PROCEEDING

The 2nd UDAYANA INTERNATIONAL NURSING CONFERENCE

GLOBAL HEALTH:
Nursing & Health Sciences' Perspective
"ACHIEVING SUSTAINABLE COMMUNITY"

Edited by:

Indah Mei Rahajeng
Luh Putu Eva Yanti
Putu Oka Yuli Nurhesti

·Nursing Science ·
Faculty of Medical & Health Sciences
BALI - Indonesia

AUGUST 4–5, 2017, BALI-INDONESIA

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Globalization has become a challenge in achieving the Millennium Development Goals (MDGs). The MDG have been established to achieve of people's welfare and global community development in 2015. The MDGs is now being continued with Sustainable Development Goals (SDGs) from 2016 to 2030. One of the aspects of SDGs, health, is also being contributed by nursing and heath alliance. As initial significant steps in achieving SGDs, Nursing Science Program Udayana University held the International conference on the theme: *Global Health: Nursing and Health Sciences'Perspective "Achieving Sustainable Community*"

In 2015 Nursing Programme at Udayana University held the first International Nursing Conference with theme "Global Health: Nursing Perspective". The following step is programmed and this year, 2017, Udayana University assembles the second international nursing conference. As the conference of held two years ago, this conference also is inviting researchers, global nursing experts, and health alliances from various countries to share knowledge and research results in nursing services in the global era.

Global health has priority to improve health and achieve health equity for all people worldwide. One of problems potentially faced by nations is spreading of diseases across countries because of international travel. Therefore, the health problems of one nation related infectious disease will become the health concern worldwide. This issue is the example of global health focus.

Nurse as well as other health professionals have significant contribution in global health initiatives. Nursing contributes to focus on handling human responses and improving the welfare of individual families and communities physically, psychologically, socially, and spiritually. Nursing as a discipline of applied sciences will be required to develop various aspects of science and profession in order to be able to face challenges of the global era

International conference enables sharing research results confronting the challenges of health services globally. Shared advanced knowledge enhance capability of nurses and other health professionals to shape advanced health innovation. The results of research from various countries will be an alternative and inspiration for nurses to develop potential and definitive solution in the global era. Experts who have a lot of research and application of nursing interventions in the global era are an important source of information for nurses.

Supporting world aims in achieving SDGs, nursing Department of Faculty of Medicine Udayana University holds the Second International Nursing Conference with the topic: " *Global Health: Nursing and Health Sciences'Perspective "Achieving Sustainable Community*". This conference provides an opportunity to researchers and global nursing experts from various countries to share knowledge and research results in nursing services in the global era.

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10.15 – 10.45	**Keynote 2:** Dr.dr.Ni Nyoman Sri Budayanti,Sp..MK (K) (Universitas Udayana, Indonesia) "*Global Strategic for Improving Long Term Health and Wellbeing*"
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CONFERENCE CHAIRWOMAN

As Chairwoman and on behalf of the committees, I am delighted to welcome participants from all over the world to the *Second Udayana International Nursing Conference*. This exciting forum is entirely dedicated to recent developments on global health.

It is gratifying to note that the agenda of the conference covers a wide range of very interesting concerns in relation to challenges in global health. Nursing profession together with other healthcare providers, has a prominent role in global health initiative. Therefore, they are required to keep alert with the current evidence and continuously update their knowledge and skills to meet the global health challenges.

The theme of the conference is "Global health: nursing and health sciences' perspective" 'Achieving sustainable community'. The main objectives of this conference are; 1). to bring together scholars from the related areas to share their valuable knowledge and experiences in global health, 2) to explore key strategies to strengthen the health care providers' quality to overcome global health issues, 3). to identify recommendations for policy maker to formulate policies and regulation, 4) to develop network and partnership of health care providers from all over the world.

This Conference Proceedings volume contains the written versions of most of the contributions presented during the *Second Udayana International Nursing Conference*.

We would like to thank all participants for their contributions to the Conference program and for their contributions to these Proceedings. Many thanks go as well to all distinguish speakers, contributors, committee and sponsors for their support, which allow this conference happens as planned.

