages or information into the human brain, through human perceptions while in the broadest sense is the view or vision, which is how one views or interprets something Slameto (2010). The factors that influence perception are functional resulting from the

needs, excitement (mood), service, and past experience of an individual; Structural means factors that arise or result from the form of stimuli and neutral effects arising from the individual nervous system; Situational related to non-verbal language. Proxemic instructions, kinesics instructions, facial instructions, and paralinguistic instructions; Personal consists of experience, motivation, and personality. Most of the respondents have elementary school education, elementary school education should only be able to receive information without analyzing and most do not work but the respondents who do not work will spend more time at home.

Family is one of the factors that influence a person's perspective / perception, for example by providing information on experiences previously obtained, environmental factors can also influence perceptions such as what is usually held counseling from a local health center or Integrated Service Post. In addition, information is also very easy to obtain with social media, print media so that even though most of the respondents do not work and the last is elementary school education, it is possible to get broad insights. The family and environment that take part play a role in providing information capable of influencing perceptions of positive pregnancy, for example, the mother always keeps her womb before delivery with good nutrition and positive activities such as recitation, counseling about pregnancy in the environment so that the perception of pregnancy remains positive until before delivery.

Labor stress

In table 6 shows that most of the 25 (69.5%) large-scale respondents experienced mild stress in facing labor. While 4 (11.1%) respondents did not

experience stress. Stress itself is a condition that affects a person's physical or psychological state because of pressure from inside or outside someone who can interfere (Robbins, 2001). Stress that is too large can threaten a person's ability to deal with his environment. Primigravida pregnant women usually get information about labor coming from friends and family. The information obtained usually tends to be limited to individual experiences and is only limited to pain and pain experienced during labor. Incomplete information, and not necessarily true, will lead to the perception that labor is a negative, frightening, and dangerous thing. Feeling anxious about something they will experience during labor so that it can cause stress which will affect the labor process.

Most of the respondents had elementary school education and did not work, so they spent more time at home to rest more and have time to do routine checks at the nearest Integrated Service Post or Community Health Center of and usually obtained information from local health workers. Respondents mostly experienced mild stress in dealing with childbirth by saying that it was very easy to be patient in facing pregnancy problems / problems such as pain by means of deep breathing exercises so that the body becomes relaxed like information provided by health center health workers and respondents said that they very enthusiastic about anything, for example, always taking part in counseling activities held by local health workers. Most respondents aged 16-19 years at this age include adolescents. Teenagers at this time are no stranger to gadgets, because it is one of the electronic medias that can provide information so that respondents are able to overcome their anxiety by finding sources of information about childbirth.

Relationship between perceptions of pregnancy and stress in childbirth

Based on table 6 The relationship of perceptions of pregnancy to the age of adolescents with stress facing childbirth in third trimester pregnant women in the Community Health Center of in the land lies on the wall. The results of the respondents' research which showed most of the 6 respondents had negative perceptions and 30 had positive perceptions. Based on the chi square test about the relationship of perceptions of pregnancy to the age of adolescents with stress facing childbirth in third trimester pregnant women obtained a result of 0.00. This shows there is a significant correlation between the perception of pregnancy with stress facing labor. Viewed from the level of the relationship (correlation coefficient) between variables according to test *chi square* which ranged 0.00 indicates that the results of this study have a degree of correlation between the perception of pregnancy with stress facing labor. Mothers who have a positive outlook on pregnancy will experience normal to mild stress as well as mothers who are anxious and stressed can cause them to be afraid pain and danger that arise during childbirth, making it difficult for labor. This shows that stress facing labor cannot be separated from these factors which greatly influence labor. Maternal psychology greatly determines the success of labor. Stressed mothers will generally have difficulty in labor. Negative perceptions, the unhappiness of the mother in the period before labor greatly influences stress levels which can complicate labor.

CONCLUSION

Mothers who have positive perceptions of pregnancy experienced in the face of childbirth have stress in most mild levels, but in primigravida mothers

who are under stress due to first experience, test *chi square* shows $p = 0.00$ with $\alpha < 0.05$ there is a relationship between the perception of pregnancy with stress facing labor, this means that the higher the intensity of the perception of a positive pregnancy, the lower the level of stress facing labor in primigravida mothers and vice versa.

SUGGESTION

1. For research land
 - a. Maintain programs that have been made by the government for pregnant women in the implementation of periodic pregnancy inspection programs.
 - b. Adding information by conducting counseling about the signs of labor and the emergency in labor is equipped with supporting media such as: videos, mannequins, brochures or posters.
2. For respondents
 - a. Increase knowledge about calm signs of labor and the severity of labor carried out by health workers, as well as through the development of media and electronics.
 - b. Carry out advice given by health workers in controlling stress.
3. The next researcher can be used as a reference for the next researcher by adding the number of variables with the method of the three treatment groups and with one treatment group as the controller. Suggestion title Effect of audio therapy with stress facing labor in pregnant women.

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CASE STUDY

EFFECTS OF USE OF RED GINGER COMPRESS ON PAIN IN ELDERLY THAT SUFFER URIC ACID: CASE STUDY

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ABSTRACT

Arthritis gout is a disease that happen because of deposition crystals of sodium urate in joint that caused inflammation. This Inflammation cause pain that can make disturbing our activity. A warm red ginger compress is a one of method that can be done for reducing the pain that cause by arthritis gout. Because of red ginger contain of active components, the components consist of gingerol, ginger Dione and zingerones that has anti-inflammatory effect. The purpose of this research is to know painful of elderly who are sufferer of arthritis gout after got a warm red ginger compress. This research used case study method. To collect the data, the researcher used interview and observation. The research subject is 2 elderly who sufferer of arthritis gout. The result of the research is found that both of subject included in scale of mild pain and moderate pain. After got a warm red ginger compress, pain that felt by both subject turn into a good change. Both of them experienced a decrease in pain until pain scale 0 (no pain).

Key words: Painful, elderly, *arthritis gout*, a warm red ginger compress.

INTRODUCTION

Gout arthritis, is a metabolic disease characterized by the deposition of urate compounds in the joints resulting in joint inflammation (Kowalak, Welsh, & Mayer, 2011). In adults, gout tends to increase with increasing age, weight, body, blood pressure, and alcohol consumption (Herliana, 2013)

The number of joint disease sufferers was based on the highest diagnosis of health in Bali (19.3%), followed by Aceh (18.3%), West Java (17.5%) and Papua (15.4%). The prevalence of joint disease based on diagnosis of health or symptoms is highest in East Nusa Tenggara (33.1%), followed by West Java (32.1%), and Bali (30%) (Indonesian Agency for Health

Research and Development Ministry of Health, 2013)

With the main symptoms of swelling, redness, heat, and joint pain (Green, 2012). Some people feel mild pain which immediately disappears. There are also those who feel pain until they cannot move for several days. Some even can't walk. Pain intensity that is felt depends on the number of crystals MSU (Mono Sodium Uric) which settles in the joints, infection by pathogens in the open part of tofu, or due to severe inflammation due to increased serum uric acid (Lingga, 2012).

Pain itself can have a major impact on the quality of life of patients. The effects of pain can cause a decrease in activity, social

isolation, sleep disorders, and depression (Stanley & Beare, 2007).

Based on data taken in August-September 2017, it was found that around 91 elderly who suffer from gout in the Community Health Center of Pohjentrek area. After conducting interviews with 4 people with gout sufferers, both had the same symptoms, namely joint pain which ultimately disrupted client activity. Most clients go to health services and get Allopurinol drugs. In addition to the drugs given to the respondents, the researchers suggested that the 4 respondents apply complementary therapy. This complementary therapy utilizes easily found natural ingredients, namely red ginger. This red ginger is used as a warm compress to reduce the level of pain felt by respondents.

Treatment for reducing pain can be by pharmacology or non-pharmacology. Non-pharmacological treatment to reduce pain by using red ginger. Judging from the water content, large white ginger has 82% water, 50.2% small white ginger, and 81% red ginger. Meanwhile, if viewed from its essential oil content, large white ginger contains oil about 1.18-1.68%, small white ginger around 3.3% and red ginger around 2.58% -2.72% (Setyaningrum, 2013). Red ginger has a spicier flavor than ordinary ginger and ginger elephants. This is due to the presence of oleoresin in red ginger which reaches 3%. Oleoresin is a component that gives a bitter and spicy taste (Herliana, 2013).

Red ginger has an anti-inflammatory effect so it can be used to treat inflammation and reduce pain due to gout. This anti-inflammatory effect is caused by the active component of red ginger consisting of gingerol, ginger Dione and zingerones which functions to inhibit leukotrienes and prostaglandins which are inflammatory mediators (Herliana, 2013)

Based on the results of research conducted by Purnamasari & Listyarini (2015) it was found that in the sample of 31 control group respondents found 29 experienced decreased rankings after positive red ginger compresses and 2 ties with only drug intervention without therapy. compress. The researcher did a 20-minute compress / respondent therapy and so on for 14 days a day. Then the respondents were interviewed for the scale of pain after the compress application. So, giving red ginger compresses for 14 days has an effect on decreasing the scale of pain in the elderly with gout.

By doing compresses, warm red ginger in the elderly can relieve joint pain caused by high uric acid in the blood. In addition, by doing this warm ginger compress can reduce the use of drugs that can cause side effects in the elderly. And the ingredients to apply this therapy are very easy to obtain.

According to the description above, the authors or researchers are interested in knowing the pain of elderly people with gout after getting a warm red ginger compress in the Community Health Center of Pohjentrek area of Pasuruan Regency.

OVERVIEW OF CASE STUDY SUBJECTS

This case study has 2 research subjects, namely subject 1 (Mrs. S) and subject 2 (Mrs. M). Both subjects were given an explanation of the SOP of warm red ginger compresses and pain assessment using a scale. The case study subjects were willing to sign the consent sheet. With the researcher contracting for 2 weeks. Interventions are carried out every day for 2 weeks with the help of the subject family. Furthermore, the researchers conducted observations by measuring the level of pain with the scale of pain. The measurement of pain level was carried out before and after

the intervention with the help of the subject family.

General description of subject 1 (Mrs. S)

Subject 1 is Mrs. S with aged 61-year-old Javanese and she is a Muslim. The last education taken by Mrs. S is a high school. Mrs. S live with his children and grandchildren. Mrs. S is a widow. The work that Mrs. S is doing now is a catering businessman. Mrs. S has been suffering from gout. Mrs. S had done a lab examination about 2 months ago at the Community Health Centers. Symptoms often felt by Mrs. S is throbbing. Sometimes it feels like being pulled. The area of pain felt by Mrs. S is around the ring finger of the left hand and the sole of the foot. The most painful time when you wake up. Left and left hand 1 week ago has been reddish. Pain felt by Mrs. S very disturbing daily activities, especially when Mrs. S wants to wash clothes. Mrs. S's left hand cannot be bent. So that complicates Mrs. S for washing clothes. Pain scale felt by Mrs. S is 3 (mild pain). Mrs. S don't know about warm red ginger compresses. Mrs. S only sequences the painful area with wasp oil to reduce pain. Indeed, after sorting in the area of pain there is a decrease but not for long. After that the pain returns again. And for a long time, the effect of the wasp oil provided was not available.

General description of subject 2 (Mrs. M)

Subject 2 is Mrs. M with aged 62 years, various Islamic Javanese with the last education of high school (high school). Mrs. M lives with her husband. Work done by Mrs. M is accepting food orders. Mrs. M knows that he has gout. Symptoms often felt by Mrs. M is throbbing. The area of pain felt by Mrs. M is on the right knee. Mrs. M usually feels pain when you wake up or when you will stand up from a sitting position. Pain that is felt to disturb the

activity of Mrs. M such as when walking, standing for a long time and when from a sitting position to standing. Pain scale felt by Mrs. M is 4 (moderate pain). Mrs. M don't know about warm red ginger compresses. Mrs. M only rubs the affected area with wasp oil and takes medication. And it shows a decline but doesn't last long. After that the pain comes back.

OVERVIEW OF CASE STUDY FOCUS

Table 1. Overview of Case Study Focus

No.	Description of	Subject 1	Subject 2
1.	Name	Mrs. S	Mrs. M
2.	Gender	Feamle	Female
3.	Old	61	62
4.	Education	SMA	SMA
5.	Adress	Jalan Raya Pleret RT 02 RW 03 Pleret Village Pasuruan Regency	Jalan Raya Pleret Gang 04 Rt 01 Rw 02
6.	Have ever done a lab examination	Ever, at a Puskesmas but not routinely (the results of uric acid examination: 7.4 mg / dl)	Ever, at the Puskesmas. Routine follow-up (uric acid examination results: 7.3 mg / dl)
7.	Symptoms disturb activities	Yes, disturbing especially when washing	Yes, when walking is difficult

Presentation of the case study focus

In a study conducted on January 1-14 2018, the scale of pain was obtained before the compresses of warm red ginger for Mrs. S were 3 (mild pain) and Mrs. M is 4 (moderate pain). With both of them complaining about the throats. To Mrs. S pain that is felt is located in the left hand (ring finger) and Mrs. M feels pain in the right knee.

After both compresses for 14 days, both of them experienced a decrease in pain. To Mrs. S, which was initially compressed with a scale of 3 (mild pain) after entering the 9th day of observation had decreased to a scale of 0 (no pain).

Whereas Mrs. M before the compress is obtained the scale of pain 4 (mild pain) but after compressing the scale is 0 (no pain) after entering the 12th day of observation.

The following are the results of data retrieval based on the results of the observation interviews conducted on 2 respondents. In accordance with the interview that was made by the researcher:

1. Are you having trouble compressing warm red ginger?

"It's easy, bro, it's not really difficult. Just compress it. You can also get the ingredients from Mbak," said Mrs. M.

"Easy, mbak, it's not difficult. As long as I compress this. There are no difficulties," said Mrs. S.

From the interview results it can be concluded that the two respondents did not have difficulty in applying warm red ginger compresses. So that both respondents can do the therapy without any obstacles. And both respondents smoothly applied the therapy for 14 days.

2. After compressing warm red ginger, what do you feel?

"Now mbak, thank God there is a change. It tastes better, usually the bones are made sore. But now it's better. So, it doesn't hurt," said Mrs. S

"Yes mbak, now it feels more comfortable than before. Usually that makes the road sick, but now it's better."

Said Mrs. M

From the results of the interview it can be concluded that the two respondents experienced changes in pain. Previously both respondents

complained of pain which resulted in disruption of activity. After both of them were treated with warm red ginger compresses for 1-14 days, the pain changes were quite good. So that both can carry out activities without interference.

3. How does the warm red ginger compress affect the mother feel the pain that was felt before?

"If it doesn't even hurt now, Miss. Now it can be moved. Just wash it now, it can and doesn't hurt." said Mrs. S

"Already like Ms. It doesn't hurt like before. Make the road good." said Mrs. M

From the results of the interview it can be concluded that the two respondents felt the effects of warm red ginger compresses. Both respondents experienced a decrease in pain initially until the respondent no longer felt pain. The impact obtained by this therapy can reduce the pain of both respondents.

4. Does the mother still often feel pain after a warm red ginger compress is done?

"It's not like before mbak, it still feels. Now it's better. It's rare to feel sick like before," said Mrs. S

"Now it's not like before. In fact, it doesn't seem to hurt anymore now. It's good if it's made the way," said Mrs. M

From the results of the interview above it can be concluded that the two respondents no longer felt pain. Initially both respondents often felt pain. Previously both of them only gave rubbing medicine in the area of pain but the pain returned again. Whereas now after being given a warm red ginger compress the two respondents rarely felt pain.

5. What is the level of pain that you feel when you feel a warm red ginger compress?

"Now, Miss. Yes, I don't feel pain anymore," said Mrs. S

From the results of the interview above it can be concluded that the two respondents after a warm red ginger compress for 14 days reached a scale of pain 0 (no pain). Previously Mrs. S feels pain scale 3 (mild pain) while Ny. M has 4 scale pain (moderate pain). But after being given therapy for 14 days, both of them slowly experienced a decrease in the scale of pain.

DISCUSSION

Based on the results of the study, it was found that the two respondents had no difficulty in applying red ginger compress therapy. From the results above, it can be seen that the two respondents did this therapy routinely for 14 days and felt without any problems.

Within 14 days of applying this therapy, both respondents applied this therapy well. They both did with discipline and did not break up in applying it which eventually both experienced a decrease in pain in his fingers and knee joint. Both research subjects had high perseverance in doing therapy.

According to the researcher this is possible because the level of education of the two respondents is at the level of high school, where the higher the level of education of a person will influence his behavior, especially in his understanding and responsibility, then also because of the age of those who are old and female. where women are certainly more patient and diligent in doing something, which makes it possible to do many things regularly and discipline according to the schedule,

This agrees with the statement, because if in applying complementary

therapy a person is not accompanied by patience or perseverance in carrying out it, it will not get maximum results. In accordance with the opinion of (Paksi, 2010), the greater the perseverance, the greater the step towards success.

Materials and applications that are easy to obtain can make it easier to implement them so that people have an interest in continuing to apply them. Treatment using complementary therapies has benefits besides being able to improve health more thoroughly and also cheaper. Complementary therapies will especially be felt cheaper if clients with chronic diseases must routinely spend funds (Widiastuti, 2008).

The pain felt by the two respondents was quite disturbing in both doing daily activities. So that both are difficult to carry out daily activities. The two are still active at work. But after a warm red ginger compress is made both of them can go back to doing daily activities. Although the elderly experience a physical decline and have health problems, the elderly must still be able to play an active role in meeting the needs of daily activities. With the condition of the elderly who do not want to depend on their children. Elderly must be required to be able to fulfill their own needs. In accordance with Health Law No. 23 of 1992, article 19 paragraph 1 in (Nugroho, 2008) elderly people are someone who is due to his age experiencing biological, physical, psychological, and social changes.

This change will affect all aspects of life, including their health. Therefore, human health continues to need special attention by continuing to be maintained and improved so that as long as possible can live productively in accordance with their abilities so that they can participate actively in development.

Both respondents said that after a warm red ginger compress in the area where the pain was felt, the two felt more comfortable. The heat created by this red ginger can create a sense of comfort. Unlike liniment, red ginger has a longer heat effect which can reduce pain. This heat can relax the painful area. So that blood vessels undergo vasodilation which eventually increases blood flow. Increased blood flow can get rid of inflammatory products such as bradykinin, histamine, and prostaglandins that cause local pain (Samsudin, Kundra, & Onibala, 2016).

CONCLUSION

Based on the results of the study it can be concluded:

After a warm red ginger compress was made there was a change in the level of pain of both subjects (respondents). In the first subject, which was initially at the level of pain 3 (mild pain) after the red ginger compress was done, the level of pain was 0 (not painful). The left hand (ring finger) of the first subject can be used for activities without any pain. It's just that there is still a bit of stiffness. In subject 2 which was originally at the level of pain 4 (moderate pain), the level of pain 0 (no pain) was obtained. The right knee of the second subject can be used for activities.

SUGGESTION

1. For research subjects
Applying this therapy patiently and thoroughly to get satisfying results.
2. For nurses
Can be applied to warm red ginger compresses as a treatment besides using medical treatment.
3. For health care institutions
Can begin to be applied to the therapy of red ginger compresses as an alternative choice besides using medical treatment.

4. For educational institutions
Making new alternatives or making new breakthroughs in the use of warm red ginger compress therapy.

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ORIGINAL RESEARCH

RELATIONSHIP BETWEEN EDUCATIONAL LEVEL AND EARLY BREASTFEEDING SIDE MEAL IN GEMURUNG VILLAGE SIDOARJO REGENCY

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ABSTRACT

Background: Breastfeeding is the best meal for baby, in fact there's so many mothers give another meal for their baby before they are ready enough to received another meal. Educational level influence ability of taking information about nutrition. Society with low educational level is stronger in defencing tradition associated with meals, thus really difficult to take new information about nutrition so they give early breastfeeding side meal to the babies under 6 months.

Objectives: This research aimed to determine relationship between educational level and early breastfeeding side meal in Gemurung Village Sidoarjo Regency.

Methods: This research uses design correlation analysis with cross sectional approach. The population in this study are all of mothers who have under 6 months baby in Gemurung Village Sidoarjo Regency in Nopember 2017 as many as 40 people. The sampling technique used is total sampling.

Results: The results suggests that most of respondents have moderate educational level, ie 57.5% respondents, and almost all of mothers give early breastfeeding side meal, i.e. 77.5%. All of mother with lower educational level give early breastfeeding side meal to their baby, it means that getting lower educational of mother raise the giving of early breastfeeding side meal to the babies.

Conclusion: Early breastfeeding side meal giving influenced by uncomfort babies factor, mother knowledge about nutrition, education, work, and exploitation of baby meal product promotion.

Key words: Early breastfeeding side meal, educational level, mother.

INTRODUCTION

Mother's milk is the best food for growth and development for babies. But it turns out there are still many mothers who provide other foods other than breast milk before the baby's age is sufficient to receive other foods other than breastmilk (Etika & Partiwi, 2015). The introduction and administration of early breastfeeding side meal must be done in stages both in form and in number, according to the digestive abilities of the baby/child. The provision of complementary foods for early

breastfeeding side meal needs to be considered when giving (Suradi, 2010).

Provision of complementary foods early breastfeeding is supplementary feeding before the baby is less than 6 months old (Krisnatuti & Yenrina, 2009). The level of education affects the ability to receive nutritional information. Communities with low levels of education will be stronger in maintaining traditions related to food, making it difficult to receive new information about nutrition (Suhardjo, 2005).

Mortality in infants is related to inappropriate feeding practices (Ministry of Health, 2014). The Indonesian health democracy survey data in 2007 showed that 30% of infants under the age of 6 months were fed with 18% breast milk and formula milk, 9% breast milk and water, and 20% breast milk and juice (Ministry of Health, 2009).

The results of the study conducted by Supriyati (2007) showed that the level of energy consumption in most of the majority (47.06%) was a moderate deficit, while the level of consumption of protein was mostly (41.17%) normal. The pattern of early breastfeeding side meal in baby below the red line is mostly (52.94%) still lacking because the mother gives early breastfeeding side meal when the child is less than 6 months old and the type of early breastfeeding side meal given by the child does not match the age of the child (Nurlinda, 2013). A preliminary study was conducted in November 2017 with interview techniques in Gemurung Village, Sidoarjo Regency on 10 mothers who had babies aged 0-6 months with 4 people (40%) who had a high school education level, 3 people (30%) had a junior high school education, and 3 people (30%) have final primary education. Of the 10 people there were only 4 people (40%) giving exclusive breastfeeding, and 6 people (60%) giving breastmilk and providing breastmilk complementary foods such as porridge, banana, bread, biscuits, with the reason that the baby would not be full and satisfied if only breastfeed and most assume that feeding too early will not endanger the baby because previous experience has no problem.

The level of education is very influential on changes in attitudes and behaviors of healthy living. Higher levels of education will make it easier for a person, family, or community to absorb

information and implement it in daily behavior (Ministry of Health, 2009). The low understanding of the correct early breastfeeding side meal in infants is due to a lack of information about the knowledge and understanding that mothers have about the importance of breast milk. The myths about breastfeeding for babies such as mothers who breastfeed can reduce their physical condition. Likewise, with the concern of mothers who consider that the production of breast milk is not sufficient for baby food needs. This assumption is often an obstacle for mothers, who finally look for other alternatives by giving complementary food when the baby is hungry. Such a situation will be fairly basic problem because the baby loses the opportunities and benefits contained in breastmilk (Prasetyono, 2009).

The impact caused by feeding the baby before 6 months is that the baby can choke because the baby who is not yet 6 months old develops and coordinates his nerve muscles is not perfect. Besides obesity can occur because the baby's stomach has not been able to digest food properly. Furthermore, the baby can experience coughing because breast milk is a base formation, whereas if the baby starts to get early breastfeeding side meal (other than fruit), it is acid-forming so that it will spur mucus in the form of mucus and phlegm. Babies can experience allergies because early breastfeeding side meal can trigger high acidity so that it can interfere with the body's immunity. Disrupting the digestive system, this occurs because before the age of 6 months the enzymes needed in the digestive system are still in the developmental stage and not so perfect (Darmayanti, 2014).

The effort that can be done to solve the problem of providing complementary breastfeeding early is by conducting training and counseling about early

breastfeeding side meal (Ministry of Health, 2014). To support efforts to overcome the problem of early breastfeeding side meal, health workers can provide counseling in collaboration with families, Integrated Service Post cadres, health center officers and also community leaders and religious leaders who are considered influential in the surrounding community to help deliver information about exclusive breastfeeding, early breastfeeding side meal and when giving early breastfeeding side meal, health workers can also do refresher to increase the participation of Integrated Service Post cadres in the provision of exclusive breastfeeding for postpartum mothers so that early breastfeeding side meal can be overcome. Health workers can teach housewives about how to breastfeed properly so that mothers can see firsthand and change the experience of mothers about early breastfeeding side meal because there are no models or examples that can become exclusive breastfeeding role models in the surrounding environment (Ratih & Artini, 2012).

METHODS

Study Design

This study uses a correlation analysis design with a cross sectional approach.

Setting

This study was conducted at the village of Gemurung, Sidoarjo Regency in November 2017.

Research Subject

The population in this study were all mothers who had babies aged less than 6 months in the village of Gemurung, Sidoarjo Regency with totaling 40 respondents. The sampling technique uses total sampling.

Instruments

The instrument used was a questionnaire.

Data Analysis

Data analysis using crosstab..

Ethical Consideration

This research has gone through an ethical test from the Health Polytechnic of the Ministry of Health, Malang and obtained permission from National Unity and Politics of Sidoarjo Regency.

RESULTS

Based on the results of the collection of data from 40 respondents obtained the general data of respondents that included Educational Level and Providing Complementary Food for Early Breast Milk.

Characteristics of Respondents by Educational Level

Table 1. Distribution of Frequency of Respondents by Educational Level of Mothers who had Babies aged less than 6 Months in the Village of Gemurung, Sidoarjo Regency in November 2017 (n = 40).

No	Education	f	%
1.	Basic	11	27,5
2.	Middle	23	57,5
3.	High	6	15,0
Total		40	100

Table 1 shows that the majority of respondents had middle educational level, as many as 23 respondents (57,5%).

Characteristics of Respondents by Early Breastfeeding Side Meal

Table 2. Distribution of Frequency of Respondents by Early Breastfeeding Side Meal in the Village of Gemurung, Sidoarjo Regency in November 2017 (n = 40).

No	Early Breastfeeding Side Meal	f		%	
		f	%	f	%
1.	Give	31	77,5		
2.	Not give	9	22,5		
Total		40	100		

Table 2 shows that almost all respondents gave early breastfeeding side meal to their babies, namely 31 people (77,5%).

Examination of Relationship between the Educational Level of Mother who had Babies aged less than 6 Months and Early Breastfeeding Side Meal

Table 3. Crosstab of the Educational Level of Mother who had Babies aged less than 6 Months and Early Breastfeeding Side Meal

No	Educational level	Early Breastfeeding Side Meal				Total	
		Give		Not give		f	%
		f	%	f	%		
1.	Basic	11	100	0	0	11	100
2.	Middle	17	73,9	6	26,1	23	100
3.	High	3	50	3	50	6	100
Total		31	77,5	9	22,5	40	100

Table 3 shows that 11 respondents (100%) have a basic educational level which all provide early breastfeeding side meal. Total of 23 respondents had middle educational level, namely 17 respondents (73.9%) providing early breastfeeding side meal and 6 respondents (26.1%) did not

provide early breastfeeding side meal. Total of 6 respondents had higher educational levels, namely 3 respondents (50%) providing early breastfeeding side meal and 3 respondents (50%) did not provide early breastfeeding side meal.

DISCUSSION

Educational Level of Mothers who had Babies aged less than 6 Months in the Village of Gemurung, Sidoarjo Regency

The results of the study in table 1 shows that the majority of respondents had middle educational level, as many as 23 respondents (57,5%).

Secondary education is a continuation of basic education. Secondary education consists of general education and vocational secondary education. Secondary education in the form of Senior High School, Aliyah Madrasah, Vocational High School, or other equivalent forms (Purwanto, 2008). The level of one's education is influenced by age, individual motivation, social conditions, family economic conditions, motivation of parents to send their children to school, culture, and accessibility (Djali, 2008; Gerungan, 2009). Respondents who have secondary education are due to the age of the respondents who are still young, where education is currently required at least 9 years so that the community is required to take a minimum education until junior high school. Respondents who have the motivation to go to school will continue their studies at least until high school. Respondents have low-educated parents so their parents want their children to have higher education, supported by family economic conditions that are sufficient to finance up to high school graduation. Respondents with secondary education will find it easier to absorb information about health, and apply it to daily life, including

in terms of providing breast milk supplementary food.

The results showed that the majority of respondents were 26-35 years old, which were 21 people (52.5%). Various types of education or school are limited by age so that age affects someone in accessing education (Djali, 2008). The age of the mother is still classified as a young age where education in Indonesia has experienced progress and government regulations regarding compulsory education so that the respondent's education is classified as moderate because not all respondents can take higher education because the costs for higher education are not small go to high school. The results showed that the majority of the family income of the respondents was less than minimum wage, which was 28 people (70%). Economics in the world of education plays a decisive role. Because without an adequate economy the world of education will not work well. This shows that even though the economy is not the main role holder in education, economic conditions can limit educational activities (Pidarta, 2007). Based on the results of the study it appears that the economic conditions of the respondents are still relatively low because they are below the district minimum wage so that the fulfillment of daily necessities is preferred over continuing school to a higher level.

Provision of Early Breastfeeding Side Meal in the Village of Gemurung, Sidoarjo Regency

The results of the study in table 2 show that almost all respondents provided early breastfeeding complementary foods to their babies, namely 31 people (77.5%). 15 of the 31 respondents who provided early breast milk supplementary food (48.4%) began at 3 months of age, 18 people (56.1%) provided breast milk supplementary foods

early on, because of fussy babies, and 17 people (54 , 8%) give bananas to their babies before the age of 6 months.

Provision of early breast milk supplementary food is the provision of breast milk supplementary food before a 6-month-old baby (Indiarti, 2013). Provision of early breast milk supplementary food is influenced by fussy baby factors, maternal knowledge about nutrition, education, employment, and the incessant promotion of baby food products (Krisnatuti & Yenrina, 2009; Khomsan, 2009).

Respondents provide complementary breastfeeding food before the age of 6 months, mostly on the grounds that babies are fussy so they need food to keep the baby silent. Most mothers who assume that their children are hungry will not fall asleep, besides the assumption of parents in an ancient society where children are fed a banana when they are 2 months old so that children are not fussy and more calm. Respondents who did not provide breast milk supplementary food early on their babies because they already understood that babies should only be given ASI until the age of 6 months. Mothers are more worried about their child's health than trying to calm their fussy baby, if the mother gives other food to the baby, because the mother already knows what effects it will have if the baby is fed. Digestion of infants who are still vulnerable makes mothers afraid to feed their babies.

Relationship between the Educational Level of Mother who had Babies aged less than 6 Months and Early Breastfeeding Side Meal

Table 3 shows that all respondents (100%) have basic education levels providing complementary food Early mother's milk to their babies, meaning that the lower the level of education of the

mother, then providing complementary food for early breast milk to the baby.

A person's educational background is related to the level of knowledge. If the mother has a good level of knowledge about nutrition, it is expected that the nutritional status of the child is also good. Mother's knowledge is related to the level of introduction of information about supplementary feeding to infants aged less than 6 months. Mother's knowledge about when to provide additional food, the function of supplementary food, additional food can increase endurance and the risk of feeding infants less than six months is very important. But many mothers do not know the above so that they provide additional food to babies under the age of 6 months without knowing the risks that will arise. The level of education affects the ability to receive nutritional information. Communities with low levels of education will be stronger in maintaining traditions related to food, making it difficult to receive new information about nutrition (Suhardjo, 2005).

Mothers with higher education still provide complementary food for early breast milk, where the mother's ability to absorb information about the importance of breast milk only for infants aged 0-6 months and the impact of providing complementary breast milk early should be better than educated mothers basic. This is due to cultural factors where respect and obedience to parents are still held in high esteem, so that even though the mother already knows that it is not good to provide food to the baby, if parents ask, recommend, even provide early breast milk supplementary food to their babies then the mother cannot refuse. In addition, the abundant evidence in the environment shows that feeding infants before the age of 6 months is very effective in calming babies compared to evidence of their loss in the

surrounding community, so mothers are not reluctant to provide complementary breast milk to infants before 6 months of age.

Mothers with basic education provide complementary food for early breast milk because mothers do not understand that babies less than 6 months old should only be given breast milk because the baby's digestive system is not perfect and breast milk is enough for the baby. Mothers still obey the culture that has been handed down from their parents where babies are not full enough if only breast milk is given so that other foods are needed which are more satisfying so the baby is calm and not fussy.

CONCLUSION

The educational level of mothers who had babies aged less than 6 months in the Gemurung Village, Sidoarjo Regency is mostly medium, which is 57.5% of respondents. Providing early breastfeeding side meal in Gemurung Village, Sidoarjo Regency almost entirely provides early breastfeeding side meal, which is 77.5% of respondents. There is a relationship between the level of education of the mother and the provision of early breastfeeding side meal in Gemurung Village, Sidoarjo Regency, the lower the level of education of the mother, the more increasing the provision of early breastfeeding side meal.

SUGGESTION

1. For respondents

Providing complementary food for mother's milk when the baby is more than or equal to 6 months in which the digestive system is perfect, still respecting the culture of the parents by straightening the wrong culture, giving breast milk only to infants up to 6 months of age.

2. For health profession
 Conduct counseling or nutrition counseling for families (not only mothers) about providing complementary food for breast milk for babies through Integrated Service Post activities so as to increase the family's insight even if they do not have a high education. Collaborating with Integrated Service Post cadres on assisting families with nursing mothers.
3. For the next researcher
 Developing research on other factors that influence the provision of complementary food for early breast milk, as well as its impact on infants.

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ORIGINAL RESEARCH

BRAIN GYM IMPROVES COGNITIVE FUNCTION FOR ELDERLY WITH DEMENSIA

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ABSTRACT

Background: Dementia is a combine of clinical symptoms caused by various background diseases and is characterized by loss of short-term memory, global disorders, mental functions (including language functions), withdrawal of abstract thinking skills, difficulty in caring for himself, behavioral changes, emotional instability and loss of time recognition and place. Brain gym is one of the exercises to improve cognitive performance on elderly with dementia.

Objectives: This study was to determine the effect of brain gym on cognitive performance on elderly with dementia in Social Service Unit Tresna Werdha Jember.

Methods: A Quasy Experimental design was done to conduct 30 elderly with dementia were recruited using purposive sampling divided into 2 groups, experimental and control group. The independent variable of research this study was brain gym and the dependent variable was cognitive function at elderly. Data were collected by using MMSE score and then analyzed using Wilcoxon Signed Rank Test with level of significance $\alpha \leq 0.05$.

Results: The results identified a significant influence between the implementation of Brain Gym to improve cognitive function in the elderly with dementia.

Conclusion: Brain gym increase cognitive performance on elderly with dementia.

Key words: Elderly, brain gym, cognitive function, dementia.

INTRODUCTION

The neurological system, especially the brain, is a major factor in adaptive aging. This aging process occurs in a degenerative manner which affects changes in the elderly, one of which is a change in cognitive function. Changes in cognitive function can affect daily activities and even daily dysfunction in elderly people who have dementia (Nugroho, 2008).

There are 47 million people suffering from Alzheimer's dementia in the world, and as many as 22 million of them are in Asia. Based on population projection data of the Indonesian Ministry of Health's data and information center (2017), it is

estimated that in 2017 there will be 23.66 million elderly people in Indonesia (9.03%). It is predicted that the number of elderly people in 2020 (27.08 million), 2025 (33.69 million), 2030 (40.95 million) and 2035 (48.19 million).

The cognitive function of the elderly is influenced by age, regeneration ability in the brain, vascularity inadequacy to the brain and hormones. In addition, risk factors that can affect the decline in cognitive function are the offspring of the family, education level, brain injury, poisons, not doing physical activity, and chronic diseases such as Parkinson's, heart disease, stroke and diabetes (Sauliyusta &

Rekawati, 2016). Dementia is progressive, where the structure and chemistry of the brain becomes more damaged over time. The ability of the elderly to remember, understand, communicate and reason gradually decreases. This condition results in the disfunction of everyday life.

Brain gym is one method of improving cognitive function in the elderly. According to Munir (2015), this exercise can stimulate good physical and brain activity. Dennison (2008), states that the brain gymnastic movement activates the neural relationship between the body and the brain, so that the flow of electromagnetic energy throughout the body becomes good. This is consistent with the study of Yusuf, Ah, et al. (2010) which states that there is an influence of brain gymnastics on improving cognitive function in the elderly. The difference with previous research is that this study was conducted on elderly people who experience dementia. Brain gym interventions are expected to improve cognitive function in elderly people who experience dementia.

METHODS

Study Design

The design used in this study is a quasy-experiment pre-posttest control group design.

Setting

This research was conducted at UPT PSTW Jember from October to November 2018.

Research Subject

The samples used in this study were 30 elderly with purposive sampling with the criteria of elderly aged 60–80 years and physically and mentally healthy. The independent variable in this study is brain gymnastic method (Brain Gym), while the

dependent variable is the cognitive function of the elderly.

Instruments

Data collection and collection during the research was obtained through a direct observation process to respondents. The instrument for assessing cognitive function in this study was using the Mini Mental State Examination (MMSE) instrument. Ah. Yusuf, Indarwati and Jayanto (2016) explained that there were five domains of cognitive functions assessed in the MMSE instrument, namely orientation, registration, attention and counting, recall, and language skills described in 11 question items. The interpretation of the results in the MMSE instrument is that if the MMSE value is in the range of 27-30 then it is included in the category of good cognitive function, if the MMSE value is in the score range of 22-26 it is included in the category of sufficient cognitive function, and if the MMSE value is less than or equal score 21 then included in the category of cognitive function is less. The instrument used as a reference in the implementation of brain gymnastics (Brain Gym) is to use the Standard Operating Procedure (SOP) of brain gymnastics. Giving brain gymnastics in the intervention group was 4 times a week for 1 month with the duration of each meeting 15-20 minutes. The implementation of group brain exercises was aimed at 15 respondents in the intervention group. The researcher led the way of brain gymnastics which was accompanied by a homestead companion at UPT PSTW Jember. Post-tests were conducted after 1 month to determine differences in cognitive function in the intervention group.

Data Analysis

The data analysis process in this study used SPSS through the Wilcoxon signed

rank test statistical test to determine the differences in the scores of the pre-test and post-test level of cognitive function of the intervention group and the control group with a significance level of $\alpha \leq 0.05$.

Ethical Consideration

This research has gone through an ethical test from the Jember University and obtained permission from UPT PSTW Jember.

RESULTS

Characteristic of Respondents

Table 1. Characteristics of Elderly Respondents Aged 60–80 Years at UPT PSTW Jember in October-November 2018 (n = 30)

Characteristics of Respondents		n	%
Gender	Male	8	26,67
	Female	22	73,33
Educational history	Did not finish elementary school	22	73,33
	Finish elementary school	7	23,33
	Finish Junior High School	1	0,33
Work employment status	Work	21	70,00
	Not working	9	30,00

Based on table 1 above, it can be seen that the majority of respondents are female, the education status does not complete elementary school (SD) and the majority have a history of work.

Level of Cognitive Function of the Elderly

Table 2. Level of Cognitive Function of the Elderly Aged 60-80 Years at UPT PSTW Jember in October-November 2018 (n = 30)

	Control		Intervention	
	pre	post	pre	post
Mean	7.00	7.00	5.50	8.62
	p=0.802		p= 0.013	

Distribution of cognitive function levels in the elderly intervention group before being given brain gymnastics (pre-test) as many as 13 elderly (86.67%) had less cognitive function levels, 13.33% elderly with sufficient cognitive function and 0% elderly with good cognitive function. The results of the pre-test level of cognitive function in the control group also found that most of the elderly had a level of cognitive function that is less than 9 elderly (60%), 40% of the elderly with sufficient cognitive function and 0% of the elderly with good cognitive function.

The results showed an increase in cognitive function of the elderly in the intervention group after being given treatment in the form of brain exercise for 1 month. The number of elderlies with sufficient cognitive function increased to 33.33%, 0.67% of the elderly experienced an increase in cognitive function to be good and there was a decrease in the number of elderlies with less cognitive function i.e. 86.67% decreased to 53.33%. The post test results in the control group showed an increase in the number of elderlies with less cognitive function i.e. 60% to 66.67%, 33.33% to the elderly with less cognitive function and 0% to elderly with good cognitive function.

The results of the Wilcoxon signed rank test statistical test data calculation showed that there were differences in cognitive function scores between the intervention groups given brain gymnastics

which were indicated by a significance value of $p = 0.013$. whereas in the control group there was a significance value of $p > 0.005$ which is the value of $p = 0.802$ so that it can be said that there was no significant difference between the scores of cognitive functions before and after the control group.

DISCUSSION

Aging and being elderly for some people can be a burden. Elderly people will begin to lose independence, both physically such as limited mobility, and psychologically such as cognitive damage. Elderly people will experience a decline in cognitive and psychomotor functions. Cognitive functions include the process of learning, orientation, understanding, understanding and attention. This will cause the reaction and behavior of the elderly to be slower (Joseph, 2010).

Elderly people can remain active in various ways according to their level of education and social background. The brain that is rarely used will decrease its function, therefore maintaining the potential of the brain in the aging process is very important. Learning and continuing to do activities is the key to stimulation of the brain, if this stimulation is given continuously it can improve human intelligence until the age of 80-90 years (Denniso, 2006 in Pratiwi, 2016).

Brain gymnastics (brain gym) is one of the stimulations to optimize, stimulate brain function to be more relevant to the elderly, facilitate blood flow and oxygen to the brain. Brain gymnastics (brain gym) is a series of simple movements that are fun and are used to improve learning skills by using the whole brain. Brain gymnastics is useful to raise awareness and reflex of the elderly who have been lost. RAS (reticular activating system) or someone's alertness

center can be alerted again with brain gymnastics (Pratiwi, 2016).

This fun motion exercise in brain gymnastics is the core of educational kinesiology, abbreviated as Edu-Kinesthetic (Edu-K), a method developed by Paul E. Dennison, an educator in America and director of the Word Remedial Valley 4 Word Learning Center. education comes from the Latin word educate which means to pull out, while kinesiology comes from the Greek kinesis which means movement. Education Kinesiology is a way to pull out or display potential in a student of any age that was originally locked, through these simple movements believed to be able to stimulate all parts of the brain so that they can open parts of the brain that were previously blocked (As'adi, 2011)

Scientists have conducted research and concluded that people who experience a decline in cognitive function must make top priority to improve quality of life. Having a higher level of education accompanied by being in a higher social stratum is assumed to reduce cognitive decline (Ahmad, 2006). Based on demographic data on the results of the study indicate that the elderly who have a history of graduating education have an MMSE value that is better than the elderly who have a history of not completing education.

Lesmana (2006) in Yusuf (2010) states that work experience had an impact on the quality of the elderly thinking process. The results of the study of the majority of the elderly have a work history as farm laborers and coolies. They fall into the category of heavy cognitive function, while those who have a work history of traders, farmers, tailors have good cognitive functions. The author assumes that good cognitive function seen from the history of work is associated with the habits of the elderly thinking and counting which is an activity of training the brain.

Brain gym provides a stimulus for repair of the fibers in the corpus collosum which provides many two-way neural connections between the cortical areas of both brain hemispheres, including the hippocampus and amygdale. The brain gymnastic movement reactivates the neural connections between the body and the brain so as to facilitate the flow of electromagnetic energy throughout the body. This movement supports electrical and chemical changes that take place on all mental and physical events (Joseph, 2010).

The role of the hippocampus in consolidation as a cross-reference system, which links certain aspects of memory stored in separate parts of the brain so as to increase nucleic acids in changes in neuronal memory. Synapse affects the processing of information or data received so that people will store information in their memory. Repair of synapse function can affect the performance of the cerebral cortex involved in the process of new information as a pathway to the cortex for permanent memory storage. The cerebral cortex is the outer layer of the brain involved in a high level of cognition that can be followed by an increase in other cognitive functions such as orientation, registration, attention, counting, reciting and language (Yusuf, 2010).

The results showed a difference in cognitive function in the intervention group after brain exercises for 1 month. This proves that brain exercise has a positive influence on improving cognitive function in the elderly.

Brain exercise activities carried out regularly can improve cognitive function in the elderly. Brain gymnastic movements can improve intellectually including cross movements, with the hips, brain gymnastic movements that increase energy including gravity glide, relaxed hooks, earth buttons.

Brain gymnastics can activate three dimensions of the brain. The concentration dimension can increase blood flow to the brain, and increase oxygen reception. The lateral dimension will stimulate the coordination of the two hemispheres of the left brain and right brain (improve breathing, stamina, release tension and reduce fatigue). Focusing dimensions to help release focus barriers from the brain (improve lack of attention and lack of concentration).

CONCLUSION

Routine brain gymnastics (brain gym) can improve cognitive function of the elderly with dementia.

SUGGESTION

With the results of this study, it is expected that health workers can make the results of this study as input in providing services to the elderly to improve the cognitive function of the elderly by providing routine brain gymnastics.

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ORIGINAL RESEARCH

THE EFFECT OF COLD COMPRESS ON PAIN IN MUSCLE INJURY AFTER COLLECTION OF LOADS IN THE JM FITNESS CENTER, KAPAS MADYA VILLAGE, KENJERAN SUBDISTRICT, SURABAYA

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ABSTRACT

Background: Sports have become very popular among people today, someone who exercising can experience muscle injuries that will cause pain. Actions to deal with pain in muscle injury is one of them is *cutaneous stimulation* by providing cold compress therapy. The benefits of giving cold compresses are to reduce inflammation, reduce bleeding into the tissue, and reduce muscle spasms and pain.

Objectives: The aim of the study was to determine the effect of giving cold compresses on pain in muscle injury after weight training.

Methods: The research design used was *quasi-experimental* with a sample of 40 respondents divided into two groups, the control group and the intervention group in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya, which was taken by *total sampling technique*. Scale measurements use the *Numeric rating scale* (NRS).

Results: The Wilcoxon test results obtained $p = 0.000$, which indicates there is an influence of cold compresses on pain in muscle injury after exercising weight.

Conclusion: The implication of the results of this study is that giving cold compresses on a regular basis can have a significant effect on reducing pain in muscle injury after weight training.

Key words: Pain, muscle injury, cold compress.

INTRODUCTION

Every physical activity, especially exercise, is always faced with the possibility of injury and injury will have an impact on the disruption of physical activity, psychological and achievement. According to LeMone & Burke (2014) *Strains* are injuries stretching the muscles or muscles of the tendon caused by excessive movement. Muscles that are forced past their elasticity will become tense. Lifting heavy loads without bending the knee or sudden acceleration, as in a motor vehicle accident, can cause tension. The area's most often affected by muscle injuries are the spine and cervical area.

Manifestations of strains are pain, limited motion, muscle spasms, swelling and possible muscle weakness. Partial or severe heavy strains that tear a muscle or tendon will be painful and disabling. According to Setiawan (2011) the types of injuries that occur in daily activities and exercise are divided into 2, namely: acute trauma and *overuse syndrome* (excessive use). Acute trauma is a severe injury that occurs suddenly, such as a scratch injury, a tear in a ligament or a broken bone. Whereas *overuse syndrome* is a result of protracted injury and often re-arises from the previous injury. Sports injuries must get help and treatment as early as possible, so that

sportsmen do not suffer from disabilities and can immediately practice and compete again.

According to the Ministry of Health of the Republic of Indonesia (2013) the three largest types of injuries suffered by residents were abrasions (70.9%), dislocations (27.5%) and torn wounds (23.2%). In East Java blisters (68.0%), torn wounds (22.7%), dislocations (27.3%). According to the place where the injury occurred. East Java has a percentage (3.5%) in the event of injury at a sports venue. At JM most injuries were experienced in chest muscles as much as 20% from 15 members there, shoulder 45% from 15 people, back 40% from 15 people, triceps 40% from 15 people, biceps 30% from 15 people, leg 10% from 15 people.

The occurrence of pain at the site of injury is that the blood vessels at the site of the injury will widen (vasodilation) with the intention of sending more nutrients and oxygen in order to support healing. This dilation of blood vessels results in the location of the injury appearing redder (rubor). Many blood fluids sent at the site of the injury will seep out of the capillary into the intercellular space and cause swelling (tumor). With the support of lots of nutrients and oxygen, metabolism at the site of injury will increase with residual metabolism in the form of heat. This condition causes the location of the injury to be hotter (heat) compared to other locations. Stacks of metabolic waste and other chemicals will stimulate nerve endings at the site of injury and cause pain (dolor). Pain is also triggered by depressed nerve endings due to swelling that occurs at the site of the injury. Both rubor, tumor, heat and color will reduce the function of organs or joints at the site of the injury known as *functio laesa* (Setiawan, 2011).

The first treatment for acute injuries that is well done is the RICE formula (*Rest,*

Ice, Compression, Elevation) for the first 24 to 48 hours. Therapy (*cold therapy*) is a physiotherapy modality that are widely used in the acute phase of sports injuries. Ice therapy is usually carried out for 15-20 minutes. Ice therapy is usually continued for up to 48-72 hours, as a form of physical improvement (Smith, 2013). So, this study took the topic "the effect of cold compresses on pain in muscle injury after exercising weight in the fitness center JM fitness" so that research can find out and convey information about good handling in *prevention* (prevention) and *curative* (treatment) to add insight to students and researchers who suffered muscle injuries.

METHODS

Study Design

The research design used was *quasi-experimental*. This design seeks to reveal a causal relationship by involving a control group in addition to the experimental group.

Setting

This research was conducted at JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya.

Research Subject

The population in this study were all JM Fitness Center members as many as 40 respondents, and taking samples in this study using the total sampling method.

Instruments

The sample was divided into 2 groups, namely the intervention group of 20 respondents and the control group of 20 respondents. In the intervention group an ice compress was given at the site of injury for 15-20 minutes within 72 hours while the control group was not treated. Pain measurement instruments use the sheet *Numeric Rating Scale* (NSR).

Data Analysis

The data analysis process in this study used SPSS through the Wilcoxon signed rank test with a significance level of $\alpha < 0.05$.

Ethical Consideration

This research has gone through an ethical test from the Adi Husada Nursing Academy and obtained permission from the Owner of JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya.

RESULTS

Characteristics of Respondents by Age

Table 1. Distribution of Frequency of Respondents by Age in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya (n = 40).

No	Age	TREATMENT		CONTROL	
		N	%	N	%
1	Teenagers 12-25	8	40	7	35
2	Adults 26-45	8	40	10	50
3	Early Elderly ≥ 46	4	20	3	15
Total		20	100	20	100

Based on table 1 shows that the highest number of respondents at the age of Adult 26-45 years as many as 18 respondents.

Characteristics of Respondents by Gender

Table 2. Distribution of Frequency of Respondents by Gender in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya (n = 40).

No	Age	TREATMENT		CONTROL	
		N	%	N	%
1	Male	18	90	18	90
2	Female	2	10	2	10
Total		20	100	20	100

Based on table 2 shows that the majority of respondent's sexes are male as much as 36 respondents.