We hope that the Conference will be an interesting and enjoying event for all.

Thank you

Ns. Made Rini Damayanti S, S.Kep., MNS

KEYNOTE SPEAKER BIOGRAPHIES

Keynote speaker 1 Desak Ketut Ernawati, S.Si.,PGPharm, M.Pharm,PhD

Desak Ketut Ernawati is a lecturer at Faculty of Medicine Udayana University. She received her Bachelor's degree from Airlangga University and Master's degree in Pharmacy from Curtin University of Technology Australia, where she also obtained her PhD in Pharmacy. She is an affiliated member of Indonesian Pharmacist Association (IAI) and a member of Australian Alumni Referece Group in Health 2014-2016.

Her research interests include medication safety and interprofessional learning and practice. Desak has published research papers in several recognized journals; her paper titled 'Amiodarone-Induced Pulmonary Toxicity' was published at *British Journal of Clinical Pharmacology*. Desak also won several awards including the second place winner of Science and Innovative Productice Championship with her colleagues in 2000 and Australian Research Grant Scheme in Indonesia in 2015

Dr.dr.Ni Nyoman Sri Budayanti,Sp..MK (K) Keynote speaker 2

Ni Nyoman Sri Budayanti is a lecturer at Faculty of Medicine Udayana University. She received her medical doctor degree from Udayana University and her specialist of Microbiology obtained from University of Indonesia. She is actively teaching about Infectious deseases, biochemical machiney, and microbiology for Udayana University and Mataram University.

She has published several scientific papers and her research interest include Molecular Characterzation of Extended-spectrum Beta-lactamases-producing Klebsiella pneumonia isolated from clinical specimen, Immune Response and Cost analysis of intradermal rabies vaccination for post-exposure phophylaxis regimen in human, and Variability of Reverse Transcriptase gene and Hepatitis B Virus Genotyping among HBsAg-positive Blood Donor

Keynote speaker 3 Prof. Marilynne N Kirshbaum, RGN PhD FHEA

Prof. Marilynne is Professor and Head of Nursing at Charles Dawin University, Australia since 2004. She is a native New Yorker who started her career as a nurse in New York City at the Memorial Sloan-Kettering Hospital, a major cancer research centre. She continued nursing in the England, first as a neonatal intensive care nurse and then as a research sister/manager within a breast care unit, where she worked for many years.

Her area of clinical and research expertise is in cancer and palliative care, specifically in exploring how people who suffer with debilitating fatigue can summon up sources of vitality and energy.

Prof Marilynne received her Master's degree and PhD from University of Manchester. She is a research supervisor for masters and doctoral students, She has supervised over 20 successful completions masters on various areas of nursing and nursing practice. She currently supervise doctoral dissertations which the topic of interests include coping mechanism of cancer patients following active therapy, patterns of fatigue in children undergoing radiotherapy, and exercise during adjuvant treatment for breast cancer in the over 60s.

Associate Professor Dr. Urai Hatthakit Keynote speaker 4

Urai Hatthakit is Associate Professor and Associate Dean of Graduate School for Student Affairs and International Relations at Faculty of Nursing Prince of Songkla University. She is also director of training course: Certificate of Yoga Teacher for health. She received Bachelor degree of Nursing from Prince of Songkla University, Master degree of Physiology from Mahidol University, and PhD of Nursing from Curtin University of Technology Australia.

Her area of expertise includes holistic nursing and eastern wisdom, integration of Yoga into nursing practice and cultural care. She has published a book titled Integration of Eastern Wisdom and Holistic Nursing in 2014. She also has published several research papers in various journals namely the Journal of Nursing Council, Journal of Mental Health of Thailand, Nephrology Nursing Journal, Songklanagarind Journal of Nursing, The Malaysian Journal of Nursing, Holistic Nursing Practice, Nurse Media Journal of Nursing, Australasian Emergency

Nursing Journal.

Keynote speaker 5 — Professor Michelle Palmer, M.S.N

Michelle Palmer is professor at the University of Rhode Island USA. She has been practicing as a nurse midwife in a variety of setting including international experience in New Zealand. She has enjoyed clinical practice, teaching and health policy work. Her goal is to share the benefits of a more global perspective in health care while providing care that meets the needs of women in all settings.