Characteristics of Respondents by Pain Intensity in Muscle Injury before being given Cold Compresses

Table 3. Distribution of Frequency of Respondents by Pain Intensity in Muscle Injury before being given Cold Compresses in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya (n = 40).

No	Quality Pain	Intervention		Control	
		Pre		Pre	
		N	%	N	%
1	No pain	-	-	-	-
2	Mild pain	14	70	13	65
3	Moderate pain	6	30	7	35
4	Severe pain	-	-	-	-
5	Unbearable pain	-	-	-	-
Amount		20	100	20	100

Based on table 3, it found that the pain scale is mostly found in mild pain in the intervention group as many as 14 respondents (70%) and in the control group 13 respondents (65%).

Characteristics of Respondents by Pain Intensity in Muscle Injury after being given Cold Compresses

Table 4. Distribution of Frequency of Respondents by Pain Intensity in Muscle Injury after being given Cold Compresses in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya (n = 40).

No	Pain Quality	Intervention		Control	
		Post		Post	
		N	%	N	%
1	No Pain	8	40	-	-
2	Mild pain	12	60	17	85
3	Moderate pain	-	-	3	15
4	Severe pain	-	-	-	-
5	Unbearable pain	-	-	-	-
Total		20	100	20	100

Based on table 4, it found that the no pain scale in the intervention group there were 8 respondents (40%) and in the control group there was no decrease in the no pain score.

Examination of the Effect of Cold Compress on Pain in Muscle Injury after Collection of Loads in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya

Table 5. Examination of the Effect of Cold Compress on Pain in Muscle Injury after Collection of Loads in the JM Fitness Center, Kapas Madya Village, Kenjeran Sub-District, Surabaya.

Test Wilcoxon	
Intervention Group	
Asymp. Sig. (2-tailed)	0.000

Based on Table 5, it found that the results of the intervention group Wilcoxon

Test obtained a value of $p = 0.000$ ($\alpha < 0.05$) indicating there was an effect of cold compresses on pain in muscle injury after exercise.

DISCUSSION

Based on table 5, the results of statistical tests with Wilcoxon obtained a value of p value 0.000 ($\alpha < 0.05$).

According to Zakiyah (2015) cold compresses are to give a cold feeling to the local area by using a cloth dipped in plain water or ice water so that it gives an effect of coldness in the area. According to Smith (2013) ice therapy is carried out for 15-20 minutes. The first treatment for acute injuries that is well done is the RICE formula (*Rest, Ice, Compression, Elevation*) for the first 24 to 48 hours. Ice therapy continues for 48-72 hours, as a form of physical improvement. The reduction in pain goes according to healing injury. According to LeMone & Burke (2014) ice compresses in the area of injury for 20 minutes, 4-8 times a day can reduce pain.

The healing process will be fast when given cold compresses that are done regularly. The purpose of cold compresses is to relieve pain due to edema or trauma, slow the pulse of the heart, narrow the blood vessels, and reduce local blood flow.

CONCLUSION

1. The intensity of pain before a second compress is 70% for those who experience mild pain and 30% for moderate pain.
2. Pain intensity after cold compress was given as much as 40% of respondents stated painless and 60% of respondents experienced mild pain.
3. The results of statistical tests with Wilcoxon obtained a significance value of $p = 0.000$ ($\alpha < 0.05$), this indicates

that there is an effect of giving cold compresses to pain in muscle injury.

SUGGESTION

1. For Respondents

It is expected that the results of this study can motivate respondents to use cold compresses when experiencing injuries.

2. For Research Sites

It is hoped that JM Fitness Center can work with local health personnel to conduct counseling on good and correct handling of pain.

3. For Researchers Next

The results of the study can be used as a reference source for future researchers by developing interventions in the management of pain.

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ORIGINAL RESEARCH

DIFFERENCE METACOGNITIVE SKILLS WITH ACHIEVEMENT INDEX IN NURSING STUDENTS DIPLOMA IN LUMAJANG

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ABSTRACT

Background: To realize active and independent learning need concrete ways of learning strategy and direction. According to O'Neill and Brown in Usman, Mulbar (2008) argued that metacognition is the process whereby a person thinks about thinking to develop strategies to solve problems. With metacognitive learner can build a new plan for the operation of metacognition in learning-centered planning, problem-solving, and evaluation during a learning activity. Nursing students should apply the metacognitive ability to earn achievements.

Objectives: The purpose of this study wanted to study the differences in student achievement are used with no use of metacognitive skills when performing activities of student learning.

Methods: The design used is a cross-sectional comparative study. The population is all students of Diploma in Nursing in Lumajang totaled 3 275 people taken by simple random sampling. They measure devices in the form of a questionnaire. Analysis of continuous data sample characteristics describes as mean, SD, minimum, maximum in the frequency, and percent. Differences in metacognitive skills with student achievement index analyzed by paired sample t-test.

Results: There are differences in student achievement that using metacognitive skills with who do not use metacognitive skills while doing the learning activities indicated significance value of 0:00 with a 95% confidence interval.

Conclusion: Metacognition ability one can be used to improve the achievement of students. Learning techniques need to be implemented to stimulate metacognitive skills, and when students accustomed to applying metacognitive skills while learning the understanding of learning, especially in nursing science will increase.

Key words: Metacognitive, achievement index, student.

INTRODUCTION

Nursing as a profession then high nursing education curriculum is based on a robust framework of educational concepts that include: the mastery of science and technology Nursing, resolve the problem scientifically, attitudes, behavior and professional capability, self-study and independent and learn in society.

The hope of education and the learning process of nursing can be conceived and developed in a focused to cultivate the professional skills that include intellectual, technical skills and interpersonal skills

required to carry out nursing care services to clients (Nursalam, 2003).

The learning process of nursing can be arranged directionally able to cultivate professional skills include intellectual, technical skills, and interpersonal skills required to carry out nursing care services to clients (Nursalam, 2003). To realize active and independent learning need concrete ways of learning strategies and direction. To ensure the problem-solving ability by O'Neill and Brown in Usman, Mulbar (2008) states that metacognition as a process in which a person thinks about

thinking to develop strategies to solve problems. With metacognitive learner can build a new plan for the operation of metacognition in learning-centered planning, problem-solving, and evaluation during a learning activity.

Nursing students should apply metacognitive skills to build a strategy to solve the problem, a person's knowledge of the process of thinking itself. Besides learning to use metacognitive learner can create a new plan for the operation of metacognition in learning-centered planning, problem-solving and evaluation during a learning activity. At the end of students' academic achievement is expected to be no improvement.

The general purpose of this research is studying the differences in student achievement using metacognitive skills with who do not use metacognitive skills when performing activities on student learning 3 Nursing Diploma Course.

While the specific goal is to study the relationship metacognition ability with the ability of the real understanding of nursing during a learning activity, learning the difference metacognition ability with academic achievement performance index as well as examining the different achievements of students use metacognitive skills with those not using metacognitive skills while doing learning activities.

METHODS

Study Design

The study design was a cross-sectional comparative study.

Setting

This research was conducted at Nursing Diploma Program of University of Jember, Lumajang Campus.

Research Subject

The target population is the overall student who numbered 275 people. The inclusion criteria in this study as follows: 4th-semester student, was at the test site and willing to become a research subject, while the sample size in this study was 22 people using randomization techniques. The sample divided into four levels of achievement with each achievement level comprised of 5-6 respondents.

Instruments

Identification of the following research variables is independent variables and the dependent variable metacognitive skills that student achievement index while the operational definition of variables metacognitive skills is the ability of cognitive knowledge of the declarative knowledge, procedural knowledge, and conditional knowledge. And the strength of metacognition regulation, namely planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation.

In this study, metacognitive skills were measured using questionnaires Metacognitive Awareness of Reading Strategies Inventory (MARSI), which has been translated and modified by Poncorini (2006).

The dependent variable is the form of academic achievement whereas learning success expressed by four levels Grade Point Achievement (GPA) as follows: GPA 2.00 to 2.50 pretty, GPA 2.51 - 2.75 satisfactory, GPA 2.76 - 3.50 highly competent, GPA 3.51 to 4.00 with honors (cum laude).

Measurement tool uses a list of the value of the learning achievement, with a kind of absolute measurement scale. The research instrument used a questionnaire composed of several groups of questions that include: Identification of the

respondents, and the data take in the form of a name, age, gender, past semesters

Data collection techniques using primary and secondary data. The primary data obtained through a questionnaire containing statements and questions that prepared following the purpose of research. This data is directly collected from the study through a survey with Likert scale to measure metacognitive skills using metacognitive questionnaire Awareness of Reading Strategies Inventory (MARSI) which has been translated and modified by Poncorini (2006). Secondary data is data obtained from the achievement of learning outcomes recapitulation data cumulative value of the index during the second semester.

Test validity and reliability of this research through SPSS using Cronbach's Alpha test item-item questionnaire called internal consistency.

Data Analysis

Analysis to examine the difference metacognitive skills with student achievement index analyzed by paired sample t-test.

Ethical Consideration

This research has gone through an ethical test from the Nursing Diploma Program of University of Jember.

RESULTS

Characteristics of Respondents

Table 1. Distribution of Frequency of Respondents in the Nursing Diploma Program of University of Jember, Campus Lumajang (n = 22).

Variables	N	mean	Std. deviation	Std. error Mean
Metacognitive	22	102.6364	20.02985	4.27038
Grade point	22	3.0000	.69007	.14712
Age	n	Percent (%)		
19 years	13	59		
20 years	7	32		
22 years	2	9		
N =	22	100		
Gender				
Man	9	41		
Woman	13	59		
N =	22	100		

Based on data table 1, it found that the average metacognitive ability 102.63 and the average GPA 3.0 While most age 19 years old or 59% and most female gender that is equal to 59%.

Examination of Relationship between Studying Metacognition Abilities and Nursing Material Comprehension Ability While Doing Learning Activities

Table 2. Examination of Relationship between Studying Metacognition Abilities and Nursing Material Comprehension Ability While Doing Learning Activities using the Paired Sample T-Test Analysis.

Test Value = 0						
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Metacognitive	24.034	21	.000	102.63636	93.7556	111.5171
Grade point	20.391	21	.000	3.00000	2.6940	3.3060

Interpretation of results paired sample t-test analysis found that the metacognitive skill had correlation with increasing student achievement index at Nursing Diploma Program in Lumajang as indicated by the significant value of 0:00 with 95% confidence intervals as in Table 2.

The Differences in Student Achievement using the Metacognitive Skills that Do Not use Metacognitive Skills while Doing Learning Activities

The differences in student achievement that use the capabilities metacognitive those who did not use metacognitive skills learned while doing the activity were no difference where the value of cognitive ability is directly proportional to the amount of the index means the achievement of positive range, can see in Figure 1.

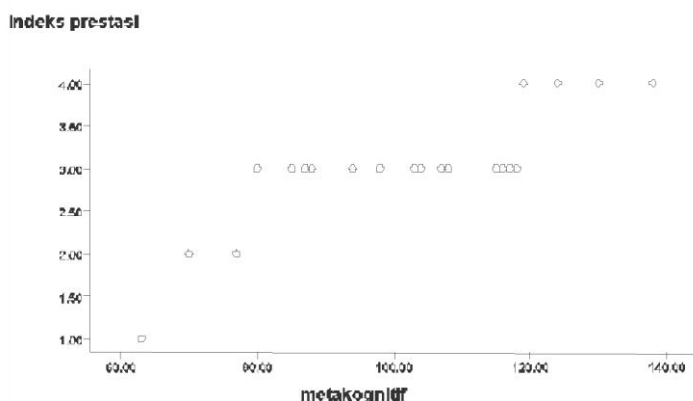


Figure 1. The Differences in Student Achievement using the Metacognitive Skills that Do Not use Metacognitive Skills while Doing Learning Activities

DISCUSSION

Relationship between Studying Metacognition Abilities and Nursing Material Comprehension Ability While Doing Learning Activities

According the results on the table 2, the metacognitive skill had correlation with increasing student achievement index at

Nursing Diploma Program in Lumajang as indicated by the significant value of 0:00 with 95% confidence intervals.

The results of this study are consistent opinions Toccas Project (2008). According Toccas Project (2008), metacognitive is the ability to learn how to learn by considering one of them to participate in solving problems such as the work of nursing science test.

In this study focused problem solving based on the service delivery of nursing care when students perform clinical nursing practice following the concept of nursing by Kozier (1997). The nursing services provided to clients in the form of nursing care to solve the client's problems following the 14 basic human needs (Hendersen, 1964).

The results also support the research results Hsu LL (2010) found that the ability of metacognitive skills in nursing students in Taiwan can develop both in class and in the clinical nursing practice. The results also consistent research results from Kuiper (2005), which says the use of methods of learning self-regulation in the practice environment can stimulate metacognitive activity mainly clinical experience and critical thinking skills in problem-solving nursing.

If the student has a sufficient basis, metacognitive skills students are expected to be able to perform activities of nursing care started stage assessment, nursing diagnosis, action planning, implementation and evaluation of nursing actions successfully.

Flavel in Livingston (1997) explains that metacognition has two kinds of metacognitive knowledge itself first and second regulation of metacognition.

Relationship between Metacognition Abilities and Academic Achievement

If the student has a sufficient basis, metacognitive skills students are expected to be able to perform activities of nursing care started stage assessment, nursing diagnosis, action planning, implementation and evaluation of nursing actions successfully.

Flavel in Livingston (1997) explains that metacognition has two kinds of metacognitive knowledge itself first and second regulation of metacognition. Also, according to OLRC News (2004) each of the two metacognitions divide into several sub capabilities includes: understanding of metacognition consists declarative knowledge is knowledge about themselves as learners and strategies, skills and learning resources needed. The second procedural knowledge is knowledge of how to use what known in the declarative knowledge in learning activities and conditional knowledge that when using a procedure knowledge, skills or strategies and when these things are not in use.

The regulation of metacognition consists of five sub capability, which includes planning, information management strategies, comprehension monitoring, debugging, and evaluation. Planning is the ability to make a program. Information management strategies are the ability of the plan to manage information relating to the process of learning. Comprehension monitoring is the ability to monitor the learning process. Debugging the strength of the strategy used to correct the wrong action in education, as well as the sub-component evaluation is the ability to evaluate the effectiveness of learning strategies whether he would change his approach, given up or put an end to these activities.

To do the exam or test in the nursing sciences, metacognitive skills for each sub-

ability of metacognition be fundamental in the learning process of nursing sciences. So that when students use metacognitive abilities while learning it will be easier when implementing the learning process in the classroom or when running tests or final exams, students can quickly answer that will ultimately improve academic achievement.

The Differences in Student Achievement using the Metacognitive Skills that Do Not use Metacognitive Skills while Doing Learning Activities

There are differences in student achievement that using metacognitive skills with who do not use metacognitive skills while doing activities where cognitive ability have a positive relationship with the value of the index achievement, can see in Figure 1.

The students who are using metacognitive skills will do the following things: has a goal before the study, make notes or summary of the current learning. They also have a particular strategy to increase the understanding as creating tables or images, circling or underlining, set the pace of learning, use tools typefaces to identify, discuss or ask another friend who does know, add references, summed up the material, analyze or look for the relation of subject matter being learned. They can make the question to be answered themselves and try to guess the meaning of words or sentences understandable.

If things are familiar with, it will increase the understanding of the lesson so that when carrying out the test will get an excellent performance than not using metacognitive skills.

CONCLUSION

This study concluded that there are differences in student achievement using metacognitive skills with those not using

metacognitive skills when performing activities student learning in Nursing Diploma Program of University of Jember Campus Lumajang, indicated with a significance value of 0.00 with a 95% confidence interval.

SUGGESTION

The ability of metacognition can be used to improve student learning achievement in Nursing Diploma Program of University of Jember, campus Lumajang, therefore the lecturer needs to be implemented learning techniques that can stimulate metacognitive skills to enhance learning achievement. When metacognitive skills have become accustomed to using when learning activities, it will improve the understanding of learning nursing sciences.

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ORIGINAL RESEARCH

THE COMPARISON BETWEEN PROGRESSIVE MUSCLE RELAXATION AND SLOW DEEP BREATHING EXERCISE ON BLOOD PRESSURE IN HYPERTENSIVE PATIENTS

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ABSTRACT

Background: There has been an epidemiological transition in which non-communicable diseases dominate compared to infectious diseases. One of the fastest growing non-communicable diseases is hypertension. Non-pharmacological treatment that can be done, is progressive muscle relaxation and slow deep breathing. In hypertensive patients, it is recommended to regulate pattern of breath and recommended for those who feel restless, but do not use in lowering blood pressure. Likewise, muscle relaxation in general only use for bed rest and never given special relaxation to lower blood pressure.

Objectives: This study aims to analyze the differences in blood pressure of hypertension sufferers who are given progressive muscle relaxation and slow deep breathing.

Methods: This research was conducted on May 24 - July 2, 2018, *Quasi-experimental design with Non-Equivalent Pretest-Posttest Design and Comparisons Group design*. Sampling technique used is *Non-Probability with Consecutive* with 48 samples.

Results: This research concluded that there was no significant difference between the progressive muscle relaxation group and slow deep breathing against decrease blood pressure with the results *p value* (0.273).

Conclusion: Many factors can be influencing this result that is age, education, (history of hypertension & time suffering from hypertension), (smoking history, duration, and number of packs / day), stress level and hypertension medication.

Key words: Blood pressure, progressive muscle relaxation, slow deep breathing.

INTRODUCTION

Up until now, hypertension is still become a big challenge in Indonesia. That because hypertension is a condition that is often found in primary health care. It's a health problem with high prevalence, that is equal to 25,8%, according to Riskesdas data in 2013. Furthermore, hypertension control is yet adequate even though there's many effective medicines available (Pusat Data dan Informasi Kementerian Kesehatan RI, 2014)

Prevalence according *World Health Organization (WHO)* in 2011 shows that one billion people in the world suffers from hypertension, with 2/3 among them is in the

developing country that have low to medium income. Hypertension prevalence will continue to increase significantly and was predicted that in 2025, about 29% adult in the world will suffer from hypertension. Hypertension was the death cause of about 8 million every year, where 1,5 million deaths occurs in South East Asia where the 1/3 population suffers from hypertension and can cause increase of the health expense (*World Health Organization, 2011*)

According to Riskesdas (2013), it was said that hypertension prevalence in Indonesia which gained from ≥ 18 years old age measure data is about 25,8%, the

highest occurred in Bangka Belitung (30,9%), followed by South Kalimantan (30,8%), East Kalimantan (29,6%), and West Java (29,4%).

According to Health Profile East Java Province in 2015, report acquired from regency/city in East Java Province, according from the acquired data, it is said that the second most case of disease in that year is hypertension case with patient age measured >18 years old, about (685.994) case, and followed by other disease (Dinas Kesehatan Provinsi Jawa Timur, 2015).

According to the results of the preliminary study performed by researcher in Inpatient Room Wawa Husada Hospital Kepanjen at September 17-30th 2017. Prevalence in January to December 2015, about 423 patient with an average total of 13 patient per month, next in January to December 2016, hypertension patient increased to 633 patient with an average total of 53 patient per month, while in January to October 2017 there's 570 patient with an average total of 57 patient per month, but this number was predicted to pass the total patient in 2016 because 2017 data wasn't full 12 month when the preliminary survey was concluded.

Hypertension increasing stroke attack risk four times more and two times to suffer kidney illness than people who have normal blood pressure. Hypertension can cause organ damage, either directly or indirectly, for example (coronary heart disease, dysrhythmias, and heart failure), brain (*stroke encephalopathy*), kidney, (nephrosclerosis, insufficiency), peripheral arteries, and retinopathy (LeMone & Burke, 2008; IPD FKUI, 2006 dalam Hamarno, 2010).

Hypertension management can be used with pharmacology and non-pharmacological. Pharmacological treatment consists of administration of drugs that are diuretic, sympathetic, beta blockers, and vasodilators which have side effect of decreased cardiac output. While non-pharmacological treatment is a treatment that is consist of weight loss, regular exercise, low salt and fat diets, and complementary therapies (Lubis, 2014).

Some non-pharmacological action that cannot be done, for example progressive muscle relaxation and slow deep breathing. According to research results from Valentine et al., 2013, explained that there's a blood pressure difference on elderly with hypertension before and after given progressive muscle relaxation technique in intervention group in Pringapus Village, Pringapus District, Semarang Regency (Valentine et al, 2013)

According to the research result from Tri Cahyo Sepdianto et al., explained that the decrease in the average systolic and diastolic blood pressure in the group that did the slow deep breathing exercise was greater than the group who didn't do the slow deep breathing exercise, slow deep breathing exercise in patients with primary hypertension can reduce systolic blood pressure and diastolic blood pressure (Sepdianto et al, 2010). Both progressive muscle relaxation and slow deep breathing can reduce blood pressure so researchers are interested in analyzing the differences between these two actions in lowering blood pressure.

METHODS

Study Design

This Study Design is using a *Quasi-experimental Design with Non-Equivalent Pretest-Posttest Design and Group Comparisons*. This design is used to overcome difficulties in determining the control group in the study (Sugiyono, 2016).

Setting

This research was conducted at the Wawa Husada Hospital Kepanjen on May 24th to July 2nd, 2018.

Research Subject

The samples in this study were 48 respondents. The samples divided into 2 sample groups, namely group A (progressive muscle relaxation treatment group), and group B (slow deep breathing

treatment group). The observation stage was carried out 2 times, namely before the experiment and after the experiment. Progressive muscle relaxation is carried out for 6 days, which each session takes 20 minutes. Slow deep breathing exercises carried out as much as once a day for 3 days, each session takes as long as 15 minutes.

Instruments

The instrument in this study used observation of blood pressure.

Data Analysis

In this study, the researchers used parametric statistical tests and chose a Paired T Test that functioned to determine blood pressure changes pre-test and post-test between progressive muscle relaxation and slow deep breathing exercises. Researchers also conducted different tests using the *Independent Sample T Test* between progressive muscle relaxation groups and slow deep breathing exercises group.

Ethical Consideration

This research has gone through an ethical test from the Health Polytechnic of the Ministry of Health, Malang and obtained permission from Management of the Wava Husada Hospital, Kepanjen.

RESULTS

The description of the characteristics of the respondents was patients suffering from hypertension who were hospitalized in Wava Husada Hospital Kepanjen Malang as follows:

Characteristics of Respondents by Gender

Table 1. Distribution of Frequency of Respondents by Gender at the Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Gender	Total	Percentage (%)
Male	29	60.5
Female	19	39.5
Total	48	100.0

Based on table 1, it was found that the frequency distribution of respondents based on the highest gender was male as many as 29 people (60.5%).

Characteristics of Respondents by Age

Table 2. Distribution of Frequency of Respondents by Age at the Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Variable	N	Maximum	Median	Mode
Age	48	85	55.5	54

Based on table 2, the frequency distribution of respondents' characteristics by age, the average age of the maximum respondents was 85 years old with a median of 85 years old and a mode of 54 years.

Characteristics of Respondents by Educational Level

Table 3. Distribution of Frequency of Respondents by Educational Level at the Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Last Education	Total	Percentage (%)
Primary School	25	52.08
Junior High	10	20.8
Senior High	11	22.91
College	2	4.16
Total	48	100.0

Based on table 3, the frequency distribution of the characteristics of respondents based on the last education were respondents who goes to Primary School with a total of 25 people (52.08%).

Characteristics of Respondents by History of Hypertensive Descent and Duration of Hypertension

Table 4. Distribution of Frequency of Respondents by History of Hypertensive Descent and Duration of Hypertension at the Wawa Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

History of Hypertensive Descent	Total	Percentage (%)
Yes	19	39.5
No	29	60.4
Total	48	100.0

Duration of Hypertension	Total	Percentage (%)
Less than 7 years	38	79.17
More than 7 years	10	20.83
Total	48	100.0

Based on table 4, the frequency distribution of respondents based on a history of hypertensive descent and duration of hypertension, the results of the most respondent were obtained that those who didn't have a history of hypertensive descent with a total of 29 people (60.4%). While respondents according to the duration of hypertension found that the highest number of respondents who suffer from hypertension was less than 7 years with a total of 38 people (79.17%).

Characteristics of Respondents by Smoking History, Smoking Time, and Amount (Pack per Day)

Table 5. Distribution of Frequency of Respondents by Smoking History, Smoking Time, and Amount (Pack per Day) at the Wawa Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Smoking History	Total	Percentage (%)
Yes	16	33.33
No	32	66.67
Total	48	100.0

Smoking Time	Frequency	Percentage (%)
<5 Years	1	6.25
5-10 Years	1	6.25
20-30 Years	12	75.0
>30 Years	2	12.5
Total	16	100.0

Amount (Pack per Day)	Frequency	Percentage (%)
<1/2 Pack	2	12.5
1/2 Pack	3	18.75
1 Pack	11	68.75
Total	16	100.0

Based on table 5, the frequency distribution of respondents based on smoking history, duration of smoking, and amount (pack per day), the results of the most respondents were not having a smoking history of 32 people (66.67%). In smoking time, the results of the most respondents were smoking for 20-30 years with a total of 12 respondents (75.0%). The amount of cigarettes, the results of the highest number of respondents were consumed in the amount of 1 pack / day, which was 11 respondents (68.75%).

Characteristics of Respondents by Having Been Given Similar Therapy

Table 6. Distribution of Frequency of Respondents by Having Been Given Similar Therapy at the Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Have Been Given Similar Therapy	Total	Percentage (%)
Yes	0	0
No	48	100.0
Total	48	100.0

Based on table 6, the frequency distribution of respondents, the results of all respondents were never given similar therapy to reduce blood pressure, both progressive muscle relaxation and slow deep breathing exercises.

Characteristics of Respondents by Medication for Hypertension Consumed

Table 7. Distribution of Frequency of Respondents by Medication for Hypertension Consumed at the Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Hypertension Drugs Consumed	Total	Percentage (%)
None	9	18.75
Captopril	25	52.08
Amlodipin	5	10.42
Captopril dan Amlodipin	9	18.75
Total	48	100.0

Based on table 7, the frequency distribution of respondent characteristics based on hypertension drugs consumed, the results showed that the highest number of respondents who consumed captopril drugs were 25 people (52.08%), and the smallest respondents who consumed (amlodipine and captopril) and those who didn't take hypertension drugs with the same results that is 9 people (18.75%).

Table 8. Average Blood Pressure Group Progressive Muscle Relaxation and Slow Deep Breathing Exercises at Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

(ROP)	Day 1		Day 2		Day 3		Average Difference
	Systolic (mmHg)	Diastolic (mmHg)	Systolic (mmHg)	Diastolic (mmHg)	Systolic (mmHg)	Diastolic (mmHg)	
Before Average	150	92	143	88	140	84	Systolic
After Average	150	92	142	87	137	83	11:6=1.83
Difference	0	0	1	1	3	1	(2mmHg)
(ROP)	Day 4		Day 5		Day 6		Average Difference
	Systolic (mmHg)	Diastolic (mmHg)	Systolic (mmHg)	Diastolic (mmHg)	Systolic (mmHg)	Diastolic (mmHg)	
Before Average	137	84	136	83	135	83	Diastolic
After Average	134	83	134	81	133	81	7:6=1.16
Difference	3	1	2	2	2	2	(1mmHg)
(SDB)	Day 1 Session1		Day 3 Session 2		Day 5 Session 3		Average Difference
	Systolic (mmHg)	Diastolic (mmHg)	Systolic (mmHg)	Diastolic (mmHg)	Systolic (mmHg)	Diastolic (mmHg)	
Before Average	154	92	143	86	138	83	Systolic
After Average	152	91	140	84	135	82	8:3=2.67
Difference	2	1	3	2	3	1	(3mmHg)
							Diastolic
							4:3=1.33
							(1mmHg)

Based on table 8, after given treatment from progressive muscle relaxation group, it was known the highest mean value happened on day 1 with systolic and diastolic blood pressure as much as 150 mmHg and 92 mmHg while the lowest mean value happened on day 6 with systolic and diastolic blood pressure as much as 133 mmHg and 81 mmHg. In the treatment of the group slow deep breathing exercise, the highest mean value occurred on the day 1 (session 1), with systolic and diastolic blood pressure of 152 mmHg and 91 mmHg, and the lowest mean value occurred on day 5 (session 3) with systolic and diastolic blood pressure of 135 mmHg and 82 mmHg.

The Effect of Progressive Muscle Relaxation on Blood Pressure

Table 9. The Effect of Progressive Muscle Relaxation on Blood Pressure at Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Variable	N	Mean	Mean Differences	t	Asymp. Sig. (2-tailed)
Pre-Test Systolic ROP	24	140.10			
Post-Test Systolic ROP	24	138.24	1.854	14.264	0.000

Based on table 9, after an effect test using the Paired T-Test, it was found that the *p* value of systolic blood pressure in the progressive muscle relaxation group was 0.000 ($\alpha \leq 0.05$). It can be concluded that there's a significant effect of progressive muscle relaxation on blood pressure reduction.

The Effect of Slow Deep Breathing Exercises on Blood Pressure

Table 10. The Effect of Slow Deep Breathing Exercises on Blood Pressure at Wava Husada Hospital Kepanjen in May 24th-July 2nd 2018 (n = 48).

Variable	N	Mean	Mean Difference	t	Asymp. Sig. (2-tailed)
Pre-Test Systolic SDB	24	138,24	4,617	3,76	0,000
Post-Test Systolic SDB	24	142,48			

Based on table 10, after an effect test using the Paired T-Test, it was found that the *p* value of systolic blood pressure was 0.000 ($\alpha \leq 0.05$). It can be concluded that there's a significant effect of giving slow deep breathing exercises to decrease blood pressure.

Blood Pressure Difference between Progressive Muscle Relaxation Group and Slow Deep Breathing Exercises Group

Table 11. Blood Pressure Difference between Progressive Muscle Relaxation Group and Slow Deep Breathing in Wava Husada Hospital Kepanjen May 24th-July 2nd 2018 (n = 48).

Variable	N	Mean Differences	t	Asymp. Sig. (2-tailed)
Systolic ROP	24	2.181	17.807	0.273
Systolic SDB	24			

Based on table 11, after different tests using Independent Sample T-Test, the results of the *p* value of systolic blood pressure between progressive muscle relaxation and slow deep breathing exercise are 0.273 ($\alpha \leq 0.05$). It can be concluded that there's no significant difference in

blood pressure between progressive muscle relaxation and slow deep breathing exercises.

DISCUSSION

Mean Systolic and Diastolic Blood Pressure Measurements of Pre-Test and Post-Test in Progressive Muscle Relaxation Groups and Slow Deep Breathing Exercises Groups

In the progressive muscle relaxation group, it began to show a decrease in blood pressure starting from day 2, evidenced by the mean pre-systolic value of 143 mmHg and 142 mmHg post systolic, while day 2 pre-post diastolic was 88 mmHg in the pre and 87 mmHg on the data post. Each of these data has the same difference in value of 1 mmHg. While on the day 6 progressive muscle relaxation is increasingly changing in blood pressure, as evidenced by mean pre-post systolic blood pressure of 135 mmHg in the pre data and 133 mmHg in the post data, and from the diastolic blood pressure of 83 mmHg in the pre data and 81 mmHg on the data post.

Almost the same as progressive muscle relaxation groups, in systolic blood pressure the slow deep breathing group also undergoes changes in the process, starting from day 3 (session 2), as evidenced by the mean pre-post of 143 mmHg in the pre data and 142 mmHg in the post data, as well with diastolic changes of 88 mmHg in the pre data and 87 mmHg in the post data. The change was increasingly seen in the mean pre-post systolic pressure of day 5 (session 3), the mean pre-post was 140 mmHg in the pre data and 137 mmHg in the post data, while that also applies to diastolic blood pressure which gets a value of 84 mmHg in the pre data and 83 mmHg in the post data.

The researchers argue that on the measurement of day 1, generally the results between the 2 groups above illustrate that

there's no significant change in blood pressure between the results of the pre and post, but if you see the results during the whole action, you will get a significant decrease in blood pressure even though the results difference between the 2 groups tends to approach each other, but each group has an influence in reducing blood pressure, so the researchers concluded that systolic and diastolic blood pressure isn't only influenced by the 2 treatment groups, but also influenced by the conditions in outside the body, including age, education, (history of hypertensive descent and duration of hypertension), (smoking history, smoking time, and amount of packs per day), stress levels, and hypertension drugs.

The Effect of Progressive Muscle Relaxation on Blood Pressure

Based on table 9, after an effect test using the Paired T-Test, it was found that the p value of systolic blood pressure in the progressive muscle relaxation group was 0.000 ($\alpha \leq 0.05$). It can be concluded that there's a significant effect of progressive muscle relaxation on blood pressure reduction.

This result is in the line with the research conducted by Leny Khairani in the Babus Salam Nurul Hikmah Foundation about reducing blood pressure in the hypertensive patients, who obtained *p-Value* = 0.000 with ($\alpha \leq 0.05$), so that it concluded that there was a significant difference before and after progressive muscle relaxation.

The researcher argues that the provision of progressive muscle relaxation is a process of identifying muscles that are experiencing tension to be carried out by relaxation actions of all the muscle of the body from head to foot with added regulation of breathing patterns. This of

course can suppress the release of the hormone norepinephrine, so that it will cause a person to enter a relaxed state that stimulates blood vessels to experience vasodilation so that in the end the results can control and help in lowering blood pressure.

The Effect of Slow Deep Breathing Exercises on Blood Pressure

Based on table 10, after an effect test using the Paired T-Test, it was found that the p value of systolic blood pressure was 0.000 ($\alpha \leq 0.05$). It can be concluded that there's a significant effect of giving slow deep breathing exercises to decrease blood pressure.

The results in this study are in line with those carried out by Fike Leleh et al (2013), in their research the results of the effect of giving slow deep breathing exercises to decrease blood pressure get *p value* 0.000 or ($\alpha \leq 0.05$), which means giving slow deep breathing exercises before and after has obtained significant results in reducing blood pressure.

Researchers argue that by giving slow deep breathing exercises in the form of slow and deep breathing, can help a person to reduce stress and anxiety levels because basically there's an attachment to the role of baroreceptors in sending impulses to the cardiovascular control system that can affect the occurrence of vasodilation mechanism that can reduce pulse pressure and blood pressure. Both increasing and decreasing, blood pressure has mechanoreceptor from the baroreceptor as a receptor to control and monitor blood pressure activity.

Blood Pressure Differences between Progressive Muscle Relaxation Groups and Slow Deep Breathing Exercise Groups

Based on table 11, after different tests using Independent Sample T-Test, the results of the p value of systolic blood pressure between progressive muscle relaxation and slow deep breathing exercise are 0.273 ($\alpha \leq 0.05$). It can be concluded that there's no significant difference in blood pressure between progressive muscle relaxation and slow deep breathing exercises.

Although the provision of progressive muscle relaxation and slow deep breathing exercises have no differences, basically the 2 groups of treatment have an influential contribution in lowering blood pressure. According to (Mohamed, 2013 in Anugraheni, 2017), slow breathing increases baroreflex sensitivity and reduces sympathetic activity and chemoreflex activation, which shows a potentially beneficial effect in hypertension where baroreflex is a system in the body that regulates blood pressure and increases baroreflex sensitivity in hypertensive patients. This effect appears potentially beneficial in the management of hypertension.

According to (Sheps, 2005 in Valentine et al., 2013), relaxation response are part of a general decline in cognitive, physiological, and behavioral stimulation. Relaxation results in a stretch in the arteries due to vasodilation in the arteria and veins facilitated by the vasomotor center, there are several types of vasomotor namely femoreceptor reflex, brain pain reflex, and respiratory reflex. In this case the strongest is the baroreceptor reflex where relaxation will reduce the activity of the sympathetic nerves and epinephrine and increase the parasympathetic nerve so that the heart rate decreases, the volume of stroke (CO)

decreases, and arteriolar vasodilation and venules occur. In addition, cardiac output and total peripheral resistance also decrease and blood pressure decreases.

The researchers argue that in this study certainly cannot be separated from the things that affect the decrease in blood pressure, but to get more optimal results in the reduction of blood pressure can be done by making tighter observations on all respondents in order to obtain more effective results to decrease blood pressure and be added by minimize other confounding factors so that the measured blood pressure value isn't too affected but only when after the treatment of progressive muscle relaxation or slow deep breathing exercises.

CONCLUSION

Based on the results of the study, it can be concluded that progressive muscle relaxation and slow deep breathing exercises have an influence in efforts to reduce blood pressure in patients with hypertension against blood pressure significantly and both can be selected in an effort to reduce blood pressure.

SUGGESTION

Progressive muscle relaxation or slow deep breathing exercises can be used as a companion to pharmacological therapy to prevent complications and the adverse effects of increased blood pressure. This action can be carried out by the wider community as well as health workers in the health service order.

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ORIGINAL RESEARCH

CADRE'S EMPOWERMENT AND COUNSELING IN INCREASING SOCIETY'S BEHAVIOR ABOUT CONTENT AND EFFECT OF PESTICIDES ON FRESH VEGETABLES

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ABSTRACT

Background: The growing health problem in Indonesia is a cancer, one of causes is that food which is consumed containing carcinogenic. Society's knowledge is very dominant affected toward action/behavior which is done toward choice, food processing which is consumed in daily, especially highlanders who really like consuming fresh vegetable. Unconsciously, by improper processing, pesticide or other chemical substances containing in vegetable which is in human body. It is still underestimated by the public, even health officer, it can be known from health counseling especially about health-food of free pesticide or the proper steps is very rare to be done.

Objectives: Through community service we want to give knowledge about pesticide with purpose in order to change society's behavior about content and effect of pesticide on fresh vegetable in Sumbergepoh to be better.

Methods: The community service using lecture method, discussion, role play, and mentoring the cadres and Sumbergepoh society, that was held on September- November 2016. Analysis data used frequency distribution.

Results: From the result of community service obtained were as many as 48 counseling participants with the pre-test score 46.8 and post-test score 87.94. The result is a significant increase in knowledge of 0.000 with t score=16.9. While 95% CI between -46.8 – -36.7, meant the effect was strong because it was not passing number 1; giving treatment can increase 3-4x knowledge compared with not to be given.

Conclusion: Based on the evaluation result could be concluded that participants of counseling were very enthusiast toward materials which explained. And also, they would implement in their home. The activity was so beneficial to increase knowledge and improve society's behavior in processing fresh vegetable toward pesticide.

Key words: Health education, knowledge, behavior content and pesticide effect of fresh vegetable.

INTRODUCTION

One of the elements of well-being is an effort to gain healthy lifestyle skill for every citizen in creating optimal health degree to create health development in Indonesia. Body health is very important to be aware because with healthy body, everyone could do the activity to fulfill daily needs.

Application of current technology in a health perspective is a health risk. Including health problems faced in agriculture, not apart from the use of technology which is

used to process agricultural field. When there is a change or the choice of technology, implicitly will happen health risk factor. Those are hoe technology changed by tractor, pest eradication with predators changed by pesticide material, it will be very affected to health (Ahmadi, 2008).

Our body needs extra attention, especially health that needs to be maintained. One of them is by consuming healthy foods. Five important components in food we need, one of which is vegetable

which is a very important thing. Vegetables contain various kinds of substances needed by the body, such as iron, potassium, phosphorus, calcium and vitamins. Unfortunately, there are still many ordinary people who do not understand the other content and the harmful effects, such as pesticides in vegetables which are not needed by the body. Anwar (2004) explains, pesticides enter the human body through vegetables and fruit. At present, the behavior of farmers in using pesticides to kill pests is out of control, both in terms of dose and frequency of use. As a result, the current pesticide content in vegetables and fruits consumed by the community is very high. The high dose of pesticides, especially those that are not easily soluble in water, contained in vegetables and fruits, will enter the body and cause disease and become one of the causes of damage to nerve cells. Health problems that pesticides can cause in the body include poisoning, diarrhea, cancer, and can increase the risk of Parkinson's disease and other health problems.

According to Setiono, Mansyur, Ahbana., (2010), WHO data worldwide are estimated to occur 400,000 - 2 million per year experiencing pesticide poisoning which causes deaths between 10,000 - 40,000 people. WHO data in 2009 estimated that at least 300,000 people die each year from pesticide poisoning.

In Indonesia to get an accurate illustration of the number of victims of pesticide poisoning is very difficult to obtain. Because there is no systematic and periodic reporting and monitoring system. Research in Lembang and Pangalengan areas, West Java, found pesticide residues in water, soil, vegetables, cow's milk and mother's milk (Sudibyaningsih, 1993).

This kind of situation is influenced by many factors, one of which is the knowledge that people have varies greatly,

so that it affects behavior in everyday life. Especially the behavior in processing food consumed is mainly the consumption of fresh vegetables. Improper processing, pesticides or other chemicals contained in the body. The high level of pesticide residues in food can result in a buildup of acetylene in the nerves and cause damage to nerve cells (Achmadi, 2008 and Sartono, 2002).

The phenomenon which occurs really need the treatment to create community's interest in order to be better in understanding pesticides and vegetables, so that the behavior in processing vegetables to healthy vegetables can be consumed. Some ways to deal with the causes of lack of community behavior are the addition of knowledge through counseling or health education to the community.

It is expected that counseling will be able to increase the knowledge, understanding, thinking of the community so that the behavior they have can lead to a more positive direction, it is expected to improve health status or otherwise reduce morbidity and mortality.

Survey data to Sumbergepoh Village found a lack of knowledge and behavior in processing and the effects of pesticides contained in vegetables was not good. Of the 3 people, they cleaned vegetables using water in a bucket (not running water), dyed 2 times immediately cooked or consumed as fresh vegetables, 2 people when cooking vegetables left until the conditions are too ripe for easy chewing reasons, 3 people do not understand the danger of pesticides if they are still stick to vegetables and enter the body.

For this reason, it is important for the community to know how the effects and content of pesticides, especially on fresh vegetables.

METHODS

Study Design

The method used is to provide education through counseling to increase knowledge and skills regarding the effect and content of pesticides, especially in fresh vegetables in Sumbergepoh Village, Lawang Subdistrict, Malang Regency.

Setting

This research was conducted at Sumbergepoh Village, Lawang Subdistrict, Malang Regency on September- November 2016.

Research Subject

The target in this study was the cadres and Sumbergepoh society, as many as 48 respondents.

Instruments

The activity begins with a pre-test, then the core activities are counseling with lecture, discussion and role play methods, then followed by a post test. Implementation of counseling on the effect and content of pesticides, especially on fresh vegetables, and how to clean and process vegetables begins with a time contract with cadres, the next opportunity is to contract time with cadres and the community. Mentoring is done three times, and each mentoring activity is mentored by students with the following schedule:

- a) Mentoring 1 with cadres was held on October 22, 2016
- b) Mentoring 2 with cadres and community RW 1 was held on October 23, 2016
- c) Mentoring 3 together with cadres and community RW 2 was held on 30 October 2016
- d) Mentoring 4 with cadres and community RW 3 held on November 6, 2016

Data Analysis

In this study, the researchers used Analysis data used frequency distribution. The statistical test in this study used the Paired Sample T Test.

Ethical Consideration

This research has gone through an ethical test from the Health Polytechnic of the Ministry of Health, Malang and obtained permission from National Unity and Politics of Malang Regency.

RESULTS

Based on the results of the evaluation it can be concluded that the extension participants were very enthusiastic about the material presented, active participants in the discussion activities with evident feedback from participants, and when the role play activities the participants actively followed and practiced about the material that had been taught. And they want to carry out in their homes. These activities are very useful to increase knowledge and improve community behavior in the management of fresh vegetables against the content of pesticides

Distribution on Behavior Frequency before Counseling

Table 1. Distribution on Behavior Frequency of Cadre's and Sumbergepoh Society Before and After Counseling (n = 48).

Resp No	Pre-test	Post-test	Range
1.	40	80	40
2.	50	80	30
3.	60	90	30
4.	70	100	30
5.	60	80	20
6.	60	90	30
7.	40	90	50
8.	50	90	40
9.	50	80	30
10.	50	80	30
11.	50	80	30
12.	50	80	30
13.	50	80	30
14.	30	100	70
15.	30	100	70
16.	30	90	60
17.	40	90	50
18.	30	80	50
19.	30	90	60
20.	40	100	60
21.	40	100	60
22.	50	100	50
23.	60	90	30
24.	50	100	50
25.	50	80	30
26.	50	70	20
27.	50	80	30
28.	60	90	30
29.	40	80	40
30.	60	90	30
31.	30	90	60
32.	40	90	50
33.	40	100	60
34.	40	80	40
35.	40	100	60
36.	40	100	60
37.	50	100	50
38.	60	90	30
39.	50	80	30
40.	60	90	30
41.	40	80	40
42.	50	80	30
43.	60	90	30
44.	40	80	40
45.	60	90	30
46.	30	90	60
47.	40	90	50
48.	40	100	60
Mean	46.18	87.94	-41.77

Table 1 shows that pre-test score and post-test score of counseling participants experience score change (increase) which

means there is a change of knowledge to be better after getting counseling about on effects and pesticide content and how to manage fresh vegetable.

The Effect of Counseling to Cadre's and Sumbergepoh Society

Table 2. The Effect of Counseling to Cadre's and Sumbergepoh Society in September-November 2016.

		Mean	N	Std Deviation	Std Error Mean
Pair 1	Pretest	46.18	48	10.73	1.84
	Post Test	87.94	48	8.45	1.45
		N	Correlation	Sig	
Pair 1	retest & Post Test	48	-0,12	0.49	

		Paired Differences	t	df	Sig(2-tailed)
		mean	Std Deviation	95% Confidence Interval of the Difference	
				Lower	Upper
Pair 1	Pretest & Post Test	-41,7	14,4	-46,8	-36,7
				-16,9	33
					0,00

The result is significantly increasing of knowledge 0.000 with t score= -16.9. While 95% CI between -46.8 – -36.7, means that the affect is strong because not passing number 1; giving treatment can increase 3-4x knowledge compared not to be given.

Questions List and Response in the Discussion Section

Table 3. Questions List and Response in Discussion Section

No.	Questions	Response
1.	What exactly is meant by pesticides?	Pesticides are chemicals that are used to control or eradicate pests. Pesticides are also poisoning but also have a special purpose to protect human agricultural products from other organisms. Therefore, if pesticides are to be used, the choice must be in accordance with the specificity of eradicating pests
2.	What are the effects of pesticides when entering or touching the body?	It can cause poisoning, Chronic exposure is thought to cause reproductive problems and increase the risk of cancer, have neurological and psychological and effects on the immune system. Chemicals can cause damage to other living things through various types of methods, namely penetration through the skin, absorption through the lungs, absorption through the digestive tract.
3.	Please explain about the effects of various pesticides	Paraquat, captafol, mancozeb, 2,4-D (effect: Contact dermatitis) Benomyl, DDT, linden, zineb, malathion (effects: skin sensitization, allergic reactions, skin rashes) Heksaklobenzen, benomyl, zineb (effect: allergic photo reaction) Organochlorine Pesticides (Effect: Chloracne) Hexachlorobenzene (Effect: deep scarring, hair loss)
4.	How to get rid of the right pesticides? Please explain again	Use clean water flows to clean the vegetables. Do not use stagnant water, because the water that is stagnant (soaked) will make the dissolved poison stick to the vegetables again. Rinse vegetables with clean water. b. Wash all vegetable parts, including the inside. Discard of the outer portion of leafy vegetables. c. Wash with special food grade soap such as pigeon liquid cleanser or mama lemon. d. Use a toothbrush or soft brush to clean pesticides from fruits and vegetables, and still use water flow. e. Besides washing, soaking with hot water (blanching) containing salt will also reduce the content of pesticides. f. Raw vegetables may contain higher pesticide residues. Proper cooking or processing is proven to reduce the residual content of pesticides
5.	How to store vegetables, fruit in the refrigerator?	Make sure the fruits and vegetables are fresh and durable. b. Vegetables and fruit are washed, wrapped in paper and stored in the refrigerator. c. If there is no refrigerator, keep it in a cool, dim place in the kitchen. Avoid using plastic bags so that they do not wither and lose their vitamins. d. Fruits like bananas should not be stored in the refrigerator because the skin will become black and rotten. e. Vegetables and fruit in the package should be moved in the container, then stored in the refrigerator
6.	Are there diseases that arise due to pesticides?	Yes, there are; Diabetes, Cancer, autism, obesity, Parkinson's, infertility, birth defects

Role Play Section

Participants took turns on practicing how to clean fresh vegetables and fruits which can be done at home, supervised by cadres and officers.

Mentoring Section

Mentoring is done three times, and each mentoring activity is mentored by students with the following results:

- Mentoring 1 with cadres was held on October 22, 2016 participants attended 3 people
- Mentoring 2 together with cadres and community of RW 1 held on 23 October 2016 participants attended 15 people
- Mentoring 3 together with cadres and community RW 2 held on 30 October 2016 participants attended 15 people
- Mentoring 4 together with cadres and community RW 3 held on 6 November 2016 participants attended 15 people

During the implementation $\geq 75\%$ of the cadre's and Sumberngepoh Society can do it correctly.

DISCUSSION

The results of the above activities show that extension activities can increase people's knowledge and behavior in managing fresh vegetables and fruits, this can be seen by increasing the average value of participants from 46.2 to 87.9 and implementing how to clean and manage vegetables and fresh fruit $\geq 75\%$ can do it right.

Health education or counseling is one of the efforts to prevent the occurrence of illness or disease and improve people's behavior through learning so that it is hoped that the community can help themselves and their families, also want to behave in a healthy life or maintain healthy behaviors they already have (Kholid A, 2012).

Knowledge is the result obtained from knowing what happens after someone does sensing a particular object. A person's knowledge can be obtained from the learning process, in the process of self-learning there are influencing factors such as motivation, means of information, and social culture.

Knowledge is something that is formed continuously which will experience

reorganization by new understandings (Budiman and Riyanto, 2013).

Health education aims to provide information to the public about understanding, benefits, and interpretations. Understanding of health education according to Notoatmodjo (2005) which defines health education is an activity or effort to convey messages about health to individuals, groups or communities. Gupta's, et al (2009) explains that health education can improve knowledge and practice. This means that health education seeks that individuals, groups or communities can realize or know how to maintain health, avoid or prevent things that can harm health. This is explained in the study of Shalini, Varghese & Nayak, M. (2011). that with health education can help increase awareness to foster personal health.

But in general, the increase in knowledge occurs because it is influenced by factors such as information from outside / mass media, experience, education, age, and environment. Information obtained by individuals both from formal and non-formal education can provide short-term influence so that it can produce changes or increase in knowledge (Budiman & Riyanto, 2013).

The results of the mentoring implementation that participants can do well are almost $\geq 75\%$. A person's behavior will be influenced by knowledge, the better the knowledge of someone about health, the person will do good health care.

This is in line with Aryantiningsih's research, (2014) According to Green knowledge does not always cause behavior changes, but shows a positive relationship between the two variables. Knowledge is needed for someone to guide him in acting, as the stages of knowledge proposed by Notoadmodjo, namely: know, understand, application, analysis, synthesis, and

evaluation. Knowledge can be a motivation for someone to behave well in managing fresh vegetables. Poor people's knowledge results in less behavior, which causes an increase in morbidity rates. Limited knowledge will result in adverse effects on maintaining health. Knowledge of its benefits can be obtained from personal experience in everyday life.