She received Bachelor of Science in Nursing from Creighton University, Ceriticate of Nurse-Midwifery from Frontier Scholl of Nursing, and Master of Science in Nursing from Case Western Reserve University. She has involved in professional activities at several organizations including New Zealand College of Midwives (2010-2013), American College of Nurse Midwives (1998-present), Rhode Island (RI) American College of Nurse Midwives as Vice Chair (1999-2001), RI Department of Health Advisory Council on Midwifery (2001-2010), and RI Prematury Tak Force (2006-2009).

Michael Joseph S. Dino, PhD, MAN, RN — Keynote speaker 6

Michael Joseph S. Dino is an International Advisory Board Member for Health and Medicine of the Apple Distinguished Educator group. He was awarded the Most Outstanding Alumni of Our Lady of Fatima University (OLFU) in 2009. He graduated Summa Cum Laude both in the Masters and Doctoral Degree from OLFU and the Royal and Pontifical University of Sto Tomas, respectively. He is also the first Asian to win the Nurse in the Limelight Innovator Award given by International Council of Nurses, Connecting-Nurses and Sanofi International. At present, he teaches various courses at the Our Lady of Fatima University, and functions as an academic consultant for Nursing Informatics and Research in various disciplines. His passion for research is evident on his active participation and presentation to various research conferences locally and abroad. He has also published numerous research papers in both local and international journals, and holds several positions in local and international organizations, including Sigma Theta Tau Honor Society, Phi Delta Kappa, Health Information

Management Systems Society, Philippine Association of Medical Journal Editors, among others.

Keynote speaker 7

Professor Kimiko Nagasawa, PhD

Kimiko Nagasawa is professor of Faculty of Social Welfare at University of Kochi Japan. She received Master of Social Work from Sophia University Tokyo and PhD of International Social Policy from Niigata University.

Her research interests include long-term care, community care, collaborative approach in health and social care, consumer-directed care, and quality assurance and evaluation of social services.

She has presented in several notable events including National Conference of Society for the Study of Social Policy at Tokyo, National Conference of Japan Society of Healthcare Administration, National Conference of Japan Socciety of Social Work, and luncheon meeting of Home and Community Care Evaluation and Research Center at The University of Toronto

UDAYANA INTERNATIONAL NURSING CONFERENCE MANUSCRIPT

RELATIONSHIP BETWEEN SLEEP HYGIENE AND SLEEP QUALITY AMONG ADOLESCENTS WHO LIVED IN ISLAMIC BOARDING SCHOOL

Anggi Setyowati[a], Minhuey Chung[b]
a. Universitas Lambung Mangkurat, South Kalimantan, Indonesia
b. Taipei Medical University, Taiwan

ABSTRACT

Background: Sleep Hygiene has been described as the general rules of behavioral practices and environmental factors such as diet, exercise, substance use, light, temperature, noise and related with behavioral practices such as regularity of sleep schedule, pre-sleep activities, efforts to try to sleep. That are consistent with good quality of sleep. Poor sleep quality can affect their concentration, attention, memory, reduced physical health and altered moods.
Aim: The aim of this study was to examine whether the relationship between sleep hygiene (independent variable) that affecting sleep quality (dependent variable) for Indonesian adolescents who live in Islamic boarding school.
Methods: This study used a cross-sectional and correlation design. The setting of this study was Darul Ulum Islamic Boarding School in Jombang City, East Java. This study used purposive sampling. The inclusion criteria were: Aged ranges 10-19 years and no history of psychiatric or neurological disorders. Total sample of this study was 370. Instrument to measure sleep hygiene was Sleep Hygiene Index (SHI) and Instrument to measure sleep quality was Pittsburgh Sleep Quality Index.
Results: This study showed that significant positive correlation existed among total score of PSQI (p value < 0.05). Higher score of SHI (maladaptive sleep hygiene), PSQI (sleep quality) was significantly worse (poor sleep quality).
Conclusion: Better understanding about this relationship can educate adolescents about good sleep quality. Also develop sleep hygiene intervention was needed to maintain good sleep quality among adolescents.