CONCLUSION

There is an increase in public knowledge about the effect and content of pesticides and management of fresh vegetables, this is evident from the increase in the average value of the post-test higher than the pre-test.

There is an increase in the behavior of doing vegetable management, i.e. $\geq 75\%$ of the cadre's and Sumbergepoh Society can do it correctly.

SUGGESTION

From the conclusion above, the implementer can give suggestions that are expected to be useful, such as:

It is expected that officers and the cadres will continue to carry out intensive counseling to the society about the content and effects of pesticides on fresh vegetables, and how to reduce the pesticide content which can harm if it enters or be consumed by human beings.

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ORIGINAL RESEARCH

PROACTIVE PUBLIC HEALTH APPROACH TO PREVENTION OF OCCUPATIONAL DISEASE ON FARMERS IN LUMAJANG

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ABSTRACT

Background: Occupational Disease is a disease caused by work, work tools, materials, processes, and work environment. Safe work behavior is a systematic application of someone to work on safety issues in the workplace to avoid work-related illnesses. Through the Proactive Public Health Approach, it is expected to be able to prevent Occupational Diseases.

Objective: This study aimed at analyzing the relationship between occupational disease and proactive public health approaches in Lumajang District.

Methods: This research is quantitative research, which used a descriptive-analytic study with cross-sectional. The sample in this study was 164 respondents from February until May 2019, with the sampling method using purposive sampling. Data presented in the form of Spearman's Rho Correlation test 0.05 statistical test with a value of α .

Results: Based on the results of data analysis by most respondents (50.6%), the proactive public health approach is a category, and having an occupational disease is often a category (54.3%). The results of data analysis used Spearman's Rho showed that p -value = 0.001 with correlation coefficient $r = 0.674$ means the level of relationship is a strong category.

Conclusion: Trauma and pesticides cause problems of occupational diseases that arise often. Farmers are expected to pay more attention to the method or method of using and preventing occupational diseases. So, the role of nurses or Occupational Health Nursing (OHN) in agriculture must be increased.

Key words: Occupational illness, pro-active public health approach, farmer.

INTRODUCTION

In Indonesia, the agricultural sector is one type of work that has a high risk for workers, extreme environmental conditions, and how to use technology in the field of land management that is still sufficient about the level of health and safety of farmers. One of the health and safety problems that are often experienced by workers, such as farmers is ergonomic problems. Health problems that occur in agriculture have taken the opponent from the challenges that arise on agriculture. The number of fatalities that occur due to lack

of knowledge and skills of the community in health management in agriculture. This seems to be a compilation of more indigenous people who received negative impacts from repeated improvements in agriculture.

Occupational Disease is a disease caused by work, work tools, materials, processes or the work environment so that occupational diseases are that are artificial or human-made disease defined as diseases made themselves in the process of work done by humans (Silalahi, 2006). World Health Organization (WHO), 1985; in

Sulaksmono, 2009) explaining occupational diseases is the link between causative factors in the emergence of occupational diseases and entirely ascertained these factors can be identified, measured, and controlled. Occupational illnesses divided into several groups, namely environmental groups, chemical groups, biological groups, psychological groups, and physiological groups. Health problems that occur in the field have claimed hundreds or even thousands of human lives due to chronic illness due to work in the agricultural area. The number of fatalities that occur due to lack of knowledge and basic skills of the community in health management in agriculture. This can be seen when there are many people, especially farmers, who hurt work-related diseases in the agricultural area.

Working position by bending causes the muscles to become tensor. A worker who works in a bent position requires greater muscular endurance; this causes a more significant burden on the spine and triggers the emergence of musculoskeletal pain (Wicaksono, 2011). Based on the initial survey conducted, it found that 30% of farmers complained of suffering from lower back pain. Obtained 90% of cases of low back pain are not caused by organic abnormalities, but by errors in body position at work.

Farmers are people who have an important role in the farming process to make autonomous and appropriate decisions about existential farming processes to produce the desired crop. Farmers play two essential roles related to the farming business, which include the role of a farmer (cultivator) and manager (Nasoetion, 2002 in Intani, 2013). Workers in the agricultural sector reach 41.20 million or around 43.4% of the total population of Indonesia. This figure has

increased by 4.76% or 1.9 million compared to August 2011. Indonesia ranks 3rd in the world after China (66%) and India (53.2%). This shows that the average livelihood of the Indonesian people is as farmers (Badan Pusat Statistik, 2012). Based on the results of records from the Indonesian Ministry of Health's Data and Information Center (2014) and BPJS Employment (2018) the number of work accident cases in Indonesia from 2011 to 2017 has fluctuated, the highest figure in 2015 was 110,285 cases. In 2011 there were 9,891 cases; in 2012 there were 21,735 cases; in 2013 35,917 cases, in 2014, there were 24,910 cases.

Extreme environmental conditions and the way and use of technology in managing land that is still quite behind compared to other regions determine the level of health and safety of the farmers (Dewi, Sutresna, & Susila, 2017). The facilities that support agriculture include agricultural equipment, artificial fertilizers (Urea, TSP, NPK, Za, etc.), additional chemicals, including pesticides (Sungkawa, 2008). The highest demands for increased profits and salvage of production in the agricultural industry result in unavoidable use of pesticides. The large percentage of workers who work in the agricultural sector and the widespread use of uncontrolled pesticides results in problems or risks of pesticide intoxication (poisoning) in the community becoming a severe problem (Purnawati, 2008).

The high intensity of pesticide use, and carried out continuously in every planting season will cause several losses, including pesticide residues that will accumulate in agricultural products and waters, pollution in the agricultural environment, poisoning in animals, poisoning in humans and thus adversely affect human health (Pacific, 1999). The adverse effects of these pesticides are not only about farmers or workers who spray pesticides, but also

about families and neighbors where the activity is carried out. Pesticide poisoning can be acute or chronic. Acute pesticide poisoning is local and systemic. Systemic pesticide poisoning can attack the kidneys and urinary tract, nervous system, liver or liver, stomach, immune system, and hormonal balance (Department of Health Examination, 1992).

The use of pesticides by farmers is increasing every day, but it is balanced with farmers' knowledge about the effects of pesticides. A poor experience will affect the behavior or practices of farmers when working (Yuantari et al., 2013). Many farming communities are still not aware of the dangers that can be caused by the use of pesticides; they again underestimated when there is trauma or disease due to the impact of pesticides.

According to Bond and Fried Meyer, work behavior is the ability to work and responses where it is essential in every job or work situation. Safe work behavior is a systematic application of someone to work on safety issues in the workplace to avoid work-related illnesses (PAK). Safe work behavior places more emphasis on aspects of human behavior towards workplace accidents and diseases.

Health promotion in the sense of education, in general, is all efforts planned to influence other people, individuals, groups or communities so that they do what is expected by the perpetrators of education or health promotion and this limit implies elements of input, process, output. The expected results of health promotion or education are health or behavioral behaviors to maintain and improve conducive health improve the quality of farmers' health and avoid the effects of acute intoxication and long-term use of pesticides; a strategy is needed to anticipate aspects of impact through the Total Ergonomics approach. TEA (Total

Ergonomics Approach) is an approach that includes the SHIP approach (Systemic, Holistic, Interdisciplinary and Participatory) and Appropriate Technology considerations in the design of work tools and work systems (Manuaba A. 2005) in (Purnawati, 2008). With the preparation of anticipatory strategies for the impact of pesticide intoxication on farmers, it is expected that future use of pesticides could meet safety standards so that the quality of life of farmers and the wider community can be improved (Purnawati, 2008). One method of health education in existing nursing is the demonstration method, namely nurses and officers provide direct knowledge and examples of PPE that are by the work of farmers in the hope of increasing awareness and motivation for using PPE on farmers (Susilo, 2011).

The agricultural nursing-based Occupational Health and Safety (PK3) approach at the public health center aims to improve occupational health services to be more directed at community participation. This approach is expected to meet the need to establish or establish primary health care units in the community through health services that are promotive, preventive, curative and rehabilitative through a nursing care approach in the community with a method to specialized groups of workers (Susanto, Purwandar, & Wuryaningsih, 2016).

Based on this background, the research question emerged about "How is the relationship between Occupational Diseases and Proactive Public Health Approaches to Farmers in Lumajang."

METHODS

Study Design

This research was quantitative research, which used a descriptive analytic study with cross-sectional.

Setting

The study conducted in Lumajang District from February until May 2019.

Research Subject

The research population was farmers in Lumajang District. The sample in this study was 164 respondents with the sampling method using purposive sampling.

Instruments

Proactive public health approach will be done by technique health education, medical examination, and use personal protective equipment. The tool used for occupational assessment illness used questionnaire about the incidence of disease in agriculture due to injury, trauma, known trauma, and pesticides.

Data Analysis

This study presented in the form of Spearman's Rho Correlation statistical test with a value of $\alpha \leq 0.05$.

Ethical Consideration

Before collecting data, the researcher conducted ethical clearance from the Ethics Committee of Faculty of Dentistry on February 29, 2019 number: 341/UN25.8/KEPK/DL/2019. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS

Characteristics of Respondents

Based on the results of the statistical analysis in Table 1, the data on respondents' characteristics showed that the majority of respondents were male (54 %) had the last education of elementary school (65%) and work become farmers (70%).

Table 1. Distribution of Frequency of Respondents in the Lumajang District (n = 164).

Characteristics		n = 164	
		Frequency	%
Gender	Male	89	54
	Female	75	46
Last education	No education	11	7
	Elementary school	107	65
	Junior high school	21	13
	Senior high school	18	11
Job	Others	7	4
	Farmer	115	70
	Farmworker	49	30

Examination of Relationship between Proactive Public Health Approach and Occupational Disease

Table 2. Relationship between Proactive Public Health Approach and Occupational in the Lumajang District (n = 164).

Parameter	n = 164	
	Frequency	%
Proactive public health approach		
Minus	2	1.2
Moderate	47	28.7
Medium	83	50.6
Good	27	16.5
Very good	5	3
Occupational illness		
Often	89	54.3
Rarely	32	19.6
Never	43	26.1
p -value = 0.001		
$r = 0.674$		

Based on the results of data analysis in Table 2, most respondents (50.6%) a proactive public health approach is a medium category and had an occupational illness is often category (54.3%).

The results of data analysis used Spearman's Rho showed that the significance value was $\alpha = <0.05$ with p -value = 0.001. It showed that the research hypothesis accepted with correlation coefficient $r = 0.674$ shows the level of relationship is a strong category.

DISCUSSION

The risks that occur caused by the use of machines that are a source of noise, heavy working tools and the smell/dust of the environment/production sites so that it certainly has the potential to cause workplace accidents and work-related diseases. Another result is that the disease caused by work is also increasing so that it can cause harm to workers. Occupational diseases are abnormal conditions or diseases caused by vulnerability to work-related environmental factors. This includes acute and chronic diseases caused by breathing, absorption, digestion, or direct contact with toxic chemicals or dangerous introductory substances (Kurniasih, 2013). Research (Suhari et al., 2018) that some farmers have chronic diseases and the amount of drinking intake that is less than one liter per day causes the higher risk of occupational diseases to occur in farmers.

Another factor that triggers accidents in agriculture is the limited time available to complete a work caused by climate constraints. This results in the rush of workers in completing work, which leads to indifference to their safety (Haerani, 2010). Some of the impacts of other trauma caused by agricultural machinery and equipment were 36%, had fallen 36%, and pierced by sharp objects 28% (Widianto, Maisyaroh, & Fibriansari, 2018).

Based on research (Fibriansari & Musviro, 2018) that most farmers experience low back pain of 48.8% due to excessive workload (42.6%), work posture

(24.6%), work frequency (18%) and duration of work. (14.8%). In addition, the tenure of > 10 years has a 3.2 times greater risk of experiencing low back pain compared to a mandate of, 10 years, abnormal posture at work has a 2.5 times greater risk of potentially experiencing low back pain compared to average position body, lifting heavier weights > 5 kg risk 2.3 times greater experience low back pain compared to lifting weight <5 kg. The most dominant factor that affects low back pain together is work period (Syuhada & Setyaningsih, 2018)

Use of PPE by farmers when spraying pesticides using masks 17%, gloves 12%, googles 9%, caps 39, and special clothes 23%. The problem of pesticide poisoning, which can cause respiratory problems, chemical exposure dermatitis, cataract pneumatics, and chemical abrasion is the impact of the use of pesticides (Widianto, Maisyaroh, & Fibriansari, 2018). Improper level of knowledge of farmers in using pesticides should be improved. Inappropriate experience in using pesticides will affect the behavior or practices that are also inappropriate by farmers on agricultural land. Increasing farmers' knowledge will be more productive with participation from farmers and for farmers using community empowerment.

The most common types of trauma in 19%, followed by chemical exposure to pesticide poisoning and animals both with 10% each. The lowest incidence of trauma due to objects and injuries due to agricultural machinery with each occurrence of 1%. The sequence of causes of trauma occurring is chemical exposure of 29% and the% 3% and 1% respectively — Farmers 72% of actions against injuries in the area handled by themselves. And 28% taken to health services. This result indicates that the injuries have been very

diverse and significantly affect the health conditions of farmers (Maisyaroh, 2019).

The results of the study indicate a relationship between the proactive approach of public health and the prevention of occupational diseases with a strong level of relationship. Agricultural work varies significantly with the type of commodity and related work practices. Certain types of work practices highly identified as a higher risk of recurrent injuries. Such as harvesting small manual vegetables and fruits, meat processing, and dairy farming. When this injury or disorder is considered work-related, they identified as a work-related musculoskeletal disorder. The use of agricultural tools and machinery and the use of pesticides can significantly increase the productivity of agricultural products. But behind that, there are all risks or threats in their use, both the risk of trauma due to the use of agricultural machinery and equipment that is not by the procedure or the risk of acute or chronic pesticide poisoning. Therefore, health education is needed for farmers in the use of food or pesticides, so that farmers need to give an understanding of the dangers that occur in agricultural areas due to the use of agricultural equipment and machinery and exposure to pesticides, so farmers are more aware and more careful in using alms and wiser in using pesticides (Maisyaroh, 2019).

CONCLUSION

Trauma and pesticides often cause occupational illnesses that arise. Farmers are expected to pay more attention to the method or method of using and reducing work-related diseases. The role of nurses or Occupational Health Nursing (OHN) in agriculture must increase. Efforts to reduce the incidence of the increase in victims of health problems caused by the agricultural sector, one of which can do through a

proactive approach to the delivery of information or education about health promotion that can be done with health education for farmers.

SUGGESTION

Future research is expected to reduce the incidence of occupational diseases through a proactive public health approach to farmers. The government as the owner of the policy is expected to pay more attention to the method or method of work by emphasizing the principles of objectives to improve work efficiency and productivity by providing education and training to workers regarding the use of agricultural machinery or correct pesticides so that farmers avoid the risk of occupational diseases.

DECLARATION OF CONFLICTING INTERESTS

None declared.

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ORIGINAL RESEARCH

INDIVIDUAL HEALTH BELIEFS ABOUT OSTEOPOROSIS ON ADULT SELF-CARE BEHAVIOR IN MOJO SURABAYA

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ABSTRACT

Background: Osteoporosis occurs due to imbalance between new bone formation and bone resorption resulting decline in bone mass so that bones become prone to fracture. Person with osteoporosis should have good health beliefs toward their illness in which affect to how they do self-care properly.

Objective: This was a descriptive study that aim to identify the individual characteristics and health beliefs about osteoporosis on adult self-care behavior.

Methods: The sample was 30 adults with osteoporosis in community that selected by simple random sampling technique. The data analysis using PLS (Partial Least Square). The variable in this study were the individual characteristics, individual health beliefs about osteoporosis, and their self-care behavior.

Results: The data analysis using PLS (Partial Least Square) got three points; there were significantly influence of individual characteristics toward their health beliefs ($t = 2.20, > 1.96$), significantly influence of individual health beliefs toward their self-care behavior ($t = 3.90, > 1.96$), and influence of individual characteristics toward their self-care behavior ($t = 0.34, > 1.96$).

Conclusion: Nurses should educate the community about osteoporosis including perceptions of susceptibility and severity, barriers, benefits and self efficacy about a healthy diet, activity (exercise) and decreased risk. Control program that is comprehensive, integrated, lifelong and gradually implemented urgently needed to overcome this.

Key words: Osteoporosis, health beliefs, self-care behavior.

INTRODUCTION

Osteoporosis occurs due to imbalance between new bone formation and bone resorption resulting decline in bone mass so that bones become prone to fracture (Cooper & Lindsay, 2005). The prevalence of osteopenia (early osteoporosis) of 41.7% and 10.3% prevalence of osteoporosis (Brunner & Suddarth, 2006). Risk factors that may influence the occurrence of osteoporosis is a factor that cannot be modified and that can be modified. Factors that can be modified is related to lifestyle such as smoking, drinking alcohol,

caffeine, physical activity, nutrition (food is not enough calcium, vitamin D, and phosphorus), the use of drugs, and exposure to sunlight (National Osteoporosis Foundation, 2010; Brunner & Suddarth, 2006). Factors that can be modified shows self-care to be done for adults to prevent the onset of osteoporosis. The preliminary study in RW 7 Mojo district showed that five people have risk factors for osteoporosis because they do not have good self-care. They do not exercise regularly, do not pay attention to the intake of calcium and vitamin D in the diet, and never pay

attention to exposure to sunlight. One of them has the habit of smoking. When linked with individual health beliefs, these 5 people do not have a perception of the severity, barriers, and self-efficacy benefits associated with self-management (self-care) against osteoporosis. The purpose of this study to analyze the influence of individual health beliefs about osteoporosis towards self-care behaviors in adults in RT.03 RW.07 Mojo Surabaya.

METHODS

Study Design

The method used was descriptive study.

Setting

This research conducted in RT. 03 RW.07 Mojo District of Surabaya.

Research Subject

This study population was all citizens RT. 03 RW.07 Mojo district of Surabaya aged 35-50 years, and the sample was 30 respondents with simple random sampling technique.

Instruments

The variable in this study were the individual characteristics, individual health beliefs about osteoporosis, and their self-care behavior. The individual characteristics include age, gender, education, occupation, marital status. Individual health beliefs about osteoporosis include perceptions of susceptibility and seriousness, barriers, benefits, and self-efficacy. The implementation of self-care includes a healthy diet, exercise, reduction in risk factors.

Data Analysis

This study using PLS (Partial Least Square) to analyze the results.

Ethical Consideration

Before collecting data, the researcher conducted ethical clearance from the Ethics Committee of Nursing Diploma 3 Program of Surabaya Health Ministry Polytechnic and obtained permission from National Unity and Politics of Surabaya Regency. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS

Characteristics of Respondents

Table 1. Distribution of Frequency of Respondents in the RT 03 RW 07, Mojo District, Surabaya (n = 30).

NO	DESCRIPTION	FREQUENCY	%
GENDER			
1	Male	8	27
2	Female	22	73
Total		30	100
AGE			
1	30-35 Years	6	20
2	36-40 Years	11	36
3	41- 45 Years	8	27
	46-50 Years	5	17
Total		30	100
MARITAL STATUS			
1	Married	29	97
2	Not married	1	3
Total		30	100
JOB			
1	Housewife	8	27
2	PNS	6	20
3	TNI	1	3
4	Employe	3	10
5	Private	12	40
Total		30	100
FAMILY MEMBERS ARE SUFFERING OF OSTEOPOROSIS			
1	Yes	6	20
2	No	24	80
Total		30	100

Individual Health Belief toward Osteoporosis

Table 2. Distribution of Frequency of Individual Health Belief toward Osteoporosis in the RT 03 RW 07, Mojo District, Surabaya (n = 30).

NO	DESCRIPTION	FREQUENCY	%
PERCEPTION OF OSTEOPOROSIS SEVERITY			
1	Very good	17	56.7
2	Good	12	40.0
3	Fair	1	3.3
4	Poor	0	0
5	Very poor	0	0
Total		30	100
PERCEPTION OF BARRIERS TO OSTEOPOROSIS TREATMENT			
1	Very good	4	13.3
2	Good	26	86.7
3	Fair	0	0
4	Poor	0	0
5	Very poor	0	0
Total		30	100
PERCEPTION OF THE BENEFITS OF OSTEOPOROSIS TREATMENT			
1	Very good	20	66.7
2	Good	10	33.3
3	Fair	0	0
4	Poor	0	0
5	Very poor	0	0
Total		30	100
PERCEPTION OF SELF-EFFICACY			
1	Very good	14	46.7
2	Good	16	53.3
3	Fair	0	0
4	Poor	0	0
5	Very poor	0	0
Total		30	100

Self-Care Behavior toward Osteoporosis

Table 3. Distribution of Frequency of Self-Care Behavior toward Osteoporosis in the RT 03 RW 07, Mojo District, Surabaya (n = 30).

NO	DESCRIPTION	FREQUENCY	%
A HEALTHY DIET			
1	Very good	5	16.7
2	Good	18	60.0
3	Fair	4	13.3
4	Poor	3	10.0
5	Very poor	0	0
Total		30	100
SPORTS			
1	Very good	4	13.3
2	Good	9	30.0
3	Fair	13	43.3
4	Poor	4	13.3
5	Very poor	0	0
Total		30	100
DECREASING RISK FACTORS			
1	Very good	3	10.0
2	Good	2	6.7
3	Fair	5	16.7
4	Poor	20	66.7
5	Very poor	0	0
Total		30	100

Analysis techniques in this study using Partial Least Square (PLS). PLS is a powerful analytical method that neither assume the data with measurement scale nor small sample. PLS approach is a free distribution or in other words do not assume certain distribution data, can be nominal, category, ordinal, interval and ratio (Ghozali, 2006). The research data related to the characteristics of the respondent nominal scale form such as gender, occupation and more. While other variable data models believe that health and self-care in the form of interval scale. PLS is suitable because it does not require data with a particular distribution and very flexible for this study because it does not require too many samples. In the processing of Partial Least Square (PLS) is done in two stages:

1. The first stage is to test the outer models. In this phase is to test:
 - a. Convergent validity. Indicators considered valid if it has a value of loading factor greater than or equal to 0.5 or has a value of $t > 1.96$.
 - b. Construct validity. Construct validity value is measured using value Average variance extracted (AVE). Value AVE said to be good if it has a value greater than 0.5.
 - c. Discriminant validity. Indicators considered valid if it has a value in a variable loading factor is greater than any other variable. Value standard factor loading greater than or equal to 0.5.
 - d. Reliability. Reliability of the study was measured using a composite reliability. The reliability value is said to be good if more than 0.6.
2. The second stage is to test the inner workings of the model. In this phase aims to determine whether there is influence between variables. Tests carried out using t-test. The results of the hypothesis with testing are carried out using the t test. Variables are said to have an effect if t count is greater than t table. t table in this study is 1.96. Likewise, if the relationship between negative variables, the decision is if - t count is smaller than - t table. Calculation results can be seen in the following picture:

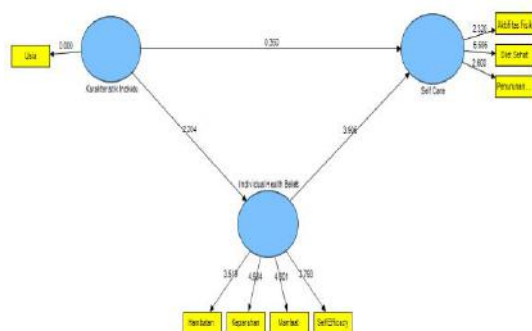


Figure 1. Structural Model Test

The test results of structural models:

- a. The coefficient estimate of the individual characteristics of the individual health beliefs is 0.408375. The coefficient is positive which was further enhanced when individual characteristics, the higher individual health beliefs. And conversely the lower the individual characteristics, the lower the individual health beliefs Based on values obtained t value 2.203932. The value is greater than the standard value of 1.96 t so that no significant effect.
- b. The coefficient estimate of individual health beliefs to self-care is 0.627929. The coefficient is positive that if further enhanced individual health beliefs, the higher the self-care. And conversely the lower the individual health beliefs will get low self-care. Based on the values obtained t value 3.904653. The value is smaller than the standard value of 1.96 t so that there is a significant influence individual health belief to self-care.
- c. The coefficient estimate of the individual characteristics of the self-care is 0.069679. The coefficient is positive that if further enhanced the individual characteristics of the higher self-care. And conversely the lower the individual characteristics will get low self-care. Based on the values obtained t value 0.349724. The value is smaller than the standard value of 1.96 t so that there is no significant effect on the individual characteristics of self-care.

DISCUSSION

The results showed that the characteristics of the residents RT.03

RW.07 Mojo district Surabaya significantly affect the health of individual belief, it shows that when someone is getting old, the higher the education, the experience will make the belief in an individual's health is also good. In individuals who have full-time jobs and has the support of a couple (married) will also get an individual's belief in the better health.

The results showed that the characteristics of the residents RT.03 RW.07 Mojo district Surabaya no significant influence on self-care, this shows that these characteristics influence but not directly to individual self care but through individual health belief first.

The results showed that the health belief affects self care significantly, it could be explained that the perception of the severity of a disease in this regard osteoporosis, perceptions of barriers in the treatment, the perception of the benefits of prevention and perceptions of self-efficacy will greatly affect how a person can take care of himself (self care) either through a healthy diet, exercise, and reduction in risk factors for disease (osteoporosis).

Statistical analysis showed that there was a significant relationship between individual characteristics of the health individual beliefs. This shows that the confidence (belief) is defined as a subjective probability of object relationships of trust and some objects, values, concepts, or specific attributes. The model proposed to explain the health behaviors related to health care utilization is specifically based on two classes of variables: first, the psychological condition of readiness to take certain actions, and secondly, the extent to which a particular action is believed to be, overall, to be helpful in reducing the threat. Readiness to act is defined in terms of the individual's point of view of vulnerability and seriousness than professional views of reality. Belief that determines readiness has elements of cognitive and emotional elements. Emotional aspect has a greater value in a number of behaviors of the cognitive elements (Glanz, 2008). There are two concepts of value-expectations can be formulated in health behavior, assuming

that a person 1) hopes to avoid disease or regain health, and 2) hopes that certain health measures can prevent (or improve) disease. The expectation is further illustrated in the case of individual estimates of the personal vulnerability and perceived severity of a disease, and the possibility to reduce the threat of a disease through his actions.

CONCLUSION

There was a significant influence on the characteristics of the individual against individual health beliefs about osteoporosis in adults. There is a significant relationship between individual health beliefs about osteoporosis on the implementation of self-care in adults. There was no significant effect of individual characteristics on the implementation of self-care osteoporosis in adults.

SUGGESTION

Given counseling on society RT.03 Mojo Surabaya RW.07 village of osteoporosis include perceptions of susceptibility and severity, barriers, benefits and self-efficacy about a healthy diet, activity (exercise) and decreased risk. To prevent the occurrence of osteoporosis in Surabaya community needs to do a similar study in Surabaya

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PERSPECTIVE STUDY

THE IMPORTANT OF SOCIAL SUPPORT FOR QUALITY OF LIFE PEOPLE WITH SPINAL CORD INJURY: A PERSPECTIVE

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Spinal Cord Injury (SCI) is one of the most overwhelming events for the sufferer and their family. It is a medically complicated and life-disrupting condition. In the past, SCI related to very high mortality rates. Nowadays, the evolution of the medical technology and advance care are transforming the situation. Better medical services give the people that suffer SCI more ability to survive, live and flourish after the devastating injury (Maholtra, Bhatoe, & Sudambekar, 2010; WHO, 2013). However, it is not a simple situation for restoring their condition after the life-changing incident.

SCI incident are relatively rare; however, it is lives changing and require large costs. International incident data estimates that every year between 250,000 and 500,000 people experience SCI. The majority of these cases are caused by trauma. Recent data show that SCI is associated with an increased risk of death. The results of the study indicate that people with SCI die two to five times earlier than the general population. Furthermore, SCI

requires high costs in post SCI care and rehabilitation (WHO, 2013). According to Singh, Tetreault, Kalsi-Ryan, Nouri, & Fehlings (2014) the highest prevalence of SCI was in the United States with 906 per million population while the lowest prevalence was in France with 250 per million population.

Spinal cord is a very vital part of the central nervous system, so that SCI can cause disability (Selzer, Dobkin, & Shulman, 2008). SCI patients will live with limited functions based on the level and type of injury. Good handling and rehabilitation help patients to improve their functional abilities (Crepeau, Cohn, & Schell, 2009). SCI causes patients to face major changes in life where patients must be able to adapt to disability. However, with the development of SCI rehabilitation now the life expectancy of SCI patients is longer. Changes faced by patients and longer life expectancy will affect the lives of patients and families. This condition ultimately affects the quality of life of SCI patients (Sisto, Druin, & Sliwinski, 2009).

Quality of life encompasses how individual adjust the goodness of multiple facet on their life (Theofilou, 2013). WHO defines quality of life as the individual's perception of the position of his life in the context of the culture and value system in which he lives and in relation to the individual's goals, hopes, standards and concerns? This concept was developed from a healthy concept. WHO defines health as a perfect condition both physically, mentally and socially and not only free from disease? Quality of life emphasizes the components of happiness and satisfaction in life (Fayers & Machin, 2017; Oksuz & Malhan, 2006).

Ferrans, Zerwic, Wilbur, and Larson (2005) compiled a concept of quality of life which is a revision of the concept of quality of life from the model proposed by (Wilson & Cleary, 1995). In the conceptual model quality of life is described as subjective well-being that is related to how happy or satisfied someone is with his life as a whole. Subjective well-being is not a single conception, but includes a feeling of comfort and discomfort, a general assessment of the satisfaction of life and satisfaction of the individual's domain of life. The concept has several components, namely biological functions, symptoms, functional status, general health perceptions, individual characteristics, environmental characteristics (Ferrans et al., 2005).

Environmental characteristics are categorized as social and physical. The characteristics of the social environment are interpersonal or social influences on health, including the influence of family, friends and health care providers. The effects of the social environment are significantly influenced by inherited culture, which will influence participation in preventive care as well as participation in treatment. While the characteristics of the

physical environment are the conditions of the house, the surrounding environment and workplaces that affect health both positively and negatively (Ferrans et al., 2005). Quality of life is also related to healthy families and healthy environments (Berman, Snyder, & Frandsen, 2016).

Social support is the exchange of resources between individuals who are expected to improve the welfare of the recipient of the support. Social support shows that someone is loved, cared for, valued, valued and given a sense of belonging. The results of a systematic review show that there is a consistent relationship between social support for life satisfaction, quality of life and well-being. This is indicated by similar results in 12 studies, which proved that social support was related to subjective well-being and quality of life. Availability of support from the environment is positively related to satisfaction in life (Müller, Peter, Cieza, & Geyh, 2012). A multicenter study to persons with recently acquired SCI show the compelling interaction effect between social support and distress on life satisfaction. The result of the study to 190 individuals with SCI show that everyday social support and support in problem situations were directly associated with life satisfaction over time (Van Leeuwen et al., 2010).

In conclusion, individuals with SCI experience a decrease in quality of life and require efforts to increase or restore it to be better. Good quality of life determine that individuals are able to adapt to changes in post-SCI conditions. Social support is an important part in an effort to improve the quality of life of individuals with SCI. Social support proved to have a positive relationship to quality of life and individual satisfaction with SCI. Moreover, further research is needed to develop and optimize social support in order to improve or

increase the quality of life of individuals with SCI.

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ORIGINAL RESEARCH

PARENTAL BEHAVIORS IN INFLUENCING DENTAL CARIES OCCURRENCE AT THE FIRST AND SECOND GRADERS OF ELEMENTARY SCHOOL

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ABSTRACT

Background: In 2007-2013, the prevalence of dental caries occurrence in Indonesia was reportedly high. No less than 63% of Indonesian people, especially children, had suffered from the mouth and dental diseases; one of which was dental caries. Parental behaviors were suspected as the most influencing factor to affect the level of the mouth and dental cleanliness on children. Those behaviors included cognitive (knowledge), emotion (attitude), and conative (skill) aspects.

Objective: This research is intended to investigate parental behaviors that influence dental caries occurrence at elementary school students.

Methods: This research constitutes cross-sectional research through purposive-sampling technique, with the use of logistic regression test.

Results: The results of two-fold logistic regression test had indicated that skill aspect resulted in 0.003 of p-value and 0.197 of OR, which defined that skill had contributed to dental caries occurrence with 19.7% of the degree of contribution.

Conclusion: The components of parental behaviors for dental care comprised some key aspects, such as knowledge, attitude, and skill. Out of the three, poor parental skill was allegedly more influencing upon dental caries occurrence at children.

Key words: Parental behaviors, caries knowledge, dental caries, elementary school students.

INTRODUCTION

In normal, tooth brushing has been a conversant custom to Indonesian people and is a must-do activity in morning and or afternoon bathing, with 90.7% of whom as the doers. This has been phenomenal to the whole Indonesian as proper tooth brushing should be performed as a part of daily life, especially in the morning (normally after breakfast) and in the evening (before going to bed). Tooth brushing that is performed in both times is deemed to provide the doers with optimum result. Counterproductively,

tooth brushing in not-recommended times might cause new dental diseases; one of which is dental caries. This sort of disease is destructive to the dental structure and leads to the cavity (Wisnu, 2017 as cited in Abdullah, 2018).

Almost the entire provinces throughout Indonesia had reportedly undergone prevalence increase of dental caries from 2007 to 2013; only four of which showed the decline, to name North Maluku, West Papua, Jogjakarta, and Riau. In fact, the highest increases were found in

South Sulawesi (29.1%), East Java (28.6%) and Lampung (23.6%). Meanwhile, in respect to age criteria, dental caries occurrence was more common to people aging 5-8 years old (28.9%) than those of age 1-4 years old (10.4%) and 9-14 years old (25.2%) (Riskesdas, 2013).

Moreover, dental caries can be much more intense only if the patients leave it without any serious care within specific periods. The intenseness, further, occurs due to malnutrition and disruption on the chewing ability that is allowed to interfere with food absorption and digestion and, finally, negatively influences children nutritional status (Kusumawati, 2010). In addition, there are some other impacts of dental caries which most of the patients are common to experience, namely crap in teeth, food avoidance, halitosis, toothache, temporomandibular joint disorder, and severe toothache (with continuous and repeated painful sensation) (Ratna, 2011 in Arikhman, 2018).

In general, children are still found to have an improper habit that might ruin their dental health. The habit involves being lazy for tooth brushing, consuming too much sweet food continuously, sleeping after consuming sweet food without any tooth-brushing action afterward, and doing tooth-brushing lately (Fitriani, 2014). Research from Afiati (2017) highlighted the relationship of motherhood behaviors on dental and mouth care upon dental caries occurrence at children based on parental knowledge. Such knowledge can be acquired by nature or either by a plan through education. Parents who are found less informed about dental and mouth care can be addressed as a predisposition factor of certain skill of not promoting children's dental and mouth care (Noreba, 2015).

Further, parental actions to accompany, educate, and give a very modest example in daily experience are

considered precisely practical to improve children's dental and mouth care. By positive parental skill, the risk of dental caries occurrence at children can be lessened (Worang, 2014). Regarding the result of previous research, it was evident that as many as 74 out of 103 first graders of particular elementary school (coded as SD X) in Malang had suffered from dental caries. Moreover, the researcher had skilled a previous study on five parents through direct interview corresponding to children's dental and mouth health. The data acquired from the interview had indicated that parental attention to children's dental and mouth health, specifically on dental caries occurrence, was still very low. Referring to the result, thus, this current research aimed at investigating the dominant factor that contributed much on dental caries occurrence at elementary school students.

METHODS

Study Design

This current research met the design of the analytical observational study, by means of a cross-sectional approach.

Setting

The research was skilled in November 2018 in one of the elementary schools in Malang.

Research Subject

The samples in this study were 47 students from the First and Second Grades were recruited through non-probability sampling technique, which was purposive sampling with such criteria as, those aging 6-8 along with their parents, those suffering from dental caries, and those free from dental caries.

Instruments

Questionnaire about parental behaviors and observational sheet were set

as the instruments to collect the data. The questionnaire comprised positive and negative questions and was designed randomly. In addition, there were four main indicators included in the questionnaire, namely the definition, the causes, the care, and the impacts of dental caries occurrence. Further, there were 15 questions in knowledge point. For an attitude point, three main indicators comprised the desires for dental caries prevention, mouth and dental care, and children's health, with 10 statements provided. Next, referring to the skill point, there were two indicators included regarding preventive and caring actions for dental caries occurrence, with six questions given.

Data Analysis

Multivariate analysis is used for the analysis test on two or more variables. It aims at identifying the most influencing independent variable upon the dependent one. The result of this sort of analysis can be detected from the expose value or commonly named as an odds ratio (Notoatmodjo, 2010). The use of the analysis method is defined by dependent variable involved. When the dependent variable is found categorical, thus, logistic regression analysis will be occupied. Conversely, if the dependent is in numeric form, linear regression one will be used (Dahlan, 2016). Assumptions of Logistic regression: (1) logistic regression does not require a linear relationship between the dependent and independent variables, (2) the error terms (residuals) do not need to be normally distributed, (3) homoscedasticity is not required, and (4) the dependent variable in logistic regression is not measured on an interval or ratio scale (Gregory, 2018). Therefore, logistic regression analysis was employed for this current research due to the variable status that met categorical form.

Ethical Consideration

This research has gone through an ethical test from Faculty of Health Sciences, University of Muhammadiyah Malang and obtained permission from National Unity and Politics of Malang Regency and Principal of the Elementary School. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS

Characteristics of Respondents (Students)

Table 1. Distribution of Frequency of Respondents (Students) at the One of Elementary School in Malang in November 2018 (n = 47).

Criteria	Number of Respondents		Min	Max	Mean
	n (47)	% (100)			
Age:					
6 years old	3	6.4	6	8	7.2979
7 years old	27	57.4			
8 years old	17	36.2			
Gender:					
Male	26	55.3		-	
Female	21	44.7			

Based on Table 1, it is shown that the majority of the respondents were 7 years old, signifying 27 students or 57.4% out of the entire population of the respondents. Regarding gender, male respondents were superior in number, constituting 26 students or 55.3% out of the whole respondents engaged.

Characteristics of Respondents (Parents)

Table 2. Distribution of Frequency of Respondents (Parents) at the One of Elementary School in Malang in November 2018 (n = 47).

Criteria	n (47)	% (100)	Min	Max	Mean
Age (Years)					
Pre-Adult (26-35)	21	44.7	26	55	37.1702
Post-Adult (36-45)	22	46.8			
Pre-Mature (46-55)	4	8.5			
Educational Background:					
Junior High School	2	4.3			
Senior High School	18	38.3		-	
Diploma-3	2	4.3			
Undergraduate	16	34			
Graduate	8	17			
Postgraduate	1	2.1			
Occupation:					
Private Employee	8	17			
Teacher	5	10.6			
Housewife	15	31.9			
Civil Servant	5	10.6		-	
Private Employer	8	17			
Entrepreneur	3	6.4			
Pension	1	2.1			
Lecturer	2	4.3			
Monthly Income:					
<1 million	8	17			
1-2 million	17	36.2			
2-3 million	6	12.8		-	
3-4 million	12	25.5			
>5 million	4	8.5			

According to Table 2, it is illustrated that most of the parents belong to the category of post-adult age (36-45 years old) (46.8%), senior high school background of study (38%), unoccupied (housewife) (31.9%), and 1-2 million of monthly income (36.2%).

The Results of Multivariate Analysis on Independent Variables

Table 3. The Results of Multivariate Analysis on Independent Variables.

Variables	p-value	OR	CI 95%	
			Lower	Upper
Knowledge	0.998	0.000	0.000	-
Attitude	0.998	0.000	0.000	-
Skill	0.003	0.197	0.068	0.565

Referring to Table 3, it is identifiable that the result of logistic regression analysis is meant to define the dominant factor to influence dental caries occurrence at children, which includes attitude and skill variables. Further, the result of multivariate analysis had been reexamined by using Z score and finally shows, as illustrated in the table, that the latter is the most dominant factor that contributes to dental caries occurrence at children with 0.003 of p-value and 0.197 of OR value. This concludes that poor parental skill on dental health care might cause risk of dental caries occurrence at children up to 19.7% or 0.197-fold.

DISCUSSION

The result of the research had indicated that parental skill on dental health care was of great contribution to dominantly cause dental caries occurrence at children. Further, it was found that parents had shown very poor performance in promoting dental health care, such as selecting or providing their children with good food, accompanying and monitoring them on dental health care, and routinely controlling their dental health to the dentists per six months. As a matter of fact, the risk of dental caries occurrence at children increased dramatically.

The researcher assumed that the occurrence happened due to poor

knowledge the parents had acquired, which was alleged to significantly affect the parental skill on dental health care in the daily practice. In nature, skill refers to something very urgent for daily practice. If ones show proper skill based on their possessed knowledge, therefore, everything they perform will lead to positive impacts. Contrarily, performing something with insufficient knowledge must lead ones to something rigorous. In addition, there must be ones equipped with excellent knowledge, but never can they apply it into the daily practice; which means that all the theories they have acquired remain useless.

Moreover, this research was found similar to that of Arianto (2014) which defined that good parental knowledge could raise the skill of dental and mouth health control on 6-12-year-old children in Sumberejo district. In addition, a similar finding was also revealed in the research of Atyanta (2015) quoted in Nurjannah (2016) describing that parental knowledge influenced dental caries occurrence at mentally-impaired children. In essence, knowledge is the most fundamental basis of one's behavioral building. Thus, parental knowledge will play a very essential role in promoting dental and mouth care for their children as an effort of dental caries prevention. The knowledge can be acquired by nature or either by the plan (through educational pathway). Parents who are found less informed about dental caries occurrence are deemed as part of the predisposition factor of the skill of not promoting dental and mouth health care on children (Noreba, 2015).

Based on the research of A'yun (2016), parental skill in making use of health facility was shown poor, which was suspected to increase the risk of dental caries occurrence at children. A very good example of proper parental skill on dental caries prevention at elementary school

children is by having a routine control to the dental health care unit. Children in the school-age period are still very dependent on their parents, especially mother. As found by this current research, there were still some parents equipped with poor behaviors; one of which was being ignorant to control their children's dental health to dentists per six months.

CONCLUSION

Generally, parental behaviors consist of three main points, to name knowledge, attitude, and skill. Out of the three, skill is proved as the most influencing factor since it constitutes the outcome of unifying knowledge and attitude ones have acquired.

SUGGESTION

Health workers must pay attention to the skill factor in dental care as one of the parental behaviors that might influence the incidence of dental caries.

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ORIGINAL RESEARCH

THE EFFECT OF DIABETIC FEET SPA THERAPY TO BLOOD GLUCOSE LEVEL AND SLEEP QUALITY OF DIABETES MELLITUS PATIENT

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ABSTRACT

Background: Diabetes Mellitus (DM) is one of metabolic disease disorder marked by the emergence of hyperglycemia. The effect of hyperglycemia is the blood glucose going up and sleep disorder. The non-pharmacological management can be done is diabetic feet spa therapy to prevent hyperglycemia.

Objective: The purpose of this study is to analyzes the effect of diabetic feet spa to blood glucose and sleep quality of DM patient.

Methods: This study employing Quasy Experiment pre post control group design method. Population in this study are 41-50 years old of DM Type 2 patients. Sample that used are 60 respondents, then divided into intervention group and control group, sampling technique with simple random sampling. Data collection applied diabetic feet spa observation sheet; instrument that used is glucometer to assess blood glucose level and assess sleep quality using PQSI questionnaire. Data analyzed with Wilcoxon and t test with $\alpha = 0.05$.

Results: Result of the study showed that there are differences on sleep quality on group who given intervention diabetic feet spa and control group p value = $0,000 < \alpha (0,05)$ and finding a difference on blood glucose level to group who given diabetic feet spa intervention and control group (t = 12,34; p value = 0,000).

Conclusion: Diabetic feet spa able to smoothing the blood circulation, lowering muscle tone stiffness, relax, feel refresh, analgesic and sedative effect. Those effect able to improving blood glucose level and sleep quality. Diabetic feet spa is recommendable for non-pharmacological therapy in sleep quality and blood glucose level on patient DM type 2.

Key words: Diabetic feet spa, blood glucose level, sleep quality.

INTRODUCTION

Metabolic disease disorders one of them is Diabetes Mellitus (DM) marked with the emergence of hyperglycemia cause the insulin secretion is disturbed, and or increasing cellular insulin resistance. Chronic hyperglycemia and diabetic mellitus metabolic disorder cause tissue and organs damage, like sighting, urinary system, nerves, and vascular system. Diabetic ulcer as DM complication over the skin, began with numbness and tingling feels.

Symptoms or signs of the DM disease leading to patient feel uncomfortable because that clinical symptoms frequently occur at night then it can bel disturb the patient's sleep (Taub and Redeker, 2008).

In 2014, DM prevalence over the world in group 40-59 years old reached to 387 million peoples. DM patient in Indonesia estimated as high as 10 million positioned Indonesia in the 7th highest rank in the world after China, India, USA, Brazil, Russia and Mexico (IDF, 2015). Based on Riskesdas (2018), East Java

ranked 5th highest of DM. Riskesdas (2018) stated that East Java ranked 5th highest of DM. In 2013, data of Surabaya Health Agency showed that as many as 21.729 increase to 26.613 patients in 2013 (Profile of Surabaya Health Agency, 2014).

Hyperglycemia going on prolong will cause complication and other disorder metabolism. Patient of type 2 DM having clinical and physical symptoms that leading to sleep disorder. Clinical symptoms can be skin itching, polyuria, polyphagia, and polydipsia, while physic symptoms are stress, emotional disorder, or even cognitive. Sleep disorder effect on frequent awake up and difficult start to sleep again. This sleep distress finally causing sleep quality disorder (Gustimigo, 2015). Sleep quality disorder trigger endocrine and metabolism disorders such glucose tolerance anomaly, insulin resistance, as well as response lack to insulin (Caple and Grose, 2011). Sleep disorder NREM (Non-Rapid Eye Movements) for 2 days instigate insulin sensitive decrease to 25% (Spiegel, et al., 2009).

Various intervention performed to prevent, to treatment and controlling the complication incidence in non-pharmacological management for DM patients. Sleep disorder in DM patients is preventable by doing feet treatment. Warm water therapy is useful to smoothing blood circulation, reduce muscle tonus stiffness, produce relax sensation, stimulate periphery nerves to make refresh sensation, analgesic, and sedative effect (Priyanto, 2012). Diabetic feet Spa as feet treatment activity series within found feet exercise activity, cleaning with warm water and massage (Purwanti, 2013). This is conformed with the objective of Indonesia DM control program that is controlling risk factors so lowering pain number, disability, and mortality that caused by DM with exercise (Ministry of Youth and Sport of

Republic Indonesia KEMENPORA RI, 2010).

By reason of above phenomenon, the writer interested in make a study about the effect of diabetic feet Spa on sleep quality in diabetes mellitus patient di Waru Public Health Center Sidoarjo. The objective of this research to analyses the effect of diabetic feet Spa on sleep quality in diabetes mellitus patient di Waru Public Health Center Sidoarjo.

METHODS

Study Design

This research methodology applies Quasy Experiment pre-post control group design type.

Setting

Location of the research in Waru Public Health center, Waru, Sidoarjo.

Research Subject

Population of this study are 41-50 years old of diabetes mellitus type 2 in Waru Public Health Center Sidoarjo about 170 respondents, sample that used are 30 interventions and 30 controls, who eligible inclusion criteria that is patients of DM type 2 who does not have disorder in lower extremities like diabetic ulcer, unable to walk, fracture on the leg, age 41-60 years old, blood glucose level less than 600 mg% when performed sample selection, contracted diabetes mellitus less than 5 years and not having chronic disease, willing to be respondent. This study using simple random sampling.

Instruments

Independent variable in this study is diabetic feet Spa while dependent variable is sleep quality. Instrument that used to measure the diabetic feet Spa is observation sheet of diabetic feet Spa, measure the blood glucose level is glucometer, while

instrument to measure sleep quality is PQSI (Pittsburg Sleep Quality Index) questionnaires.

Data Analysis

Data analyzed with Wilcoxon and t test with $\alpha = 0.05$.

Ethical Consideration

This research has gone through an ethical test from Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama, Surabaya and obtained permission from National Unity and Politics of Sidoarjo Regency. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS

Before and After Blood Glucose Level Given Diabetic Feet Spa Intervention

Table 1. Difference before and after level given diabetic feet Spa intervention in intervention and control groups in Waru Public Health Center Sidoarjo in 2019 (n = 60).

Group	n*	Before intervention		t	p value	After intervention		t	p value
		Mean	SD			Mean	SD		
Intervention	30	289.23	99.524	0.456	0.651	124.57	33.056	-5.950	0.000
Control	30	275.90	109.499			283.50	99.255		

Based on table 1, it found that no differences mean significantly of blood glucose level before given diabetic feet Spa intervention in intervention group with glucose level before given diabetic feet Spa intervention on control group ($t = 0,456$; p -value = 0,651). Blood glucose level data taken from intervention group and control group is homogenic. The differences mean significantly of blood glucose level after given diabetic feet Spa intervention in intervention group with glucose level after

given diabetic feet Spa intervention in control group ($t = -5,950$; p -value = 0,000).

Differences on Sleep Quality Before and After Given Diabetic Feet Spa

Table 2. Differences on sleep quality before and after given diabetic feet Spa intervention on intervention group and control group in Waru Public Health Center Sidoarjo.

Kelompok	n*	Before intervention		p value	After intervention		p value
		Mean	SD		Mean	SD	
Intervention	30	2,50	0,630	0,107	3,00	0,000	0,008
Control	30	2,70	0,466		2,77	0,430	

Based on table 2, it shown that no differences mean significantly of sleep quality before given diabetic feet Spa intervention on intervention group with sleep quality before given diabetic feet Spa intervention on control group (p -value = 0,107). Present that sleep quality data taken from intervention group and control group is homogenic. The differences mean significantly of sleep quality after given diabetic feet Spa intervention on intervention group with sleep quality after given diabetic feet Spa intervention on control group (p -value = 0,008).

DISCUSSION

Before and After Blood Glucose Level Given Diabetic Feet Spa Intervention

Founded the results disclosed the mean difference in blood glucose levels before and after the intervention where in the intervention group higher than the control group. This reveals that respondents who were given intervention or diabetic feet SPA treatment had low blood glucose levels. The lower blood glucose level values indicate an improvement in the blood glucose levels after diabetic feet SPA is performed. Decrease in blood glucose

levels indicates a decrease in the level of interference due to DM, because the severity of diabetes mellitus will be indicated by the presence of blood glucose levels which are higher than the normal threshold value.

Decreased blood glucose levels are also presented in the study by Priyanto (2012) regarding the effect of feet exercises on decreasing blood sugar levels following feet exercises in Magelang. The results showed that the majority of DM exercise participants had decreased blood glucose levels.

The core likeness of the study confirms blood glucose decrease, if patients who have diabetes mellitus are given exercise training or activities where gymnastics is one of a series of activities of the Diabetic Feet SPA. The distinction focal in research found with this study is that gymnastics carried out in Priyanto's research is diabetes exercise while in this study the diabetic feet SPA in which there is a diabetes exercise intervention in SPA therapy as well.