Keywords: Sleep hygiene, Sleep quality, Adolescents

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A. INTRODUCTION

1. Background of The Study

Physical and social developments in adolescents have effects to change the sleep habit easily (Kaneita et al., 2009) which can induce sleep disturbance (Dahl, R. E., & Lewin, D. S., 2002). Sleep disturbance in adolescents is not rare (Danielsson, N. S., Harvey, A. G., MacDonald, S., Jansson-Fröjmark, M., & Linton, S. J., 2013) and has related with sleep quality (LeBourgeois, Giannotti, Cortesi, Wolfson, & Harsh, 2005). Adolescents in Europe, Asia, and the United States have more than one of behaviors that influence sleep quality, such as difficulties on going to bed, falling asleep, undisturbed sleep, and wakefulness in the morning (LeBourgeois, Giannotti, Cortesi, Wolfson, & Harsh, 2004).

In this age sleep quality related with behavioral sleep disturbance is initial to maladaptive behavior (Yang, Spielman, & Glovinsky, 2006). Maladaptive sleep behavior has related with sleep hygiene practices. Sleep Hygiene has been described as the general rules of behavioral practices and environmental factors that are consistent with good quality of sleep. Sleep Hygiene defined as general health practices (e.g., diet, exercise, substance use), environmental factors (e.g., light, temperature, noise), and related with behavioral practices (e.g., regularity of sleep schedule, pre sleep activities, efforts to try to sleep) (Yang, Lin, Hsu, & Cheng, 2010).

Based on previous study, inadequate sleep quality can affect their concentration, attention, memory, reduced physical health and altered moods, like increased depression, irritability, and anxiety (Suen, Tam, & Hon, 2010). If adolescent has partial sleep less than 6 hours of sleep per night, it has effect like those (Brown, Buboltz, & Soper, 2002). Unfortunately they often unaware of how poor sleep quality influences their cognitive functioning. Furthermore, there is one study about sleep hygiene behavior among Balinese adolescent (Nursalam et al., 2013). The Balinese believe if someone is sleeping in the early evening, then that person will have a short life. Balinese adolescents have different culture with adolescents who live in Islamic Boarding School.

2. Problem statement

The aim of this study was to examine whether the relationship between sleep hygiene (independent variable) that affecting sleep quality (dependent variable) for Indonesian adolescents who live in Islamic boarding school.

3. Research Purpose

This study examined whether the relationship between sleep hygiene (independent variable) that affecting sleep quality (dependent variable) for Indonesian adolescents who live in Islamic boarding school.

B. METHODS

This study used a cross-sectional and correlation design, using self-reported questionnaire. The setting of this study is Darul Ulum Islamic Boarding School in Jombang City, East Java. The researcher choose “Darul Ulum Islamic Boarding School” due to approximately

5,000 students who live in this Islamic Boarding School or live at dormitory and this is one of the oldest Islamic Boarding School in Indonesia, since 1885 (Ministry of Religious Affairs of the Republic Indonesia, 2013). This study used purposive sampling. The inclusion criteria were: Aged ranges 10-19 years (WHO, 2014) and no history of psychiatric or neurological disorders. The exclusion criteria was students whose parents disagree if their children participate in this survey or the students do not return the informed consent sheet. Total sample of this study was 370 based on Slovin Formula

Two instruments were used to measure the variables being studied. First instrument was The Sleep Hygiene Index (SHI) is used to self-report assess the practice of sleep hygiene behaviors. It is a 13-item self reported. Higher score indicating maladaptive sleep hygiene status. It is used 5-point scale (always, frequently, sometimes, rarely, never). Cronbach's Alpha for the Sleep Hygiene index was 0.66 (Mastin, D. F., Bryson, J., & Corwyn, R. , 2006). Second instrument was Pittsburgh Sleep Quality Index (PSQI). The PSQI is used to measure self-report of sleep quality and sleep disturbances during previous month. Total score ranging from 0-21, with a lower score (less than 5) indicating good sleep quality (Buysse, D. J., et al., 1989).