From on the results above, it indicates that blood glucose levels in people with DM can be more controlled or reduced by doing activities. The activities carried out are carried out regularly, measured and carried out properly and correctly. Spa Therapy Diabetic feet that is done consistently, will be able to stimulate blood vessels more smoothly and be able to be shown until sweating will press the pancreas to produce insulin to reduce blood glucose levels in the body.

Differences on Sleep Quality Before and After Given Diabetic Feet Spa

Founded the results disclosed the mean difference in quality of sleep before and after the intervention where in the intervention group higher than the control group. This illustrates that respondents who were given intervention/treatment had

relatively better sleep quality than respondents who did not get diabetic feet Spa treatment.

The results of this study are in accordance with previous studies namely Chandramolesswaran & Govardhan (2011), SPA therapy procedures performed by performing a combination of soaking water with a temperature of 380 C to 400C and massage. Chandramolesswaran & Govardhan explained that blood vessel vasodilation can be achieved by keeping blood vessels warm, avoiding cold conditions, reducing emotional stress and preventing vasocintricion. The results of the same study also explained that soaking the feet using warm water can result in blood vasodilation and dilated arterial lumen, thereby reducing blood flow resistance which will increase blood flow (Chandramolesswaran & Govardhan, 2011).

CONCLUSION

Diabetic feet Spa able to smoothing the blood circulation, lowering muscle tone stiffness, relax, feel refresh, analgesic and sedative effect. Those effect able to improving blood glucose level and sleep quality. Diabetic feet spa is recommendable for non-pharmacological therapy in sleep quality and blood glucose level on patient DM type 2.

SUGGESTION

Diabetic feet spa is recommendable for non-pharmacological therapy in sleep quality and blood glucose level on patient DM type 2.

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Penelitian dan Pengembangan Kesehatan Departemen Kesehatan RI.

ORIGINAL RESEARCH

SELF-EFFICACY AND SELECTED DEMOGRAPHICS AS DETERMINANTS OF THE FAMILY BEHAVIOR ON EXAMINATION FOR PATIENTS WITH TUBERCULOSIS IN PAMEKASAN

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ABSTRACT

Background: Tuberculosis is still a global health problem, particularly in Pamekasan. The family support to do examination for patient with tuberculosis is inadequate. There was a limited literature exploring the factors associated with the Family Behavior on Examination for Patients with Tuberculosis.

Objective: This study aimed to analyze the correlation between self-efficacy, demographics and Family Behavior on Examination for Patients with Tuberculosis in Pamekasan.

Methods: This research was conducted through cross-sectional design. A number of 379 respondents were invited from 8 clinics using a two-stage cluster sampling. This study was conducted from December 2016 to August 2017. The Bivariate analysis was tested using Chi-square while multivariate analysis was examined through logistic regression.

Results: The most respondents who did not do examination for patient with Tuberculosis was > 50 years old and have low level of education. The bivariate analysis showed that only self-efficacy and education level have relationship with the behavior of self-examination among family of patients with Tuberculosis (p -value < .05). The positive relationship indicates that the higher score of self-efficacy and education level the greater the effort of family to do examination for patient with Tuberculosis (p -value < .05).

Conclusion: The self-efficacy and level of education have significant influence toward the behavior of self-examination, therefore it can be reference for health practitioner and researcher to promote health behavior among family of patient with Tuberculosis.

Key words: Behavior, family, self-examination, self-efficacy, tuberculosis.

INTRODUCTION

Tuberculosis is still a global problem because until now no country in the world has been free from this disease. The Mycobacterium tuberculosis has infected one third of the world's population, based on WHO data there are around 10.4 million cases of tuberculosis, some 5.9 million (56%) sufferers are men, 4.5 million (44%) are women, 1 0 million (10%) of tuberculosis sufferers attack children (WHO, 2014).

The case detection rate (CDR) of tuberculosis in Pamekasan Regency

recorded in Pamekasan District Health Office for all Public Health Center in 2015 averaged 39.85%, this figure is certainly very far from the national coverage target of 70% (Widjanarko, 2016). Most of local society consider that tuberculosis is not contagious. They think that Tuberculosis can be cured by putting phlegm in a container and then buried. This happened from generation to generation until now, thus affecting the interest of the community to utilize Public Health Center. Family plays an important role in efforts to treat

and prevent transmission of tuberculosis (Heny, 2015).

A factor that might affect the behavior of self-examination is self-efficacy of the family to support patient to do Tuberculosis examination. *Self-efficacy* plays a significant role on how people think, feel, and behave. *Self-efficacy* consisted in cognition can determine whether health *behavior* will be sustained or change (Bandura, 1997).

This study aims to explore factors associated with the behavior of self-examination among family who has direct contact to patient with tuberculosis in Pamekasan. The results of this study are expected to help health workers and government to build a strategy so that family can utilize the service of Public Health Center. This study aimed to analyze the correlation between self-efficacy, demographics and Family Behavior on Examination for Patients with Tuberculosis in Pamekasan.

METHODS

Study Design

This research was conducted with an observational approach, which is to observe without giving treatment to the population but to analyze the influence of existing variables. This research is a quantitative analytic using cross-sectional approach.

Setting

This research was conducted in Pamekasan Regency from December 2016 to August 2017.

Research Subject

The population in this study were all close contact families of patients with pulmonary tuberculosis (care giver) in Pamekasan Regency with a total of 881 people. The sample used in the study was a portion of close contact families (care

giver) of pulmonary tuberculosis patients who were willing to be examined.

The data collection method was a simple random sample selection procedure. Data collection was done by distributing questionnaires randomly until the required number of samples was met. The sample size for this study amounted to 379 samples. Determination of the sample size of each Public Health Center using the proportional method of determining the sample size of each Public Health Center selected proportionally according to the patient population in each Public Health Center.

Instruments

The conceptual framework in this study was designed based on the Social Cognitive Theory (SCT) developed by Albert Bandura (1977) where this model can provide an overview of how individuals, the environment and habits have a strong relationship to the emergence of a person's behavior. This study analyzes the relationship of factors contained in personal components such as age, gender, education level, work status and self-efficacy with family behavior in tuberculosis examination. For validity, it used a significance test by comparing the value of r arithmetic with the value of r table. This validity test was conducted by testing the questionnaire on populations that have similar criteria of 20 respondents, after the tabulated data, the construct validity testing was carried out by factor analysis, which is to correlate between scores of questionnaire items. In this case the magnitude of df can be calculated from 20 to 2 or $df = 18$ with alpha 0.05 obtained r table 0.444, if r counts the questions can be seen greater than r table and the value of r is positive, then the question is said to be valid. Reliability test means that an instrument can be trusted enough to be used

as a data collection tool because the instrument is good. If the data is true in accordance with reality (Arikunto, 2006), then no matter how many times it is taken, it will still be the same. Self-efficacy has Cronbach Alpha .650, meaning that the instrument was reliable.

Data Analysis

The data obtained were examined through descriptive, bivariate, and multivariate analysis.

Ethical Consideration

This research has gone through an ethical test from Nursing Academy of Nazhatut Thullab Sampang and obtained permission from National Unity and Politics of Pamekasan Regency. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS

Characteristic of Respondents

Table 1. Distribution of Frequency of Respondents in Pamekasan (n = 379).

Variables	Number	Percentage (%)
Age (year)		
20 - 29	130	34.3
30 - 39	159	42.0
40 - 49	78	20.6
>50	12	3.2
Total	379	100.0
Gender		
Male	168	44.3
Female	211	55.7
Total	379	100.0
Level of education		
No school	15	4.0
Elementary school	135	35.6
Junior high school	146	38.5
Senior high school	56	14.8
University	27	7.1
Total	379	100.0
Occupation		
Farmer	224	59.1
Entrepreneur	143	37.7
Civil servant	12	3.2
Total	379	100.0

From table 1, It can be seen that the majority of respondents consisted of 30-39 years old (42.0%). This proportion indicates that the majority of respondents

were in the productive age group. The majority of respondents of 211 (55.7%) were women. This relates to the roles and responsibilities of meeting household needs and the intensity of contact between family members. A few numbers of respondents were not school (4.0%). The level of education affects health behavior, because the level of education is closely related to the ability of individuals to absorb information.

Most respondents worked as farmers which were 224 (59.1%), compared to other occupations. Agriculture is a job that requires a long time, it can affect one's health behave.

Characteristic of Respondents by Self-Efficacy on Their Ability Doing Health Behaviors

Table 2. Distribution of Frequency of Respondents by Self-Efficacy on Their Ability Doing Health Behaviors in Pamekasan (n = 379).

Category	Number	Percentage
Low	157	41.4
High	222	58.6
Total	379	100.0

From table 2, it can be seen that respondents have high self-efficacy which are 222 (58.6%) respondents. Self-efficacy is related to a person's ability to take action. This affects the confidence to conduct health checks. Most respondents have high self-efficacy, this can be seen from the statement of agreement for each statement of belief. However, there are a small number of respondents who are not sure that they are able to come to the Public Health Center to check their own tuberculosis if there is no support from neighbors and the community in their neighborhoods (4.5%).

Characteristic of Respondents by Family Behavior on Tuberculosis Examination

Table 3. Distribution of Frequency of Respondents by Family Behavior on Tuberculosis Examination in Pamekasan (n = 379).

Category	Number	Percentage
No examination	227	59.9
Examination	152	40.1
Total	379	100

From table 3, it can be seen that the results of the analysis show that the majority of tuberculosis contact families in Pamekasan Regency did not conduct tuberculosis examination as many as 227 (59.9%) respondents.

Examination of Correlation between Characteristic of Respondents and Self-Efficacy on Their Ability Doing Health Behavior

Table 4. Relationship between Characteristic of Respondents and Family Behavior on Tuberculosis Examination in Pamekasan (n = 379).

Characteristic of Respondents	Family Behavior on Tuberculosis Examination
Age	<i>p</i> -value .242
Gender	<i>p</i> -value .133
Education Level	<i>p</i> -value .000
Occupation	<i>p</i> -value .065

Based on table 4, it found that there was no significant relationship between age, gender, occupation, and tuberculosis examination behavior in Pamekasan Regency (*p*-value .0242, *p*-value .133, *p*-value .065, respectively). For education level, it was significantly relationship with family behavior on tuberculosis examination in Pamekasan (*p*-value .000, $\alpha \leq 0.05$).

Examination of Correlation between Self-Efficacy on Their Ability Doing Health Behaviors and Family Behavior on Tuberculosis Examination in Pamekasan

Table 5. Relationship between Self-Efficacy on Their Ability Doing Health Behaviors and Family Behavior on Tuberculosis Examination in Pamekasan (n = 379).

Family Behavior on Tuberculosis Examination	
Self-Efficacy on Their Ability Doing Health Behaviors	<i>p</i> -value .000

According table 5, it found that there was a significant relationship between self-efficacy and tuberculosis examination behavior in Pamekasan Regency (*p*-value .000, $\alpha \leq 0.05$).

Examination of the Influences of Factors toward Family Behavior on Tuberculosis Examination by Logistic Regression

This multivariate analysis was used to examine the influence independent variable toward dependent variable and to determine which independent variables that have effect to dependent variable. The selecting variables included in the logistic regression used Crosstab testing with including dependent variable and independent variable together including age, gender, occupation, level of education and self-efficacy. The variables that were included in logistic regression should have *p*-value <.05.

Table 6. Examination of the Influences of Factors toward Family Behavior on Tuberculosis Examination (n = 379).

No	Variables	p-value	Note
Modified factor			
1	Age	0.142	Not Significant
2	Gander	0.133	Not Significant
3	Occupation	0.065	Not Significant
4	Level of education	0.000*	Significant
5	Self-efficacy	0.000*	Significant

The data on table 6 showed that of 5 variables, only two variables (level of education and self-efficacy) that have significant relationship with family behavior on Tuberculosis examination. Therefore, these two variables were included in logistic regression analysis.

Table 7. Examination of the Influences of Selected Factors toward Family Behavior on Tuberculosis Examination (n = 379).

Variable	B	Sig.
Level of education		
- Elementary school	2.517	0.039
- Junior high school	2.724	0.025
- Senior high school	3.010	0.016
- University	4.983	0.000
- No school	Reference category	
Self-efficacy		
- High	1.812	0.000
- Low	Reference category	

Based on the data analysis above, it showed that level of education has significant relationship with family behavior on Tuberculosis examination. The higher level of education and self-efficacy, the higher effort of family to do examination for patient with Tuberculosis.

DISCUSSION

Descriptive analysis results showed that the most age groups, respondents involved in the study consisted of groups in

the productive age. According to research conducted (Rasmin et al., 2000) states that based on age groups, the majority of tuberculosis cases occur in the age group of 15-54 years, namely the productive age group. This data is also supported by research by Simbolon (2006) which states that most risk groups for tuberculosis sufferers are in the productive age. Age is a predisposing factor for changes in behavior that is associated with physical and psychological maturity (Muaz, 2014). at a productive age someone is able to think of the risk of contracting if there are family members suffering from tuberculosis. This affects the decision someone to check themselves into the health center.

The results showed that the majority of respondents who did not do tuberculosis examinations aged > 50 years or entering the elderly, the probable cause was the reduced ability to access the distance to public health center. So that if not accompanied by other family members, the respondent does not go to exam.

The results of the descriptive analysis showed that almost half of the respondents were female. The number of respondents who do tuberculosis examination is slightly higher than women. This data is in line with data from the Triasfitri (2016) study which explains that men tend to do a little more tuberculosis examination, explained also in Wang's study (2008) that women are more often late in seeking health assistance, because of limited power factors in making decisions.

Statistical test results show no significant relationship between gender with tuberculosis examination behavior, meaning that there is no tendency for one of the sexes to be more dominant in conducting tuberculosis examination.

The results of this study are in line with the results of the study (Gharamaleki et al, 2017) which explains that in the same

demographic area there are no differences between men and women in conducting the examination. This also applies to disease prevention efforts as well treatment process. The results of this study are not the same as the research conducted by Susanti (2013) which states that men are more likely to conduct tuberculosis examinations than women. The results of the research in Pamekasan Regency revealed that most of the study respondents were women, because most tuberculosis sufferers were men, while the majority of respondents were wives, children, or parents of sufferers.

Based on observations it appears that the role of women in meeting the daily needs of families of tuberculosis patients in the Pamekasan area is more dominant than men. Women in the Pamekasan area in addition to their role as housewives, they also work as farm laborers, trade or pursue other jobs to help meet the needs of family life. Sometimes when the tuberculosis check-up that takes the patient to the health center is a family member of a man.

The division of informal roles in the family is one of the reasons there is no difference in the behavior of tuberculosis testing between male and female respondents because they both have the same rights and obligations in terms of decision making, even though the intensity of contact is more frequent for women than for male family members.

Descriptive analysis results show that almost half the level education of respondents in this study is junior high school equivalent. According to Palupi (2011), the level of education can affect one's knowledge. Level one's education has an effect on mindset and reasoning ability in dealing with problems. The level of one's knowledge is influenced by internal factors including intelligence, interests and physical conditions, as well as external

factors that are influenced by family, community, health facilities and infrastructure factors, and learning approach factors include learning strategies and methods (Notoatmodjo, 2010). Research conducted by Matebesi (2015) also found indications that the role of education in society is needed so that people know the signs and symptoms of tuberculosis, so that people immediately visit health facilities if they find these signs and symptoms.

The results of the bivariate analysis indicate that the level of education of respondents at tertiary institutions influences tuberculosis examination behavior compared to the level of education below. This is reinforced by the results of statistical tests that indicate the significance of the level of education with tuberculosis examination behavior.

The results of this study differ from the results of a study conducted by Kristiono & Wardani (2013) which explains that there is no statistically significant relationship between the level of education and the pattern of disease screening into health services. The context of Madurese education can be seen from the proverbs of Madurese "Buppa, Babbu", Guruh, Ratoh "from these proverbs implied profound meanings as follows" Buppa, Babbu "Ladies and Gentlemen as role models in Madurese society. Whereas in the social context, the main figure as a role model is highly respected "Thunder" is a kiai. For Madurese Kiai are teachers who educate and teach religious knowledge that provides guidance and guidance in living the world and the hereafter. After the kiai, "Ratoh" the Government, health workers or state officials.

The majority of the people in the study area consider formal schools as an alternative to study after boarding schools,

therefore even though the formal education level of some people is still low, informally they have received higher education from junior high school, it affects community participation in tackling tuberculosis, because they are able to absorb the information they get from various sources.

Most respondents in the study area work as farmers, only a small percentage work as civil servants. A person's job is often an obstacle in conducting medical examinations. Types of professions such as teachers, highly educated medical officers have better creativity than lower workers (Wahyuni & Artanti, 2013). The results of the cross-tabulation analysis showed that the type of respondent's work did not affect tuberculosis examination behavior. This is evident from the results of statistical tests that indicate the absence of significance between types of work with tuberculosis examination behavior. Agriculture is one of the main occupations of most people in Madura. During the rainy season ordinary people grow corn, beans, and soybeans, while during the dry season, the Madurese community planted tobacco on a large scale to meet the needs of the cigarette industry. Agricultural businesses are carried out jointly by men and women. Heavy work such as plowing and hoeing is the responsibility of men. While planting, fertilizing, weeding, harvesting and other light work are generally carried out by women. During the growing season, Madurese people usually spend most of their time in the fields or tegal, these activities are carried out before sunrise until sunset, therefore during the daytime they are rarely found in their homes. Another livelihood of the Madurese community is fishing for people who live on the coast. The principle of Madura fishermen is abhantal 'smoke' sheep (padded omba 'and wind blanket) means that Madurese fishermen usually spend most of their time

at sea. While the catch is taken by pangaddhang (deterrent) or pangamba' (pickup) who picks up in a small boat and then sold on land.

Madurese work that requires a long time turned out not to be an obstacle in the health examination in this case the tuberculosis examination, this happened because of the culture of mutual assistance of the Madurese community, which was very high, usually if one of their family members was sick, their family and neighbors around them in groups delivering patients to seek treatment at the health center, the group used to ride the pickup truck like a pick up. When in the Puskesmas they also listened to the appeals from officers regarding health programs. If one of them carries out an examination it is usually followed by another. 6.1.4. Relationship between Self-Efficacy with tuberculosis examination behavior. The analysis showed that the Self-Efficacy of most respondents in this study was at a high level. Statistical test results also showed a significant relationship between Self-Efficacy and tuberculosis examination behavior at the Puskesmas. The relationship between the two variables is positive, if the respondent's Self-Efficacy increases, there is a tendency for the efforts to examine tuberculosis to increase Self-efficacy is a belief that a person has in the ability to take the desired action. Self-efficacy becomes a reason for someone to take an action or control certain conditions (Bandura, 1977). Self-efficacy is also referred to as a factor related to one's motivation to take an action. So that if the self-confidence of the contact family in the tuberculosis examination is high, it will be easier to receive information and carry out instructions from health workers. The conclusion that can be drawn from the results of this study is that the self-efficacy of the respondents influences awareness to conduct tuberculosis

examination. Beliefs held by the community that encourage tuberculosis examination behavior include the ability to access health services, this belief includes the belief that individuals have enough money for examination fees, the ability to use vehicles to get to the health service, and the belief has enough time to do tuberculosis examination in health services.

CONCLUSION

The level of family contact education for tuberculosis patients in Pamekasan Regency is related to the behavior of family contacts in conducting tuberculosis examinations. The higher the level of education, the more it raises awareness for household contacts in the household doing a tuberculosis examination. Self-Efficacy of family contact with tuberculosis sufferers in Pamekasan Regency, will increase the efforts of family contact household behavior in tuberculosis examination.

SUGGESTION

Health workers are expected to be able to do active case finding, to find families at risk of transmitting tuberculosis. Health workers should organize health education programs, counseling on the importance of preventing tuberculosis transmission. Education provided by officers must put more emphasis on the benefits of tuberculosis testing and convince families that by carrying out tuberculosis examinations they are able to prevent the transmission of tuberculosis to themselves and other families. Further researchers are advised to conduct research not only using questionnaires but also with in-depth interviews or Focus Group Discussions (FGD) so that broader results are obtained and the root causes of the problems being investigated are currently being investigated.

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ORIGINAL RESEARCH

THE RELATIONSHIP OF INDIVIDUAL CHARACTERISTICS AND NURSES CARING BEHAVIOR IN JOMBANG GENERAL HOSPITAL

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ABSTRACT

Background: Public demands for the quality of health service increase highly and become the responsibility of hospitals. One factor affecting the quality of health services is nurses in providing nursing care (Mailani, 2017).

Objective: The purpose of this study was to determine the relationship between individual characteristics with nurses caring behavior at Jombang General Hospital.

Methods: The research design used in this research is correlation analytic with cross sectional approach. The population used was all nurses in 4 internal rooms of the Jombang General Hospital with total sampling technique. The number of samples in the study were 58 nurses. The instruments used were questionnaires and analysis tests using Spearman-Rank.

Results: The results showed that the majority of respondents were 38 female respondents (65.5%), 35 respondents aged 3-45 years (55.2%), 40 respondents educated d3 nursing (70.7%), 47 respondents are married woman (81%), 21 respondents are working 1-5 years (36.2%). There are 45 respondents (77.6) have Nurse caring behavior. Based on Spearman-Rank test results, there is a relationship between age and nurses caring behavior with Sig. (2-tailed) 0.03 <0.05 and there is also a relationship between the length of work and the Sig. (2-tailed) 0.01 <0.05.

Conclusion: The good caring nurse behavior towards patients will improve the quality of hospital services and a good image for the hospital itself. This is because most of the number of employees in the hospital are nurses and automatically the most services are also provided by nurses.

Key words: Caring, nurse, individual characteristics.

INTRODUCTION

In improving nursing care, they should apply a caring attitude. Nurse caring behavior is very important for patients as service users that can help patient's healing process. In fact, there are still nurses who have not shown caring attitude to patients. This is indicated by the presence of nurses who do not have time to listen to clients (Rumagit, 2017). The nurses' assumption that therapeutic communication is less important is a factor that triggers the absence. There are a lot of factors cause nurses not to apply the principle of caring; one of which is the high workload that

makes nurses bored, which ultimately has an impact on work productivity and caring of nurses themselves (Desima, 2017).

Based on the results of several studies, it found many factors that influence nurses caring behavior towards patients. One factor is the emotional intelligence of the nurse. The results of the study at Bandung Regional Hospital showed that 74 respondents having high emotional intelligence tend to behave well and sufficient caring to patients (Darmini, 2017). Based on observations of interviews with patients to Jombang Regional Hospital, five respondents stated that there

were some nurses who were not prepared to be friendly to patients.

Caring is an action taken by nurses in providing health services to their patients. The caring behavior based on the ten factors will later affect patient satisfaction. Watson stated that what is meant by human care is an effort to protect, improve and maintain one's health status to remain in one's condition to improve one's knowledge and self-control. There are ten factors from Watson that can reflect nurses' behavior (Bagus, 2014). This study aimed to identify the individual characteristics of nurses and nurses' caring behavior at Jombang General Hospital, and also analyze relationship between individual characteristics of nurses and nurses' caring behavior at Jombang General Hospital.

METHODS

Study Design

The research used is correlation analytic with cross sectional approach.

Setting

This research was conducted in Jombang Regional Hospital.

Research Subject

The population used in the study were all nurses in 4 inpatients at Jombang Regional Hospital, totaling 58 respondents.

Instruments

The measuring instrument used in this study was caring behavior questionnaire that had previously been tested for validity and data from staffing. After the data is collected, then the data is processed and analyzed. The data processing consists of: editing, coding, scoring, tabulating and processing.

Data Analysis

After the data collection and processing is done, then the data obtained is analyzed by means of knowing the relationship to the variables, the SPSS test is performed using the Spearman-Rank.

Ethical Consideration

This research has gone through an ethical test from STIKES Husada Jombang and obtained permission from National Unity and Politics of Jombang Regency and director of Jombang Regional Hospital. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS

Based on table 1, most female respondents behave well as many as 27 respondents (46.6%) and a small proportion behave less as many as 3 respondents (5.2%). Most male respondents behaved well as many as 18 respondents (31%). most respondents aged > 30-45 with good caring behavior as many as 28 respondents (48.3%) and none of them behaved less caring. Age <30 years mostly behaved good as many as 17 respondents (29.3%) and 3 respondents (5.2%) behaved less. Most of the respondents were educated D3 nursing with good caring behavior as many as 33 respondents (56.9%) and less caring behavior as many as 2 respondents (3.4%). Respondents who were educated S1 + nurses were 12 respondents (20.7%) with good behavior and 1 respondent behaved sufficiently (17.2%). Most respondents who are married have good caring behavior as many as 37 respondents (63.8%) and behave less as many as 2 respondents (3.4%). Unmarried respondents behaved well caring as many as 8 people (13.8%) and behaved less than 1 respondent (1.8%). Most respondents based on experience of work > 15 years of good caring behavior as many as 17 respondents (29.3%).

Respondents with less caring behavior with long working time < 1 year were 2 respondents (3.4%). Based on test results using the spearman rank, it is found that age is Sig. (2-tailed) 0.03 <0.05 which means there is a relationship between age and caring behavior. Characteristics of respondents based on length of work with

Sig. (2-tailed) 0.01 <0.05 which means there is a relationship between the length of work and caring behavior of nurses. Characteristics of respondents based on marital status, gender and educational background has no relationship ($p > 0.05$, $r = -0.63$; $p > 0.05$, $r = -0.224$; and $p > 0.05$, $r = -0.09$, respectively).

Examination of Relationship between Individual Characteristics and Nurses' Caring Behaviors in Jombang Regional Hospital Using Crosstabulation and Spearman Rank Test.

Table 1. Examination of Relationship between Individual Characteristics and Nurses' Caring Behaviors in Jombang Regional Hospital (n = 58).

Individual Characteristics	Nurses' Caring Behaviors						Total		p-value	r
	Less		Sufficient		Good		f	%		
	f	%	f	%	f	%				
Gender										
Male	0	0	2	3.4 %	18	31%	20	34.5%	0.08	-0.224
Female	3	5.2%	8	13.8%	27	46.6%	38	65.5%		
Total	3	5.2%	10	17.2%	58	77.6%	58	100%		
Age										
<30 years	3	5.2%	6	10.3%	17	29.3%	26	48.8%	0.03	0.413
>30-45 years	0	0	4	6.9%	28	48.3%	12	55.2%		
Total	3	5.2%	10	17.2%	45	77.6%	58	100%		
Educational Background										
D3 nursing	2	3.4%	6	10.3%	33	56.9%	41	70.7%	0.501	-0.09
S1 + nurses	1	1.7%	4	6.9%	12	20.7%	17	29.3%		
Total	3	5.2%	1	17.2%	45	77.6%	58	100%		
Marital Status										
Married	2	3.4%	8	13.8%	37	63.8%	47	81%	0.637	-0.63
Single	1	1.8%	2	3.4%	8	13.8%	11	19%		
Total	3	5.2%	10	17.2%	45	77.6%	58	100%		
Length of Work										
< 1 Years	2	3.4%	1	1.7%	0	0	3	5.2%	0.01	0.437
1-5 Years	1	1.7%	5	8.6%	15	25.9%	21	36.2%		
5-15 Years	0	0	4	6.4%	13	22.4%	17	29.3%		
> 15 Years	0	0	0	0	17	29.3%	17	29.3%		
Total	3	5.2%	10	17.2%	45	77.6%	58	100%		

$\alpha \leq 0.05$

DISCUSSION

Most respondents with female gender behave well as many as 27 respondents (46.6%) and a small proportion behave less as many as 3 respondents (5.2%). Some male respondents behaved well caring as many as 18 respondents (31%). According to Yang, he stated that there is no consistent

difference between men and women in problem solving skills, analytical skills, competitive encouragement, motivation, sociability or learning ability. There is no difference between women and men in nurses caring behavior. This is in line with the theory which said there is no difference between men and women.

Most respondents aged > 30-45 with good caring behavior were 28 respondents (48.3%) and none of them behaved less. Age <30 years mostly behaved caring well as many as 17 respondents (29.3%) and 3 respondents (5.2%) behaved less. Siagian (2010) asserts that the higher the age, the more it can show the maturity of the soul and the more able to think rationally, wisely, be able to control emotions and be open to the views of others. This opinion is supported by Desslerr (2000) which stated that the productive age is 25-45 years old. In this study, most respondents aged 30-45 behaved well caring. This is in accordance with the theory that the more mature someone's emotional intelligence the better that someone is. Another factor that in line with the theory is the experience of a nurse in dealing with a patient with a background.

Most of the respondents were educated D3 nursing with good caring behavior as many as 33 respondents (56.9%) and less caring behavior as much as 2 respondents (3.4%). Respondents who were educated S1 + nurses were 12 respondents (20.7%) with good behavior and 1 respondent behaved sufficiently (17.2%). Education is one way to assess the level of individual development; the goals to be achieved and the will developed. Individual education level is influenced by changes in attitudes, life behaviors and high curiosity. This is similar to the statement of Eskildsen et al. (2004) in Yang (2011) which states that highly educated employees will be relatively less satisfied with their work than those without tertiary education. Based on the results of the study, it was found that there was no difference in nurses caring behavior between those educated with D3 and S1 + nursing. Work experience is also an important factor in nurses caring behavior.

Most respondents who are married have good caring behavior as many as 37 respondents (63.8%) and less behavior as

much as 2 respondents (3.4%). Unmarried respondents behaved well caring as many as 8 people (13.8 percent) and behaved less than 1 respondent (1.8%). Marital status can be divided into two, namely married and unmarried. According to Hong et al. (1995) in Yang (2011), there are real differences in addressing a job, between individuals who are married and those who have not. Married individuals pay more attention to this work because of responsibilities towards the family so that it forces to increase responsibilities in marriage. Robbins (2006) who explains that marriage imposes increased responsibilities that make a permanent job more valuable and important. Someone who is married feels more secure with his current job, this is because they see it as a guarantee for his future.

Most respondents > 15 years with good caring behavior were 17 respondents (29.3%). Respondents with caring behavior less with long working time <1 year were 2 respondents (3.4%). Kreitner and Kinicki (2004) state that, long working periods will tend to make an employee feel more comfortable in an organization. This is because they have adapted to their environment long enough so that they will feel comfortable with his work. Other causes are also due to the policies of agencies or companies regarding life insurance in old age. Most respondents who have worked for more than < 1 year have a good caring behavior. This is in accordance with the theory that the longer a person works the better in adapting to the environment as well as in dealing with patients and patients' families with diverse cultural backgrounds. None of the nurses who worked > 15 years with less behavior.

Most respondents were female as many as 38 respondents (65.5%), they were divided into aged 3-45 years as many as 35 respondents (55.2%), educated D3 nursing

as many as 40 respondents (70.7%), the status of most were married as many as 47 respondents (81%), working years 1-5 years as many as 21 respondents (36.2%). Nurse caring behavior is mostly good as many as 45 respondents (77.6%). Based on the test results using Spearman Rank, there is a relationship between age and nurses caring behavior with Sig. (2-tailed) $0.03 < 0.05$ and there is a relationship between the length of work and the Sig. (2-tailed) $0.01 < 0.05$. According to Morrow, he stated that organizational commitment is influenced by personal character (individual) which includes age, years of service, education and gender, status (Prayitno, 2005). Humans have individual characteristics that differ from one another. A public service is not only influenced by the individual on performance. Managers/superiors also use subjective measures that are considerate to what is perceived by the evaluator/ community to improve the quality service of a hospital/ company (Hurriyati, 2005). Based on the results of the study, it was found that not all individual characteristics have a relationship with caring behavior of a nurse. Characteristics of individuals based on age and length of work that has a relationship with nurses caring behavior is in accordance with the theory that the more mature a person's age, the better the emotional intelligence as well as the length of work. Someone who has worked for more than 15 years becomes very comfortable in working because they already know the environment, the patients and families. Characteristics of respondents based on gender, status, education has nothing to do with caring behavior. This is influenced by several factors. In addition to formal education, nurses are also encouraged to update their knowledge through seminars, training and workshops. Gender has nothing to do with caring

behavior that men and women have. The marital status also has no relationship because unmarried employees will be given the same tasks and for new employees and an evaluation/ supervision will be carried out by superiors for their performance. This is because the employee concerned will continue or terminate the contract.

CONCLUSION

The results showed that the majority of respondents were female as many as 38 respondents (65.5%), aged 3-45 years as many as 35 respondents (55.2%), d3 educated nursing as many as 40 respondents (70.7%), having marital status were 47 respondents (81%), working years 1-5 years with 21 respondents (36.2%). Mostly nurse caring behavior is good as many as 45 respondents (77.6%). Based on the test results using Spearman-Rank, there is a relationship between age and nurses caring behavior with Sig. (2-tailed) $0.03 < 0.05$ and there is a relationship between the length of work and the Sig. (2-tailed) $0.01 < 0.05$.

SUGGESTION

Nurse caring behavior is very important for patients as service users in nursing services that help the patient in healing process.

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ORIGINAL RESEARCH

**COGNITIVE STIMULATION THERAPY ON ELDERLY WITH
DEMENTIA IN PANTI WERDHA PANDAAN, PASURUAN**

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ABSTRACT

Background: Everyone will experience an aging process that lead to the vary emotionals feeling and conditions. Periods from birth to death including to sequences of unpredictable life events that relate to physical maturation and carrying out age-related roles in which need preparation to bear the new role and the new situation (Little William, 2014).

Objective: The purpose of this study was to examine the effect of cognitive stimulation therapy on Elderly with Dementia in Panti Werdha Pandaan, Pasuruan.

Methods: A quasi-experimental design was used in this study. There were two groups, experimental and control group. The experimental group received Cognitive Stimulation Therapy within 2 weeks. Before and after the intervention, both group measured their cognitive functions by using the Mini Mental Status Examination (MMSE). Researcher assisted by four volunteers to do the pre and post test. Data entry and statistical analysis was performed using SPSS version 18. The significant level of statistical tests was set at 0.05. descriptive and t-test statistics were used. Kolmogorov-Smirnov was used to test for normal distribution. Paired t-tests assessed the differences in cognitive ability mean scores at pre-test and post-test within the experimental and control groups. Independent t-test assessed the difference in cognitive ability mean scores from pre-test to post-test between experimental and control groups.

Results: The results showed that the experimental group post test scores are much higher than pre-test ($p = 0.000$). it means an increase in cognitive function after being given CST. In control group there are differences in pre-test and post-test scores bit the differences is not significant ($p = 0.547$).

Conclusion: This study focuses on the administration of CST in elderly with mild to moderate dementia. The hope is to provide CST therapy then there will be an increase in cognitive function.

Key words: Cognitive stimulation therapy, dementia, elderly.

INTRODUCTION

Everyone will experience an aging process that lead to the vary emotionals feeling and conditions. Periods from birth to death including to sequences of unpredictable life events that relate to physical maturation and carrying out age-related roles in which need preparation to bear the new role and the new situation (Little William, 2014). The myth that is often seen that the elderly is a senile period caused by brain cell damage. when in fact

many older people are still healthy, their thinking power is still clear because there are actually many ways to adjust to changes in their memory (Wahyudi, 2008).

Health problems on elderly referred to as geriatric syndromes that are often complained of by themselves or their families: Immobility, Instability (easy to fall), Incontinence, Intellectual impairment (intellectual impairment/dementia), Infection, Impairment of the senses (hearing, vision and smell), Isolation

(depression), Impecuniosity, Iatrogenicity (suffering from a disease effect of drugs), Insomnia, Immunodeficiency, Impotence, Impaction, and Inanition (Safitri, 2018).

Dementia is a symptom of decrease in memory, thinking, behavior and ability (WHO, 2016). Around 46 million elderly people in the world suffer from dementia, including in Asia with 22 million people.

Dementia affects each elderly in different way, depending on the impact of the disease and the person's abilities before becoming ill. The signs and symptoms linked to dementia can be understood in three stages: Early stage, Middle stage, and Late stage (WHO, 2016). Dementia can affect the daily life of the elderly both in the family environment, employment and society, making the quality of life declining (Darmojo, 2009). Therefore, they need right care and therapy. How to deal with dementia can be done in two ways, namely with drugs and therapy without using drugs. drug therapy uses Cholinesterase inhibitors. In addition, relaxation therapy, such as music, pets, art or massage therapy, can also help stimulate mood and behavior (Tania Saftri, 2019). Cognitive stimulation therapy is an organized group therapy program developed for people with cognitive impairment (WHO, 2017). This therapy involving dementia sufferers in a series of activities and group discussions designed to improve cognitive and social functions. It is the right therapy cause the application of structured approach that stimulate and involve people to recall their memories (John E Morley & Dulce M, 2014). Cognitive stimulation has significant improvement to the person with dementia that measured by the Mini Mental Status Examination (MMSE) (Spector. et al, 2003). In Indonesia CST is a group activity carried out by means of activities by nurses in the form of drawing, singing,

playing puzzles, guessing animal sounds and light exercise (Spector et al., 2003).

Although this cognitive stimulation therapy has proven effective on previous studies, it needs to apply to elderly who stay in nursing home in order to maintain their cognitive functions. Therefore, researchers presented cognitive stimulation therapy on elderly people with dementia in Panti Werdha Pandaan Pasuruan.

METHODS

Study Design

A quasi-experimental design was used in this study. There were two groups, experimental and control group. The experimental group received Cognitive Stimulation Therapy within 2 weeks.

Setting

This research was conducted in May until June 2019 at Panti Werdha Pandaan Pasuruan.

Research Subject

The population of this study was all elderly who live at Panti Werdha Pandaan Pasuruan. There were 50 participants that divided to the groups. The simple random sampling technique was used with the following inclusion criteria: 1) Aged 60 years and over, 2) Mild or moderate dementia (Indonesian version of MMSE: scores of 20-25 mild cognitive damage, and 10-19 moderate cognitive damage), 3) Can write and speak Indonesian, 4) There are no mobility barriers that interfere with respondents, and 5) No hearing or visual damage that will affect the respondent.

Instruments

The measuring instrument used in this study was demographic questionnaire includes age, sex, education, previous occupation; Mini Mental Status Examination (MMSE), Indonesian Version

(Berliany et al., 2018). This instrument measure cognitive abilities consisting of 30 item and is divided into dimensions of orientation (10 item), registration (3 item), attention and calculation (5 item), recall (3 item) and language (9 item). In this study the level of elderly dementia that will be studied is mild (score 20-25), moderate (score 10-20). The manual of Cognitive Stimulation Therapy (Berliany et al., 2018). This therapy consists of 14 sessions in which three-45 minutes sessions per days for 2 weeks.

Data Analysis

Data entry and statistical analysis was performed using SPSS version 18. The significant level of statistical tests was set at 0.05. descriptive and t-test statistics were used. Kolmogorov-Smirnov was used to test for normal distribution. Paired t-tests assessed the differences in cognitive ability mean scores at pre-test and post-test within the experimental and control groups. Independent t-test assessed the difference in cognitive ability mean scores from pre-test to post-test between experimental and control groups.

Ethical Consideration

In order to ensure ethical consideration, this research was approved from the head of Panti Werdha Pandaan Pasuruan, and informed consents were signed by all participants. All the privacy and identities of participants would be kept confidential and accessible only by the researchers.

RESULTS

Demographic Data of Respondents

Table 1. Distribution of Frequency of Respondents in the Panti Werdha Pandaan, Pasuruan at May until June 2019 (n = 50).

Variable	Experimental group		Control group	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Age (years)				
45 – 59	0	0	0	0
60 – 74	15	60	16	64
75 – 90	10	40	9	36
Gender				
Male	10	40	9	36
Female	15	60	16	64
Educational Level				
No school	4	16	6	24
Elementary	11	44	10	40
Junior school	1	4	6	24
Senior high school	8	32	2	8
Undergraduate	1	4	1	4
Job Before				
No job	5	20	9	36
Employee	10	40	6	24
Entrepreneur	10	40	10	40

Comparison between Experimental Group and Control Group

Table 2. Comparison between Experiment and Control Group in the Panti Werdha Pandaan, Pasuruan at May until June, 2019 (n = 50).

Variable	Experimental group (n=25)	Control group (n=25)	t-test	p
Pre-test	20.76 ± 5.29	19.96 ± 4.31	0.59	.560
Post-test	24.44 ± 4.30	20.20 ± 4.77	3.30	.002

Based on the table 2, it found that the pretest scores in the experimental group were higher than in the control group, but the difference was not significant ($p = 0.560$). This means that cognitive function in the experimental group with the control group is not too different. But after the post test was done the score in the experimental group was much higher compared to the control group (0.002) this means there is an increase in cognitive function significantly in the experimental group rather than control group.

Comparison of Pre-Test and Post-Test between Each Groups

Table 3. Comparison of Pre-Test and Post-Test between Each Groups in the Panti Werdha Pandaan, Pasuruan at May until June 2019 (n = 50).

	Pre-test	Post-test	t-test	p
Experimental group	20.76 ± 5.29	24.44 ± 4.30	-4.97	.000
Control group	19.96 ± 4.31	20.20 ± 4.77	-0.61	.547

The table 3 found that the experimental group post test scores are much higher than pretest (0.000). it means an increase in cognitive function after being given CST. And the increase very significant. In control group there are differences in pre-test and post-test scores bit the differences is not significant ($p = 0.547$). it means the control group an increase in cognitive function but not significant. There is a significant difference in the improvement of cognitive function between groups given CST namely the experimental group and not given CST, namely in the control group.

DISCUSSION

Elderly with mild dementia who have symptoms, among others forgetfulness, losing track of the time, becoming lost in familiar places. As progress on middle stage, the signs and symptoms become clearer and more restricting, including to Becoming forgetful of recent event and person's name, becoming lost at home, having increasing difficulty with communication. After being given CST it appeared to have increased cognitive function. CST is a group therapy that involves participants in a series of activities and discussions aimed at improving cognitive function. This is in accordance with previous studies that mention the success of cognitive stimulation therapy (Komalasari, 2014). This CST is an alternative therapy besides

pharmacological therapy that is easy to use, safe and does not endanger the elderly. So, this CST is a non-pharmacological therapy for treating elderly with mild to moderate dementia because it has been shown to improve cognitive function. Because in the CST activities include playing guess words to sharpen memory, playing music to improve one's mood, playing guess words and everything is done in groups so that it can stimulate participants to increase socialization as well (John E Morley & Dulce M, 2014) & (Tania Safitri, 2019). Besides sharing pleasant experiences and sharing memories that can increase dopamine production and increase neuronal activity that expands brain tissue, this can improve cognitive abilities and communication skills (Achim et al., 2006).

The results showed there were differences in pre and post test scores. There was an increase in MMSE scores after CST. In research CST therapy consists of 14 sessions conducted every 3 days for 2 weeks. In other studies, prove that CST in addition to improving cognitive function also determines the quality of life (Spector, et al., 2003). Benefits experienced by the alderly from giving CST include stimulating parts of the brain, activating the mind and cognitive, training skills that are not usd anymore and motivate the elderly to make an effort in the activity (Spector, et al., 2003).

The obstacle in this research is that the CST sessions are actually designed for participants who are able to read and write, but in this study, there were 3 participants who were unable read and write. So, the researcher must also read the instructions on the MMSE form to the respondent and then the respondent submits the answer verbally. Another limitation is that this study did not examine other factors that might interact with cognitive function in the elderly with dementia.

CONCLUSION

This study focuses on the administration of CST in elderly with mild to moderate dementia. The hope is to provide CST therapy then there will be an increase in cognitive function. Further research involving a greater number of elderly and different places needs to be conducted before the findings of the effectiveness of CST can be generalized to the people of Indonesia in general.

SUGGESTION

The author hopes that going forward, nursing home wandering can use CST therapy as part of the services provided to the elderly with the aim of caring for elderly with mild to moderate. And for further research is expected to add more variables.

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ORIGINAL RESEARCH

THE EFFECT OF PIPER BETLE LEAF EXTRACT LOTION TO OLDER PEOPLE SKIN MOISTURE

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ABSTRACT

Background: Elderly has obvious anatomic and physiological changes in all of their body systems. Some of common skin problems are xerosis, the appearance of skin folds, skin damage due to moisture problems, and impaired wound healing. There is one alternative skin care that can be applied and has been scientifically reviewed such as utilization of green betel leaf (*Piper betle* L.). This plant is scientifically proven to have antibacterial activity.

Objective: The aim of this study is to provide an alternative skin care for elderly people who are frequently in contact with urine and faecal using betel leaf.

Methods: The research design used in this study was quasi-experimental with a pre-test and post-test approach in the treatment group.

Results: Statistical analysis showed that the water content of the skin in the control group showed a result of $p = 0.325$ ($p > 0.05$) and the oil content in the control group showed a result of $p = 0.783$ ($p > 0.05$). It can be concluded that there is no significant effect between bathing in the normal way with the level of skin moisture. The treatment group showed that the water and oil content had a value of $p = 0,000$ ($p < 0.05$).

Conclusion: Based on the results of research and discussion it can be concluded that the administration of betel leaf extract lotion (*Piper betle*) significantly influences the skin's moisture.

Key words: Skin moisture, piper beetle, older people.

INTRODUCTION

The older people underwent very obvious anatomic and physiological changes in all body systems. One of them was the integument system, which can cause damages to the skin. One of the reasons was due to the cutaneous tissue loss of functioning during the aging process. Some common skin problems in older people include xerosis, the appearance of skin folds, skin damage as a consequence of moisture problems, and impaired wound healing (Makrantonaki, Steinhagen-Thiessen, Nieczaj, Zouboulis, & Eckardt, 2017).

One study in Turkey geriatric outpatient ward mentioned that there were some skin problems which was reported by older people. The most prevalent problems were dermatitis eczema (21,7%), fungal infection (16,7%), and bacterial infection (7,1%). Meanwhile, the most common complaint was pruritus (Polat & N İlhan, 2015). This complaint was frequently delivered by older people whose undergone hospitalization, and worsened when hospitalization period was longer. (Makrantonaki et al., 2017). The older people at nursing home also suffered for skin problem. The most common problem

is skin tear (3,8%) (Sanada, Nakagami, Koyano, Iizaka, & Sugama, 2015).

Considered to this condition, some preventive precautions need to be taken by nurses, especially for older people who undergone long-term care. They were at risk of experienced problems related to skin moisture, whether too dry or vice versa. Very dry skin conditions commonly found on the heels, elbows, or at the pruritus location (Lichterfeld, Lahmann, Blume-Peytavi, & Kottner, 2016). Skin damage can be occurred when the skin had long term contact with urine or feces. Normal bacteria population, skin pH balance, and skin moisture would be disrupted. This condition was frequently found in older people who suffered from urine or fecal incontinence (Fujimura et al., 2016).

Changes in older people skin conditions demand unique management because it was entailed many facets. This would determine the difference in nursing actions to fulfil the older people skin basic need. Nevertheless, research in this area was rarely conducted. This lead to lack of standard operational procedure which explained older people skin care whether they have secondary health problem or not (Humbert et al., 2016; Makrantonaki et al., 2017).

Indonesia has plenty natural resources as an alternative solution to cope with this condition. We could utilize green betel leaf (*Piper beetle L.*) which has been scientifically reviewed for its advantages. This plant had scientifically proved too had antibacterial effect. Betel leaf could be used both as astringent and antiseptic because it contained saponins which had antimicrobials effect, flavonoids which could damage bacterial proteins, and polyphenols. Natural phenols contained in betel leaves had 5 times stronger effect than ordinary phenols (Shah, Garg, Jhade, & Patel, 2016). A research which was

conducted by Nagori et al, showed that 0,01 – 1 mg/ml of ethanol betel leaf extract was effective as an antifungal. This effectiveness was 10 times better than 10 mg/ml Clotrimazole and 2,5 mg/ml prochloraz (Nagori et al., 2011).

Based on the above phenomenon, this study tried to determine the effect of betel leaf extract to the older people skin moisture. The aim of this study was to provide alternative skin care for older people who were frequently contacted with urine and feces.

METHODS

Study Design

The research design used in this study was quasi-experimental with a pre-test and post-test approach in the treatment group.

Setting

This research was conducted at the Panti Werdha Pangesti Lawang, Jl. Sumber Mlaten No. 3, Lawang Malang.

Research Subject

The subjects of this study were elderly who were willing to be respondents, aged > 55 years, GCS 3 to 10, ADL scale \geq 50, did not suffer from pressure ulcers, elderly with neurological diseases (Cerebral Vascular Accident, Guillain Barre Syndrome), endocrine (diabetes mellitus), cardiovascular (Acute Myocardial Infarction, Chronic Heart Failure), and respiration (Acute Lung Edema, Chronic Obstructive Pulmonary Disease), unable to fulfill their basic need independently.

Instruments

The instruments which is used such as observation sheets to obtain an overview of patients, questionnaires, lotion of betel leaf extract at 0.5 mg / mL. The extract lotion is obtained by maceration and evaporation techniques using 70% ethanol until thick

betel leaf extract is obtained. Skin moisture measurement is done by Digital Moisture Oil Content Analyzer.

Data Analysis

Univariate analysis in this study illustrates the general identity of respondents which contains data on gender, age, recent education, and marital status. In this analysis also shows specific data that discusses the health status of the skin, as well as nutritional status and hydration. Another data included in this study is the Barthel Index calculation results for each elderly respondent.

Bivariate analysis used to see the effectiveness of the treatment of betel leaf extract lotion against the skin moisture of the elderly as one of the factors that support the occurrence of pressure sores. The data normality test results showed that the data did not have a normal distribution so the analysis was done using the Wilcoxon non-parametric test.

Ethical Consideration

This research has been carried out in accordance with the rules of bioethics as evidenced by the existence of informed consent from research subjects and ethical feasibility testing.

RESULTS

General Data

The majority of respondents are female. Most respondents had a history of stroke (46.7%) which affected their mobility abilities. This is supported by the results of the Barthel Index calculation which shows that the respondent was at a moderate level of dependency. In addition, 75% of respondents were in wheelchairs whose requires the help of nurses to moving, while the remaining 25% were elderly who are bed rested in beds and

require total assistance to fulfil all their basic needs.

Specific Data

In this study, researchers took specific data such as skin health status, nutritional fulfillment, and water and oil levels in the skin. The water and oil levels were observed and measured on the first and fourth days of the study. Respondents indicated the need for assistance or dependence in their mobilization. This matter has an effect on several areas of the body exposed to friction and excessive body fluids. The areas which most often attached to the surface are the buttocks, back, heel, and sacrum. The most common complaint that arises from the pressure is that it feels hot and can cause pressure sores. Another problem that arises is the itching due to mixing bacteria with sweat.

Based on specific data relate to skin moisture level (consisting of water and oil content) before and after giving lotion and in the control group who did not get lotion, showed that there was no significant change in the control group for the level of moisture, both from water and oil content in the skin. A noticeable change was seen in the difference that appeared in the water and oil content after three days of the betel leaf extract lotion.

Statistical analysis of the water content of the skin in the control group showed that the result of $p = 0.325$ ($p > 0.05$) and the oil content in the control group showed a result of $p = 0.783$ ($p > 0.05$). It can be concluded that there is no significant effect between bathing in the normal way with the level of skin moisture. The treatment group showed that the water and oil content had a value of $p = 0,000$ ($p < 0.05$).