All analyses use the SPSS version 18.0 for Windows (SPSS, Inc, Chicago, IL) computer software (p value of < 0.05 wer considered to describe statistically significant differences). A Pearson correlation analysis will use to explore the relationship between the scores of SHI and PSQI.

Permission is granted by the ethics committee in IRB LPPM Universitas Airlangga Surabaya. Islamic Boarding School were contacted through formal written letters. The contents explained the aim and the purpose of this study and request for permission to conduct research in their Islamic Boarding School. Questionnaires were distributed in sealed envelopes and asked the participants to sit space apart. Estimate to collect the data need 30 minutes. The participants were allowed to withdrawal in this study after looking the questionnaires. At the end, the participants were asked to return the questionnaire in the envelope provided. Envelope helps to ensure confidentiality of answers.

C. RESULT

Table 1 showed that significant positive correlation existed among total score of PSQI. This table showed that higher score of SHI (maladaptive sleep hygiene), PSQI (sleep quality) was significantly worse (poor sleep quality).

Table 1. Relationship between sleep hygiene and sleep quality among Indonesian adolescents

	PSQI	
SHI	*p* value	r
	.02	.378

D. DISCUSSION

The result of this study was sleep hygiene had positive association with sleep quality (p< 0.05 r=0.378). Based on previous study, significant factor that affecting sleep quality is sleep hygiene

(Brick et al., 2010; Franklin C Brown et al., 2002; LeBourgeois et al., 2005; Suen, Tam, & Hon, 2010). Another study mentioned that significant factor that affecting sleep quality in Italians and Americans is sleep hygiene (LeBourgeois et al., 2005). Adolescents reported that had more frequent daytime napping, failed in maintaining sleep, due to sharing a bed or bedroom in American adolescence (LeBourgeois et al., 2005). Sleep hygiene is for adolescents defined as behavioral practice to get good sleep quality, adequate sleep duration, and full day time alertness (Noland et al., 2009).

The participants in this study live in pesantren. Adolescents who live in Pesantren is called santri. Santri learns about Islamic, national curriculum and also conduct the exam (Maslani, 2012). The tight learning schedule lead to partial sleep deprivation (less than 6 hours of sleep per night), this will affect their cognition function and related with stress level. Santri has to live in dormitory, and they have to share room with another santri, which cause noise disturbance, they use their bed for personal activities and furthermore have they have time schedule based on the schedule of prayers (Maslani, 2012). These factors related to behavioral factors, especially in sleep hygiene practice, that may bother sleep and has effect with sleep quality (Yang et al., 2006).

D. CONCLUSION

There was a positive correlation between sleep hygiene and sleep quality among Indonesian Adolescents who lived in Islamic Boarding School.

E. RECOMMENDATION

Better understanding about this relationship can educate adolescents about good sleep quality. Also develop sleep hygiene intervention was needed to maintain good sleep quality among adolescents.

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A MOTHER'S VOICE: CHALLENGES AND COPING OF MOTHER CARING FOR A LOW BIRTH WEIGHT BABY

Floidas L. Fernando[1,2,3], Ranelie Gaye P. Bacchus[1,2,3], Linton P. Dela Cruz[1,2,3], Ralph Neil G. Manlutac[1,2,3], Melissa De Guzman David[1,2,3], Irene G. Montealegre[1,2,3], Arlene Repaso[1,2,3], Sharon B. Cajayon[1,2,3,4] and Carol San Diego [1,2,3,4]

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[4]Research Adviser

ABSTRACT

Background: There are many reasons why a baby may have a low birth weight. The baby may be small simply because it runs in the family. Some have no enough pre-natal check ups and ate nutritious foods. This study aimed to determine the challenges and coping of mothers caring for a low birth weight baby. The study specifically dealt on the challenges experience by the mothers with low birth weight baby as well knowing their coping strategies to overcome these challenges.
Methods: The study employed a phenomenological research design to explore the challenges and coping of mothers caring for a low birth weight baby. Snowball sampling technique was utilized because the researchers will rely on referrals from initially sampled respondents. The informants in the study were six (6) purposively selected mothers who just gave birth to a low birth weight baby. In-depth interview was utilized for data collection using using a twenty-five (25) item aide memoir as guide questionnaire. The key informants were mothers who gave birth with low birth weight baby for at least two years and delivered between 38-42 wks. Cool and warm analysis was utilized in analysing collected data.
Results: Through phenomenological reduction, voice recorded in-depth interview helped the researchers to capture 2 major themes namely: The Scale of Challeges and The Scale of coping and six intersting minor themes, namely: "Fear of Vulnerability to Sickness", "Caring Difficulties", and "Financial Insufficiency". For "Coping" these were the themes: "Nutritional Enhancement", "Financial Support of Family", and "Additional Attention"
Conclusion: The participants at first were afraid of their child of becoming sick because of its low birth weight. They knew that taking care of the baby is would be difficult and would require special care. But they are determined to all the possibilities just to make sure their baby will grow healthy. Research shows that presence of external factors such as support of the family members, health learnings, and awareness of the situation is very important to have an effective coping mechanism. The respective mothers coping strategies together with their support system are very important for them to be able to handle the challenges that they faced. Finally, it can be concluded that the challenges can be balanced through exercising their own proper coping mechanism.

Keywords: *underweight, premature, additional care, coping, challenges, mother, low birthweight baby, caring, experience, phenomenology*

1.0 INTRODUCTION

There are many reasons why a baby may have a low birth weight. The baby may be small simply because it runs in the family. Parents who are shorter and weigh less than the European average, or who were themselves small at birth, may have smaller children. If this applies to you, mention the possibility to your midwife or doctor. If the baby weighs much less than 2.5 kilograms, midwives, doctors and nurses may describe her as having a very, or extremely, low birth weight. This can happen to babies who are born prematurely. If the baby was premature, her situation is different from babies who are small but are born between 37 weeks and 42 weeks (full-term).

Some mothers give birth to low birth babies although they knew that during pregnancy they had enough pre-natal check ups and ate nutritious foods. However, there are still causes why some mothers give birth to an under weight baby. Interventions to improve care during pregnancy, childbirth and the postnatal period as well as feeding are likely to improve the immediate and longer-term health and well-being of the individual infant and have a significant impact on neonatal and infant mortality at a population level.

Almost 70 per cent of all low birthweight births occur in Asia (United Nations Children's Fund and World Health Organization, 2004). The number of low birthweight babies is concentrated in two regions of the developing world: Asia and Africa. Seventy-two per cent of low birthweight infants in developing countries are born in Asia. The Philippines is one of the countries in Asia and it is also one of the developing countries nowadays. In the data of WHO and UNICEF, it should be noted that in developing countries, more than 50 per cent of low birthweight infants are born in 13 of the countries that have birthweight estimates available and that have among the highest incidences (20 per cent or higher), whereas only 14 per cent are born in 53 countries with an incidence of less than 10 per cent.

Just because an infant is born small for gestational age does not mean additional care is needed at home. Infants will be kept in the hospital, if there are any complications, until they are deemed healthy enough for discharge. After such time, any extra care will be provided by the pediatrician or other specialist, but as for parent-based care – the parent may find their tiny baby is just as resilient and tough as larger infants. If the small for gestational age infant was born preterm, there may be additional care needed such as daily oxygen or special feeding practices. A special formula may also be suggested if the infant is not breastfeeding. The formula is high in calories and healthy fats to help baby gain weight. Breastfeeding is typically suggested for infants born small for gestational age, especially if they are premature. Breast milk contains antibodies that help protect your infant from infection and disease.

As the incidence of low birth weight babies is prevalent to developing countries like Philippines, it is important to understand and know not only the

situation of the babies but also the situation of person who is mostly caring for them such as their mothers. Since babies like this are not that easy to care for because of their conditions, many challenges that the mother may faced such as maternal stress (Karin, et al., 2009; Singer, 2009), education, social support, and financial strain (Singer, 2009). Also, health risk of babies born with LBW (Mazedl, 2013) and the health of mothers (Bukowski et al., 2012) are also challenges for mother. Knowing their coping strategies over these challenges may help other mothers and future mothers who are and who will caring for babies with LBW.