Table 1. Statistical Analysis Results of Moisture Skin Data

	n	Median (minimum-maximum)	p
Water before (control)	56 point	30,60 (12,80-59,50)	0,325
Water after (control)	56 point	13,35 (10,10-34,30)	
Water before (treatment)	56 point	30,60 (12,80-59,50)	0,000
Water after (treatment)	56 point	13,35 (10,10-34,30)	
Oil before (control)	56 point	14,20 (5,70-28,70)	0,783
Oil after (control)	56 point	14,20 (5,80-28,20)	
Oil before (treatment)	56 point	13,65 (1,70-26,70)	0,000
Oil after (treatment)	56 point	5,90 (4,60-18,20)	

DISCUSSION

All respondent in this research were older people who had limitation to occupy their mobility and basic need for integument system. They need assistance to meet toileting necessities. They wore diaper for 24/7 and rarely moved from wheelchair to bed unless it is necessary. Most of the skin location in this study was buttocks. The buttocks area was one area which always had contacted with urine and feces ig they wore diaper. The equilibrium of the skin bacteria ecosystem would be disturbed if the diaper was not regularly replaced, always wet, until it smells. Continuous contact between skin, body fluids (urine or feces), and chemicals in the diaper, were source of irritant. 80% of respondents complained itching at diaper area and the buttocks skin appear reddish. According to Schmidt-Wendtner, those condition can cause Moisture-associated skin damage (MASD). There was no sufficient scientific evidence about this condition, but clinical experience showed that this condition was frequently occur. Skin management was not only emphasized to skin moisture, it was included neutralize skin pH, minimizing friction, pathogen microorganism controlling, and found out the etiology (Schmid-Wendtner & Korting, 2006).

Before Piper beetle extract lotion application, the average of skin water content was 29,63%. After application, it was reduced to 17,73%. Whilst, the oil average was reduced from 12,98% to 7,99%. Noth condition showed that older people still had dry skin category. The

observation showed that skin reddish and pruritus were decreased. Physiologically, skin pH was tend to be acid to prevent over multiplication of pathogen microorganism (Ali & Yosipovitch, 2013). This physiologic condition was changed in older people due to aging process. Therefore, long-term contact with urine or feces would affect skin pH. The skin pH would increase because urine which had contacted with air prone to be alkaline. This situation would trigger pathogen microorganism multiplication and pruritus which could lead to skin break. Piper leaf extract contain astringent and antimicrobial effect, so at the same time it prevented bacterial multiplication and soothe the skin (Nagori et al., 2011).

This lotion also contains glycerin and paraffin. This ingredient was basic soluble for lotion. It functions were to moist and coat the skin (Overgaard & Jemec, 1993). Paraffin made a thin layer between skin and diapers, so the friction between two surfaces could be reduced. Glycerin was used to moistened the skin. Both ingredients improve older people skin. Older people skincare was not a convenient task. It was related to many facets. Physiologic changes in older people were complicated and multifactor. the skin must be cleaned, but at the same time it could not be contacted with soap, water, and chemical irritant because it could lead to irritation (Humbert et al., 2016). Piper betel leaf extract lotion with a level of 0.5 mg / ml has been proven to be able to maintain skin moisture in the elderly and reduce pruritus.

CONCLUSION

Based on the result and discussion, it can be concluded that giving lotion from betel leaf extract (*Piper beetle* L.) significantly influences the elderly's skin moisture.

SUGGESTION

Beetle leaf extract can be used as an alternative skin care for the elderly by considering some point such as: duration optimization of lotion administration, temperature and air humidity measurement during lotion giving.

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ORIGINAL RESEARCH

APPLICATION OF CLASSIFICATION AND REGRESSION TREE (CART) ON LIFE INDEPENDENCY BASED ON FUNCTIONAL CAPACITY AND HEALTH CONDITION OF OLDER ADULTS IN KASIN VILLAGE BARENG HEALTH CENTER, MALANG

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ABSTRACT

Background: The independence of life in the older adults is very dependent on the ability of the to adjust themselves to the changes that occur. Health conditions, social conditions and economic conditions are factors that have a relationship with the independence of the older adults. The Joint Health Center is one of the health service facilities in Klojen Sub-district of Malang city that provides health services for the older adults.

Objective: This study aims to identify the independence of the older adults in Kasin Village, the Work Area of the Bareng Health Center in Malang City in fulfilling daily activities based on health conditions and functional capacity of the older adults.

Methods: The design of this study was cross-sectional study with older adults' respondents aged 60 years and over in Kasin village, 142 of the Bareng Health Center working areas, taken randomly. The instruments used were IADL, AMT, GDS along with a research questionnaire. Data were analyzed by CART method using Salfold Predictive Modeller.

Results: The classification results show that 78.2% of the older adults are classified as independent. CART analysis shows that the daily menu consumed by the older adults is the best sorting variable with the highest goodness of split value of 0.1125041, use of stairs 0.1045829, daily physical activity 0.0826270, and current health perception 0.0813413. The accuracy value obtained is 95.83%, the sensitivity value is 82.88% and the specificity value is 87.10%.

Conclusion: Daily menu consumed by the older adults and current perceptions of health are variables that contribute to the independence of the older adults based on health condition factors, while the use of stairs, daily physical activity, home improvement are functional capacities that contribute to the independence of the older adults.

Key words: Classification, CART, independence, older adults.

INTRODUCTION

Ageing population in Indonesia is a crucial problem in Indonesia. The large number of the older adult's population contributes positively if the older adults have healthy, active and productive conditions, on the contrary if the older adults experience a decline in health can increase the increase in health care costs, decrease income or income, increase the

risk of disability. The lack of social and environmental support, leading to be cause of the older adults will ultimately increase the dependency ratio (Pusdatin Lansia, 2017). Data on Pusdatin Older adults in 2017 shows that the three provinces in Indonesia with the largest number of older adults are DI Yogyakarta (13.81%), Central Java (112.59%) and East Java (12.25%). Susenas data on the health condition of the

older adults in 2015 showed that the morbidity rate for the older adults in Indonesia was 28.62%, with a higher incidence in rural areas at 30.14% compared to cities at 26.89%. The dependency ratio of Indonesia's older adults' population in 2015 amounted to 13.28% meaning that every 100 people of productive age will bear around 14 older adults' people (Susenas, 2015).

Health care professionals in each health service are interested in evaluating the situation of older adults' individuals in a broad sense that supports independent living including health, functional capacity, resources, personal attributes, environment. Health and functional capacity are the factors most closely related to the independence of life in the older adults (Bravell et al, 2007; Beswick et al, 2010).

Assessment of health conditions and functional capacity can provide an overview of the characteristics of the older adults which is closely related to the independence of life of the older adults. Identification of factors related to the independence of the older adults is very useful for health practitioners, especially nursing. This is to learn new things or new methods that can be provided for the older adults in an effort to improve the health condition of the older adults (Ahlqvist, 2015). The great contribution of the peripheral hospital is one of the health service facilities for the older adults through the Posyandu program for the older adults or Posbindu by emphasizing health services in promotive and preventive efforts in addition to health services that aim to improve the quality of life of the older adults so that they can be active and develop their potential. The independence of life of the older adults is one of the factors that indicate the quality of life in the older adults. Identification of life

independence through the approach of health conditions and functional capacity of the older adults can be done by applying the Classification and Regression Tree (CART) method. The purpose of the CART method is to obtain an accurate group of data that characterizes the results of the classification. CART classification results are better than the CHAID method (Nuriyah's, 2013 in Sumartini, 2015). Anette Ahlqvist et al (2015) study shows that health conditions and functional capacities affect the independence of the older adults.

METHODS

Study Design

The study design was cross-sectional study with analytic approach.

Setting

This research was conducted in Kasin Village, the working area of the Bareng Health center in Malang City.

Research Subject

Respondents in this study were older adults aged 60 years and over, a number of 142 were taken by multistage random sampling.

Instruments

Older adult's independence is measured using Instrumental Activity Daily Living (IADL), older adult's health condition data are assessed objectively which include measurements of BP, vision function, BMI, cognitive function (AMT) and GDS. Subjective data on health includes the daily menu consumed, current health perceptions examined through questionnaires. Functional capacity data assesses physical activity undertaken by the older adults through a research questionnaire.

Data Analysis

Data were analyzed using the CART method to classify the independence of the older adults and identify the characteristics of the predictor variables namely health conditions and functional capacity that contribute to the independence of the older adults. The dependent variable used is the independence of the older adults in Kasin Village, Malang.

Ethical Consideration

Research ethics is carried out through research licensing procedures, which is letter of permission submitted to the Malang City Health Office and Malang City Health Center. Informed consent was submitted to respondents for willingness to be respondents in the study.

RESULTS

Characteristic of Respondents by Age

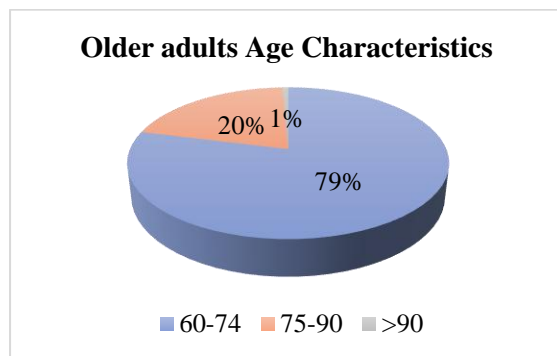


Figure 1. Characteristic of Respondents by Age in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 1 explains from 142 older adults' people, 79% or 112 older adults' people aged 60-74 years and 0.7% or 1 older adults' person > 90 years old.

Characteristic of Respondents by Gender

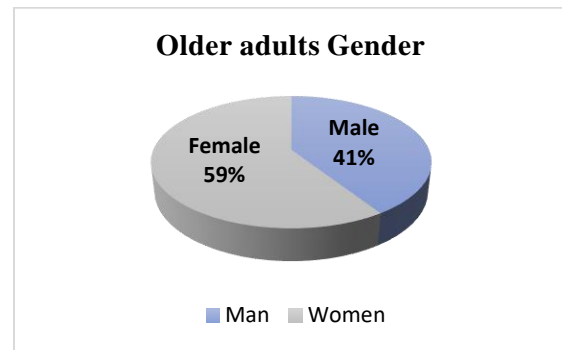


Figure 2. Characteristic of Respondents by Gender in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 2 explains from 142 older adults, 59% or 84 older adults were female and 41% or 58 older adults were male.

Characteristic of Respondents by Physical Activity

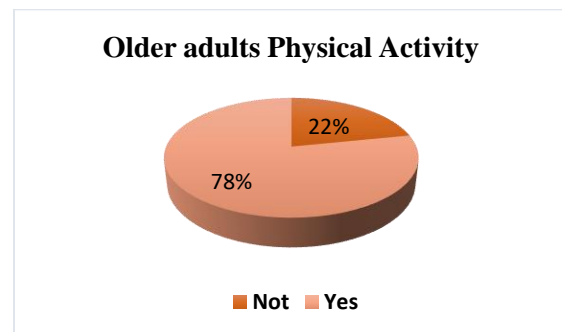


Figure 3. Characteristic of Respondents by Physical Activity in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 3 explains from 142 older adults, 78% or 111 older adults did physical activity and 22% or 31 older adults rarely did physical activity.

Characteristic of Respondents by Using Stairs

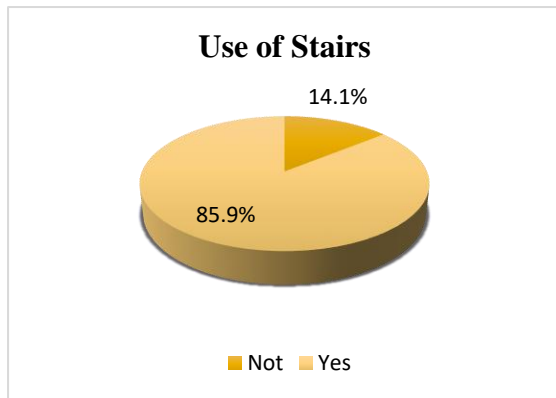


Figure 4. Characteristic of Respondents by Using Stairs in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 4 explains from 142 older adults, 85.9% or 122 older adults' people are able to use stairs and 14.1% or 20 older adults' people are unable to use stairs.

Characteristic of Respondents by Doing Home Repairs

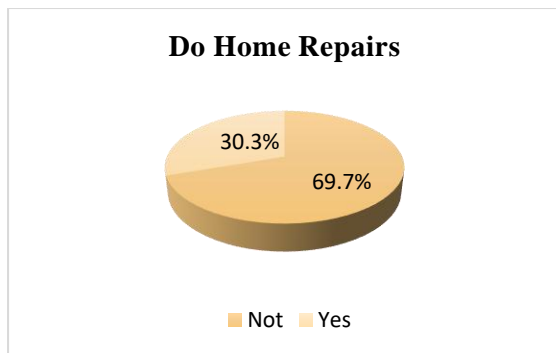


Figure 5. Characteristic of Respondents by Doing Home Repairs in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 5 explains from 142 older adults, a total of 69.7% or as many as 99 older adults did home repairs and some 30.3% or 43 older adults did not do home repairs.

Characteristic of Respondents by Managing Their Finance

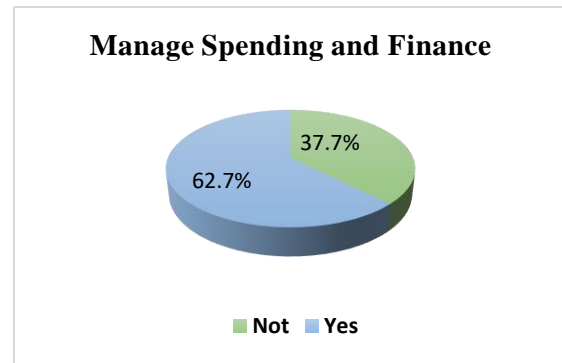


Figure 6. Characteristic of Respondents by Managing Their Finance in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 6 explains from 142 older adults, 62.7% or 89 older adults manage expenditure and finance and 37.7% older adults or 53 do not manage expenditure and finance.

Characteristic of Respondents by Having Hobby

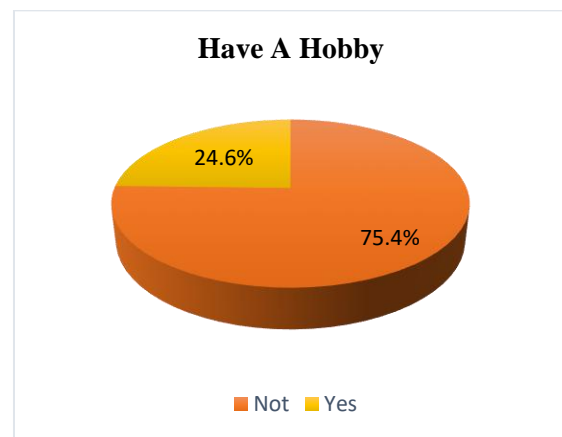


Figure 7. Characteristic of Respondents by Having Hobby in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 7 explains from 142 older adults, some 75.4% or as many as 107 older adults have hobbies and some 24.6% older adults or 35 do not have hobbies.

Characteristic of Respondents by Their Current Health Perception

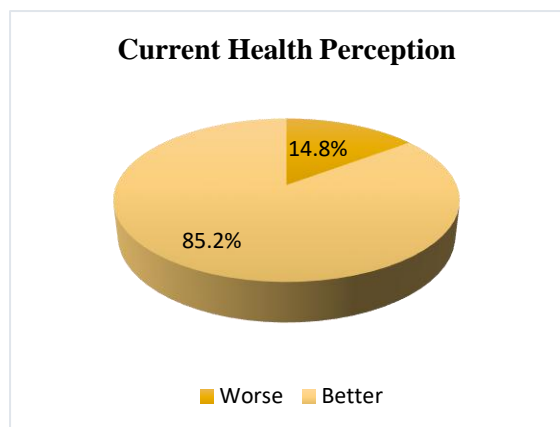


Figure 8. Characteristic of Respondents by Their Current Health Perception in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 8 explains from 142 older adults, 85.2% or 121 older adults have better perception of their current health condition and 14.8% of older adults or 21 have bad perception.

Characteristic of Respondents by Suffering from DM

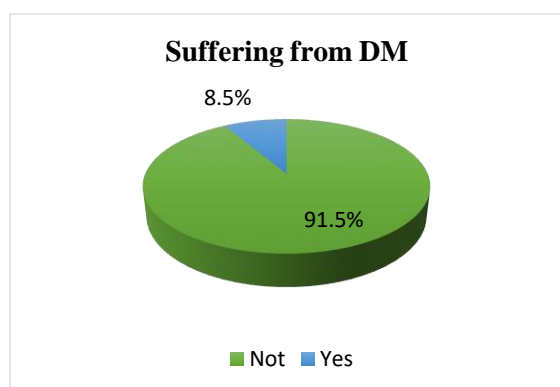


Figure 9. Characteristic of Respondents by Their Current Health Perception in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 9 explains from 142 older adults, some 91.5% or as many as 130 older adults did not suffer from DM and a number of 8.5% older adults or 12 suffered from DM.

Characteristic of Respondents by Daily Menu

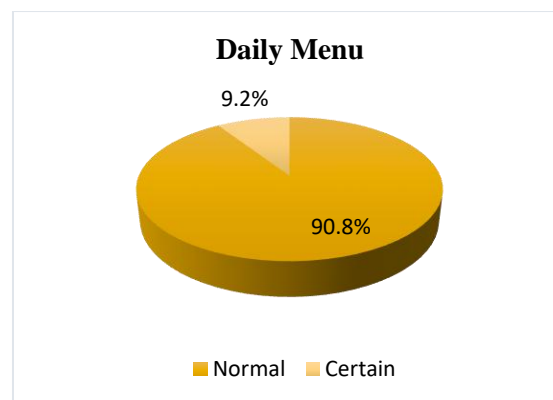


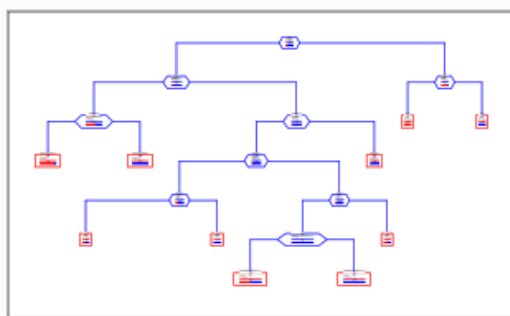
Figure 10. Characteristic of Respondents by Their Current Health Perception in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Figure 10 explains from 142 older adults' people, 90.8% or 129 older adults' people have a normal daily menu and 9.2% older adults' or 13 have a certain daily menu.

CART Analysis for Older adults Independence

This study uses a total of 142 primary data covering health conditions and functional capacity of the older adults obtained through measurements and interviews. The steps of CART analysis are carried out as follows:

Determine Optimal Tree Construction



Determination of the optimal classification tree is done by looking at the relative minimum cost as shown in table 1 as follows:

Table 1. Value of Relative Cost in Classification Trees

Tree Number	Terminal Nodes	Test Set Relative Cost	Resubstitution Relative Cost	Complexity Parameter
1**	10	0,30020± 0,07002	0,11334	0,000000
2	9	0,32345± 0,07475	0,12235	0,004526
3	8	0,38274± 0,08011	0,14938	0,013524
4	7	0,42924± 0,08634	0,18541	0,018028
5	6	0,55827± 0,09451	0,23191	0,023259
6	3	0,58152± 0,08862	0,40889	0,029507
7	2	0,77652± 0,08862	0,62191	0,106520
8	1	1,00000± 0,00000	1,00000	0,189054

The result on the table 1 showed that the optimal classification tree has 10 terminal nodes with the lowest minimum relative cost of 0.11334.

Characteristic of Terminal Nodes

1) Terminal 1 node consists of 9 older adults who are predicted to be older adults not independent. The characteristics of the older adults at this node are having a normal daily meal menu, not using stairs, not managing shopping and finances; 2)

Terminal 2 node consists of 4 older adults who are predicted as independent older adults. The characteristics of the older adults at this node are having a certain daily food menu, using the stairs, managing shopping and finances; 3) Terminal 3 node consists of 9 older adults who are predicted to be older adults who are not independent. The characteristics of the older adults at this node are having a normal daily diet, not using stairs, not doing home repairs, rarely doing physical activity every day, suffering from DM; 4) Terminal 4 node consists of 3 older adults who are predicted as independent older adults. The characteristics of the older adults at this node are having a certain daily food menu, using the stairs, doing home repairs, doing physical activities every day, not suffering from DM; 5) Terminal 5 node consists of 4 older adults who are predicted as older adults who are not independent. The characteristics of the older adults at this node are having a certain daily food menu, not using stairs, not doing home repairs, not doing physical activity, not suffering from DM, having poor health perception at this time; 6) Terminal 6 node consists of 54 older adults who are predicted as independent older adults. The characteristics of the older adults at this node are having a certain daily food menu, using the stairs, doing home repairs, doing physical activity, suffering from diabetes, having a good health perception at this time; 7) Terminal 7 node consists of 5 older adults who are predicted as older adults who are not independent. The characteristics of the older adults at this node are having a normal daily

diet, not using stairs, not doing home repairs, rarely doing physical activity, not suffering from DM; 8) Terminal 8 node consists of 41 older adults who are predicted as independent older adults. The characteristics of the older adults at this node are having a certain daily food menu, using a ladder, doing home repairs; 9) Terminal 9 node consists of 12 older adults who are predicted to be older adults who are not independent. The characteristic of the older adults at this node is a normal daily eating menu, no hobbies; and 10) Terminal 10 node consists of 1 older adult who is predicted as an independent older adult. The characteristic of the older adults at this node is having a certain daily food menu, having a hobby.

Characteristic of Independency of Older Adults

Table 2. Characteristic of Independency of Older Adults in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Dependent Older Adults	Independence Older Adults
1. Have a normal daily menu, unable use stairs, unable manage shopping and finances	1. Have a certain daily food menu, use the stairs, manage shopping and finance
2. Unable doing home repairs, rarely doing physical activity every day, suffer from DM	2. Doing home repairs, physical activity every day, do not suffer from DM
3. Do not suffer from DM, have poor health perception at this time	3. Suffered from DM, has a good current health perception
4. Do not have a hobby	4. Have a hobby

Classification Accuracy in Independency of Older Adults

Table 3. Classification Accuracy in Independency of Older Adults in the Kasin Village, the working area of the Bareng Health Center in Malang City (n = 142).

Observation Y	Prediction Y		Total
	Dependent	Independen dent	
Dependent	27	4	31
Independent	19	92	111
Total	46	96	142

$$APER = \frac{4 + 19}{142} = 16,19$$

$$Specivicity = \frac{27}{31} \times 100\% = 87,10$$

$$Sensitivity = \frac{92}{111} \times 100\% = 82,88$$

$$Accuracy = \frac{27 + 92}{142} \times 100\% = 83,81$$

DISCUSSION

CART analysis shows menu daily, Diabetes Mellitus, perception of current health condition were health condition variables that contribute to the independence characteristics of the older adults, while using stairs, managing shopping and finances, doing home repairs, doing physical activities every day, and having hobby is a functional capacity that contributes to the characteristics of the independence of the older adults in the Kasin Kelurahan, the working area of the Bareng Peripheral Hospital in Malang. Certain daily menus as the main sorting variables that contribute to the independence of the older adults reflect the efforts that the older adults can make in preventing disease in order to achieve independent living. Consumption of excessive nutrition such as energy input from carbohydrates, fats, proteins can increase blood cholesterol which can

increase the risk of cardiovascular disease (Sunu, 2017). A decrease in total energy needs in the older adults is recommended to reduce consumption of high cholesterol foods, especially animal fats that are rich in saturated fatty acids and cholesterol (Ryoto, 2012). The use of stairs as daily activity that can be done routinely and physical activity carried out every day can reduce the risk of cardiovascular disease and maintain the working system of the heart and balance blood cholesterol levels (Sunu, 2017).

SUGGESTION

Older adults should improve their quality of life by increasing healthy daily menu, use the stairs, do manage shopping and finance, do physical activities, do hobby, also have good perception of current health conditions.

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ORIGINAL RESEARCH

THE EFFECT OF BOILED GINGER DRINK JAHECANG ON BLOOD PRESSURE REDUCTION IN HYPERTENSION PATIENTS IN THE HAMLET OF BABAN AROSBAYA VILLAGE AROSBAYA DISTRICT BANGKALAN REGENCY

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ABSTRACT

Background: Blood pressure was the power needed for blood to flow in blood vessels and circulate in all tissues of the human body. The Lack of physical activity can result in a variety of complaints, characterized by a decrease in pulse rate and a decrease in the amount of blood pumped in each beat. Treatment of hypertension was divided into two namely pharmacology and non-pharmacology. Pharmacological management for hypertension was the provision of antihypertensive with the aim of preventing hypertension complications with the smallest possible side effects.

Objective: The purpose of this study was to determine whether there was an effect of giving ginger drink to reduce blood pressure in patients with hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency.

Methods: The research design uses Quasy Experiment with pre-test and post-test control group design. The population was 21 respondents. Samples taken with the technique of Random Sampling, amounting to 20 respondents. The research data was taken by observation of blood pressure, after tabulating data obtained using Independent T-Test with a significance level of 0.05.

Results: Research shows that the experimental group that was given the ginger drink got a value of 154.44 mmHg with a change in value of 131.11 mmHg. Whereas in the control group which was not given ginger drink got a value of 153.00 mmHg with a change in value of 142.00 mmHg. From the statistical test results obtained 0.000 because of the sign value (2-tailed) <0.05, the hypothesis of research H0 is rejected and H1 was accepted, meaning that there was an influence of ginger drink on reducing blood pressure in patients with hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District Bangkalan.

Conclusion: The ginger drink there are several components and compounds that can reduce blood pressure in people with hypertension. Potassium which can affect the effects of diuretics resulting in an increase in intracellular Na and affect vasodilation of blood vessels so that blood vessels circulate smoothly resulting in a decrease in blood pressure.

Key words: Ginger drink, blood pressure, hypertension.

INTRODUCTION

Indonesia is in a phase of epidemiological transition that has resulted in a shift in disease patterns from infection to non-communicable diseases (Stefhany, 2012). Blood pressure is the power needed for blood to flow in blood vessels and

circulate in all tissues of the human body. Pharmacological treatment is considered expensive by the community, besides pharmacological treatment also has side effects. It is necessary to handle non-pharmacological because it is very easy to practice and does not cost too much. In

Indonesia, the National Hypertension Prevalence based on the 2018 Riskesdas shows that from 25.8% of people to 34.1% who suffer from hypertension. Meanwhile, the 2016 National Health Indicator (Sirkenas) survey data showed an increase of hypertension prevalence in the population, with a proportion of men by 13.78% (387,913 residents) and women by 13.25% (547,823 residents) hypertension prevalence in Indonesia which obtained through measurements at the age of ≥ 18 years by 25.8 percent. Hypertension of East Java Province, the percentage of hypertension was 13.47% or around 935,736 residents, with the proportion of males amounting to 13.78% (387,913 residents) and women of 13.25% (547,823 residents) (MOH 2016).

In Kepindon Hamlet, RW 13, Japan Village, Sooko Subdistrict, Mojokerto Regency, after observing, the number of hypertension sufferers was 21. Jahechang or what is called wedang uwuh is a traditional health drink typical of Imogiri, Bantul, Yogyakarta. Blended from natural herbs and spices, they give off a distinctive aroma of spices, red in color, and spicy sweet. Wedang uwuh in Javanese means garbage drink.

METHODS

Study Design

This type of research used in this study is Quasi Experiment with pre-test and post-test control group design.

Setting

This research was conducted in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency.

Research Subject

According to the design of this study, there are two groups, namely the experimental / treatment group and the control group

randomly selected, then given a pretest to find out the initial state, are there differences in the experimental / treatment group and the control group (Sugiyono, 2009).

The population in this study were all hypertension sufferers in Kepindon Hamlet, RW 13, Japan Village, Sooko Subdistrict, Mojokerto Regency with 21 respondents. The sample in this study were 20 people with research criteria owned by the population:

1. Inclusion criteria
 - a. Patients with hypertension with blood pressure $\geq 140/90$ mmHg.
 - b. Patients with hypertension with age ≥ 25 years.
 - c. Willing to be a respondent in research.
2. Exclusion criteria

The exclusion criteria for this study are:

- a. Patients with hypertension with complications (kidney disease, stroke, heart attack).
- b. People with hypertension with mental disorders.

Instruments

The instrument used in this study is the Dependent variable is an observation sheet, the measuring instrument used in the form of a sphygmomanometer and a stethoscope. While the instruments on the Independent variable are SOP (Standard Operational Procedure) and SAK (Event Unit).

Data collection by the researcher conducted an approach to the respondent to get the respondent's approval as a sample and explained the intent and purpose and gave informed consent as a sign of agreement to be the respondent and was willing to intervene (given a jelly drink).

After the respondent agreed, the researcher conducted a pretest by measuring the blood pressure first. To find

out there is an influence before it is done and after treatment. Then the respondent is given ginger drink 1 day 1 time in 5 days. Whereas the control group was not given treatment or intervention in the form of ginger drink. After that, measurements/ observations are made again.

Data Analysis

The results of the pre-test and post-test observed differences. After all the data has been collected, the researcher carries out the processing and analysis of the data and then the independent t-test is performed. Decision is based on the amount of value, if $\alpha < 0.05$ then H1 is accepted, it means that there is an effect of giving ginger drink to changes in blood pressure in people with hypertension.

Ethical Consideration

This research has gone through an ethical test from the STIKES Dian Husada Mojokerto and obtained permission from National Unity and Politics of Bangkalan Regency.

RESULTS

Examination of the Effect of Giving Ginger Drink to Reduce Blood Pressure in Patients with Hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency using Independent T-Test

Table 1. Examination of the Effect of Giving Ginger Drink to Reduce Blood Pressure in Patients with Hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency (n = 20).

	Blood Pressure Results in the Experiment and Control group			
	Experiment Group		Control Group	
	Pre	Post	Pre	Post
Mean	154.44	131.11	153.00	142.00
Nilai Minimum	140	120	140	130
Nilai Maximum	170	140	170	150
Range	30	20	30	20
N	10	10	10	10
t-test value	8.083		3.973	
Sig	0.00		0.03	

The results of this study based on the table 1 found that in the Pre-Post Test experimental group, it was 154.44 mmHg with an average value change of 131.11 mmHg. In the control group showed that the average value of pre-post-test blood pressure was 153.00 mmHg with changes in the average value of 142.00 mmHg. Based on the results of the independent t-test changes in the experimental group got a value of $t = 8.083$ with a significant 0.000 and changes in the control group with a value of $t = 3.973$ with a significant 0.03.

DISCUSSION

Based on the table 1, it found that in the Pre-Post Test experimental group, it was 154.44 mmHg with an average value change of 131.11 mmHg. In the control group showed that the average value of pre-

post-test blood pressure was 153.00 mmHg with changes in the average value of 142.00 mmHg.

With this it is stated that after being given the intervention of Ginger drink obtained Asymp value. Sig (2-tailed) for the treatment is 0.000 and for the sign value (2-tailed) in the control group is 0.03 because the Sig (2-tailed) value < 0.05 then the H_0 research hypothesis is rejected and H_1 is accepted meaning that there is an influence of boiled Ginger drink against a decrease in blood pressure in people with hypertension at Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency.

In ginger drink there are several components and compounds that can reduce blood pressure in people with hypertension. In the ginger plant there are Flavonoid compounds which have an inhibitory effect on the activity of angiotensin-converting enzyme (ACE) (Guarrero, 2012) which causes the formation of angiotensin II from angiotensin I to decrease resulting in vasodilation, then a decrease in cardiac output and finally decreased blood pressure (Gyuton & Hall, 2008). In Secang there are saponin compounds that give bitter taste to plants can bind LDL cholesterol in the blood. Saponin compounds will bind LDL cholesterol in the blood and transport it back to the digestive tract to be excreted, resulting in repair of blood vessels that can reduce blood pressure (Khomsan, 2009). Potassium contained in cardamom can affect the effect of diuretics so that there is an increase in Na to intracellular and affect vasodilation of blood vessels so that blood vessels circulate smoothly so that there is a decrease in blood pressure, while Calcium in cinnamon can relax blood vessels so that blood circulation becomes smooth and can reduce blood flow blood pressure.

CONCLUSION

There was a change in the mean blood pressure in the experimental group after being given a jelly drink. There was no change in the mean value of blood pressure in the control group. Based on the results of the T-Test it was concluded that there was an effect of giving boiled ginger drink to changes in blood pressure in patients with hypertension.

SUGGESTION

The results of the study should be taken into consideration for choosing appropriate and practical alternative treatments in reducing blood pressure by consuming decoction of the ginger drink respondents are able to do it independently.

It is expected that respondents can make their own ginger even if it can be sold among the community.

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ORIGINAL RESEARCH

CORRELATION BETWEEN MENSTRUAL PAIN AND LEVEL OF CORTISOL AMONG NURSING STUDENT OF NAHDLATUL ULAMA UNIVERSITY, SURABAYA

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ABSTRACT

Background: The stress faced by the final student due to the demands of completing a thesis on time triggers the activation of the HPA axis so that it can increase the secretion of the cortisol produced by the adrenal cortex. Increased cortisol secretion increases uterine muscle contraction thereby aggravating menstrual pain.

Objective: The purpose of this study was to analyze the correlation between cortisol levels and menstrual pain in nursing students of Nahdlatul Ulama University, Surabaya (UNUSA).

Methods: This study is an analytic observational with cross sectional approach. Population of this study were all nursing students who met the inclusion and exclusion criteria. The subjects of this study were 46 people selected through purposive sampling. Data was collected through observations with VAS and cortisol laboratory results. Data were analyzed by using Spearman rank test.

Results: The results showed that: 1) All students experience menstrual pain 2) Cortisol levels in all students are still in the normal range 3) There is a correlation between cortisol levels with menstrual pain ($p = 0.009$).

Conclusion: Increasing cortisol levels are followed by aggravating menstrual pain. Future research is expected to examine other factors that cause menstrual pain in final semester students.

Key words: Endorphin massage, menstrual pain, primary dysmenorrhea.

INTRODUCTION

The final year students have a high-stress level because they are required to complete their thesis on time with a high-grade point average (GPA). This condition makes students vulnerable to primary dysmenorrhea (Sari, 2015). Primary dysmenorrhea is menstrual pain among women who have normal hip anatomy, usually occurs in the teenager. Pain that is experienced is usually centered on the

suprapubic region and radiates to the back and the feet (Katwal, Karki, Sharma, & Tamrakar, 2016). Dysmenorrhea in the final year students can make it difficult to concentrate on doing their thesis (Rahayu, Pertiwi, Patimah, & Kunci, 2017). Primary dysmenorrhea can also interfere with social activities, sports, and cause sleep disturbance (Armour, Smith, Steel, & Macmillan, 2019).

One of the factors that can affect pain is stress (Yanti & Marlina, 2018). Stress is a major cause of menstrual disorders in women. Several studies have shown that stress is a major factor causing menstrual disorders such as menorrhagia, oligomenorrhea, dysmenorrhea, and premenstrual syndrome (Rafique & Al-Sheikh, 2018).

Analysis of 1160 working women in China found 388 women experiencing stress ranging from mild to severe stress, and 44.4% of the women who experienced the stress experienced dysmenorrhea (Wang et al., 2004). The incidence of dysmenorrhea in the world is very large, a study conducted in Iran in 71% of students experienced menstrual pain and 15% of them were absent from school 1-7 days each year (Bakhtshirin, Abedi, YusefiZoj, & Razmjooee, n.d.). The prevalence of dysmenorrhea in Indonesia is 64.25% whereas many as 54.89% of primary dysmenorrhea and 9.36 secondary dysmenorrhea, and 75% of them experience severe pain (Ulya et al., 2017). Preliminary studies conducted among the final year nursing students at Nahdlatul Ulama University, Surabaya showed that almost 80% had experienced dysmenorrhea, 20% were severe dysmenorrhea. Most of the students stated that dysmenorrhea was experienced disturbing in lecture activities, especially in doing their thesis.

The stress faced by the final year students due to the demands of completing the thesis on time. Stress can trigger the activation of the HPA axis. Activation of the HPA axis can increase the secretion of the hormone cortisol produced by the adrenal cortex (Wang et al., 2004). Increased cortisol secretion causes increased uterine muscle contraction thereby aggravating menstrual pain (Isnaeni, 2010).

The results of Hatmanti's study (2015) showed that most students experiencing

moderate to severe stress showed an abnormal menstrual cycle. The results of an analysis using Spearman rank test found that the relationship (r) = 0.464 which showed that there was a sufficient relationship between stress levels with menstrual cycles in nursing students of Nahdlatul Ulama University, Surabaya.

METHODS

Study Design

The study was observational analytic with the cross-sectional approach.

Setting

This research was conducted in the Nursing and Midwifery Faculty of the Nahdlatul Ulama University, Surabaya.

Research Subject

The population in this study were all final year nursing students of the Nursing and Midwifery Faculty of the Nahdlatul Ulama University, Surabaya who met the following criteria:

- a) Inclusion Criteria: UNUSA Nursing first-degree students with primary dysmenorrhea, 18-20-year-olds, normal menstrual cycle (21-35 days), menstrual periods 3-7 days, no menstrual abnormalities, willing to be investigated and signed informed consent,
- b) Exclusion Criteria: female students who consume pain-reducing drugs or herbs, are married and pregnant. The research subjects in this study were some of the final year nursing students at UNUSA. The research subjects were 46 students who determined through a purposive sampling technique.

Instruments

The instrument used were cortisol levels measured through laboratory

examinations and menstrual pain measured by the Visual Analog Scale (VAS) observation sheet.

Data Analysis

The data that has been collected is then processed with SPSS using the Spearman rank test.

Ethical Consideration

This research has gone through an ethical test from the Nahdlatul Ulama University, Surabaya.

RESULTS

Characteristics of Respondents

Table 1. Distribution of Frequency of Respondents by Age and Age of Menarche in the Nursing and Midwifery Faculty of the Nahdlatul Ulama University, Surabaya (n = 46).

Characteristics of Respondents	Frequency (f)	Percentage (%)
Age		
20 years-old	8	17.39
21 years-old	26	56.52
22 years-old	12	26.09
Total	46	100.00
Age of Menarche		
10 years-old	5	10.87
11 years-old	11	23.91
12 years-old	16	34.78
13 years-old	8	17.39
14 years-old	6	13.05
Total	46	100.00

Based on table 1 above, there are 56.52% of students were 21 years-old, while the least 20-year-old amounted to 17.39%. The most of the students experienced menarche at the age of 12 years which was 34.78%, while the least number of students experienced menarche at the age of 10 years which was 10.87%.

Examination of Correlation between Cortisol Levels and Menstrual Pain in Nursing Students of Nahdlatul Ulama University, Surabaya (UNUSA) using Spearman Rank Test

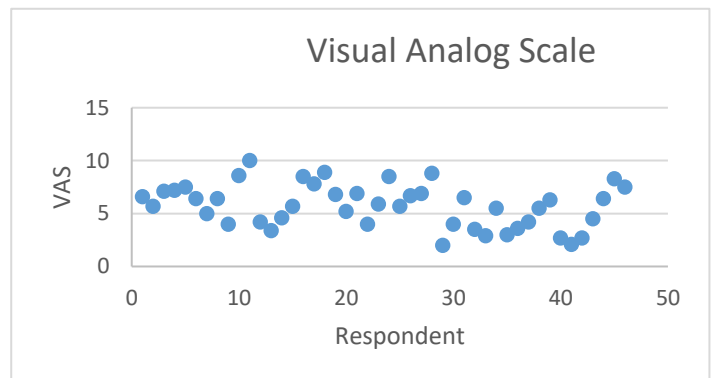


Figure 1. Diagram of VAS among Nursing Students of UNUSA (n = 46).

Figure 1 shows that students experience mild to severe pain, but most of the student experience moderate-severe pain. The VAS instrument does not divide the level of pain, so the data collected is in the form of ratios. Some students can describe the perceived dysmenorrhea, both the intensity, location, and how strong they can hold it.

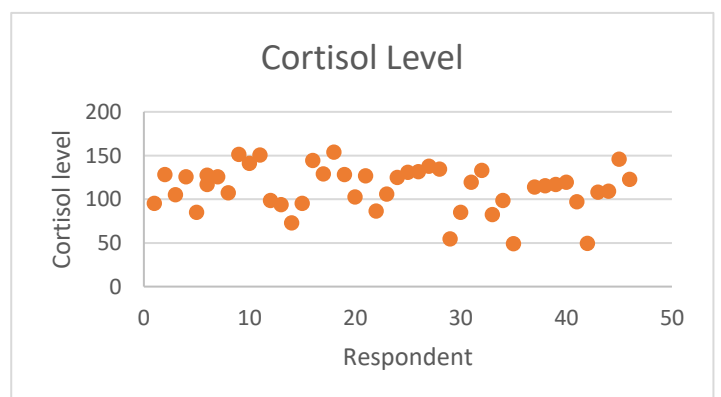


Figure 2. Diagram of Cortisol Level among Nursing Students of UNUSA (n = 46).

Figure 2 shows the results of laboratory tests on cortisol levels, where blood is drawn in veins. The results of cortisol levels for all students were still in

the normal range, namely cortisol levels of 47.5-157.4 ng/ml.

Table 2. Analysis of Correlation between Cortisol Levels and Menstrual Pain in Nursing Students of Nahdlatul Ulama University, Surabaya (UNUSA) (n = 46).

Spearman rho	VAS
Cortisol level	$p = 0.000$
Correlation coef.	0.619

In table 2 the results of the analysis of the relationship between cortisol levels and dysmenorrhea show a p -value of 0.00 which means there is a correlation between cortisol levels and primary dysmenorrhea in nursing students of UNUSA. The correlation coefficient of 0.619 indicates a strong correlation between cortisol level and dysmenorrhea, i.e. the higher the cortisol level, the more severe dysmenorrhea is felt.

DISCUSSION

The Cortisol levels among Nursing Student of UNUSA

Laboratory results of cortisol levels for all students showed within the normal range of 47.5-157.4 ng/ml. These results indicate the level of stress felt by students is still normal. Some students can cope with stressors received including during menstruation. Some can adapt to the pain that is felt.

Stressors received by students provide stress responses in the form of sympathetic catecholamine secretions (epinephrine and norepinephrine) and neuroendocrine hormones (cortisol). (Katwal et al., 2016). Cortisol is a vital catabolic hormone produced by the adrenal cortex of the kidney. This hormone is released diurnal, with blood levels peaking in the morning

and decreasing thereafter (Hannibal & Bishop, 2014).

Stressors for students in the field of health, especially medicine such as examinations, or assignments can trigger academic pressure. Academic pressure can trigger stress, anxiety, and depression. This condition is proven by the increase in salivary cortisol (Singh et al., 2012). Stress will affect the hypothalamus to release CRH (Corticotrophin Releasing Hormone), they stimulate the release of ACTH (Adreno Corticotropic Hormone). ACTH secretes GnRH (Gonadotrophins Releasing Hormone) which triggers the anterior pituitary to release FSH (Follicle Stimulating Hormone) and LH (Luteinizing Hormone) which causes estrogen and progesterone production at the beginning of decreased menstruation resulting in menstruation (Hatmanti, 2018).

All humans must experience stress with different stressors, including students. Students are required to complete the final project and obtain a high-grade point average (GPA). Every student has a coping strategy in dealing with stress. Most students realize that stressors who come are not a threat so coping with stress is good enough. Stress measurement should not only be done by examining cortisol levels, but it should also be observed by a stress questionnaire.

Dysmenorrhea among Nursing Student of UNUSA

In Figure 1, the VAS diagram shows all students experience dysmenorrhea with different pain scales. The lowest VAS value is 2.1 while the highest VAS value is 10. Primary dysmenorrhea is menstrual pain that is usually felt 3 years after menarche (Armour et al., 2019). Dysmenorrhea is caused by increased production of prostaglandins in the blood. Pain that is felt

by everyone is different because pain is often a subjective thing (Septianingrum, Hatmanti, & Fitriyasari, 2019).

The use of the Visual Analog Scale (VAS) pain instrument does not categorize pain into levels such as mild, moderate, or severe pain. The pain threshold of each student is different and so is the event to deal with pain.

The Correlation between Cortisol Level and Dysmenorrhea among Nursing Student of UNUSA

As cortisol levels increase, the dysmenorrhea that is felt is getting heavier. Stress faced by nursing students such as examinations, practical work, and college assignments causes stress, causing menstrual disorders such as dysmenorrhea (Hatmanti, 2018)

Wang et al. (2004) show that the risk of dysmenorrhea is doubled in women who experience high stress than women who experience low-stress levels. This is also supported by research Katwal et al (2016) which states that there is a positive relationship between psychological stress and dysmenorrhea, and dysmenorrhea is the main cause of female college attendance.

The results of an examination of cortisol levels in all students were within normal limits, perhaps because the stress felt was not as heavy as that of a mother giving birth, and some of them were able to adapt to that stress. Stress and dysmenorrhea are very strongly related because these two variables affect each other. Stress is felt to aggravate dysmenorrhea, while dysmenorrhea can also cause stress in adolescent girls.

CONCLUSION

1. All nursing students of UNUSA have cortisol levels in the normal range

because coping mechanisms against stress are quite good

2. All nursing students of UNUSA experience dysmenorrhea ranging from mild to severe.
3. There is a correlation between cortisol levels and dysmenorrhea. Increasing cortisol levels will make dysmenorrhea worse for UNUSA Nursing undergraduate students.

SUGGESTION

Future studies are expected to examine other factors that cause dysmenorrhea in final year nursing students. Students need to be taught to adapt to stressors so it is not easy to experience distress.

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POSTER PRESENTATION

ORIGINAL RESEARCH

MONTHLY INCOME OF FAMILY, EDUCATIONAL LEVEL, KNOWLEDGE, AND EATING BEHAVIORS AMONG PEOPLE WITH TYPE 2 DIABETES MELLITUS IN SIDOARJO

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ABSTRACT

Background: Many factors can influence the choice of food and diet of people with type 2 diabetes mellitus, including personal dimensions (socioeconomic, educational level, and knowledge), behavioral pattern, and environmental characteristics (Savoca and Miller, 2001).

Purpose: This study aimed to describe and examine the relationship between monthly income of family, educational level, knowledge, and eating behaviors among people with type 2 diabetes mellitus in Sidoarjo.

Methods: The design of this study used a cross-sectional method to measure the relationship of several variables. The population in this study were all diabetics in the working area of the Sidoarjo Community Health Center. The sampling technique used is cluster random sampling. The total of samples in this study were 117 respondents with inclusion criteria, among others aged 20-60 years, can read, and want to participate in this study. Data collection using demographic data questionnaire (DDQ) for monthly income of family and educational level, eating behavior is measured by self-management dietary behaviors questionnaire (SMDBQ), and knowledge is measured by diabetes knowledge questionnaire (DKQ). The data of this study was analyzed using Pearson Correlation with significance $\alpha \leq .05$.

Results: Based on the results, it found that educational level, monthly income of family, and knowledge had positive relationship with eating behaviors ($r = .60, p < .001$; $r = .61, p < .001$; $r = .33, p < .001$, respectively). Educational level and monthly income of family had positive relationship with knowledge ($r = .21, p < .05$; $r = .31, p < .001$, respectively). And also, educational level had positive relationship with monthly income of family ($r = .63, p < .001$).

Discussion: With the results of this study, health workers are expected to create programs to improve eating behavior in people with type 2 diabetes mellitus that are adjusted to the condition of patients with type 2 diabetes mellitus.

Key words: Eating behaviors, monthly income of family, educational level, knowledge, type 2 diabetes mellitus.

INTRODUCTION

There are many factors can influence the choice of food and dietary pattern of people with type 2 diabetes mellitus. According to Savoca and Miller (2001), the factors that can influence the choice of food and dietary pattern of people with diabetes mellitus divided into 3 domains, including

personal dimensions, behavioral pattern, and environmental characteristics. The factors included in the personal dimension are monthly income of family, educational level, and knowledge. Low family income is often a factor related to the cost of healthy food in the incidence of diabetes mellitus (Marcy, Britton, & Harrison, 2011).

Albarran et al. (2006) said that income, health care services, environmental insecurity and misleading "popular" knowledge are the main barriers to behavior change. People with low-income type 2 diabetes mellitus tend to have difficulty in making decisions on the food consumed and do not have the opportunity to separate the foods that should be consumed by people with type 2 diabetes mellitus with food consumed by the whole family. In addition, coupled with the lack of information obtained and the amount of information that has been trusted by people around people with type 2 diabetes mellitus and is supported by a low level of education so that people with type 2 diabetes mellitus will easily believe that information.

METHODS

Study Design

The design of this study was conducted with quantitative analytic using cross-sectional approach.

Setting

This research was conducted in the working area of the Sidoarjo Community Health Center.

Research Subject

The population in this study were all diabetics in the working area of the Sidoarjo Community Health Center. The sampling technique used is cluster random sampling. The total of samples in this study were 117 respondents with inclusion criteria, among others aged 20-60 years, can read, and want to participate in this study.

Instruments

Data collection using demographic data questionnaire (DDQ) for monthly income of family and educational level, eating behavior is measured by self-

management dietary behaviors questionnaire (SMDBQ), and knowledge is measured by diabetes knowledge questionnaire (DKQ). The self-management dietary behaviors questionnaire (SMDBQ) developed by Primanda et al. (2011) consist of four dimensions with the total of statement are 33 items. The diabetes knowledge questionnaire (DKQ) consists 18 items in the potential response choices were 1) Yes, 2) No, and 3) Don't know. The Cronbach's Alpha test of self-management dietary behaviors questionnaire (SMDBQ) .83. The reliability values of diabetes knowledge questionnaire using Kuder-Richardson formula 20 (KR-20) = .61.

Data Analysis

The data of this study was analyzed using Pearson Correlation with significance $\alpha \leq .05$.

Ethical Consideration

Before collecting data, the researcher conducted ethical clearance from the Ethics Committee of Faculty of Nursing, Burapha University on December 8, 2014 number: 10-11-2557. And also obtained permission from National Unity and Politics of Sidoarjo Regency and Department of Health of Sidoarjo Regency. The authors confirmed that all respondents had obtained appropriate informed consent.

RESULTS

Characteristics of Respondents

Table 1. Distribution of Frequency of Respondents in Sidoarjo Community Health Center (n = 117).

Characteristics of Respondents	Frequency (f)	Percentage (%)
Monthly Income of Family M = 1,746,846.15; SD 521,828.88 Min=750,000; Max=3,775,000		
≤ 1,000,000	12	10.30
1,000,001-2,000,000	74	63.20
≥ 2,000,001	31	26.50
Educational Level		
Primary school	1	0.90
Junior high school	21	17.90
High school	65	55.60
Diploma	7	6.00
Undergraduate	20	17.10
Graduate	3	2.60
Diabetes Knowledge Questionnaire (DKQ) M = 12.08; SD 2.29 High		
Self-Management Dietary Behaviors Questionnaire (SMDBQ) M = 75.44; SD = 10.58 Moderate		
	Mean	SD
Recognizing the amount of calorie needs	8.97	2.28
Selecting a healthy diet and amount	36.28	4.87
Arranging a meal plan	16.51	1.92
Managing dietary challenges	13.68	2.82

Based on table 1, it found that the majority of people with type 2 diabetes mellitus earned monthly income of family per month between 1,000,001-2,000,000 rupiahs (M = 1,746,846.15; SD 521,828.88), as much as 74 respondents (63,20%). More than half of people with type 2 diabetes mellitus (55.60%) completed high school. The knowledge of people with type 2 diabetes mellitus was considered as high level (M = 12.08; SD 2.29). The eating behaviors of people with type 2 diabetes mellitus was considered as moderate level (M = 75.44; SD = 10.58).

Examination of the Relationship between Monthly Income of Family, Educational Level, Knowledge, and Eating Behaviors among People with Type 2 Diabetes Mellitus in Sidoarjo

Table 2. Examination of the Relationship between Monthly Income of Family, Educational Level, Knowledge, and Eating Behaviors among People with Type 2 Diabetes Mellitus in Sidoarjo (n = 117).

	Educational level	Monthly income of family	Knowledge
Monthly income of family	.63***		
Knowledge	.21*	.31***	
Eating behaviors	.60***	.61***	.33***

Based on table 2, it found that educational level, monthly income of family, and knowledge had positive relationship with eating behaviors ($r = .60, p < .001$; $r = .61, p < .001$; $r = .33, p < .001$, respectively). Educational level and monthly income of family had positive relationship with knowledge ($r = .21, p < .05$; $r = .31, p < .001$, respectively). And also, educational level had positive relationship with monthly income of family ($r = .63, p < .001$).

DISCUSSION

Family income directly and indirectly impacts between eating behavior and health in people with type 2 diabetes mellitus (Vlismas, Stavrinou, & Panagiotakos, 2009). Low income levels and supported by a low SES environment will affect one's perception of health and produce health inequalities (Gallo, Smith, & Cox, 2006). The type of work and ability to pay for care

are often the distinguishing factors in receiving health care so that it will affect one's perception of health behavior (Shawahna et al., 2012). Income can also influence someone in making decisions in determining the food they consume. At higher income levels, some people have a tendency to choose unhealthy foods very large because there is a relationship between habits in the environment around them and also the ability to buy them (Muhammad, Karim, Othman, & Ghazali, 2013). However, there are still many of those who have high incomes, they still maintain their bodies to stay healthy.

Family income is often related to education level. This is due to the less income received by a family will provide limits for family members to get a higher education (William et al., 2010). In addition, there are a number of conditions in the community that argue that higher education is not too important and the most important thing is that someone who is old enough must be able to earn his own income. Even though with a low level of education, there is a tendency for someone to have difficulty in understanding the information obtained related to healthy living behavior. For people with diabetes mellitus, a situation where they have difficulty in understanding this information will influence decision making related to diet management that must be followed, for example, related to food choices and their eating patterns (Mocan & Altindag, 2013; Atak, Gurkan and Kose, 2008). However, such conditions can be overcome by a comprehensive approach undertaken by health workers to provide information related to management and provide an understanding of the importance of managing it (especially eating behavior) to keep the body condition of diabetics in a healthy condition (Mocan & Altindag, 2013).

The more information about his health is received, people with diabetes mellitus will have more alternative choices for the management of diabetes mellitus which is adjusted to their current condition, especially related to eating behavior. The information obtained must come from sources that can be accounted for, such as doctors, nurses, and other health workers. With the right knowledge, it is expected that people with diabetes mellitus can manage their own health and know when it is time to consult with a doctor or other health worker (Alavi et al., 2011). Provision of information related to eating behavior or diet to people with diabetes mellitus is needed to increase the knowledge of people with diabetes mellitus related to the diet that must be lived in order to prevent an increased incidence of type 2 diabetes mellitus with complications in the community (Fitzgerald, Damio, Pérez, & Escamilla, 2008).

CONCLUSION

Based on the results of the study found that there is a relationship between each variable in the study, both between educational levels, monthly income of family, knowledge, and eating behavior.

SUGGESTION

Health workers must pay attention to variables, such as educational level, monthly income of family and understanding of the information delivered, in evaluating the achievement of the proposed program. These factors are interrelated with one another, especially in terms of promoting healthy eating behavior for people with type 2 diabetes mellitus.

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ORIGINAL RESEARCH

RELATION BETWEEN FAMILY SUPPORT AND ANXIETY IN PREOPERATIVE PATIENTS IN INDONESIA

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ABSTRACT

Background: Preoperative procedures as the part of perioperative period should be taken place completed and proper regarding to the patients' needs. Once the patient has decided to be operated, they may experience unpleasant feeling created by the prospect of surgery. Therefore, nurse involves all available support at the first place including the family support for patients.

Purpose: This descriptive correlational study aimed to examine the family support relate to anxiety of patients undergoing surgery in Indonesia.

Methods: A 36 patients undergoing surgical in Delta Surya Hospital Sidoarjo participated on this study and were assessed their perceived of family support using Depression Anxiety Stress Scale (DASS) questionnaire and their anxiety level using The Personal Resource Questionnaire (PRQ) 2000. The data of this study was analyzed using Spearman's rho analysis with significance $\alpha \leq .05$.

Results: Spearman's rho analysis reported there was a negative correlation between perceived family support and anxiety level, which was statistically significant ($r = -0.543, p = 0.001, < 0.05$).

Discussion: The attachment of family before surgical would decrease the patient's anxiety level. Implementation of preoperative education and psychosocial intervention should be addressed in order to achieve the expected perioperative patients outcomes.

Key words: Family support, preoperative's anxiety, patients undergoing surgery.

INTRODUCTION

Surgery is a tense and complex event both of elective and emergent type (Smeltzer & Bare, 2003). The event involves vary aspects of preparations and health professional teams. In nursing field, perioperative nursing addresses to the three phases: Preoperative, Intraoperative, and Postoperative. The preoperative phase begins when the decision to proceed with surgical intervention is made and ends with the transfer of the patient onto the operatinf room table (Smeltzer & Bare, 2003). On this phase, nursing care starts from

assessment whole patient's informations (physical, psychological, social, spiritual), nursing diagnosis regard to the data then the interventions to solve the problem and evaluate the outcome of patient's status.

Nursing assessment during preoperative period consists of physical factors (nutritional and fluid status, drug or alcohol use, respiratory status, cardiovascular status, hepatic and renal status, endocrine and immune functions, and previous medication use), psychosocial factors, and spiritual and cultural beliefs (Smeltzer & Bare, 2003). Yet, physical

factors used to be the focus on the assessment, and others often lack of attentions. From the psychological and spiritual belief factors, nurse would get the important data that is the readiness of patients and how their coping mechanisms, then arrange the appropriate and reliable nursing interventions.

Patients awaiting the surgery experience some emotional feelings such as worries, fears, anxiety, depression cause of uncertainty surgery (Arthur et al, 2000; Brembo et al, 2017; Jawaid, 2007; Nigussie, 2014). Anxiety is a vague sense of apprehension that is accompanied by feelings of uncertainty, helplessness, isolation, and insecurity (Stuart, 2014). The patients express their anxiety in different ways. There are patients repeatedly ask questions about the procedures although the answers have been given before. Other patients may avoid to talk, just quiet and sleep, but looked sad. Some physical signs of anxiety could be measured such as shortness of breath, chest pain, palpitations, and dizziness. Levels of anxiety from Peplau (Stuart, 2014) are: 1) Mild anxiety occurs with the tension of day-to-day living; 2) Moderate anxiety, in which the person focuses only on immediate concern, involves narrowing of the perceptual field; 3) Severe anxiety is marked by a significant reduction in the perceptual field; and 4) Panic is associated with dread and terror, as the person experiencing panic is unable to do things even with direction.

The feeling of anxiety on undergoing surgery may influenced many factors. As the meaning of anxiety itself that is about undetermined of situations. There some studies found the predicting factors of anxiety on preoperative patients such as fear of death, financial loss, fear of complications, result of operation, postoperative pain, perceived little social support during waiting time, reassurance of

worth, reliable alliance, and family oriented (Arthur et al, 2000; Brembo et al, 2017; Jawaid, 2007; Nigussie, 2014). The findings extend that feeling of anxiety is about the self-preservation and the valuable persons on life. Nurse figured out the important role of family as social support for patients undergoing surgery. Family are the biggest resource and most enduring care providers for patients. They are our secondary patients in which we involve them on nursing interventions to optimize the nursing care. However, this issue has few references over perioperative period since the policy of hospital on involving family during the period. Accordingly, researcher described the correlation between family support and patient's anxiety during preoperative period in Sidoarjo, Indonesia.

METHODS

Study Design

This study was a descriptive correlational design.

Setting

This research was conducted on March until April 2018 in Delta Surya Hospital Sidoarjo.

Research Subject

Subjects were all patients undergoing elective surgical during March until April 2018 in Delta Surya Hospital Sidoarjo. A total sampling used to collect 36 responses.

Instruments

Data was collected on the preoperative period by an anesthesia nurse that work in operative room in Delta Surya Hospital Sidoarjo. The demographic of characteristics respondents reported on the form to gather data on gender, age, educational level, marital status,

employment, experience of surgery, and accompanying family during the preoperative period. The preoperative patients' anxiety was assessed by Depression Anxiety Stress Scale (DASS) questionnaire (Lovibond & Lovibond, 1995) that consists of 21 statements that evaluate how the respondents feel at the moment and describe their feelings on the following four-point scale; 1) Not at all, 2) Somewhat, 3) Moderately, 4) Very much so. The sum of scores on all items constitutes the individual's score. The score indicates to the following categories: 1) Mild Anxiety (< 10), 2) Moderate Anxiety (10-14), 3) Severe Anxiety (15-19), 4) Panic (>19). Reliability and validity are poor reported (Cronbach's alpha = 0.30). The family support of preoperative patients was measured by The Personal Resource Questionnaire (PRQ) 2000 (Annisa, 2015). The PRQ2000 composed of 15 items on a 7-point Likert scale range from 1 (strongly disagree) to 7 (strongly agree). The 15 items are summed to calculate the total score. Possible total scores range from 15 to 105, with indicates to the following categories: 1) High support (>84), 2) Moderate support (50-84), 3) Less support (<50). Reliability and validity are well reported (Cronbach's alpha = 0.95).

Data Analysis

Data entry and statistical analysis was performed using SPSS version 17. Spearman's rho assessed the correlation between family support and anxiety level of the patients.

Ethical Consideration

Ethical clearance was obtained from the director of Delta Surya Hospital Sidoarjo to get the permission. Data collection procedure started with the informed consent to participants that they

were briefed about the study and kept their confidentiality.

RESULTS

Characteristics of Respondents

Table 1. Distribution of Frequency of Respondents at Delta Surya Hospital, Sidoarjo in March until April 2018 (n = 36).

Gender	
Male	16
Female	20
Age	
17 – 29 years old	9
30 – 42 years old	11
43 – 55 years old	9
56 – 68 years old	7
Educational level	
Elementary school	2
Junior high school	8
Senior high school	11
University	15
Marital status	
Single	2
Married	27
Divorce	7
Employment	
Unemployment	11
Private employee	13
Public employee	5
Retired	3
Experience of surgery	
First time	20
More than one	16
Accompanying family	
Yes	31
No	5

Description of Family Support and Anxiety Level

Table 2. Distribution of Frequency of Respondents by Family Support and Anxiety Level at Delta Surya Hospital, Sidoarjo in March until April 2018 (n = 36).

Family Support	
High	22
Moderate	10
Less	4
Anxiety Level	
Mild	23
Moderate	7
Severe	5
Panic	1

Examination of the Relationship between Family Support and Anxiety Level of Respondents in Delta Surya Hospital, Sidoarjo using Spearman's Rho Correlation

Table 3. Examination of the Relationship between Family Support and Anxiety Level of Respondents in Delta Surya Hospital, Sidoarjo using Spearman's Rho Correlation (n = 36).

Spearman's rho			
Family Support	Correlation	1.000	-0.543**
	Coefficient		
	Sig. (2-tailed)	.	.001
	N	36	36
Anxiety Level	Correlation	-0.543**	1.000
	Coefficient		
	Sig. (2-tailed)	0.001	.
	N	36	36

DISCUSSION

The result showed that patients who perceived high family support was 22 respondents (61%), moderate family support 10 respondents (28%), and less family support was 4 respondents (11%). It might be refer to the presentation of family

during preoperative period; whereas 31 respondents (86%) were accompanied by their family member. The presence of family promotes emotional support for patients by holding their hand or expressing calm face, hence the patients able on bearing the course of surgical. Pshychosocial aspect during preoperative period has impact to the patients' postoperative conditions. As the study conducted with the Norwegian patients who undergoing total hip replacement, their recovery get better when they perceived greater social support ($\beta = -1.40 [-2.81, 0.01]$) (Brembo, 2017).

The result of anxiety was 23 respondents (64%) felt mild anxiety, 7 respondents (19%) felt moderate anxiety, 5 respondents (12%) felt severe anxiety, and 1 respondent (5%) felt panic. The feel might be relate to how experience of patients toward surgical; whereas 20 respondents (56%) had surgical experience before, and 16 respondents (44%) had no surgical experience. Anxiety caused of unexplored perioperative procedures. A 70.3% patients (from 239 patients) had anxiety when they waiting for surgery, whereas the prospect of surgery covers to fear of death (38.1%), fear of unknown origin (24.3%), financial loss (47.19%), and results of operation (19.2%) (Nisgussie, 2014).

The correlation between family support and anxiety was statistically significant, $r = -0.543, p = 0.001, < 0.05$. A negative correlation coefficient means the higher family support perceived by the patients then the lower anxiety level they felt. The result consistent with the study that 89.6% patients (from 193 patients) perceived anxiety because concern about their family (Jawaid, 2007). These results ascertain that support system contributes to the readiness of patients on surgery. Therefore, the patients' psychosocial needs

should be attained before patients get to operating room table (Smeltzer & Bare, 2003). In addition, providing preoperative intervention would enhance the patient's early-phase recovery (Arthur, 2000), and involving the family during the intervention would improve surgical outcomes (Brembo, 2017).

CONCLUSION

The more family support for patients undergoing surgery, the less anxiety that they perceived ($r = -0.543$, $p = 0.001$, < 0.05).

SUGGESTION

Nurse should provide the comprehensive preoperative nursing care to promote the patient's recovery and prevent the postoperative complications.

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ARTICLE REVIEW

ISSUES AND TRENDS IN NURSING ADMINISTRATION: NURSING STAFF SHORTAGE

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ABSTRACT

Nursing shortage is an internationally recognized crisis and the biggest challenge in achieving the health system effectiveness. This paper sought to review literature on issues and trends in nursing administrations. Conceptual Framework for Nurse Shortage; Nursing Role Effective model, community-based model and Moos and Schaefer (1993) integrative conceptual framework and Donabedian (1980) were used to guide the study. The findings revealed that nurse staffing is associated with both nurse and patient negative outcomes. It was recommended that an improvement to nurse's work environments and an increase in incentives may retain nurses in the profession and also attract young people into the profession.

Key words: Nursing administration, nursing staff, health system, nursing shortage.

INTRODUCTION

Nursing shortage is an internationally recognized crisis and the biggest challenge in achieving the health system effectiveness (Buchan & Aikein, 2008). Hence, the worldwide attention on the association between nurse staffing and patient outcomes (Shuldham, Parkin, Firouzi, Roughton, & Lau-Walker, 2009). Furthermore, nurse staffing is also linked to negative staff outcomes (Tervo-Heikkinen, Partanen, Aalto, & Vehvila"inem-Julkunen, 2008; Kane, 2009).

Nurse staffing reflects the ratio of nurses to patients on a hospital ward. The number of nurses is quantified in terms of hours of care given and skill mix; whereas, patient nursing care needs are classified

according to patient acuity (Sullivan & Decker, 2009). A shortfall of the required number of staffs indicates staff shortage.

The main cause of nurse shortage is poor recruitment, and retention policies (Buchan & Aikein, 2008). Whereas, the most effective strategy to solve the problem is to institute efficient and effective recruitment and retention measures (McHung, 2010). This remains the sole responsibility of the nurse administrator together with other stake holders.

BACKGROUND AND SIGNIFICANCE

It is estimated that 7 million in patients annually acquire infections while being treated for other conditions and nurse staffing has been implicated (Cimiotti,

Aiken, Sloane, & Wu, 2012). Among this infected patient 1 in every 17 patients die (Klevens, Edwards, Richards, et al. 2007).

The 1990's witnessed the worldwide hospital restructuring and reengineering to achieve higher levels of labor productivity and efficiency in an attempt to, enable hospitals to deliver care at lower cost without decreasing quality of care (Aiken, Clarke and Sloane, 2000). This action worsened the already prevailing problem of nursing shortage. By 2020 it is predicted that the hospital nursing vacancies will reach 29% or 800,000 (American Hospital Association, Commission on Workforce for Hospitals and Health Systems, 2002). Whereas, the nursing workforce is expected to increase by 6% while the nursing care demand is expected to grow by 40% Health Research and Resources Administration, Bureau of Health Professions, National Centre for Health Workforce (2000-2020). Projection indicate a mismatch between the supply and demand of RNs and its demand in many hospitals (Buerhaus, 2008; Buerhaus et al, 2009). Africa and south East Asia have the lowest average ratio of nurse (Buchan & Aikein, 2008).

The main cause of nurse shortage is inadequate workforce planning, allocation mechanism, resource constraints, undersupply of new staff, poor recruitment, retention and retention polices ineffective use of available nursing resources through inappropriate skill mix and utilization, poor incentives, structure and inadequate career support (Buchan & Aikein, 2008). Whereas, the most effective strategy to solve the problem is to institute efficient and effective recruitment and retention measures (McHung, 2010).

Younger nurses are leaving the career for other higher paying professions with better working conditions. In addition, there is a delay in recruitment of new nurses

(Steinbrook, 2002) as the baby boomers prepare to retire (Beurhaus, 2000). Nursing workload has increased with decreased length of hospital stay and increased acuties of patients who need highly skilled care. Conversely, the demand of nurses is high whereas the supply lags behind (Cauvorous, 2002).

Hospital restructuring and reengineering of the 1990s resulted in reduction of staff in middle management positions which were replaced with licensed assistive personnel. The consequence of the reengineering was a decline of nurse to patient ratio which has a potential to affect patient outcomes (Heinz, 2004).

Low staffing levels impact on outcomes such as patient mortality, length of stay and enormous patient complications which include pneumonia, shock, upper gastro intestinal bleeding and failure to rescue (Aiken, 2002; Needleman, 2002). Inadequate nurse staffing has been associated with medication errors (Blegen & Vaughn 1998), patient falls (Krauss *et al.* 2005), the spread of infection (Cimiotti, Aiken, Sloane, & Wu, 2012), increased mortality Kane, Shamliyan, Mueller, Dural, & Wilt 2007; and failure-to-rescue (Needleman *et al.* 2002). Hence, patients adverse outcomes are related to higher cost for both the hospital and the patient (Myny at el;2011).

Lankshear, Sheldon, & Maynard (2005) reviewed 22 multisite studies conducted in acute hospitals that adjusted for case mix and they concluded that higher nurse staffing with richer skill mix of registered nurses was correlated with improved patient outcomes. Conversely, Kane, Shamliyan, Mueller, Dural, & Wilt (2007) conducted a study in USA and Canada and found a reduction of length of stay, failure to rescue and mortality rate when patient and hospital characteristics

were adjusted with higher nurse ratio. There was reduced mortality and adverse events where a nurse cared for two or one patient and the nurse care hours per patient per day exceeded eleven. Greater improvement was seen in intensive care units and surgical units. Risk for mortality per registered nurse day was 16% in surgical and 9% in intensive care unit patients. Each additional patient assigned to a nurse was related to an overall risk of 17% for medical complications, 7% hospital acquired pneumonia, 53% respiratory failure. Mortality decreased with approximately 2% for every additional nurse.

It is important to explore the issue of shortage further since it has serious implications to the nursing staff too. Numerous research studies have implicated nurse staffing actions in patient safety (Kane et al., 2007). Therefore, an improvement of nurse staffing levels would improve nurse work environment resulting better patient outcomes and nurse work life (Cohen, Holzemer, & Goernberg, 2000). Many research studies have shown evidence of the relationship between poor staffing and poor work environments, nurse burnout, turnover and professional attrition (Aiken, Clarke, Sloane, Lake, & Chang, 2008; Stone et al 2007). Therefore, adequate staffing results to better nurse retention and job satisfaction (Lake & Frizer, 2006; Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2007). Nurses develop stress when they are unable to cope with the excessive workloads. Staff shortage resulting to heavy work load has been cited as the main stressors in the nursing profession. Recent studies revealed that 50-60% of all lost working days is due to occupational stress (cox et al.2000). The intensive care nurses reported shortage of staff as the most stressful stressor (49.6%) Anita, Cuaderes, & Debra (2006).

Staff shortage has been linked with stress as a result of excessive work load which affects the nurse's wellbeing. Kane, (2009) conducted a study to establish the existence and extend of work stress among 106 hospital nurses. The stressors identified were work related, work interactions, job satisfaction and home stress. The causes of stress were job not finishing on time due to staff shortage, conflict with relatives, overtime, and insufficient pay. Common psychosomatic illness identified were acidity, back pain, stiffness of neck and shoulders, forgetfulness, anger and worry in nurse with stress.

In addition, Wu, Chi., Chen, & Jin (2010) found a correlation between occupational stress and chronic disease while Liu et al (2010) reviewed literature which revealed a strong relationship between stress and undesired health outcomes among medical professionals such as coronary disease, hypertension, headache asthma, peptic ulcers lower back pain and mental health. These results to lower work productivity, job morale, higher absenteeism, job dissatisfaction and higher turnover. Consequently, leading to higher operational costs, lower job efficiency and worse quality of patient care service. Sick nurses take sick offs hence reducing the patient care hours.

THE CONCEPT OF NURSE STAFFING

Nurse staffing reflects the ratio of nurses to patients on a hospital ward. Higher ratios are preferable because they indicate better outcomes for patients. Low ratios mean fewer nurses are taking care of more patients. The number of nurses is quantified in terms of hours of care given and skill mix; whereas, patient nursing care needs are classified according to patient acuity (Sullivan and Decker, 2009). A

shortfall of the required number of staffs indicates staff shortage.

Staffing entails providing nurses to provide care to patients. There are two basic types of staffing measures. The first is dividing the number of nurses or nursing services by the quantity of nursing care patient needs. Common examples include patient-to-nurse ratios, hours of nursing care delivered by various subtypes of personnel per patient day (HPPD), and full-time equivalent (FTE) positions worked in relation to average patient census (ADC) over a particular time period (Clarke & Donaldson, 2008). To determine NHPPD hospital ward characteristics are classified as follows; patient complexity, intervention levels, the presence of high dependency beds, the emergency/elective patient mix and patient turnover (Twigg & Duffield, 2009).

The second measure examines the qualifications of those staff members and expresses them as a proportion of staff with more versus less training (or vice-versa). Staff qualification puts into account the staff mix. These staffs include unlicensed personnel, practical nurses, and registered nurses (RNs). The specific types of educational attained by RNs such as baccalaureate degrees versus associate degrees and diplomas are also considered together years of experience (Clarke & Donaldson, 2008). A high Registered Nurses (RNs) skill mix is required for greater staff flexibility. For example, Licensed Practitioner Nurses (LPNs) and Unlicensed Assistive Personnel (UPAs) can do procedures such as general hygiene, feeding, turning and transferring patients while the RNs can do frequent patient assessment, education and discharge planning (Sullivan and Decker, 2009).

Many researchers have used nurse-reported perception of staffing adequacy and nurse-reported patient workloads to measure nurse staffing levels (Kalish, Friese, Choi, & Rochman, 2011). Although, administrative data raise concerns for data completeness, reliability, and validity (Mark, 2006). However, the results of the findings have been used to make recommendations that have yielded positive results.

CONCEPTUAL FRAMEWORK FOR NURSE SHORTAGE

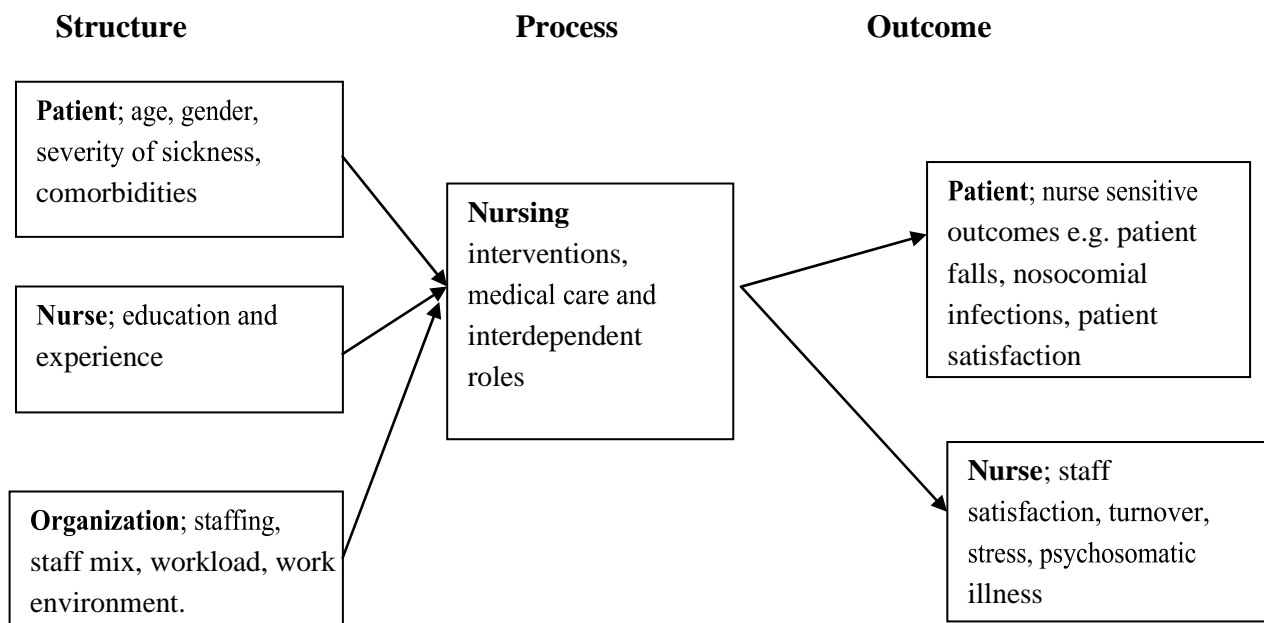
This essay will be guided by three models; firstly, The Nursing Role Effective model which was developed by Irvine et al. (1998). The model identifies the contributions of nurse's roles towards patients' outcomes of care. The Nursing Role Effective model is based on the work of Donabedian (1980) whose framework is composed of structure-process and outcome of quality care (Doran & Pringle, 2011). Indeed, the structure influence the process and the process influences the outcomes of care. Structural variables include the patient (age, gender, education, type of illness and comorbidities), nurse (experience, knowledge and skill level) and organizational (staffing, staff mix, workload and work environment). The process of care entails the nurse's roles; independent role (nursing interventions), medical care-related role (medically directed care and expanded scope of nursing practice) and interdependent role (team communication, coordination of care and case management). The outcomes focus on nurse sensitive patient outcomes; function status, self-care, and symptom control. Safety/adverse occurrences and patient satisfaction (Doran & Pringle, 2011). Although, the model describes the role of the nurse other members involved

with the care will influence the patient outcomes.

Secondly, Outcomes model of community-based setting describes the three components; inputs (structure) - process and outcome. The outcomes are divided into two for both the provider and the user of the service. For instance, job satisfaction, patient satisfaction; staff work life and patient functional status are accorded at the same level. This model lays emphasis on work climate as an important outcome for the nurse since it affects how the nurse performs her duty especially with staff short fall (Cohen, Holzemer, & Goernberg, 2000).

Thirdly, Moos and Schaefer (1993) integrative conceptual framework combines environmental and personal variables in an attempt to describe coping, health and illness status. This model will be used to bring out the relationship between poor work environments (staff shortage) and its impacts on the nurse's health. In addition, the model puts into account personal factors and life crises and transitions as they would affect an individual's ability to cope with workloads resulting to ill health. The staff will get sick off or leave aggravating the already desperate ratio of qualified nurses.

Conceptual Framework for Nurse Shortage; Nursing Role Effective model, community-based model and Moos and Schaefer (1993) integrative conceptual framework.



A Conceptual framework of the three models brings out a clear understanding of the impacts of staff shortage in the health organization. For it looks at the multiple effects brought about the organizational structure, process of care and both staff and patient outcomes.

IMPACT OF NURSE STAFF SHORTAGE

Nursing staff shortage impacts directly on both the staff and the patients. Staff shortage will result to heavy workload for the nurse to manage. The consequence will be inadequate care to the patients, the nurse will get burnout resulting to ill health and others may leave the profession. Inadequate staffing has been linked to missed necessary nursing care whilst adequate staffing would be an effective strategy to improve patient outcomes (Xiao-wen, 2012). Patients who do not receive the necessary nursing care may have increased length of stays, resulting in financial losses

for hospitals (Lucero, Lake, & Aiken, 2009).

Needleman (2002) revealed a strong and consistent association between nurse staffing variables and five patient outcomes including urinary tract infections, pneumonia, length of stay

, upper gastro intestinal bleeding and shock in medical patients, in surgical patients' failure to rescue was the only variable with a strong consistent relationship.

Glance et al (2012) performed a cross-sectional study of 70,142 patients admitted to 77 Level I and Level II centers using Healthcare Cost and Utilization Project Nationwide Inpatient Sample. Logistic regression models were used to examine the relationship between nurse staffing measures and mortality, healthcare associated infections and failure-to-rescue. Patient risk factors controlled were injury severity, mechanism of injury, comorbidities, age and gender; whereas,

hospital structural characteristics such as geographic region technology level, teaching status, teaching status, hospital size and trauma center status - Level I versus Level II. The results revealed that a 1% increase in the ratio of licensed practical nurse (LPN) to total nursing time was associated with a 4% increase in mortality and a 6% increase in sepsis. Three excess deaths were prevalent in hospitals with the highest quartile of LPN and 5 more episodes of sepsis per 1000 patients compared to hospitals in the lower quartile of LPN staffing. Thus, they concluded that an independent association between higher hospital LPN staffing levels with slightly higher mortality rates and sepsis in trauma patients admitted to Level I or Level II trauma centers. This study implicates need of RN rather than LPN for severely ill patients. In addition, Sovie (2001) suggested that an increase of registered nurse. Hours per patient per day was related to lower fall rates and higher patient satisfaction and lower urinary tract infections rates.

Bond, et al (1999) found out that other healthcare providers, such as medical residents, registered pharmacists and medical technologists influenced mortality rates. Thus, an increase of certified health professionals including registered nurses decreased mortality rates. In addition to skill mix, the number of years of nursing experience in a particular area was directly associated with mortality rates (Tourangeau, 2002).

Other researchers have studied to show the association between staffing levels and patient complications. For instance, A survey was done with data obtained from the Pennsylvania Health Care Cost Containment Council report on hospital infections and the American Hospital Association Annual Survey to examined urinary tract and surgical site infection.

Linear regression was used to estimate the effect of nurse and hospital characteristics on health care– associated infections. The results revealed a significant correlation between patient-to-nurse ratio and urinary tract infection (0.86; $P = .02$) and surgical site infection (0.93; $P = .04$) (Cimiotti, Aiken, Sloane, & Wu, 2012).

A prospective, observational, single-centre cohort study was conducted in the medical intensive care unit (ICU) of the University of Geneva Hospitals. The study was conducted between January 1999 and December 2002 and it included all patients who were at risk for ICU- acquired infection admitted during that period. They were followed from admission to discharge. By multivariate Cox regression analysis, they found that a high nurse-to-patient ratio was associated with a decreased risk for VAP (hazard ratio 0.42, 95% confidence interval 0.18 to 0.99) (Hugonnet, Uckay, & Pittet, 2007). Thus, an association of Lower nurse-to-patient ratio with increased risk for late-onset VAP. This may be attributed to increased workloads and time constraints resulting in noncompliance of standard infection control precautions. Ultimately increasing the length of hospital stay and cost too. Besides, the negative impact of staff shortage on the patients, research evidence revealed effects on the nurse too. Tervo- Heikkinen, Partanen, Aalto & Vehvila”inem-Julkunen (2008) Conducted a survey on 664 registered nurses from 34 acute care inpatient hospital wards in order to assess the interrelationship between nurses work environment and nursing outcomes. It was revealed that staffing adequacy, respect and relationships were the most important factors of work environment that had influence on job related stress, job satisfaction, patient satisfaction and adverse events to patients and nurses. 77% registered nurses reported adverse events. 96% reported patient’s

adverse events during the three monthlies of retrospective period. The economic changes affecting the whole healthcare staffing in the 1990s (recessionary period and health care staffing reduction) pressures for hospital recon structuring and the decrease of working age population have an impact on the health care system and work environment of registered nurses. Poor organizational climate and high workloads are associated with increased levels of needle stick injuries.

Burgess, Irvine, & Wallymahmed (2010) cited that some nurses become severely distressed resulting to high sickness, absence, poor staff retention and ill health due to work overload. Furthermore, Adriaenssens, De Gucht, Van der Doef, & Maes (2011) found that work environment and job characteristics of nurses were important predictors of stress – health outcomes. Emergency nurses reported more pressure, physical demands, lower decision authority, less adequate work procedures and less reward than a general hospital nursing population. Work opportunity for skill discretion and better social support by colleagues. Work time demand appears to be an important determinant of psychosomatic complaints and fatigue in emergency nurses. Personal characteristics, decision authority, skill discretion, adequate work procedure, supervisors are strong determinants of job satisfaction, work engagements and lower intentions in emergency nurses. Occupational stress can lead to a variety of health-related problems that consequently impact on the organization. Stress related physical illness such as migraine headache, hypertension, coronary heart disease syndrome and psychological problems including anxiety, depression, and insomnia and feeling inadequacy. These symptoms are related to decreased work performance,

work home conflicts, absenteeism, and burnout and turnover intension to leave.

Job dissatisfaction is a major consequence of staff shortage. Turnover of nurses is expensive because, it's costly to recruit, orientate and train new nurses. Therefore, creating cultures of retention in organizations, bolstering the nurse education infrastructure, establishing financial incentives for investing in nursing, rewarding hospitals with magnet hospital characteristics and implementing effective nursing systems according to staff number and mix (Tomey, 2009).

ROLE OF NURSE ADMINISTRATOR IN NURSE STAFFING

One of the priority responsibilities of nurse leaders is staffing by determining the most appropriate number and mix of nurse staffing to ensure patient safety whereas also maintaining a cost-effective and efficient nursing workforce (Kane et al., 2007).

Nursing shortage is critical; therefore, the health care system needs to quickly expand the available services beyond the normal to meet the increased demand for care (AHRQ, 2004). The health system's surge capacity needs to be addressed. The surge capacity elements are strained personnel, equipment and supplies, structure, policies and procedures (Barbisch & Koenig, 2006). The elements are interrelated for with better equipment's and supplies less staff will be needed. At the same time proper policies and procedures in place will enhance better scheduling and allocation of the available staff. In addition, policies and procedures can facilitate in recruitment and retention measures.

Managers need to establish conditions to support recruitment and retention of adequate staff. Due to the insufficient staffing practices and its potential impact, hospitals need to shift their view and way

of managing nursing resources (McHung, 2010). For example, institution new ways to provide adequate staff during peaks in daily occupancy (Lituak et al 2005). Enhancing recruitment and experience of nurses is paramount to attaining required staffing levels (Heinz, 2004). Involving men in the higher position like those of nursing deans would change the image of nursing resulting to more male nurses enrolling in the nursing profession hence, solving the nurse shortage issues, (Roth and Coleman, 2008).

Recruitment should include both RN and others such LPNs and UAP. However, the number of RNs should be larger since they are accountable for evidence-based care. Whereas, LPNs and UAP can assist in non-nursing duties. The Registered nurse is based on knowledge. Their education program and work experience provide them with knowledge and guides them indecision making to give appropriate care to patients. Adequate staff provides them an opportunity to utilize their knowledge efficiently and effectively. Unlicensed Assistive Personnel are trained individuals to assist registered nurse in providing patient care (ANA, 1999).

The nurse administrator should ensure ongoing recruitment of nursing workforce by advocating for the profession and encouraging the new generation to join the profession. The local, state and government offices should depict a positive image of nursing profession to enhance recruitment of nurses. Other methods include, hiring nurses overseas, providing flexible schedules, more regular work hours, encourage greater working hours from part-time employees and provide government loan payback incentives for students seeking degree in nursing (Heinz, 2004).

Attributes as those demonstrated by magnet hospitals which include increased autonomy regarding clinical bedside care,

primary nursing care, better relationships between nurses and physicians, nurse's preference for interdisciplinary care and patient involvement in care (Aiken, 2002) may be considered in attempt to retain nurses in the profession. Years of nurse experience in a specific unit is related with lower 30-day mortality rate (Torangeau, 2002). Therefore, encouraging specialization of nurses in certain areas would enhance their expertise and competence. This would act has an intrinsic motivator for them to remain in the profession.

Thus, incentives are required to enhance retention of nurses within the profession (Heinz, 2004). Belgian, Vaughn and Goode (2001) found that good mentors' colleagues were the main reason nurses remained with the employer. Thus, enhancing mentorship training and establishment of worker friendly environment is inevitable (Heinz, 2004). Motivation of the staff towards job achievement is the duty of the nurse manager. It is important for the nurse leader to have strong purposeful leadership and management skills to be effective in the daily operations, (Donnell, Livingstone, & Bartam, 2012).

Nurses should be offered opportunity for participation in, decision making and input into the work environment as in magnet hospitals. In order for nurses to balance family, work and social demands self-scheduling (flexible scheduling) may be adopted. Offering educational opportunities in continuing educational programs and sponsorship for advanced nursing education. In addition, promotions of health work environment, support promotion ladders and offering more salary for more experienced nurse (Heinz, 2004). For hospitals to efficiently maximize nurse staffing investing in nursing education and

workforce infrastructure, and an inclusion of incentives would do (McHugh, 2010).

Kalish, Friese, Choi and Rochman (2011) conducted a cross-sectional correlational study of 92 medical-surgical, rehabilitation, and intermediate in 11 acute care hospitals. The findings were a correlation ($r=-.276$, $p=.008$) between Hours of Care Per Patient Per Day (HPPD) and the nurse-reported patient workload on last shift. A correlation ($r=-.384$, $p=.000$) between perceptions of the adequacy of staffing and nurse-reported patient workload on last shift.

Multivariable analyses revealed a significant association between inadequate numbers of assistive personnel and both perceived staffing adequacy and nurse-reported patient loads. Unit-level Case mix Index (CMI) had a significant relationship with both HPPD and nurse-reported patient loads. Thus, an additional number of assistive personnel will relieve the nurse off extra nursing care hours and workloads.

Heavy workloads were associated with negative impacts on the nurses. In a multivariate model, patient severity and nurse and hospital characteristics were controlled, nurse burnout was the only variable with a significant relationship with urinary tract infection (0.82; $P = .03$) and surgical site infection (1.56; $P < .01$) infection. Hospitals 30% burnout reduction had a total of 6,239 fewer infections, \$68 million annually (Cimiotti, Aiken, Sloane, & Wu, 2012). Thus, level of staffing was linked to burnout. Therefore, the nurse administrator should put measures in place to reduce burnout among nurses to enhance patient safety.

There is need for federal funded programs to invest in the nursing profession by expanding nursing faculty and schools, increase incentives in hospitals with acceptable nursing practice environment, clinical training sites and adequate nursing

capacity. Competitive faculty salaries may encourage more nurses into the education career (Aiken, Cheung, & Olds, 2009). An increment of faculty members will result in more trained nurses to curb the severe shortage.

View research on staffing and outcomes identify safe staffing levels, unrelation to patient acuity level and variability with staff experience and expertise put into consideration organizations resources policies and procedures and support available to patient care unit and issues related to patient care unit and issues related to work environment. Evaluation of staff systems should include nurses work life, outcomes and patient outcomes. Quality of work life was found to be related to quality of care. Therefore, work related staff illness and injurie states, over time rates , flexible human resource polices and benefits package, compliance and applicable federal state and local regulations Staffing the analysis and identification of health care organization human resource requirements, recruitment of personnel to meet those requirements and initial placement of those persons to ensure adequate numbers, knowledge and skills to perform the organizations work(ANA ,1999).

Electronic medical records can streamline documentation (Staggers, Weir and Phansalkar,2008) for it saves nurses time resulting in reduced staff requirements and overtime (Turisio & Rhoads, 2008). This may also improve nurse working condition resulting to higher job satisfaction and lower turnover (Bolton, Gassert, & Cipriano, 2008). Staffing principles include assessment of management, nursing and patient needs, and final decisions should not rely on the type of pay or only the number of patients. Nurse staffing requires a multi-dimensional approach to assessment and

evaluation of staffing needs (Kalish, Friese, Choi, & Rochman, 2011).

The administrator can develop a plan through benchmarking. Benchmarking is the continuous measuring of process product or service compared with those considered industry leaders in order to find and implement ways to improve the product, process or service.

Benchmark own NHPPD against other organization with similar patient population to form part of evidence-based decision marking. Consider skill mix, the percentage of RN Compared to LPN. For instance, in critical care unit require more RN skill mix than in the nursing homes. No of staff support if less the nursing hours needed will be more (Kelly.2012).

Provision of practical and written philosophy to guide staffing and scheduling activities. Conduct staffing studies to determine staffing needs related to skill mix, number, time and workload requirement (Roussel, 2013). Although, many studies have been done in different context, each institution need to research on their organization due to variations in different environments.

Nurses are the main source of care to patients. Factors contributing to nurse shortage are restructuring for economic reasons, budgets and staff in cuts, mandatory overtime, heavy workloads, poorly prepared managers, nurse to nurse hostility, poor nurse to doctor relations, changing legislation, negative media stereotyping. Helpful strategies to deal with staff shortage is improve scheduling, safer staffing, nurse voices to be heard in the workplace, collaboration with nurse and doctor, diversity training, management and development involve nurse in public communication (Tomey, 2009).

CONCLUSION

The issue of nursing shortage has been of concern to many researchers for many decades; yet, the solution is far from being achieved. The recent investigations of its impacts not only to the patient but also considering the nurse outcomes may solve the problem. This is because the nurses are leaving the profession as a result of the negative experience they encounter in the profession. In my opinion, improving the work environments of nurses and increasing the incentives may retain nurses in the profession and also attract young people into the profession.

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ORIGINAL RESEARCH

THE INFLUENCE OF PASSIVE RANGE OF MOTION (ROM) ON LOWER EXTREMITY IN POSTOPERATIVE PATIENTS WITH SPINAL ANESTHESIA IN RUMKITBAN SIDOARJO

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ABSTRACT

Background: Patients to be operated will receive anesthesia, one of which is spinal anesthesia. Patients who receive spinal anesthesia are usually transferred to the recovery room to stabilize the condition. Some actions that can increase venous return and normal blood circulation flow, one of which is the action of range of motion exercises (ROM).

Purpose: The purpose of this study was to identify the effect of passive range of motion exercises (ROM) on the motor response of the lower extremity in postoperative patients with spinal anesthesia in Rumkitban Sidoarjo.

Methods: This study used a Quassy experimental design with a one group pretest-posttest approach. The number of samples were 25 people and collected using incidental sampling techniques. The data obtained were then analyzed using the Wilcoxon test with $p \leq 0.01$.

Results: As many as 80% of postoperative patients with spinal anesthesia who are given passive range of motion exercises (ROM) can achieve Bromage score 2 in the first 2 hours after surgery. Wilcoxon test results indicate that the p value (0,000). The conclusion of this study is that passive range of motion exercises (ROM) can improve the lower limb motoric response in postoperative patients with spinal anesthesia.

Discussion: The main task of nurses in the recovery room is to observe blood pressure, respiratory status, oxygen saturation, and level of consciousness. In addition, nurses must apply passive range of motion exercises to postoperative patients to accelerate the patient's recovery from the effects of anesthesia.

Key words: Passive Range of Motion, lower limb motoric response.

INTRODUCTION

Range of motion (ROM) is a number of movements that can be carried out by the joints in one of three body parts. Patients who experience limited mobilization are not able to do some or all ranges of movement independently. Patients who have limited range of motion can be given nursing intervention in the form of range of motion exercises. This exercise is used to maintain or increase muscle strength, joint

mobilization, and prevent joint contractures. Range of motion exercises can be either active or passive. In the active range of motion, the patient moves all his joints independently, while in the range of passive motion, the patient moves all his joints with the help of nurses partially or totally. Patients who undergo surgery will receive anesthesia, one of which is regional anesthesia. Regional anesthesia causes loss of sensation in certain areas of the body.

The induction method affects the part of the sensory pathway that is given anesthesia. In spinal anesthesia, anesthesia will spread from the tip of the xyphoideus processus to the legs. The postoperative action is carried out in two stages namely the recovery stage and the healing stage. For patients undergoing surgery a day, recovery normally occurs within one to two hours postoperatively (Perry & Potter, 2006).

After surgery, patient care can be complex due to physiological changes that may occur. Patients who receive spinal anesthesia are usually transferred to the recovery room to stabilize the condition. The patient remains in the recovery room until fully recovering from the effects of anesthesia namely stable blood pressure, normal respiratory status, minimum oxygen saturation of at least 95%, and good awareness. Initial actions aimed at preventing complications of circulation can prevent static circulation. Some actions that can increase venous return and normal blood circulation flow include: encouraging the patient to do foot exercises at least every hour while the patient is awake, avoiding positions that can interfere with blood flow to the lower extremities, and encourage the patient to ambulate earlier. Patients with spinal anesthesia will feel the return of motor function ahead of tactile sensations. In the assessment of the patient's ability to move the lower extremity using the Bromage scale. Patients can be moved to the treatment room if it has reached score 2 which is able to reflect on the ankle but has unable to flex knees (Prasetija, 2011). The ability to apply ankles normally occurs after 1-2 hours postoperatively. Based on observations of 5 patients who were in the recovery room at Rumkitban Sidoarjo, for 2 hours postoperatively the patient unable to move legs or feet, it means that Bromage score was still at number 3. The Bromage

score in the patient decreased stating that the motor function had returned to normal.

To increase the speed of postoperative recovery time in the recovery room, that must be taken by nurses include: monitoring vital signs every 15 minutes, providing passive range of motion exercises starting immediately after exiting the operating room, and providing health education to patients about the benefits of doing active and passive range of motion exercises until the patient can mobilize independently.

METHODS

Study Design

This research using Quassy experimental design with one group pretest and posttest approaches.

Setting

This research was conducted on 2 to 14 April 2018 in the recovery room at Rumkitban Sidoarjo.

Research Subject

The number of samples in this study were 25 respondents. Respondents were collected using incidental sampling techniques.

Instruments

Researchers conducted a pretest by measuring the Bromage score in the lower extremity of respondents who had lead surgery with spinal anesthesia and were in the recovery room. After a pretest, the patient is given passive range of motion exercises. After 2 hours postoperatively, the respondent's motor lower extremity was measured by using the Bromage score again to assess the increased motor ability of the lower extremity. The motoric response of lower extremity of the patient is increase if it has reached a Bromage score of 2.

Data Analysis

The researcher conducted data analysis using the Wilcoxon test with $p \leq 0.01$.

Ethical Consideration

Ethical clearance was obtained from the director of Rumkitban Sidoarjo to get the permission. Data collection procedure started with the informed consent to participants that they were briefed about the study and kept their confidentiality.

RESULTS

General research data including age, education level, and operating experience that shown in the table below:

Characteristics of Respondents

Table 1. Distribution of Frequency of Respondents at Rumkitban Sidoarjo in April 2018 (n = 25).

Characteristics of Respondents	Frequency (f)	Percentage (%)
Age (Years)		
20 – 25	9	36
26 – 30	6	24
32 – 35	10	40
Total	25	100
Educational Level		
Junior High School	1	4
Senior High School	11	44
University	13	52
Total	25	100
Operating Experience		
Ever	12	48
Never	13	52
Total	25	100

Examination of the Effect of Passive Range of Motion Exercises (ROM) on the Motor Response of the Lower Extremity in Postoperative Patients with Spinal Anesthesia in Rumkitban Sidoarjo using Wilcoxon test.

Table 2. Examination of the Effect of Passive Range of Motion Exercises (ROM) on the Motor Response of the Lower Extremity in Postoperative Patients with Spinal Anesthesia in Rumkitban Sidoarjo in April, 2018 (n = 25).

Treatment	Bromage Score				Wilcoxon Test $p < 0.01$
	Score 3	%	Score 2	%	
Patient with passive ROM exercise	5	20	20	80	$z = -4.472$ $p = 0.000$

DISCUSSION

Based on the results of the study above showed that 80% postoperative patient with spinal anesthesia who were given passive range of motion exercises postoperative with spinal anesthesia were able to achieve Bromage score 2 within ≤ 2 hours. After being tested using the Wilcoxon test showed that the p value (0.000) so that it can be concluded that passive range of motion exercises can improve the lower extremity motoric response in postoperative patients with spinal anesthesia. Research conducted by Nuryadi (2011) shows that post sectio cesarean patients with spinal anesthesia with a dose of Bupivacain 0.5% 20 mg require time to achieve Bromage score 2 in the minutes 190-235, whereas in a 0.5% 15 mg bupivacain achieved in minutes 155-195.

Both studies conclude that the average time needed to achieve Bromage score of 2 in postoperative patients with spinal anesthesia is 190-235 depending on the dose of the drug. However, by providing

passive range of motion exercises as soon as the patient is in the recovery room can accelerate the achievement of Bromage score 2 within ≤ 2 hours.

This study is in accordance with Ananda's research (2016) which shows that range of motion exercises (ROM) can increase muscle strength in elderly bedrest in PSTW Budhi Mulia 3 Marga for South Jakarta with a p value (0.000). A similar study was carried out by Bakara and Warsito (2016) which showed that there were significant differences between the mean upper and lower limb joints in post-stroke patients before and after passive ROM exercises with z values of -2.236 and p values <0.05 .

Early mobilization must be done immediately after surgery. Early mobilization must be conducted within the first 24 hours and carried out under supervision to ensure that the exercise is appropriate and carried out in a safe manner. In the first 24 hours postoperatively with spinal anesthesia the patient is only allowed to do early mobilization in bed. At 2 hours postoperatively, the patient is still under the influence of anesthesia and the effect of anesthesia to be lost if all three functions of motor, sensory, and autonomy have returned. At the time of 2 hours after surgery, early mobilization can only be done with the help of nurses or also called passive range of motion exercises (ROM). Passive range of motion exercises are performed to improve blood circulation, prevent joint contractures, and accelerate the return of physiological functions to the patient's body (Brunner & Suddarth, 2015). The impact of the long recovery period can include psychological disruption due to limited movement in the lower extremities, paresthesia's, and motor weakness.

CONCLUSION

The conclusion of this study is that passive range of motion exercises (ROM) can increase the motoric response of the lower extremity in postoperative patients with spinal anesthesia in the recovery room at Rumkitban Sidoarjo with p value (0.000).

SUGGESTION

The results of this study are expected to be used as input for adding passive range of motion exercises in the Standard Operating Procedure (SOP) in the recovery room to speed up the recovery period of the patient and speed up the patient to be sent to the inpatient room. This research is also expected to increase nursing care and improve the quality of nursing care.