The purpose of this qualitative study was to determine the challenges and coping of mothers caring for low birth weight baby. It is guided by the central question, "What typifies coping and challenges of mothers caring for low birthweight baby?"

2.0 REVIEW OF RELATED LITERATURE

2.1 Theoretical Framework

The study is guided on the theory of Ramona Mercer, which is the "Maternal Role Attainment Theory". It was developed to serve as a framework to nurses to provide appropriate health care interventions for non-traditional mothers in order for them to develop a strong maternal identity. This mid range theory can be use throughout pregnancy and post natal care, but it is beneficial for adoptive or foster mothers, or others who find themselves in maternal role unexpectedly. The process used in this nursing model helps the mother develop an attachment to the infant, which in turn help the infant from a bond with the mother. This helps develop the mother-child relationship as the infant grows.

The primary concept of this theory is the developmental and interactional process, which occurs over a period of time. In the process the mother bonds with the infant acquires competence in general caretaking tasks and then comes to express joy and pleasure in her role as mother.

For the mothers caring for small for low birth babies, this theory will guide them on how to care for their infant and bond with them. It is hard to take care of low birth babies but because there is no doubt that one of the most crucial relationships in human dynamics is the relationship between a mother and her child, there is big chance that low birth babies will have a normal growth and development.

2.2. Literature Review

2.2.2 Challenges Experienced by Mothers with Low Birth Weight Baby

According to Mazedl (2013), while most babies born with a low birth weight do well, a small-for-gestational-age baby can have some health problems early on -- such as maintaining a normal body temperature, blood sugar levels that are too low, or difficulty fighting infections. Fortunately, more than 90 percent of SGA babies catch up to their counterparts in the first few years of life. Researchers at the Academic Medical Center in Amsterdam used the Netherlands Perinatal Registry (a population-based database that includes

information on the pregnancies and deliveries of 96 percent of pregnancies in the Netherlands) to focus on women whose first babies were born with a birth weight below the tenth percentile (defined as weighing less than 5 pounds, 8 ounces after 37 weeks of gestation). Twenty-three percent of those women gave birth to small-for-gestational-age babies the second time around as well, while those women who had an average size baby in their first pregnancies only had a three percent chance of having an SGA in their second pregnancy.

On the study of Bukowski et al. (2012), they mentioned that delivery of a small for gestational age (SGA) infant has been associated with increased maternal risk of ischemic heart disease (IHD). It is uncertain whether giving birth to SGA infant is a specific determinant of later IHD, independent of other risk factors, or a marker of general poor health. Delivery of a SGA infant is strongly and independently associated with later IHD in women, and potentially a risk factor that precedes the onset of IHD by decades. These results suggest that a pregnancy that produces a SGA infant induces long term cardiovascular changes that augment risk for clinical IHD. SGA is associated with the risk of IHD independently of traditional risk factors, but not necessarily independently of potential mediating factors and other pregnancy complications. However, birth weight is relatively easily and reliably obtainable for potential prediction of IHD in comparison to other complications of pregnancy.

On the other study, Eikenes et al. (2012) specified that being born small for gestational age (SGA) (birth weight <10th percentile) is connected to decreased white matter (WM) integrity in newborns and increased prevalence of psychiatric symptoms in adulthood. The results of their study demonstrated that being born SGA leads to reduced WM integrity in adulthood, and suggest that different factors modulate the development of WM in SGA and control groups. The authors explained that iIn the SGAs, no relationship was found between FA and intrauterine head growth in the third trimester, although total intelligence quotient was negatively correlated to FA. In controls, a positive correlation was found between FA and brain growth in the third trimester and maternal smoking. No relationship was found between FA and psychiatric measures in SGAs or controls.

Furthermore, there are other challenges that a mothers gave birth with LBW baby. In the study of Singer (2009), she explained that education, financial strain, social support and maternal stress as some of the challenges that a mother of LBW baby experienced. The research demonstrated that mothers who had term infants increased their educational attainment at a faster rate than mothers who had very low birth weight (VLBW) children such that, by the time the children had reached 14 years of age, mothers of term infants had achieved more years (14.28 vs. 13.65, $p < .035$) of education than had VLBW mothers.