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ORIGINAL RESEARCH

RELATIONSHIP WITH THE LEVEL OF ANXIETY HEMODYNAMIC STATUS (PULSE) IN PATIENTS PRE SECTIO CAESARIA OPERATIONS IN A UNIT OF THE CENTRAL SURGICAL (UBS) OF MUSLIM HOSPITAL OF SITI HAJAR, SIDOARJO

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ABSTRACT

Background: Most women want to do surgery Sectio Caesarea for avoiding pain and for ease of parturition. The most common response in patients with preoperative one of which is a response to psychological (anxiety), mental patients who will be facing surgery should be prepared because there is always the possibility of anxiety and fear (Stuart in Hand, et al, 2014).

Purpose: The purpose of this study was to identify the Relationship Research methods anxiety with hemodynamic status (Pulse) patient preoperative Sectio Caesarea in the Central Surgery Unit of Muslim Hospital of Siti Hajar, Sidoarjo.

Methods: Research type is quantitative with correlational research design using Cross Sectional. In this study rated independent and dependent variables simultaneously at one time so there is no follow-up (Nursalam, 2014). This study will link between the level of anxiety with the hemodynamic status (Pulse). This study using incidental sampling technique of sampling. The population are the womwnt who will to parturition sectio Caesaria operation at the Central Surgical Unit (UBS) of Muslim Hospital Siti Hajar Sidoarjo on April 5 to May 5, 2018. Research tool used include HARS questionnaire used as a measure of anxiety, Hamilton Anxiety (HARS) with a total of 14 statements and the total value of 56.

Results: The majority of respondents are severe anxiety was to Pulse at 14 people (23.3%), while a small portion of respondent's anxiety level is severe anxiety with the Pulse is equal to 3 (5%). Based on the analysis using analysis *Kendall's Tau* note that the p value 0.000 is smaller than α (0.05) means that there is a relationship between the level of anxiety in Pulse.

Discussion: Anxiety is felt to increase the sensitivity to a stimulus that overreact in the circulatory system that cause the veins and small blood vessels to constrict very strong and than held in response to the pulse (Semiu, 2010).

Key words: Hamilton Anxiety Rating Scale, Sectio Caesarea, pulse.

INTRODUCTION

Moving the time of impact on the aesthetics in terms of childbirth. Most women want to do surgery Sectio Caesarea for avoiding pain and for ease of parturition. The most common response in patients with preoperative one of which is a response to psychological (anxiety), mental

patients who will be facing surgery should be prepared because there is always the possibility of anxiety and fear. Anxiety is a concern that is not obvious and spread, associated with feelings of uncertainty and helplessness (Stuart in Hand, et al, 2014). Of the phenomena on that is performed in a unit of the Central Surgical Unit (UBS) of

Muslim Hospital of Siti Hajar, Sidoarjo showed that 2 out of 5, who said feel excited and scared when going to surgery and They often asked whether later during surgery still feel sick or not and there Others say if later after the surgery the disease is completely cured or not. because the first had been operating, but now have another operation so that the time will perform the operation to be anxious. Anxiety affects hemodynamics. Changes of hemodynamics could create delays in operation, while operating delays could be dangerous the condition of the fetus, such as fetal distress. A national survey in 2009 to Sectio Caesarea delivery approximately 22.8% of all deliveries (Sumelang, Kundre and Karundeng, 2014). According to data in the Central Surgical Unit (SBU) of Muslim Hospital of Siti Hajar, Sidoarjo on 2017, surgery patients Sectio Caesarea number 1,539 of the total 1,732 patients giving birth. In a preliminary study of 10 patients. Sectio Caesarea on the 9th of February 2018 until the 13th of February 2018 by using a scale HARS and hemodynamic monitoring form showed 6 patients did not experience anxiety, 2 patients with mild anxiety and the second being anxious patients. Now has developed an attempt to cope with anxiety before surgery, among others, the provision of knowledge about the operation Sectio Caesarea, complementary therapies, for example by relaxing in, guided imagery, prayer and etc.

METHODS

Study Design

Research type is quantitative with correlational research design using Cross Sectional.

Setting

The research was conducted in the Central Surgical Unit (UBS) of Muslim Siti

Hajar Hospital Sidoarjo on April 5th until May 5th, 2018.

Research Subject

The population in this study were all patients who will perform the operation Sectio Caesarea (SC) in the Central Surgical Unit (UBS) of Muslim Hospital of Siti Hajar, Sidoarjo. In this study using incidental sampling technique of sampling. With the inclusion criteria that patients undergoing surgery and the first SC Patients can communicate well, being an exclusion criterion that patients who had surgery the previous SC and patients who experienced loss of consciousness. The total sample in this study were 60 respondents.

Instruments

Research tool used include HARS questionnaire used as a measure of anxiety. Hamilton Anxiety Rating Scale (HARS) with a total of 14 statements and the total value of 56. there are 5 classifications classification of votes with a value of 0 = not worry, 1 = a little anxious, 2 = quite anxious, 3 = severe anxiety, 4 = severe anxiety once. Meanwhile, to assess the hemodynamic status using observation sheet patient's hemodynamic status monitoring that provides the measurement results Pulse.

Data Analysis

Data analysis used as follows: (1) Univariate analysis that distributes data about education, age, experience spawned. (2) The analysis Bivariate using Kendall Tau correlation test which aims to connect the two variables that have an ordinal scale.

An analysis statistical result: If p value > 0.05 then H_0 accepted dan H_1 rejected it means there is no relation with the level of anxiety in patients with preoperative hemodynamic status Sectio Caesarea in

Central Surgical Unit (UBS) of Muslim Hospital of Siti Hajar, Sidoarjo. If the p value <0.05 then H_0 is rejected and H_1 received means there is a correlation with hemodynamic status anxiety level (pulse) in patients with preoperative Sectio Caesarea on in the room of the Central Surgical Unit (UBS) of Muslim Hospital of Siti Hajar, Sidoarjo.

Ethical Consideration

Ethical clearance was obtained from the director of Muslim Hospital of Siti Hajar, Sidoarjo to get the permission. Data collection procedure started with the informed consent to participants that they were briefed about the study and kept their confidentiality.

RESULTS

Examination of Correlation between Age, Educational Level, History of Sectio Caesarea, Pulse among Patients with Preoperative Sectio Caesarea in Central Surgical Unit of Muslim Hospital of Siti Hajar Sidoarjo using Crosstabulation

Table 1. Examination of Correlation between Age, Educational Level, History of Sectio Caesarea, Pulse among Patients with Preoperative Sectio Caesarea in Central Surgical Unit of Muslim Hospital of Siti Hajar Sidoarjo on April 5th until May 5th, 2018 (n = 60).

Characteristics of Respondents	Pulse						Total	
	Bradycardia		Normal		Tachycardia		f	%
	f	%	f	%	f	%		
Age (Years)								
17-25	0	0	8	13.3	0	0	8	13.3
26-35	0	0	24	40	13	21.7	37	61.7
36-45	0	0	3	5	12	20	15	25
Total	0	0	35	58.3	25	41.7	60	100
Educational Level								
Elementary School	0	0	2	3.3	0	0	2	3.3
Junior High School	0	0	2	3.3	0	0	2	3.3
Senior High School	0	0	26	43.3	12	20	38	63.3
Undergraduate	0	0	5	8.3	13	21.7	18	30
Total	0	0	35	58.3	25	41.7	60	100
History of Sectio Caesarea								
Never	0	0	25	41.7	5	8.3	30	50
1 Time	0	0	8	13.3	7	11.7	15	25
2 Times	0	0	2	3.3	6	10	8	13.3
3 Times	0	0	0	0	7	11.7	7	11.7
> 3 Times	0	0	0	0	0	0	0	0
Total	0	0	35	58.3	25	41.7	60	100

Based on the table 1, it found that the majority of respondents had normal pulse with age 26-35 years in the amount of 24 people (40%), while a small portion of respondents had normal pulse with age 36-45 years that is equal to 3 (5%). The majority of respondents had normal pulse had Senior High School of education level that is equal to 26 (43.3%), while a small portion of respondents had normal pulse with Elementary School and Junior High School of educational level that is equal to 2 (3.3%). The majority of respondents had normal pulse is not have sectio caesarea experience that is equal to 25 (41.7%), while a small portion of respondents had normal pulse with a history of sectio caesarea 2 times for 2 persons (3.3 %).

Examination of Correlation between Age, Educational Level, History of Sectio Caesarea, Anxiety Level among Patients with Preoperative Sectio Caesarea in Central Surgical Unit of Muslim Hospital of Siti Hajar Sidoarjo using Crosstabulation

Table 2. Examination of Correlation between Age, Educational Level, History of Sectio Caesarea, Anxiety Level among Patients with Preoperative Sectio Caesarea in Central Surgical Unit of Muslim Hospital of Siti Hajar Sidoarjo on April 5th until May 5th, 2018 (n = 60).

Characteristics of Respondents	Anxiety Level								Total	
	Not Anxiety		Mild Anxiety		Being Anxiety		Severe Anxiety			
	f	%	f	%	f	%	f	%	f	%
Age (Years)										
17-25	8	13.3	0	0	0	0	0	0	8	13.3
26-35	5	8.3	20	33.3	12	20	0	0	37	61.7
36-45	0	0	0	0	12	20	3	5	15	25
Total	13	21.7	20	33.3	24	40	3	5	60	100
Educational Level										
Elementary School	2	3.3	0	0	0	0	0	0	2	3.3
Junior High School	2	3.3	0	0	0	0	0	0	2	3.3
Senior High School	9	15	20	33.3	8	13.3	1	1.7	38	63.3
Undergraduate	0	0	0	0	16	26.7	2	3.3	18	30
Total	13	21.7	20	33.3	24	40	3	5	60	100
Birth Order										
1 Time	13	21.7	9	15	0	0	0	0	22	36.7
2 Times	0	0	11	18.3	14	23.3	1	1.7	26	43.3
3 Times	0	0	0	0	10	16.7	2	3.3	12	20
4 Times	0	0	0	0	0	0	0	0	0	0
> 4 Times	0	0	0	0	0	0	0	0	0	0
Total	13	21.7	20	33.3	24	40	3	5	60	100
History of Sectio Caesarea										
Never	13	21.7	15	25	2	3.3	0	0	30	50
1 Time	0	0	5	8.3	9	15	1	1.7	15	25
2 Times	0	0	0	0	7	11.7	1	1.7	8	13.3
3 Times	0	0	0	0	6	10	1	1.7	7	11.7
> 3 Times	0	0	0	0	0	0	0	0	0	0
Total	13	21.7	20	33.3	24	40	3	5	60	100

Based on the table 2, it found that the majority of respondents' level of anxiety is mild anxiety to the age of 26-35 years in the amount of 20 (33.3%), while a small portion of respondent's anxiety level is severe anxiety with age 36-45 years that is equal to 3 people (5%). The majority of respondents' level of anxiety is mild anxiety with a high school education level that is equal to 20 (33.3%), while a small portion of respondent's anxiety level is anxious heavy with a high school education level of 1 (1.7%). The majority of respondents' level of anxiety is not anxiety by the birth order into one that is equal to 13 (21.7%), while a small portion of respondent's anxiety level is anxious heavy with birth order in the amount of 1 to 2 people (1.7%). Most of the anxiety level of the respondents is mild anxiety with history has never sectio caesarea which amounted to 15 (25%), whereas the rest of the level of anxiety of respondents are severe anxiety with history Sectio Caesarea 1 times, 2 times, and 3 times that is equal to 1 (1.7%).

Examination of Correlation between Pulse and Anxiety Level among Patients with Preoperative Section Caesarea in Central Surgical Unit of Muslim Hospital of Siti Hajar Sidoarjo using Crosstabulation and Kendall Tau Correlation Test

Table 3. Examination of Correlation between Pulse and Anxiety Level among Patients with Preoperative Section Caesarea in Central Surgical Unit of Muslim Hospital of Siti Hajar Sidoarjo on April 5th until May 5th, 2018 (n = 60).

Anxiety Level	Pulse						Total	
	Bradycardia		Normal		Tachycardia		f	%
	f	%	f	%	f	%		
Not Anxiety	0	0	13	21.7	0	0	13	21.7
Mild Anxiety	0	0	12	20	8	13.3	20	33.3
Being Anxiety	0	0	10	16.7	14	23.3	24	40
Severe Anxiety	0	0	0	0	3	5	3	5
Total	0	0	35	58.3	25	41.7	60	100

Kendall Tau Correlation Test p value 0.000, $p < 0.05$

Based on the data above, it found that the majority of respondents are severe anxiety was to Pulse at 14 people (23.3%), while a small portion of respondent's anxiety level is severe anxiety with the Pulse is equal to 3 (5%). Based on the analysis using analysis *Kendall's Tau* note that the p value 0.000 is smaller than α (0.05) means that there is a relationship between the level of anxiety in Pulse.

DISCUSSION

The majority of respondents that most of the respondent have mild anxiety to the age of 26-35 years in the amount of 20 (33.3%), while a small portion anxiety level is severe anxiety with the respondents aged 36-45 years that is equal to 3 (5%). According Hutabalian (2011), the mental of mother effected on maternal skills in self-care mothers and their babies, so that at this age give more experience childbirth the mother sectiocaesarea although no indication in consideration of maternal anxiety on him in the face of labor and safety of the fetus in the Uterus. These results are consistent with research conducted by Adjie Tobias (2007) and Zamriati (2013) which has resulted in a significant relationship between age and the level of anxiety in which the age range of 20-35 years had lower anxiety levels compared to mothers aged < 20 years or > 35 years.

The majority of respondents' level of anxiety is mild anxiety with a high school education level that is equal to 20 (33.3%), while a small portion of respondent's anxiety level is anxious heavy with a high school education level of 1 (1.7%). Notoatmodjo (2005) states that a person's level of education is a cornerstone in doing something. The majority of respondents were higher education can influence knowledge in shaping their attitudes about sectiocaesarea. The education level of awareness and effort further demonstrates the achievement or improvement of health, the better the highly educated than high school education or lower. These results are consistent with research conducted by Astria (2009) in which the respondents have primary and secondary education levels experienced more anxiety than respondents who have higher education levels. Mothers with higher education will have the greater knowledge on maternal

compare elementary or secondary education to pay more attention to their own health and their families.

The majority of respondents' level of anxiety is not anxiety by the birth order into one that is equal to 13 (21.7%), while a small portion of respondent's anxiety level is anxious heavy with birth order in the amount of 1 to 2 people (1.7%). These results are consistent with the theory presented by Annisa (2010) which states the number of children ever born to a woman is an important factor in determining the fate of both the mother and fetus during pregnancy or during labor. In primipara and multipara mothers will be better prepared to go through pregnancy and childbirth face because she already had experience in living it, sometimes primipara and multipara mothers may also experience anxiety due to their unpleasant experiences during labor ago. This is according to research conducted by Astria (2009) and Zamriati (2013) in which there is a significant relationship between parity with the anxiety levels of pregnant women before delivery where primipara and multipara mothers had lower anxiety levels than the multipara mother.

Most of the anxiety level of the respondents is mild anxiety with history has never sectio caesarea which amounted to 15 (25%), whereas the rest of the level of anxiety of respondents are heavy anxiety with history sectio caesarea 1 times, 2 times, and 3 time that is equal to 1 (1.7%). Mothers with a history of previous cesarean section will have lower anxiety than women who get cesarean deliveries for the first time. A history of cesarean surgery ago can improve the readiness of the mother in the face of delivery by caesarean section. The results are consistent with those expressed Annisa (2010) that mothers who gave birth to more than 5 times, the uterus elasticity decreases, and there was

excessive stretching of the uterus causing bleeding risk post partum. Risiko abnormalities and complications greater sectio caesarea contained in primipara mother (childbirth the first) because never before have the experience of giving birth.

Anxiety levels at most anxious were as many as 24 people (40%) and mild anxiety as many as 20 people (33.3%). Hastuti research results (2015) that the preoperative anxiety in patients experience severe anxiety sectio Caesarian many as 18 people (45%). Patients before surgery considers that the operation is an action that scary for using equipment, space, and special nursing actions. Preoperative patients experiencing feelings of anxiety and pulse that characterized by anxiety, fear of his own mind, muscle pain, a sense of full or bloated, sweating, dizziness, nervous, lethargic, unable to rest in peace (Kasdu, 2008).

The analysis of Kendall's Tau is known that the smaller the p value 0.000 of α (0.05) means that there is a relationship between the level of anxiety with The Pulse, The results are consistent with research Fadlilah (2014) which showed that the p-value is obtained that there is a correlation between the level of anxiety with pulse. Anxiety can stimulate the central nervous system that makes the heart beat with tachicardi blood pressure (Aulawi, 2007). Anxiety is felt to increase the sensitivity to a stimulus that stimulus to over react in the circulatory system that cause the veins and small blood vessels to constrict very strong and than held in response to the pulse that is growing stronger and release substances that cause the arteries and Rouse cardiac work and it caused an increase in pulse (Semiun, 2010).

CONCLUSION

Preoperative patient anxiety levels sectio caesarea in UBS (Central Surgical Unit) Siti Hajar Moeslem Hospital Sidoarjo

is in the category concerned were as many as 24 people (40%). Hemodynamic status (Pulse) patients with preoperative sectio caesarea in UBS (Central Surgical Unit) Siti Hajar Moeslem Hospital Sidoarjo are in the normal category were 35 (58.3%). Based on analysis of the calculation of the level of anxiety to the Status of hemodynamic (pulse) with test results Kendall's Tau is known that the p value 0.000 is smaller than (0:05) shows the degree of correlation 0463 with sig 0:00 This means that there is a relationship between the level of anxiety to the Status of hemodynamic (pulse) patient preoperative sectio caesarea in UBS (Central Surgical Unit) Siti Hajar Moeslem Hospital Sidoarjo.

SUGGESTION

The hospital is expected to prepare the patient preoperative Sectio Caesarea maximum effort to prevent the patient does not experience anxiety. Further research regarding maternity nursing management in the treatment of anxiety in patients with preoperative of Sectio Caesarea. It is expected that the public can learn more about how to reduce preoperative anxiety in patients of Sectio Caesarea. That pregnant women who will undergo the process of birth by surgery Sectio Caesarea can prepare optimally for smooth operation.

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ORIGINAL RESEARCH

**NURSE'S EFFORTS TO TRANSFORM OF NURSE ROLES IN
PRIMARY HEALTH CARE FROM PROMOTIVE TO CURATIVE IN
MANAGING PATIENTS WITH ACS IN PRIMARY HEALTH CARE
MALANG REGENCY, EAST JAVA, INDONESIA**

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ABSTRACT

Background: Acute Coronary Syndrome (ACS) is a sudden reduction disorder in the coronary bloodstream that is life-threatening and as a source of morbidity and mortality. Nurses in Primary Health Care have an important role for health problems in the community in a preventive, curative, and rehabilitation. This requires that the role nurses not only do promotive actions but also curative in handling patients with ACS.

Purpose: The purpose of this study was to explore nurses in primary health care had an important role to transform from promotive but also curative managing Patients with ACS in Primary Health Care.

Methods: This research used qualitative method with descriptive-phenomenological approach by using the process of analysis of Clark and Brown, 2013.

Results: Four themes were successfully obtained from 8 participants, namely: Efforts to improve quality, Harmony team in Collaboration, The Need for improving nurse quality, Multi-working of nurse with additional duty.

Discussion: The implementation of emergency care services at the primary health care was based on the nurses' awareness of roles in providing holistic nursing care to patients with ACS related to prompt and appropriate relief in order to save the lives of patients. The role of nurses from the focus to the community was promotive but now requires nurses to have good skills in curative actions. Therefore, it is necessary to develop nurses' skills to continue to improve the service of patients with ACS in the primary health care so that they can become the first level of health services that are relied on by the community.

Key words: Nurses role, Acute Coronary Syndrome, Emergency Nursing, Primary Health Care.

INTRODUCTION

Acute Coronary Syndrome (ACS) is a life-threatening condition (Amsterdam, 2014). This is a sudden reduction disorder in the coronary bloodstream that is life-threatening and as a source of morbidity and mortality (Kim, 2008)]. Management of patients with ACS depends on the speed of time and immediate action. Salvage in

cardiac arrest decreases from 7-10% every minute in the delay of therapy (Aringhieri, Bruni, Khodaparasti, & van Essen, 2017). Puskesmas nurses have an important role to play in addressing common health problems in the community in a preventive, curative, and rehabilitation manner (Carrier, Halcomb, & Davidson, 2015). The role of nurses in the past few decades

was dubbed as prolonged arm, extended role doctrine, *verlengde arm theorie* As Bene and Bennis have said deeply foster 1986. This illustrates that nurses as "prolonged arm, of the doctor's hand" means the impression of the dependence of the nurse's role on the doctor. This assumption began to fade in 1985 the nurse's stigma of "prolonged arm, of the doctor's hand" turned into a partnership. The role of primary health care according Satrianegara (2014), primary health care has a function as a center for driving health-oriented development, a center for community empowerment, a first-level health service center covering individual health services (private goods) and public health services (public goods). The role of primary health care organizes first-level public health efforts (UKM) and individual health efforts (UKP). The primary health care services prioritize promotive, preventive, curative and rehabilitative efforts to achieve the highest degree of public health in the working area (Ministry Of Health RI, 2014). That the reason why primary health care must be first level public health care have emergency service. Emergency services at the health center as a first-level health facility services. This requires nurses to provide immediate medical help and treatment. The purpose of this study is to explore role of nurses' experiences in transforming promotive to curative roles. In Treating Patients With ACS In Primary Health Care especially emergency room at Turen, Malang, East Java Indonesia.

METHODS

Study Design

This research is conducted by using a descriptive-qualitative method. A descriptive phenomenological design was used in this research to understand in-depth the nurses' experiences. This research was

conducted within 4 months, starting from September to December 2017.

Setting

This research was conducted in Primary Health Care of Turen, Malang Regency, East Java, Indonesia.

Research Subject

Participants of this study were 8 nurses working who have aged 3 years until 15 years experience at primary health service. From education level, there were seven participants who had Diploma III of nursing and there was one participant who was a nursing bachelor. The training attended by the nurses were BCLAS, BTLS.

Instruments

The interviews were conducted with in-depth interviews, semi-structured interview techniques, and interview guides. The process of data analysis was done directly with transcripts and theme determination. After the theme has been collected, the analysis is performed by using thematic analysis method. The researchers also read the materials repeatedly to find meaning and pattern. After that, several initial codes were made with color on keywords continued with theme defining, repeating theme to set as the main theme, define theme again, and produce and write the finished theme of analysis. The results will be presented in the form of keywords, categories, sub-themes, and research themes.

Data Analysis

Interview data were obtained by making verbatim transcripts. Then the researchers performed data analysis by using thematic analysis of Clark and Brown (2013). The process of thematic analysis was as follows six steps. Data analysis was done manually, this was because the

research results contained nurse expression about experience that could not be analyzed with software.

Ethical Consideration

The researcher conducted ethical clearance process and was approved by the ethics committee of Faculty of Medicine of Brawijaya University with number 216/EC/KEPK/06/2017.

RESULTS

The research results that were obtained based on the purpose of research obtained three themes, namely:

Table 1. Themes, Sub-themes, and Statements Supporting Participants' Nurse's role Experience in Primary Health Care of Turen, Malang Regency, East Java, Indonesia (n = 8).

No	Theme	Sub theme	Keywords
1	Efforts to improve quality,	Critical thinking demands in nursing	<i>" sometimes nurses careful from patient complaints in examination leads anywhere so it we are also one of action right later on, complaint of heartburn turns out after check by ECG there is a problem but some people say that there is chest pain even though there's nothing, so, it must be more careful in checking for physical examination and history (P1) "</i> <i>The change is the mindset for handling, ranging orderly communication to holders also discipline program. had no purpose. If the first alone is not so solid. Now, they know the pattern of communication. (P6)</i>
		Creativity and responsiveness demand in nursing	<i>...we bought our own saturation tester and thermometers because we need it much. We did not want to wait any longer since patients came every day. (P7)</i> <i>This has been the nursing competency that we should keep running and documenting with full of responsibility. (P1, P2)</i>
2	Harmony team in Collaboration	Sharing knowledge and experience in service	<i>There is hardly any training, so we studied the related cases with the current doctor, and there is no formal training. (P3, P2)</i>
3	The Need for improving nurse quality	Infrastructure & facilities	<i>... building a network is also the duty of all people and parties how to build a good system that is fast transporting, communicating, how to get patients at these ends in the peripheral areas to be handled properly. So far patients in this peripheral in basic services has been faster but it goes beyond help for long. If the dream does exist outside the country such as the transport helicopter fast cannot waste time (P6)</i> <i>Patients were considered in bed P1 prepared with emergency box making it easier specialized patient observation (P5)</i> <i>I think less like defib we have the tools but has not been used. And may take the training again. Sometimes the tools are not appropriate for example orders continue pad right English is also disposable, so it is less effective because of things like that. If more exist and need to be completed again. (P6)</i> <i>limited ability and have been imagined unable, do not want to study this normal ECG like this, if a heart attack should be like this (P8)</i>
		Personal development needs	<i>What the nurse does when he/she found the data was to automatically do a consultation with doctors. The policy is in the hand of the doctor, we cannot include the results of ECG. I only take the photo and gave it to the doctor (P4).</i> <i>Not all nurses participate in training, the nurses can read about it themselves, but they are afraid that it will be wrong, because the medicine also depends on the results of electrocardiography. Thus, I gave the photo of the results of electrocardiography when I call the doctor (P5)</i>
4	Multi-working of nurse with additional duty	Patients want to be served as soon as possible	<i>Patients want to be served quickly while the nurse yes giving action, the drug serve patients. (P5)</i>
		Double job	<i>Multi working nurse role a lot. Sometimes in community not only at emergency room(P6)</i> <i>We are double job, so our weaknesses in the person service are not as detailed as possible in the minds of people with thoughts. Because in service so much, in primary health care not specifically. sometimes in the emergency room and in community with multivariate diseases. including coronary syndrome, we handle it. (P6)</i>

DISCUSSION

Transformed health services from hospital-centered to primary health care providers in the community in the region. The goal is to help the community to access health services easily and so that people get quality health care and equal for all levels regardless of socioeconomic status, and all these things are expected to be realized through the efforts of primary health care. This affects the role of nurses from the community to focus on the promotion but now requires nurses have a good skill in curative action. The need for a care workforce is now drawing attention in many countries on health services (Grant, Lines, Darbyshire, & Parry, 2017).

The ideal role of nurses is to provide services based on nursing knowledge and tips. A nurse carries a very important function and role in providing holistic nursing care to clients but participants cannot provide holistic nursing care in the emergency room. The actual duties of nurses are listed in Law No. 38 of 2014 concerning Nursing article 29 paragraph 1 letter a state that nurses are assigned as providers of Nursing Care. This is not in accordance with the conditions in the field that there is no documentation of nursing care at the Puskesmas IGD. Besides the discrepancy answer participants in determining nursing diagnoses. This happens because the nurses are not used to doing it. Something that was never done will make someone forget something. Based on the formulation of nursing diagnoses, nurses will more clearly determine the action (Nursalam, 2011).

Efforts to Improve Quality

Quality improvement efforts are measured by a system consisting of three components: input, process and output. First, the component input in the planning of human resources with the recruitment

process organized by the government to ensure the quality of human resources. Nurses were able to change the mindset, in addition to the training needs required by the nurse will also improve the quality. So that the output is expected with improvement efforts can provide an excellent service to patients in primary health care Malang. According to Kim (2008) nurses perform on a voluntary basis in equipping equipment and medicines. Nurses take a proactive approach to solve the problem and identify. The ideal role of nurses is to provide services based on nursing knowledge and tips. A nurse carries a very important function and role in providing holistic nursing care to clients but participants cannot provide holistic nursing care in the emergency room. The nursing process describes a very complex and dynamic process. Nurses continually learn new skills, adjust current practices to meet their needs and develop new approaches to problem solving. Therefore, the practice of nurses is not static but is continually improved based on the level of core skills. However, within these limits it is possible to describe the field of knowledge and core competencies used by nurses. For example, from the review and process of anamneses to be complete, so it takes foresight and takes more time to do anamneses and immediately So, nurse must be need of Critical thinking demands in nursing and Creativity and responsiveness demands in nursing. According (Mehmet & Tarhan, 2016) that the assessment process is the foundation step for the process improvement activities. investigate strong, weak, and/ or missing points in definition and application. the assessment process as the quality of nursing services provided.

Harmony Team in Collaboration

Skill enhancement is needed by nurses. The involvement of doctors as the main

controller makes nurses as assistants causing gaps in collaborative practice. So that nurses feel the gap between doctors and nurses such as employers and servants (Keleher & Parker, 2013). In developed countries, New Zealand emphasizes that multidisciplinary and integration teams are patient-centered. Patients get better service when treated with a multidisciplinary team. In multidisciplinary team collaboration has their respective duties and authority where each member has the authority to make autonomous decisions (Kim & Chung, 2008). Collaboration is one of the main supporters that can improve the quality of care and healing of patients. The practice of collaboration between nurses and doctors requires knowledge, professional attitude starting from the way of communication, how to collaborate with patients and the skills of nurses in making decisions. Nurses and doctors can share knowledge and experience in service.

The Need for Improving Nurse Quality

WHO described emergency services as "a global discipline that provides secondary disease prevention and is also a tool for primary prevention? It is an integrated emergency care system consisting of access to emergency care; provision of emergency care in the community and during patient transportation; and provision of care in hospital receiving facilities or emergency departments (Royal College of Surgeons in Ireland, 2012) . The needs to improve quality such as Personal development needs & Infrastructure, facilities need. Personal development needs such as improving the quality of helpers must be balanced with the skills of nurses and the completeness of infrastructure. The need for increased skills, namely nurses need for self-development, especially the skill in saving basic life rocks / Basic life support in handling emergency cases. Because of

limitations in ability so that nurses often feel inadequate for example reading ECGs. Infrastructure, facility's needs, transportation constraints cause delays in care and treatment. The results of the research show that transportation barriers that affect access to health care in 67% of the population state that rural patients face greater transportation barriers to access health care than access in urban areas. Transportation problems are related to distance and travel time (Sharp, 2014; Mattson, 2010). The use of eHealth tools as a solution for system integration and services requires a skilled clinical informatics workforce; technical standards and software; adequate privacy and security; and clinical leadership to implement and monitor them for successful adoption. In addition, improving the quality, safety and efficiency of referrals, care and patient coordination (WHO, 2016)

Multi-working of nurses with additional duty

In this condition nurse do multi-working and patients want to be served as soon as possible beside nurse doing Double job. The role of nurse practitioners is developed in response to the shortage of nurses and increased workload. This is due to the lack of medical personnel so that the community can obtain health services. The role of the nurse is different from the role of the doctor who focuses on the diagnosis and treatment of the disease. But nurses see patients holistically which emphasizes the therapeutic relationship (Grant et al., 2017). Efforts to meet the needs of Human Resources (HR) Health have not been adequate, both the number, type, and quality of health workers needed. In addition, the distribution of health workers is still uneven.

CONCLUSION

Four themes were successfully obtained from 8 participants, namely: Efforts to improve quality, Harmony team in Collaboration, The Need for improving nurse quality, Multi-working of nurse with additional duty. The implementation of emergency care services currently running at the emergency room at the primary health care was based on the nurses' awareness of carrying out the very important functions and roles in providing holistic nursing care to clients in the handling of patients with ACS related to prompt and appropriate relief in order to save the lives of patients. The role of nurses from the focus to the community was promotive but now requires nurses to have good skills in curative actions. Therefore, it is necessary to develop nurses' skills to continue to improve the service of patients with ACS in the primary health care so that they can become the first level of health services that are relied on by the community.

SUGGESTION

The hospital is expected to prepare the patient preoperative Sectio Caesarea maximum effort to prevent the patient does not experience anxiety. Further research regarding maternity nursing management in the treatment of anxiety in patients with preoperative of Sectio Caesarea. It is expected that the public can learn more about how to reduce preoperative anxiety in patients of Sectio Caesarea. That pregnant women who will undergo the process of birth by surgery Sectio Caesarea can prepare optimally for smooth operation.

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ORIGINAL RESEARCH

**THE RELATION SHIP BETWEEN NURSE PERFORMANCE AND
INPATIENT SATISFACTION IN THE JASMINE ROOM OF DELTA
SURYA HOSPITAL, SIDOARJO**

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ABSTRACT

Background: The quality of health services is a level of service perfection that is carried out in accordance with established standards of ethics in order to increase satisfaction for each patient. Nurse performance is the work of nurses in the form of actions or practices that are easily observed or assessed. By improving the performance of nurses, the quality of service in the hospital will significantly continue to provide satisfaction to patients and the community.

Purpose: This descriptive correlational study aimed to identify the relationship between patient satisfaction and nurse's performance, especially in hospitalized patients.

Methods: A 35 hospitalized patients in Delta Surya Hospital Sidoarjo participated on this study and were assessed their perceived of nurse performance using Independent Variable questionnaire and their satisfaction level using Dependent Variable. This questionnaire instrument uses two types of statements, positive statements and negative statements, each 24 items.

Results: SPSS results that an Asymp.Sig (2-sided) value of 0,000 was seen. Because the Asymp.Sig (2-sided) value <0.05, it can be concluded that there is a significant relationship between nurse performance with patient satisfaction.

Discussion: Customer satisfaction occurs when needs, wants, and their expectation can be fulfilled. And nursing services by wholeheartedly, equally regardless of rank, ethnicity, race, religion or profession will have an impact on patient satisfaction.

Key words: Patient satisfaction, nurse performance, inpatient room.

INTRODUCTION

Sometimes patients find the nurse's performance unsatisfactory, so there is a difference between expectations and the results felt. This can be seen from a number of patients who after being hospitalized in the Melati room, Delta Surya hospital in Sidoarjo. The patient said that the service in the Melati room was not satisfactory because of the nurse's poor performance, in terms of communication to the patient and

the patient's family, causing complaints to be submitted to management through a complaint card written and signed by the patient's family. Of the eight complaints related to nursing services, 5 of them complained about nursing services in the Melati room. From the survey results of service satisfaction in Melati room in August to September 2017 showed that 30% of patients expressed satisfaction, 30%

expressed satisfaction and 40% said they were dissatisfied.

From the results of a preliminary study conducted by researchers in the inpatient room in the Melati room in December 2017, data obtained for 1 (one) month in December 2017. Of the 15 respondents whose data were taken, 8 respondents (53.3%) said the nurse's performance was not good, with category 6 respondents less satisfied and 2 respondents quite satisfied, 2 respondents (13.3%) said nurse performance was good with category 1 respondent satisfied and 1 respondent very satisfied and 5 respondents (33.3%) said nurse performance was quite good with category 3 respondents satisfied and 2 respondents very satisfied.

METHODS

Study Design

The research design used is using the Analytical approach method using the Cross-Sectional design. Each research subject was only observed once and measurements were made of a character or subject variable at the time of examination.

Setting

The research location taken by the researcher is in the inpatient unit, Melati room at the Delta Surya Sidoarjo hospital.

Research Subject

The populations in this study were all patients hospitalized in the Delta Surya hospital Melati room in March, April and May 2018. The number of patients was 210 patients. Sampling in this study uses Non-Probability Sampling. And the Non-Probability Sampling technique used in this research is Purposive Sampling Technique. The sample in this study that met the Inclusion criteria was; patients are willing to be respondents and able to communicate well. While those included in the Exclusion criteria category are; patients refuse to become respondents, not able to

communicate well and decreased consciousness

After entering into the formula, the number of patients for 3 months, the results obtained 42 patients. From 42 patients after inclusion and exclusion criteria were found, 7 patients who refused to be respondents became a total sample of 35 respondents.

Instruments

The Independent Variable used in this study is the performance of the hospital nurse and measured using a questionnaire.

As for the Dependent Variable, the level of inpatient satisfaction was measured using a questionnaire that was provided by the researcher.

Questionnaire instruments include material; caring (attention), collaboration, speed, empathy, courtesy (polite attitude) and sincerity (honesty). The number of items in this questionnaire instrument are 24 items. This questionnaire instrument uses two types of statements, positive statements and negative statements. In a positive statement if the respondent answers "Very Satisfied" then given a score of 3, if the respondent answers "Satisfied" is given a score of 2, if "Dissatisfied" is given a score of 1. While in a negative statement, if the respondent answers "Very Satisfied" then given a score of 1, if the respondent answers "Satisfied" is given a score of 2 and if "Dissatisfied" is given a score of 3.

Data Analysis

Univariate Analysis aims to explain or describe the characteristics of each research variable. The form of univariate analysis depends on the type of data. For numerical data the average, median and standard deviation values are used. In general, this analysis only produces the frequency distribution and percentage of each variable. For example, the frequency distribution based on age, sex, level of

education and occupation. And then it can be continued with Bivariate Analysis. In this study using the Chi-Square statistical test. Analysis of the Chi-Square Test results from the results of this statistical test will be concluded that the relationship between these 2 variables is meaningful or not significant.

Ethical Consideration

The researcher conducted ethical clearance process and was approved by the Director of Delta Surya Hospital, Sidoarjo. Data collection procedure started with the informed consent to participants that they were briefed about the study and kept their confidentiality.

RESULTS

Characteristics of Respondents by Nurse's Performance

Table 1. Distribution of Frequency of Respondents by Nurse's Performance in the Melati Room of Delta Surya Hospital (n = 35).

Characteristics of Respondents	Nurse's Performance		
	Less	Enough	Well
Gender			
Man	1	1	17
Woman	2	2	12
Total	3	3	29
Age			
20-30 yr.	1	0	9
31-40 yr.	0	0	3
41-50 yr.	1	2	8
51-60 yr.	1	1	7
> 60 yr.	0	0	2
Total	3	3	29
Education			
Elementary	0	0	1
Middle	0	0	2
High	2	2	17
Bachelor	1	1	9
Total	3	3	29
Jobs			
Student	0	0	5
Government	0	0	3
Private	1	3	14
Entrepreneur	0	0	5
Doesn't Work	2	0	2
Total	3	3	29

Based on the results in the table 1, it found that the majority of respondents assume the nurse's performance is very well, as many as 29 respondents (82.86%).

Characteristics of Respondents by Patients Satisfaction Level

Table 2. Distribution of Frequency of Respondents by Patients Satisfaction Level in the Melati Room of Delta Surya Hospital (n = 35).

Characteristics of Respondents	Patient Satisfaction		
	Not Satisfied	Satisfied	Very Satisfied
Gender			
Man	1	17	1
Woman	2	13	1
Total	3	30	2
Age			
20-30 yr.	1	9	0
31-40 yr.	0	3	0
41-50 yr.	1	9	1
51-60 yr.	1	7	1
> 60 yr.	0	2	0
Total	2	30	2
Education			
Elementary	0	1	0
Middle	0	1	1
High	2	18	1
Bachelor	1	10	0
Total	3	30	2
Jobs			
Student	0	5	0
Government	0	3	0
Private	1	16	1
Entrepreneur	0	5	0
Doesn't Work	2	1	1
Total	3	30	2

Based on the results above, it found that the majority of respondents were satisfied for patient's satisfaction level, as much as 30 respondents (85.71%).

Examination of the Relationship between Nurse's Performance and Patients' Satisfaction Level in the Melati Room of Delta Surya Hospital

Table 3. Relationship between Nurse's Performance and Patients' Satisfaction Level in the Melati Room of Delta Surya Hospital (n = 35).

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	35.241 ^a	4	.000
Likelihood Ratio	20.883	4	.000
Linear-by-Linear Association	17.780	1	.000
N of Valid Cases	35		

An Asymp.Sig (2-sided) value of 0.000 was seen. Because the Asymp.Sig (2-sided) value <0.05, it can be concluded that, there is a significant relationship between nurse performance with patient satisfaction.

DISCUSSION

Based on the data, that as many as 29 respondents (82.86%) thought the nurse's performance was good, 3 respondents (8.57%) thought the nurse's performance was sufficient and 3 respondents (8.57%) thought the nurse's performance was lacking.

This can be interpreted that if the services received or felt are as expected, the performance of nurses will be assessed as good or satisfying, conversely if the quality of nurses' performance is lower than expected, the quality of service will decrease so that the impact on patient satisfaction.

There are two factors that affect performance; Internal factors, are factors related to intelligence, skills, emotional stability, personality traits, including attitudes, personality traits, physical traits, desires or motivation, age, gender,

education, work experience, cultural background and variables other personal variables.

External factors are factors that affect the performance of employees who come from the environment, including labor regulations, customer desires, competitors, economic conditions, the level of performance of nurses (Pabundu, 2006).

Next, as many as 30 respondents (85.71%) patient satisfaction was at the level of satisfaction. A total of 2 respondents (5.71%) patient satisfaction was at a very satisfied level. Customer satisfaction according to the needs model is a condition where the needs, desires and expectations of patients can be met through the products or services consumed. Therefore patient satisfaction is the ratio of quality felt by patients divided by the needs, desires and expectations of patients (Nursalam, 2014).

Customer satisfaction occurs when what you need, want, expectation of your customer can fulfill, then the customer will be satisfied. It shows that nursing services provided to patients wholeheartedly and all patients are treated equally regardless of rank, ethnicity, race, religion or profession will have an impact on patient satisfaction with nursing services provided to patients. Patients who are satisfied with the services provided by nurses will make these patients tell about their experiences being treated to family and colleagues that have an impact on increasing the visit and popularity of the hospital in the community. Judging from the frequency distribution of the relationship between the performance of nurses and patient satisfaction in the Melati room of the Delta Surya Hospital Sidoarjo, as many as 27 respondents (77.1%) nurses performed well with satisfied satisfaction levels. Nurses as one of the health workers in the hospital play an important role in efforts to achieve health development

goals. The success of health services depends on the participation of nurses in providing quality nursing care for patients (Potter & Perry, 2005).

CONCLUSION

It is known that the total respondents were 35 respondents; 29 respondents (82.9%) thought nurses' performance was good, 3 (three) respondents (8.6%) thought nurses' performance was sufficient and 3 (three) respondents (8.6%) thought nurses' performance was lacking. This shows that holistic nursing services (Spiritual Biopsychosocial) to patients respond positively. In treating patients, they do not differentiate patients by room class, but patients get the same service without seeing what room the patient occupies. It is known that the total respondents were 35 respondents; respondents who were satisfied with the performance of jasmine room nurses were 30 respondents (85.6%), 2 (two) respondents (5.7%) were very satisfied and 3 (three) respondents (8.6%) were not satisfied. It shows that nursing services provided to patients wholeheartedly and all patients are treated equally regardless of rank, ethnicity, race, religion or profession will have an impact on patient satisfaction with nursing services provided to patients. Patients who are satisfied with the services provided by nurses generally all employees in the hospital will make these patients tell about the experience in care to family and colleagues that have an impact on improving the visit and reputation of the hospital in the community. From Chi Square Test results using SPSS version 16.0 are known that there is a significant relationship between nurse performance with inpatient satisfaction in the Melati room of the Delta Surya hospital in Sidoarjo.

SUGGESTION

It is expected that health workers can provide satisfying services to patients, patients' families and visitors so that patients can share good experiences about Delta Surya hospital services to relatives and families. It is expected that the results of this study can be used as basic data in an effort to always be able to improve the quality of the performance of all nurses at Delta Surya Hospital in order to provide the best service to all customers. For further researchers related to this title, it is hoped to make the inclusion and exclusion criteria even sharper in order to obtain samples that can represent the research. It is expected that respondents with this research will have an impact on the level of patient satisfaction that increases so that the respondent's experience of the hospital gets good service.

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ORIGINAL RESEARCH

**AWARENESS ON HEALTH EFFECTS OF SMOKING AMONG
SECONDARY SCHOOL CHILDREN IN BANGLADESH**

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ABSTRACT

Background: Trends of smoking among the secondary school children have been increasing across the globe. According to Global Youth Tobacco Survey (GYTS), in Bangladesh about 3% secondary school children were tobacco smokers and 2% students were cigarette smokers in Bangladesh, whereas, globally 21% secondary school students were smokers.

Purpose: The purpose of this study is to assess the awareness on health effect of smoking among secondary school children.

Methods: A descriptive correlational study was conducted among 98 secondary school children who were read in class nine and ten in rural area. Convenience sampling technique was used to select the study participants. Data was collected by self-administered structured questionnaire. Descriptive analysis such as – frequency, percentage, mean and standard deviation was used to describe the sample characteristics. The Pearson product moment correlation coefficient, two sample t-test and ANOVA test were used to describe the relationship among variables.

Results: A total 98 students in the age group of 14-17 years mean age 15.3 (.840) years. The awareness level on health effects of smoking mean score was 3.17(.290) relatively high among the participants. The result also revealed that age ($p=.036$), sex ($p=.033$), class ($p=.000$), parents' marital status ($p=.047$) and friend smokers ($p=.023$) were statistically significantly correlated with students' level of awareness on health effects of smoking.

Discussion: The findings of the study indicate that majority of the students were highly aware on harmful health effects of smoking. Despite high awareness level of effects of smoking

Key words: Awareness, health effects, smoking, secondary school children.

INTRODUCTION

Trends of smoking among the secondary school children have been increasing across the globe (Rao, Aslam, Zaheer, & Shafique, 2014). Globally 21% secondary school students smoked tobacco. In Bangladesh, the number of tobacco

smokers are increasing rapidly. According to Global Youth Tobacco Survey (GYTS, 2013), about 3% secondary school children were tobacco smokers and 2% students were cigarette smokers in Bangladesh (World Health Organization [WHO], 2013). However, the prevalence of smoking

among secondary school children in India, Nepal, Maldives and Pakistan were estimated as 4.4%, 6.9%, 4.3% and 3.3% respectively (GYTS, 2009; GYTS, 2011; GYTS, 2011; GYTS, 2013). In Bangladesh approximately 57,000 deaths are caused by smoking and 1.2 million tobacco related illness per year (WHO, 2007). Cigarette smoking and exposure to cigarette smoking were associated with premature death, economic losses to society and a substantial burden on the health-care system (Center for Disease Control and Prevention [CDC], 2017). This cause lung cancer, chronic obstructive pulmonary disease, cardiovascular disease and deaths. Smoking affects the health of teeth and gums and cause tooth loss, increase risk for cataracts, rheumatoid arthritis and decreased immune function (CDC, 2017). The factors of smoking among the secondary school children in Bangladesh are peer pressure, exposure to second hand smoking, smoker parents or siblings, tobacco advertisement, accessibility and availability of cigarette (Islam, Mainuddin, Bhuiyan, & Chowdhury, 2016).

Many school children were unaware about the health effects of smoking. In Bangladesh approximately 64% students were unaware about the hazards of smoking (Hossain et al., 2017). However, in India, about 16% students were unaware of any complications of smoking like lung diseases, cardiovascular diseases, impotence, cancer, diabetes, infection and psychological effects (Ibrahim et al., 2016). Prior study found that around 30% students were unaware about the adverse effects of smoking as poor oral health, bad taste and breath, periodontal disease, dental caries, oral ulcer and oral cancer in Saudi Arab (Nazir & Almas, 2017). Another study in Poland about 11% and 31% of the students were unaware of negative health consequences of active smoking and

passive smoking (Kaleta, Polanska, Wojtysiak, & Szatko, 2017). In Kashmir about 37.5% students were unaware regarding health effects of smoking (Manzoor, 2018).

Based on above discussion, it was observed that secondary school children were unaware about the health effects of smoking in different countries. In Bangladesh, most of the studies focused on incidence, prevalence, attitude and factors of smoking among secondary school children. But current study emphasized on awareness on health effects of smoking among secondary school children. Therefore, researchers' intention was to develop the strategy to enhance or increase awareness of smoking effects among the secondary school children. The findings of the study would help the school health nurse to develop school health program to increase the level of awareness among the secondary school children. The findings also help the policy maker to develop legislation or law about the secondary school children smoker in Bangladesh to reduce their smoking rate.

The general objective of the study was to assess the awareness level on health effect of smoking among secondary school children in Bangladesh.

METHODS

Study Design

This study was a descriptive correlational design.

Setting

This study was conducted on January until February 2019 in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh.

Research Subject

Convenience sampling technique was used to select the participants in the study.

The sample size was estimated by using G* power analysis. Estimated sample size was 98 with 20% attrition rate. The students those who were currently studying in class nine and ten were included in the study. The students who could read, write, listen and understand native Bengali language were also included.

Instruments

Self-administered structured questionnaire was used for data collection. This was a newly developed questionnaire developed by researcher based on existing literature available in the internet. Socio-demographic characteristics of the secondary school children was measured by using an 11 items Questionnaire including age, gender, religion, class, parent's educational level, parent's occupation, parents' marital status, living condition and family income. Smoking related characteristics were measured by a 4-items Smoking related Questionnaire (SQ). The item of the questionnaire included as family smoking history, family member smoker, self -smoking and friend smokers. Secondary school children's awareness level was examined by using a 20-items Awareness related Questionnaire (AQ).

The reliability of the instruments Cronbach's alpha co-efficient were 0.72.

Data Analysis

After completion of data collection, data was entered, checked and coded manually to minimize the error. Data was entered into SPSS program 23.0 version. Descriptive statistics consisting of frequency, percentage, range, mean and standard deviation were used to analyze the subject's socio-demographic characteristics, Smoking related characteristics and level of awareness. The Pearson product moment correlation coefficient (r), two sample t - test (t) and one way of ANOVA (F) test was used to analyze the relationship between the variables. A significant level of $p < 0.05$ was considered as a statistical significance.

Ethical Consideration

Prior to data collection approval was obtained from Institutional Review Board (IRB), National Institute of Advanced Nursing Education and Research (IRB No. Exp. NIA-S-2018-24) and Bangabandhu Sheikh Mujib Medical University (BSMMU). Data collection permission was obtained from the Head teacher of the selected school.

RESULTS

Distribution of Socio-demographic Characteristics of the Participants

Table 1. Distribution of Socio-demographic Characteristics of the Participants in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Categories	(n)	(%)	M±SD
Age (Years)				15.3±.840
Sex	Male	45	45.9	
	Female	53	54.1	
Religion	Muslim	71	72.4	
	Hindu	27	27.6	
Class	Ten	49	50.0	
	Nine	49	50.0	
Fathers' education	No formal education	17	17.3	
	Primary	30	30.6	
	Secondary	37	37.8	
	Higher education	14	14.3	
Mothers' education	No formal education	20	20.4	
	Primary	42	42.9	
	Secondary	32	32.7	
	Higher education	4	4.1	
Fathers' occupation	Farmer	42	42.8	
	Business	39	39.8	
	Private Job	9	9.2	
	Govt. service	8	8.2	
Mothers' occupation	Housewife	96	98.0	
	Govt. service	2	2.0	
Parents marital status	Currently married	95	96.9	
	Widow	3	3.1	
Accommodation	With parents	96	98.0	
	With relatives	2	2.0	
Family income	<20000	74	75.5	
	20001-30000	15	15.3	
	30001-40000	7	7.1	
	>40000	2	2.1	

Distribution of Smoking related Characteristics of the Participants

Table 2. Distribution of Smoking related Characteristics of the Participants in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Categories	(n)	(%)
Family smoking history	Yes	53	54.1
	No	45	45.9
Family member smoker	Father	48	49.0
	Brother	5	5.1
Self- smoking	No	96	98.0
	Occasionally	2	2.0
Friends smoker	None of them	89	90.8
	Some of them	9	9.2

Relationship between Socio-demographic Characteristics and Awareness on Health Effects of Smoking

Table 3. Relationship between Socio-demographic Characteristics and Awareness on Health Effects of Smoking in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Category	Mean (SD)	t/F/r (p-value)
Age			.212 (.036)
Sex	Male	3.11(.254)	-2.2(.033)
	Female	3.23(.310)	
Religion	Muslim	3.16(.303)	-.63(.533)
	Hindu	3.20(.251)	
Class	Nine	3.05(.310)	-4.5(.000)
	Ten	3.30(.210)	
Fathers' education	No formal education	3.10(.250)	.597(.619)
	Primary	3.21(.320)	
	Secondary	3.18(.221)	
	Higher education	3.19(.420)	
Mothers' education	No formal education	3.14(.251)	1.09(.393)
	Primary	3.23(.274)	
	Secondary	3.12(.325)	
	Higher education	3.15(.314)	
Fathers' occupation	Farmer	3.18(.290)	.605(.614)
	Business	3.16(.240)	
	Private Job	3.05(.210)	
	Govt. service	3.20(.303)	
Mothers' occupation	Housewife	3.18 (.290)	.611 (.543)
	Govt. service	3.05 (.354)	
Parents marital status	Currently married	3.16 (.290)	-2.01(.047)
	Widow	3.50 (.132)	
Accommodation	With parents	3.18 (.292)	.364 (.717)
	With relatives	3.10 (.141)	
Family income	<20000	3.19 (.284)	1.23 (.302)
	20001-30000	3.12 (.345)	
	30001- 40000	3.03 (.206)	
	> 40000	3.38 (.035)	

Table 4. Relationship between Smoking related Characteristics and Awareness on Health Effects of Smoking in Ajamani Multilateral High School, Moulvibazar, Sadar, Sylhet Bangladesh (n = 98).

Variables	Category	Mean (SD)	t/F/r(p-value)
Family smoking history	Yes	3.18 (.300)	.299(.765)
	No	3.16 (.279)	
Family member smoker	Father	3.17 (.311)	-.685(.497)
	Brother	3.27 (.160)	
Self-Smoking	No	3.18 (.291)	.734(.464)
	Occasionally	3.03 (.035)	
Friends smoker	None of them	3.20 (.300)	2.31(.023)
	Some of them	3.00 (.410)	

DISCUSSION

Current study findings revealed that most of the students' age group was between 14 and 17. Such age group was found in the previous studies conducted by Cosci et al. (2013); Kaleta, et al. (2017); Manzoor (2018); Nazir and Almas (2017); Salawu, et al. (2009); Varma and Prasad (2019). The reasons for the current study findings are student's age group might be due to school going age of the students or delayed admission into school. Other previous studies also supported with the current study result. The previous studies show that majority of the participants age group was between 13-15 in India, Nepal, Maldives and Pakistan (GYTS, 2009; GYTS, 2011; GYTS, 2011; GYTS, 2013). This result might be due to the cultural context, educational background and social norms. The teenager puberty or adolescents and the secondary school children age group are within this group. Sex contributes to abuse to teenage smoking. Present study found that female students' attendance to

the school are more than male students. Bangladesh Government has given more priority to the female students about free education. Usually female students get stipend from the Government. That are the reason for female students' attendance to the school more than male students. This finding accordance with the results from the study conducted by Manzoor (2018); Raina et al (2015); Sharma and Chalise (2018).

Present study found that most of the students have history of family smoking and majority of the father were smoker. This result is similar from the previous studies by Flora, Taylor, Rahman, and Akter (2012); Hossain et al. (2017). This finding might be due to some reasons including family stress, low income, and culture or post history of fathers' smoking. Although current study findings show that majority of the students did not do smoking. However, students might not response due to sensitive question. This result contrary with Cosci et al. (2013) found that less than half of students were female smoker. This

result might be due to their culture, family status, peer pressure or availability of smoking. According to the findings of this study mean score of the awareness level of smoking effects was 3.17 which indicates high level of awareness. Similar results were echoed in the studies conducted by Caszo et al. (2015); Huong et al. (2016); Ibrahim et al. (2016); Raina et al. (2015). This result can be due to obtained because of culture, social system or family consciousness. In contrast, a study conducted by Manzoor (2018) showed that inadequate level of awareness about effects of smoking. This result might be due lack of knowledge, low economic status or family unconsciousness. Other previous study also supported with the current study result.

In bivariate analysis, the current study revealed that there was a significant relationship between awareness on health effects of smoking and age. The older students were more aware of the smoking effects. It is a commonly known concept claiming that students' awareness increases with increasing their age (Akhtar, Numan, Ahmed, & Anwar, 2015). This finding might be due to some reason including the older students may participated in any health education program, gained more knowledge from more study, media, newspaper or other friends who are aware about smoking. Similar result found in previous studies conducted by Ibrahim et al. (2016); Raina et al. (2015); Salawu et al. (2009). This study revealed that female students were more aware than male. This finding might be due to observance of local customs in which female smoking is not considered an acceptable behavior in Bangladesh. This finding is in accordance with previous studies conducted by Caszo et al. (2015); Huong et al. (2016). This study is inconsistent with Sharma and Chalise (2018) who found no statistically

significant. This result might be due to social culture, high economic status, peer influence or fashion.

The present study shows that there was a highly significant relationship between students' awareness score and class. The higher class of education, the higher percentage of students presenting more awareness about smoking effects on health. Such a tendency is in accordance with a commonly known concept claiming that students' awareness increases with increasing years of education with more study. This result is similar with Varma and Prasad (2019) who found academic pressure was more amongst the senior students and gain more knowledge.

Parents' marital status was significant relationship with students' awareness ($p=.047$). The students who had no father, they had negative feeling of smoking and they were more aware than those had father alive. This finding is in accordance with previous studies conducted by Flora et al. (2012); Hossain et al. (2015); Khan, Afrin, Huq, Zaman, and Rahman (2014).

Students who have smoker friends have greater chances of becoming smoker than those students who have non-smoker friends (Laghari et al., 2014). Present study found that students who have nonsmoker friends were more aware on health effects of smoking than those who have smoker friends. Majority of the students had nonsmoker friends which was statistically significant. Similar results found in previous studies conducted by Hossain et al. (2015); Laghari et al. (2014).

The present study has some limitation. Convenience sampling technique was used. It was conducted on small sample size. Study was conducted in only one rural secondary school in Moulvibazar district. The data were collected through a self-reported and anonymous questionnaire

introducing the possibility of information bias.

CONCLUSION

Awareness on health effects of smoking was high among the students. However, only 2% of the students had the smoking habit at this young age. The result of this study also shows that elder and female students were more aware than younger and male students. Adolescence itself is the most vulnerable age to take any kind of risk and to save them from this hazard. The findings of this study suggest that the student with their awareness of smoking effects on health were less likely to smoke. This result may be put found to baseline data for further research.

SUGGESTION

The positive outcome of this study is that the majority of the students was aware of health consequences of active smoking. However, the awareness of harmful effects of passive smoking still requires improvement. Replication study is needed with large sample and more schools to generalize the findings. A comparative study may be conducted between urban and rural school. Farther research may be conducted relationship between awareness and behavior of health effects of smoking among secondary school children in Bangladesh.

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Organization Regional Office for
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ORIGINAL RESEARCH

**KNOWLEDGE AND PRACTICE OF WEANING AMONG
BANGLADESHI LACTATING MOTHER**

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ABSTRACT

Background: Weaning is the introduction of food and fluids than breast milk and the transition to a solid diet along with breast milk. It's gradually starting around the age of 6 months. Weaning is a best process involving nutrition; immunological, biochemical and psychological adjustments.

Purpose: The aim of the study was to explore the level knowledge and practice of lactating mothers' regarding weaning in Bangladesh.

Methods: A descriptive study was conducted at three EPI centers in Noakhali Municipality, Noakhali. A purposive sampling technique was used to recruit the sample that has 6 - 12 months of aged baby. The estimated sample size was 120 lactating mothers. Researcher was use developed questionnaires these are socio-demographic characteristic of mothers, mothers' knowledge related information regarding weaning, mothers' practice related information regarding weaning. Data was analyzed by using descriptive statistics, *t*- test and Pearson co-relation. Significance level 0.05 was considered in this study.

Results: The mean age of the mothers was 25.18, (SD ± 4.32). Most of the subjects were Muslim. The results revealed that the lactating mothers reported moderate level of total knowledge, with the mean score was 16.13 ± 4.32 and the low level of total practice, mean score was 2.83 ± 2.7. There were significant factors related to knowledge level were: non-Muslim mothers' (*p* = .05), higher educated (*p* = .03), get information from relative/others (*p* = .05), and start weaning (*p* = .01). Significant factors related to practice were older mothers' age (*p* = .002), having baby more than one (*p* = .05) and having older child age (*p* = .001), higher educated (*p* = .008), and period of weaning (*p* = .01). There was no relationship between total knowledge and total practices of weaning among lactating mothers' (*r* = .02, *p* = .82).

Discussion: The findings of this study indicated that the mothers who had higher education, more than two babies, and non-Muslim mothers especially were high knowledge and practice regarding weaning. Therefore, the nurses and other health care provider should consider the following characteristics like low educated mothers, prime mothers, starting of weaning, and Muslim mothers especially. Thus, we can prevent of our infant mortality and morbidity regarding weaning practices in Bangladesh as well as abroad.

Key words: Knowledge, practices, lactating mother, infant, weaning.

INTRODUCTION

“Weaning” is used to explain the beginning of foods and fluids other than breast milk and the change to a solid diet along with breast milk (Afroz, Khana &

Hasan, 2017). Weaning is the word generally used to describe the process of termination of breastfeeding after a period of successful breastfeeding. It generally involves addition of food to infant's diet

and / or replacement of breast milk infant's diet with another type of milk or food (Mohammed, Ghazawy & Hassan, 2014). The shift from exclusive breast feeding to semisolid food is a very in danger period because it is the time when malnutrition starts in many infants, contributing significantly to the high prevalence of malnutrition and infection in children under five years of age worldwide (Sethi, Padhy & Raju, 2017). The World Health Organization recommends a gradual weaning period from six months to two years (WHO, 2006). This allows for the child to still receive the benefits from Breastfeeding, while also consuming the necessary nutrients from weaning. Weaning should be prepared adequately containing the required nutrients as well as appropriately with a suitable texture and temperature (WHO, 2004). Weaning is a best process involving nutrition; immunological, biochemical and psychological adjustments (Workneh, 2014). Ten million children under the age of five years old die each year. Over half of the deaths occur because of malnutrition. If adequate nutrition were in place nearly two third of the deaths could be prevented. It is possible to 0-6 months exclusive breast feeding then six to twenty-four months continue the weaning (Mohammed, 2014).

Early start of weaning is a large problem in Bangladesh like many other countries. Three studies from Bangladesh had showed that before six months were start weaning 10.5%, six months 30.50 % after six months 10 % as much as the child gets 49 %. (Afroz, et al., 2017). Complementary feeding was initiated within four months of age in 15 %, between 5-6 months in 34.25 %, at seventh month in 34.25%, children 12.50% were started CF after seven months and 4 % were not started at all at the time of interview (Paul, et al, 2014) and 44.00 % was found in early

weaning practices followed by late 33.00 % and normal 23.00 % weaning practices (Khan, et al., 2008).

In Bangladesh there were 87.90 % children are suffering various degree of malnutrition. Malnutrition usually recognized as a major health problem in the developing countries like Bangladesh. Satisfactory weaning is essential for the prevention of infant morbidity and mortality, including malnutrition and overweight (Hasnain, Majrooh & Anjum, 2013).

Delayed weaning can lead to serious health complications for the infants because after six months of age breast milk alone is not sufficient, both in quantity and quality, to meet the nutritional requirements of child – especially for energy and micronutrient. Breast milk is not sufficient in iron, zinc, and vitamin A requirement of the baby's need (Manzoor, et al., 2009). The recent study about the Knowledge, Attitude, and Practices of Breastfeeding and Weaning among Mothers of Children up to 2 Years Old in a Rural Area, Egypt revealed that 92.2% of the mothers defined weaning as breastfeeding cessation however only 4.2% defined weaning correctly as introduction of assistant food with breastfeeding (Mohammed, et al., 2014).

Bangladesh has a large number of people live under socio economic condition. They are not properly used weaning. Many infants are suffering malnutrition and other infectious diseases. Therefore, this study will help to identify the gaps of Knowledge and Practice on weaning among lactating mothers. The findings of this study will have importance for the nursing personnel and nursing research to develop educational and interventional program that will be emphasized knowledge and practice of lactating mothers regarding weaning in Bangladesh.

METHODS

Study Design

This study was a descriptive correlational design.

Setting

This study was conducted at three EPI centers in Noakhali Municipality, Noakhali. Study period was July 2017 to June 2018.

Research Subject

A purposive sampling technique was used to recruit 120 mothers who have 6 - 12 months of aged baby.

Instruments

Researcher was used developed questionnaires. The questionnaire developed for this study which used to assess the mother knowledge and practice among weaning. Structured questionnaire consisted of total 50 close ended questions. Socio-Demographic questionnaires consisted of 13 items to assess the subject, demographic data including age, religion, marital status, type of family, educational status, educational status of husband, occupation, monthly income, any teaching, care giver, start weaning. Mothers' knowledge related information regarding weaning questionnaire will be designed to identify the knowledge related information regarding weaning. It will be composed of 22 items "Yes" and "No" questions. Each correct answer carried one (1) mark and incorrect answer carried zero (0) mark. The total score had been ranged from 0 - 22 and then it was converted into a percentage. Mothers' practice related information regarding weaning questionnaire consists of 15 item practice related questionnaires regarding weaning. Practice related questionnaires were four-point rating scale was "Always, Some time, Few times, Never". All questionnaires were score from

1 to 4. Items no - 1, 2, 3, 10 and 11 are 4 = never, 3 = few time, 2 = some time, 1 = always" mark, and items no 4, 5, 6, 7, 8, 9, 12, 13, 14 and 15 were score from 1 = never, 2 = few time, 3 = some time, 4 = always" mark. Mothers were received a total of between 15 to 60 points, which was then be converted into a percentage.

Data Analysis

After completion of data collection, data was analyzed by using a computer software program statistical package for social science (SPSS). These were check clean and edit manually to ensure the accuracy and consistency to ensure the accuracy and consistency of entered data. Descriptive statistics such as frequencies, percentages, means and standard deviations was used to describe the demographic characteristics of study subject. Knowledge of weaning and, practice of weaning among mothers among in Bangladesh data was analyzed and percentage in term of frequencies, percentages, means, standard deviations, minimum and maximum scores and t test and co-relation coefficient. Significance level 0.05 was considered in this study.

Ethical Consideration

Ethical clearance will be obtained from Institutional Review Board (IRB), National Institute of Advanced Nursing Education and Research (NIANER) and Bangabandhu Sheikh Mujib Medical University (BSMMU). Permission will be obtained from Mayor of Noakhali Municipality, Noakhali and the head of the department of EPI center. Permission from the study subject will be taken by written consent. A coding system will follow to ensure the confidentiality and anonymity of study subject. The participant of the respondent will be voluntary. The participant can withdraw from the study at

any time. There will be no harm associated with this study.

RESULTS

Distribution of Socio-demographic Characteristics of the Participants

Table 1. Distribution of Socio-demographic Characteristics of the Participants at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variable	Category	n	(%)	M(SD)
Age	17-27	86	71.70	25.18 ± 4.32
	28-38	34	28.30	
Religion	Islam	111	92.50	
	Hindu	8	6.70	
	Buddhist	1	0.80	
Birth order	1 st	46	38.30	
	2 nd	51	42.50	
	3 rd or more	23	19.20	
Child's age	<9months	56	46.70	9.38 ± 1.65
	>9months	64	53.30	
Marital status	Married	118	98.30	
	Divorced	1	0.80	
	Widowed	1	0.80	
Type of family	Nuclear	74	61.70	
	Extended	46	38.30	
Educational status	Primary	12	10.00	
	Secondary	49	40.80	
	College/University	59	49.20	
Husband educational status	Non formal education	1	0.80	
	Primary	12	10.00	
	Secondary	44	36.70	
Mother's occupation	College/University	63	52.50	
	Housewife	111	92.50	
	Laborer	1	0.80	
Monthly family income	Business	-	-	26025±15498.69
	Professional	8	6.70	
	5000-25000	69	57.50	
	26000-46000	41	34.20	
	47000- 67000	8	6.70	
Any teaching	> 68000	2	1.70	
	Yes	120	100	
Where did you get the teaching	No			
	School	2	1.70	
	Friends/Relatives	47	39.20	
	Health workers	39	32.50	
Care giver	Mass media	32	26.70	
	Mother	111	92.50	
	Grandparent	9	7.50	
Start weaning	< 6 months	52	43.30	6.15 ± 1.268
	> 6 months	68	56.70	

Distribution of Weaning Knowledge of Lactating Mothers

Table 2. Distribution of Weaning Knowledge of Lactating Mothers at three EPI centers in Noakhali Municipality, Noakhali (n = 120).

Variables	Correct n (%)	M(SD)
Weaning means - add other types of food beside breast milk.	104 (86.70)	0.83±0.34
Suitable age of baby to start weaning after six months.	103 (85.80)	0.86±0.35
Purposes of weaning are normal growth and development of infant.	117 (97.50)	0.98±0.15
Any types of food used for starting weaning for baby.	106 (88.30)	0.88±0.32
Weaning should be well cooked, soft and easy to digest.	105 (87.50)	0.88±0.33
Six – eight months baby have to give solid or semi solid food – 250 ml half bowl two times / day.	72 (60.00)	0.60±0.49
Nine - eleventh months baby have to give solid or semi solid food – 250 ml half bowl three times / day.	81 (67.50)	0.68±0.47
Babies need something to eat about every two hours.	88 (73.30)	0.73±0.44
An infant who is six months old should only be breastfeeding in the morning and afternoon.	109 (90.80)	0.91±0.29
During a baby's meal, she should not be given the additional food before breastfeeding.	84 (70.00)	0.70±0.46
Introduce other foods other than breast milk, before six months.	106 (88.30)	0.88±0.32
Purposes of weaning getting introduce to different taste of the baby.	89 (74.20)	0.74±0.44
During weaning period breast feeding should be stop.	111 (92.50)	0.93±0.26
Protein diet must be added during weaning e.g. Meat, fish, egg.	107 (89.20)	0.89±0.31
During weaning period check the baby weight every month.	95 (79.20)	0.79±0.40
After six months of age of baby should add different types of fruits such as mango, papaya, banana, jack fruit etc.	105 (87.50)	0.88±0.33
Green leafy vegetables should add for preparing weaning.	109 (90.80)	0.91±0.29
Iodized salt use is important for weaning.	103 (85.80)	0.86±0.35
Fibrous material should be avoided for Weaning.	42 (35.00)	0.35±0.47
Insufficient weaning developed mal-nutritious disease.	89 (74.20)	0.74±0.44
Before six months of baby to start weaning can causes diarrhea, malnutrition, iron deficiency disease.	87 (72.50)	0.73±0.44
Always use stainless steel or glass cups and bowls for baby food.	99(82.50)	0.83±0.38
Total M (SD): 16.13 ± 4.32		

Distribution of Weaning Practice of Lactating Mothers

Table 3. Distribution of Weaning Practice of Lactating Mothers at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variable	Never	Few Time	Sometime	Always	M (SD)
	n (%)	n (%)	n (%)	n (%)	
Do you give you baby formula milk (e.g.- lactosen, baby care)?	69(57.5)	10 (8.3)	21(17.5)	20 (16.7)	3.07±1.19
Do you use commercially-made baby food for your baby?	85(70.8)	8(6.7)	13(10.8)	14 (11.7)	3.37±1.07
Do you feed your baby cow milk as weaning?	93(77.5)	4 (3.3)	10 (8.3)	13 (10.8)	3.48±1.03
Do you add protein like meat, fish, egg etc. for your baby food?	4 (3.3)	11 (9.2)	51(42.5)	54 (45.5)	3.29±.77
Does the baby give different fruits?	1 (.8)	12(10.0)	57(47.5)	50 (41.7)	3.30±.68
Do you add green leafy vegetables for the baby weaning?	9 (7.5)	12(10.0)	54(45.0)	45 (37.5)	3.13±.87
Do you prepare new food every day for the baby?	2 (1.7)	15(12.5)	74(61.7)	29 (24.2)	3.08±.65
Are you uses always pure water for the child?	1 (.8)	1 (.8)	-	118(98.3)	3.89±.28
Do you keep the food prepared for the baby at a safe temperature?	1 (.8)	-	1 (.8)	118(98.3)	3.97±.28
Did you use plastic utensil or feeder bottle for baby food?	60(50.0)	9 (7.5)	18(15.0)	33 (27.5)	2.80±1.31
Does the baby feed any food made by the market?	89(74.2)	14(11.7)	9 (7.5)	8 (6.7)	3.53±.89
Are you washing hands with soap and water before preparing food for the child and before and after feeding the baby?	2 (1.7)	1 (.8)	20(16.7)	97 (80.8)	3.77±.54
Are you clean all utensils immediately after use for baby?	-	1 (.8)	17(14.2)	102(85.0)	3.84±.38
Did you give feed freshly cooked food to your baby?	3 (2.5)	-	1 (.8)	116(96.7)	3.92±.47
Do you see the weight of the baby every month during weaning start?	49(40.8)	50(41.7)	14(11.7)	7(5.8)	1.83±.85
Total M (SD): 2.83 ± .27					

Relationship between Socio-Demographic Characteristics and Knowledge on Weaning

Table 4. Relationship between Socio-Demographic Characteristics and Knowledge on Weaning at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variables	Category	M	(SD)	t/r	p
Age of mother				0.10	0.27
Religion	Muslim	15.97	(4.40)	-2.17	0.05
	Non-Muslim	18.00	(2.50)		
Birth order	1 st baby	15.87	(4.39)	-0.50	0.61
	2 nd and others	16.28	(4.29)		
Child age				-0.07	0.41
Marital status	Currently Married	16.07	(4.33)	-1.11	0.26
	Widowed/Divorced	19.50	(0.70)		
Types of family	Nuclear	15.89	(4.37)	-0.74	0.45
	Extended	16.50	(4.24)		
Education level	Primary/secondary	15.31	(4.84)	-2.13	0.03
	College/university	16.97	(3.55)		
Education level of husband	Primary/secondary	15.63	(4.54)	-1.19	0.23
	College/university	16.57	(4.09)		
Occupation of mother	House wife	16.11	(4.18)	-0.15	0.88
	Others	16.33	(6.02)		
Monthly income				-0.07	0.43
Get information	Relative / others	16.98	(3.21)	1.95	0.05
	Media /health worker	15.54	(4.87)		
Care giver	Mother	16.21	(4.23)	0.73	0.46
	Grand mother	15.11	(5.48)		
Start weaning	< 6 months	15.02	(4.90)	-2.40	0.01
	> 6 months	16.97	(3.63)		

Relationship between Socio-Demographic Characteristics and Practice on Weaning

Table 5. Relationship between Socio-Demographic Characteristics and Practice on Weaning at Three EPI Centers in Noakhali Municipality, Noakhali (n = 120).

Variables		M	(SD)	t/r	p
Age of mother				0.28	0.002
Religion	Muslim	2.83	(0.27)	1.20	0.23
	Non-Muslim	2.94	(0.23)		
Birth order	1 st baby	2.77	(0.29)	-1.92	0.05
	2 nd and others	2.87	(0.25)		
Child age				0.29	0.001
Marital status	Currently Married	2.84	(0.27)	1.21	0.22
	Widowed/Divorced	2.60	(0.09)		
Types of family	Nuclear	2.84	(0.27)	.260	0.79
	Extended	2.83	(0.28)		
Education level of mother	Primary/secondary	2.77	(0.27)	-2.70	0.008
	College/university	2.90	(0.25)		
Education level of husband	Primary/secondary	2.80	(0.25)	-1.30	0.19
	College/university	2.87	(0.28)		
Occupation of mother	House wife	2.83	(0.27)	-0.02	0.97
	Others	2.84	(0.32)		
Monthly income				0.15	0.10
Get teaching	Relative / others	2.80	(0.27)	-1.14	0.25
	Media /health worker	2.86	(0.27)		
Care giver	Mother	2.83	(0.28)	-0.44	0.65
	Grand mother	2.87	(0.17)		
Start weaning	< 6 months	2.76	(0.29)	-2.54	0.01
	> 6 months	2.89	(0.25)		

The mean age of the mothers was 25.18, (SD \pm 4.32). Most of the subjects were Muslim. The results revealed that the lactating mothers reported moderate level of total knowledge, with the mean score was 16.13 ± 4.32 and the low level of total practice, mean score was $2.83 \pm .27$. There were significant factors related to knowledge level were: non-Muslim mothers' ($p = .05$), higher educated ($p = .03$), get information from relative/others ($p = .05$), and start weaning ($p = .01$). Significant factors related to practice were older mothers' age ($p = .002$), having baby more than one ($p = .05$) and having older child age ($p = .001$), higher educated ($p = .008$), and period of weaning ($p = .01$). There was no relationship between total knowledge and total practices of weaning among lactating mothers' ($r = .02$, $p = .82$). The relationship between knowledge regarding weaning and practice regarding weaning was analyzed. However, there was no statistically significant $r = .02$, $p = .82$.

DISCUSSION

Current study Weaning practices during infancy are important determinant of physical and mental wellbeing. Inappropriate weaning practices in terms of low nutrition density and high bulk of weaning are well known problems worldwide. Early introduction of solid diet and unhygienic predispose infants to malnutrition growth retardation, infection and high mortality (Monzoor et al., 2009).

However, this study showed there were 69(57.5%) mothers never given her baby formula milk (e.g. lactosen, baby care), sometime given 21 (17.5%), always 20(16.7%) and few time givers 10(8.3%) of mothers out of 120. On the other hand, study by Mohsin, et al. (2014), there were hundred and sixteen (84%) mothers gave other supplement milk along with breast milk and 100 (86%) of them used bottles. Indeed, this study result showed that there were 85 (70.8%) mothers never practice commercially made baby food, few time givers 8(6.7%), sometime given 13 (10.8%) and always given 14(11.7%) of mothers. Whereas the study by Mohsin, et al., (2014) showed that sixty-four (46.4%) mothers introduced commercial food items as complementary feed to their children. The current study result should that there were, most of the mothers 93 (77.5%) never given cow's milk before the age of one year. Whereas the study by Khan, et al. (2008)

showed 52.2% of mothers were practice cow's milk.

In addition, there were 45.5% mothers always given, 42.5% sometime given protein like meat, fish, egg etc. for preparing weaning and in this study shows 98.3% mothers always uses pure water for her baby. Whereas, in another study there were 71.7% mothers not practices boiling drinking water (Mohsin, et al., 2014).

Moreover, the current study revealed that baby feed any food made by market there were 6.7% mothers always given, 7.5 % sometime given, 11.7 % few time givers and 74.2% never given. Similarly, the study by Hasnain, et al., (2013) showed there were only 18% were used market prepared food. In addition in this study showed, there were most of mothers practices wash hands with soap and water before preparing food for the child and before and after feeding the baby always was 97 (80.8 %) of mothers, sometime was 20 (16.7 %). Similarly, the Study done by Mohsin, et al., (2014) found that evaluation of hygiene practices 128(92%) mothers were washing their hands before cooking as well.

Bivariate analysis of knowledge on weaning and practice on weaning with socio-demographic characteristics showed that there were non-Muslim mothers' knowledge was higher than Muslim, the result was $t = 2.17$ $p = .05$. The study result revealed that significant factors related to

knowledge on weaning were mothers' education ($p = .03$) and significant factors on weaning practice were mother's education ($p < .008$). Whereas, in another study by Hasnain, et al. (2013) was no statistically significant association of knowledge with the education of the parents but practices of complementary feeding are associated with education ($p < .012$ and $p < .012$ for mothers and fathers respectively). Another study of Bangladesh has reported statistically significant association between education of the mother with their weaning knowledge was positive and statistically significant $p < .001$ (Khan, Hossain, & Banik, 2007). Moreover, this study showed that the relationship between start of weaning and weaning knowledge of the mothers was statistically significant ($p = .01$), and start of weaning and weaning practice was statistically significant ($p = .01$). Another study by Khan, et al., (2007) showed that the relationship between time of weaning practice and weaning knowledge of the mother was statistically significant ($p = .001$).

The current study shows that the relationship between knowledge regarding weaning and practice regarding weaning was analyzed. However, there was no statistically significant $r = 0.02$, $p = 0.82$. According to Khan, et al., 2007 showed that time of weaning practice and weaning knowledge of the mother was differed significant ($p < .001$) and relationship between education of mothers of children and weaning practice was negative and significant ($p < .000$).

CONCLUSION

This finding indicated that the findings of this study indicated that the mothers who had higher education, more than two babies, and non-Muslim mothers especially was high knowledge and practice regarding

weaning.

SUGGESTION

Therefore, the nurses and other health care provider should consider the following characteristics like low educated mothers, prime mothers, starting of weaning, and Muslim mothers especially. Thus, we can prevent of our infant mortality and morbidity regarding weaning practices in Bangladesh as well as abroad.

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ORIGINAL RESEARCH

ANKLE PUMPLING EXERCISE AND LEG ELEVATION IN 30⁰ HAS THE SAME LEVEL OF EFFECTIVENESS TO REDUCING FOOT EDEMA AT CHRONIC RENAL FAILURE PATIENTS IN MOJOKERTO

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ABSTRACT

Background: One manifestation of fluid balance disorders in patients with chronic kidney failure is edema, which if untreated can causes complications in various body systems including the respiratory system, cardiovascular system, and hematology.

Purpose: The purpose of this study was to determine the effectiveness of ankle pumping exercise and leg elevation to edema reduction at patients with chronic renal failure in Mojokerto.

Methods: The research design used was Quasi Experimental Design using the Non-Equivalent Control Group design. The sampling technique used was consecutive sampling; the number of samples taken was 30.

Results: The results stated in the ankle pumping exercise group and the leg elevation group, through the Wilcoxon test both showed a significant decrease in edema with a value of $P = 0.001$ ($\alpha = 0.005$). In the comparison between ankle pumping exercise intervention and leg elevation, based on the Mann-Whitney test, P value = 0.248 ($P > 0.05$) which means there is no significant difference of the ankle pumping and the leg elevation to the decrease the grade of edema in patient's chronic kidney failure.

Discussion: Ankle pumping and leg elevation have the same level of effectiveness in reducing leg edema. So, we can choose the one of these which suitable for patient's condition.

Key words: Edema, ankle pumping exercise, leg elevation in 30°, chronic kidney failure.

INTRODUCTION

The incidence of chronic kidney failure in Indonesia is high. Chronic kidney failure is usually characterized by excess fluid because of sodium retention or lack of albumin. One manifestation of excess fluid volume is edema. Edema often occurs in the area of the legs and eyes (Cherynasari, 2014). In developing countries, it is

estimated that approximately 40-60 cases at one million population in one year. Indonesia is estimated to have around 20,000 cases a year (Gupita, 2015). According to the United State Renal Data System in the United States the prevalence of chronic kidney disease increases by 20-25% every year. According to WHO, in Indonesia there will be an increase in

kidney failure sufferers in 1995-2025 by 41.4%.

Data from the Indonesian Nephrology Association (PERNEFRI) there are an estimated 70,000 kidney failure sufferers in Indonesia, it will be increase approximately 10% for every ear (Tandi, Mongan, & Manoppo, 2014). At 2013, 499,800 Indonesians suffered from kidney failure and as many as 1,499,400 residents suffered from kidney stones (Rikesdas, 2013). At 2014, there was 3621 patients with chronic kidney failure (Report Renal Registry, 2014). In Mojokerto, during January until September 2017 recorded 295 patients with chronic kidney failure.

Chronic renal failure (CRF) is a progressive and irreversible disruption of kidney function, where the body is unable to maintain metabolism and electrolyte fluid balance that resulting in uremia (Istanti, 2014). In patients with chronic renal failure, we often encounter patients with edema, edema in chronic renal failure can be caused by the inability to express fluid (nephritic syndrome, associated with hypertension and low urine output) (Aini, 2011).

The occurrence of edema that is not treated properly will affect the quality of life of patients and will cause complications in various body systems, including the respiratory system (respiratory kussmaul, pleural effusion, pulmonary edema), Cardiovascular system (hypertension, heart failure), Neurological system (head pain, sleep difficulties, tremors) and the hematological system (anemia, damage to white blood cells) (Sari, 2016). At skin tissue, edema cause pain and more susceptible to injury when compared to normal tissue due to lack of intake of nutrients, oxygen, and residual substances (Sukmana, 2016).

Ankle pumping exercise is one of the efforts to reduce edema. This exercise aims

to improve circulation of the blood (Toya & Sasano, 2016). Pumping exercise is an effective step to reduce edema because it will cause the effect of a muscle pump so that it will push extracellular fluid into the blood vessels and return to the heart (Ruspolina Delila, 2006). Ankle pumping exercise is able to launch back blood circulation from the distal. This can result in decreased distal swelling due to smooth blood circulation (Utami, 2014).

The combination of ankle pumping and foot elevation position to help reduce the hydrostatic pressure of the capillaries so that edema can be reduced (Sukmana, 2016). Leg elevation is a position setting where lower limbs are set higher than the heart so blood back to the heart will increase and blood build up in the lower limbs does not occur (Sukarja & Purnawan, 2011).

Because of the application of ankle pumping and leg elevation can be done by nurses, it does not require energy and a large cost to carry out these interventions, so that the aims of this study was to determine the effectiveness of ankle pumping exercise and leg elevation of 30° to reduce edema in patients with chronic kidney failure.

METHODS

Study Design

This study used a Quasi Experimental Design with Non-Equivalent Control Group design.

Setting

This study was conducted in Mojokerto Regency Hospital.

Research Subject

The sampling technique used was consecutive sampling according to the inclusion criteria as follows: Patients with chronic renal failure who have lower limb

edema, patients diagnosed with CRF with stages 4 to 5, are willing to become respondents and have signed informed consent, Age of patients 25-75 years, patients fully aware (Compos mentis). For exclusion criteria: In patients who experience agitation / anxiety, fear. Patients with the addition of albumin serum. The samples obtained were 30 samples with details of 15 respondents in the ankle pumping group and 15 respondents in the foot elevation group of 30°.

Instruments

Researcher collected data using direct monitoring.

Data Analysis

Data was analyzed using Wilcoxon sign rank test, and to determine differences in edema depth between the ankle pumping group and the foot elevation group 30° used Mann U Whitney Test.

Ethical Consideration

Ethical clearance was obtained from the director of Mojokerto Regency Hospital to get the permission. Data collection procedure started with the informed consent to participants that they were briefed about the study and kept their confidentiality.

RESULTS

Characteristics of Respondents by Age, Gender, and CRF Stage

Table 1. Distribution of Frequency of Respondents by Age, Gender, and CRF Stage in Mojokerto Regency Hospital (n = 30).

Characteristics of Respondents	Sample Group		Total	(%)	
	Ankle Pumping Group	Leg Elevation in 30°			
Gender	Male	5	5	10	33.3
	Female	10	10	20	66.6
Age	Min	27	25		
	Max	75	65		
	Mean	54.67	53.25		
	SD	13.6	11.46		
CRF Stage	IV	9	6		
	V	6	9		

Characteristic of respondents of this research were consists of 66.6% of respondent were male and 33.3 % were female. The average age of respondents in ankle pumping group was 54.67 years. The youngest age is 27 years and the oldest age is 75 years. In Leg Elevation group, the average age was 53.25. The youngest age is 25 years and the oldest age is 65.

The Depth of Oedemic Before and After Ankle Pumping

Table 2. The Depth of Oedemic Before and After Ankle Pumping in Mojokerto Regency Hospital (n = 30).

	Mean (mm)	SD	Min (mm)	Max (mm)
Before (Pre-Test) Ankle Pumping	3.33	0.816	2	5
After (Post-test) Ankle Pumping	2.20	0.561	1	3

Table 2 shows the mean depth of oedema before ankle pumping is 3.33 mm, with a minimum value of 2 mm and a maximum value of 5 mm. After ankle pumping, the average value of depth of

oedema is 2.20 mm, with a minimum value of 1 mm and a maximum of 3 mm.

The Depth of Oedemic Before and After Leg Elevation

Table 3. The Depth of Oedemic Before and After Leg Elevation in Mojokerto Regency Hospital (n = 30).

Variable	Mean (mm)	SD	Min (mm)	Max (mm)
Before (Pre-Test)	3.20	0.941	2	5
After (Post Test)	2.00	1.000	1	4

Table 3 shows the average of depth of oedema before leg elevation is 3.20 mm, with a minimum value of 2 mm and a maximum value of 5 mm. After leg elevation, the average value of depth of oedema is 2.00 mm, with a minimum value of 1 mm and a maximum of 4 mm.

Examination of The Effect of Ankle Pumping in Reducing Oedema using Wilcoxon Test

Table 4. The Effect of Ankle Pumping in Reducing Oedema at Mojokerto Regency Hospital (n = 30).

	Depth of oedema in Ankle Pumping Group (Post Test) - Depth of oedema in Ankle Pumping Group (Pre-Test)
Z	-3.314
Asymp. Sig.(2-tailed)	0.001

Table 4 shows that *p* value is 0.001 which is smaller than 0.05. It means there was a significant difference in depth of oedema after ankle pumping.

Examination of The Effect of Leg Elevation in Reducing Oedema using Wilcoxon Test

Table 5. The Effect of Leg Elevation in Reducing Oedema at Mojokerto Regency Hospital (n = 30).

	Depth of oedema in Leg Elevation Group (Post Test) - Depth of oedema in Leg Elevation Group (Pre-Test)
Z	-3.307
Asymp. Sig.(2-tailed)	0.001

Table 5 shows that *p* value is 0.001 which is smaller than 0.05. It means there was a significant difference in depth of oedema after Leg Elevation.

Examination of The Comparison of Ankle Pumping Exercise and Leg Elevation in Reducing Oedemic using Mann U Whitney Test

Table 6. The Comparison of Ankle Pumping Exercise and Leg Elevation in Reducing Oedemic at Mojokerto Regency Hospital (n = 30).

	Depth Edema in Ankle Pumping and Leg Elevation (post test)
Z	-1,155
Asymp. Sig. (2-tailed)	,248
Exact Sig. [2*(1-tailed Sig.)]	,305 ^b

Table 6 that *p* value is 0.248 which is biggest than 0.05. It means there is no significant difference between Ankle Pumping and Leg Elevation to reduce oedema.

DISCUSSION

Current study Weaning practices Difference in Depth of Edema Before and After Doing Ankle Pumping

Based on table 4 shows that the value of p value = $0.001 < \alpha = 0.05$, it can be concluded that there are was a significant difference in depth of oedema after ankle pumping.

Ankle pumping exercises utilize the nature of veins that are affected by muscle pumping action so that with strong muscular contractions, muscles will compress veins and edema fluid can be carried by veins to participate in blood circulation so that it can improve the regulation of the central nervous system, oxygen transport capacity, oxidation process and the number of Na K pumps (Utami, 2014).

These results are in line with research that conducted by Ruspolina Delila (2006) at the Usada Mulia Cengakareng Orphanage, West Jakarta on the benefits of adding ankle pumping exercise in elevation position interventions on reducing lower limb oedemic, the results of p value = 0.028 , which means that there is an influence of ankle pumping exercises against the decrease in the degree of edema.

Based on the analysis of researchers strengthened by related research it can be concluded that the administration of ankle pumping can reduce the degree of edema in patients with chronic renal failure who experience edema. Providing ankle pumping exercises that is by means of the patient positioned as comfortable as possible, then taught how to push the foot forward and backward at the ankles that have edema, so that by giving the exercise occurs muscle contraction that compresses the veins which then increases the regulation of the central nervous system thereby increasing the oxidation process Sodium, Potassium is pushed in the veins

and flowed throughout the body's blood vessels so there is a decrease in edema.

Active movement in ankle pumping principally utilizes venous properties, namely the direction of direct flow to the heart which is then influenced by muscle pumping action (muscular contraction) so that with strong muscular movements it will suppress the vein which causes an increase in nervous system regulation so that edema fluid can be brought into the vein. blood circulation. In this process the degree of edema is decreased.

Difference in Edema Depth Before and After the Leg Elevation

Based on table 5 it can be seen that the value of p value = $0.001 < \alpha = 0.05$, so it can be concluded that there is a mean difference (mean) degree of edema before and after the leg Elevation 30° .

Leg Elevation can reduce the degree of edema through the use of earth's gravitation force to increase venous and lymphatic flow resulting in a decrease in hydrostatic pressure (Villico & Otr, 2012). Hydrostatic pressure occurs due to the gravity of blood in the veins. Peripheral veins and arterial pressure are influenced by gravitational forces. Blood vessels higher than the heart will increase and decrease peripheral pressure thereby reducing edema (Sukmana, 2016).

The results of this study are in line with Siregar (2010) at the General Hospital. H. Adam Malik Medan about the influence of 30° Elevated Foot Position on the Bed Against the Reduction of the Foot Edema of Congestive Heart Patients in the CVCU Room, the results obtained p value = $0,000$, which means there is an influence of Elevated Foot Position 30° Above the Bed Against Reducing Foot Edema Congestive Heart Patients in the CVCU Room for a decrease in the degree of edema in patients with chronic kidney failure.

The results of this study are in line with the results of related studies where there is an effect of giving a leg elevation to a decrease in edema degree. Leg elevation is done by elevating the position of the edema as high as 30° for 10 minutes. This elevation of the foot's position uses the principle of Earth's gravity thereby increasing the flow and lymphatic flow of the foot which then increases the regulation of the central nervous system so that there is a decrease in hydrostatic pressure which causes a decrease in the degree of edema.

Comparison of Ankle Pumping Exercise and Leg Elevation in Reducing Oedemic

Table 6 shows that P value = 0.248 > α = 0.05 means that there is no meaningful difference between Ankle Pumping and leg Elevation.

In the ankle pumping and leg elevation group in both therapies, there was a mechanism to increase nervous system regulation to reduce edema, the difference lies in the ankle group utilizing venous properties by adding muscle contraction to improve nervous system regulation while leg elevation 30° utilizes gravity to reduce the hydrostatic pressure so that it can reduce edema.

Judging from the change in edema depth, both of these techniques are equally effective in reducing the degree of edema, but to see the effectiveness between the two groups, it is also seen from the magnitude of edema depth reduction. In the 30° foot elevation group there was a greater reduction in edema than in the ankle pumping group, the difference in edema depth decrease in both groups was 0.07mm. according to the researchers' assumptions, there are many factors that influence changes in the depth of edema, including age, kidney failure stage, and the drugs consumed.

According to the researchers' assumptions, the difference in edema decrease in both groups was due to the depth of the edema and the stage of renal failure of each respondent. Chronic renal failure stage has a different GFR value, in each study respondent most of the stage 4 and ESRD i.e. with GFR values range <15 mL / min / 1.73 m². Decreased GFR function affects abnormal fluid homeostasis causing poor regulation of regulation and excretion functions so that the depth of edema in each respondent is different.

Good regulation is influenced by the GFR value. When the GFR value is low, the regulation power will not optimal. The GFR value described the severity of renal failure. In this research, stage of renal failure of respondents in part stage V and partly stadium IV.

In a previous study Ruspolina (2007) found that leg elevation was more effective in reducing edema compared to ankle pumping. In this study the results of the two interventions showed a significant difference in reducing edema, it has to do with the number of respondents who experienced stage V in the leg elevation group greater than the ankle pumping group. So that the results of this study there were no more significant differences between ankle pumping and leg elevation.

In the ankle pumping and leg elevation group, the same principle is to improve the regulation of the central venous system, one utilizing venous properties and the other to reduce hydrostatic pressure in reducing edema. Relation to regulation can be influenced by age, age affects venous diameter, age increases, the structure of blood vessels changes in the thickness of blood vessel walls followed by narrowing of lumen diameter, changes in endothelial function and stiffness. Small venous diameter increases blood flow resistance faster but requires a long time in reducing

edema if the vein diameter is small. This is confirmed in table 1 the mean age of respondents over 53 years.

CONCLUSION

Ankle pumping and leg elevation have the same level of effectiveness in reducing leg edema.

SUGGESTION

Ankle pumping or leg elevation can apply to reducing leg edema. As a nursing, we can recommend these therapy to Patients with Chronic Renal Failure who suffer from leg edema. They can choose one of these which suitable with their conditions.

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NURSE MOTIVATION IN ADMISSION A NEW PATIENTS AT MENUR PSYCIATRIC MENTAL HOSPITAL SURABAYA

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ABSTRACT

Background: Mental disorders are defined as mental states that make people unable to relate to reality (Stuart, 2016). Mental disorder is a disease that is becoming and becoming a global trend globally, 1 in 4 people suffer from mental disorders both in developed and developing countries.

Purpose: The purpose of this study was to explore the motivation of nurses in the admission of new patients at Menur Psychiatric Mental Hospital Surabaya.

Methods: This type of research is a qualitative research with an interpretive phenomenological approach. Information was obtained by interviewing 12 nurses as participants in the activity of admitting new patients.

Results: Nurses are encouraged to engage in new patient admission activities influenced by two external factors, namely the existence of competence and autonomy that has the value of incentives and internal factors, namely the drive within themselves to maintain the quality of nursing services and maintain social relations with superiors.

Discussion: Mastery expertise and skills of the new admissions nurse are needed to strengthen the independence of the nursing team leader in conducting new patient admissions and the nursing team members' self-understanding of their involvement in the social environment of the patient care room to foster initiative to engage in the process of admission a new patient.

Key words: Admission of new patients, competence, autonomy, social relations.

INTRODUCTION

Mental disorders are defined as mental states that make people unable to relate to reality (Stuart, 2016). Mental disorder is a disease that is becoming and becoming a global trend globally, 1 in 4 people suffer from mental disorders both in developed

and developing countries. This disease can occur to anyone, anytime and anywhere. Riskesdas 2018 data shows that 15.7 - 16.2% of people experience psychiatric problems (depression and mental emotional disorders). While the prevalence of mental disorders (Schizophrenia and Psychosis)

ranges from 6.2 - 7.1%. This mental disorder requires treatment in the health service unit.

Schizophrenia is a mental disorder characterized by impaired thought processes and weak emotional responses. This situation is generally manifested in the form of hallucinations, paranoia, false beliefs or thoughts that are incompatible with the real world and are built on elements that are not based on logic, and are accompanied by significant social and work dysfunction. Early symptoms usually appear during young adulthood, with a global lifetime prevalence of around 0.3% - 0.7% (Townsend, 2015).

People with mental disorders, both schizophrenia and psychosis in general can still be helped. The condition is good treatment and not too late. If the conditions are met 25 percent of schizophrenics can be cured. When the symptoms have been identified, one important point to start treatment is the courage of the family to accept the reality. They also have to realize that mental disorders that require treatment so that it does not need to be connected with various beliefs (Hawari, 2014).

There are many reasons mental patients are taken to hospital to undergo treatment in hospital (Rana, 2009). Patients who show symptoms and intentions to commit suicide include a tendency to injure themselves or others, patients who need monitoring when trying new treatments, patients who need treatment that can only be done in a mental hospital and patients who experience disability in self-care are some criteria that are often found as reasons for being hospitalized. Every patient who enters the psychiatric hospital will be diagnosed with its severity. The diagnosis is based on observing the reported behavior and experience of the patient. Patients who are diagnosed with a severe mental disorder will be hospitalized. In comprehensive

inpatient management, collaboration between several medical and nursing professions is needed, starting from accepting new patients in the care unit. Nurses begin to run nursing care as a professional activity. The nurse starts by admission a new patient.

Admission of new patients is a procedure performed by nurses when there are new patients coming to an inpatient room. This activity is the first stage nurses interact with patients and families, which cannot be separated from the implementation of nursing care. Therefore, the researchers felt the need to conduct qualitative research in a phenomenological approach to the motivation of nurses in the admission of new patients at Menur Psychiatric Mental Hospital Surabaya.

The general purpose of this study was to explore nurses' motivation in accepting new patients at Menur Psychiatric Mental Hospital Surabaya.

The question in this study is "What are the reasons nurses carry out new patient admissions activities at Menur Psychiatric Mental Hospital Surabaya?"

METHODS

Study Design

This research was conducted with a qualitative interpretive phenomenological design approach.

Setting

This study was conducted in Menur Psychiatric Mental Hospital Surabaya.

Research Subject

The nurse referred to in this study is someone with a minimum education of Nursing Diploma III and has worked for at least 2 years and has conducted a process of admission to new patients. Acceptance referred to in this study is a series of activities carried out by nurses in the

process of accepting a patient who has just entered the treatment room. There were 12 participants involved in this study.

Instruments

Data collection is done by interview.

Data Analysis

The researchers performed data analysis by using thematic analysis.

Ethical Consideration

Ethical clearance was obtained from the director of Menur Psychiatric Mental Hospital to get the permission. Data collection procedure started with the informed consent to participants that they were briefed about the study and kept their confidentiality.

RESULTS

From the results of interviews with 12 nurses in the inpatient room, admission of new patients or at the Menur Psychiatric Mental Hospital in Surabaya, is a continuation of the process of handling patients from the clinic, Emergency Treatment Installation or transfer from other care units.

DISCUSSION

Nurses must be able to carry out the activities of admission of new patients, because it is in accordance with the work description contained in the nursing work plan. There are already standard operating procedures governing the admission of new patients. Admission of new patients is the responsibility of the nursing team leader, but if the nursing team leader is not present, then as a member of the nursing team helps in the admission process, then the results are reported to the team leader. This process is important so that reception runs quickly and service to patients can be satisfying.

Awareness of all nurses is needed for the admission process.

There are categories of nurses in this admission process, nursing team leaders who have obligations in the admission of new patients and members of nursing team who have the awareness of assisting in the admission of new patient activities. Acceptance of new patients for nurses is a work procedure that has been written in the nursing work plan, it is the duty of the team leader to carry out this activity. This can be interpreted that the nursing team leader has competence and autonomy (Deci & Ryan, 2002). in the reception of new patients. As a consequence of the exercise of this authority, the nurse's performance is fulfilled and gets performance incentives. Conversely, if not done, the performance is not met and incentives not obtained can even give worse consequences that will get a reprimand from the boss for not being able to carry out tasks in the nursing work plan can even be considered as incompetent nursing team leaders.

For team members of nursing, admission of new patients is not his duty. But with a high awareness of the quality of nursing services, nurses doing this activity are then reported to the team leader. In this phenomenon there is a nurse's initiative to carry out activities that are not her job and then report to the authorities. There is a desire within the nurse to maintain nursing services so that she takes on the role of doing the task of the team leader who is not in place to carry out new patient admissions. In this case, maintaining social relationships with superiors is a motivational factor (Ryan, R. M., et.al, 2002). which encourages members of the nursing team to conduct new patient admission activities.

CONCLUSION

Admission of new patients is part of

patient care activities in ward. A nurse is motivated to engage in new patient admission activities influenced by two external factors, namely the existence of competence and autonomy that has the value of incentives and internal factors, namely the drive within to maintain the quality of nursing services and maintain social relations with superiors.

SUGGESTION

Mastery expertise and skills of the new admissions nurse are needed to strengthen the independence of the nursing team leader in conducting new patient admissions and the nursing team members' self-understanding of their involvement in the social environment of the patient care room to foster initiative to engage in the process of admission a new patient.

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