On the same study, Singer (2009) explained that mothers of high risk VLBW children reported experiencing higher levels of financial strain than mothers in the other groups. These

mothers reported both higher negative financial impact and a greater negative effect on the family in general than did mothers with low risk VLBW children. With

With regards to social support, Singer (2009) insists that social support was shown to buffer these effects. Mothers with high risk VLBW children who reported high levels of social support did not differ in terms of negative impact from mothers in the low risk or term groups. Mothers of high risk VLBW children who had low levels of social support reported more negative strain than other mothers.

Lastly, on the same study of Singer (2009), when asked about the stress of parenting a child, mothers of high risk VLBW children reported higher levels of stress, especially until age three. As children got older, these differences decreased until they were no different from mothers of term children.

Maternal stress also discuss as one of the challenges may face by a mother with LBW baby. According to Karin, et. al. (2003), the birth of a preterm infant has a along-term impact on both parents. Mothers report more stress and poor adjustment compared with fathers. Influencing factor, such as family situation and health status of the child, can support or weaken the coping ability of the parents

2.2.3 Coping of Mothers with Low Birth Weight Baby

According to Singer (2009), greater feelings of positive mastery, the coping strategies used by mothers to deal with stress associated with parenting, were found to be associated with higher maternal IQ and social support. They were also found to change over time. From birth until the child reached three years of age, mothers did not show differences in the coping methods used. However, as children got older, mothers of high risk VLBW children showed less use of avoidant coping mechanisms, such as denial or mental disengagement, which provide distance from the reality of the situation. These changes in the use of coping strategies suggest that mothers were adapting to parenting stress. The author also suggest that parents of VLBW children, who have pressing medical and caregiving needs, were simply unable to avoid the reality of their children's situation through such coping strategies as denial. Additionally, positive mastery was found to be higher among mothers of VLBW children at 14 years of age compared to mothers of children who were born at term. Of note, this difference seems to be related to higher feelings of stress among term mothers, and an associated decrease in feelings of positive mastery as children get older which was not observed in mothers of high or low risk VLBW children.

To cope with the challenges faced by mothers with LBW baby, healthcare providers are good help for them. Aagaard et al. (2008) stated that neonatal nurses today challenged not only to provide the best possible developmental care for a preterm infant but also to help the mother through an uncertain motherhood toward a feeling of being a real mother for her preterm baby. An increasing interest in mother's experiences of having a preterm baby is seen.

2.2.4 Causes of Low Birth Weight

On the study of Ugwu and Eneh (2010), they mentioned that low birth weight (LBW), defined as a birth weight <2500g is basically due to prematurity or small for gestational age (SGA). These infants remain a significant public health problem in both developing and developed countries due to their significantly higher rates of morbidity and mortality. This study was undertaken to find out the proportion of LBW due to prematurity and SGA in Port Harcourt, South-South Nigeria. A retrospective chart analysis of babies admitted into the Special Care Baby Unit (SCBU) between January 2002 and December 2009. The differences in the mean age and height of mothers who delivered an SGA and preterm infant were not statistically significant (p = 0.3 and 0.5 respectively). When compared to mothers of normal weight babies, mothers of LBW babies were significantly younger (p = 0.01) and shorter (p = 0.0001). Identified predisposing factors in preterms were hypertensive disorders, multiple births, antepartum haemorrhages and preterm prelabour rupture of membranes while for SGA, factors identified were malaria in pregnancy, congenital abnormality, multiple gestation, and hypertensive disorders. Mortality was significantly higher in the low birth weight (p=0.000).

On the other study, Van de et al. (2013), stated that although there is convincing evidence for the association between small for gestational age (SGA) and socioeconomic status (SES), it is not known to what extent explanatory factors contribute to this association. Among a large array of potential factors, the elevated risk of SGA birth among low-educated women appeared largely attributable to maternal smoking and to a lesser extent to maternal height. To reduce educational inequalities more effort is required to include low-educated women especially in prenatal intervention programs such as smoking cessation programs instead of effort into reducing other SGA-risk factors, though these factors might still be relevant at the individual level.

On the study of Mitchell et al. (2002), it suggests that maternal smoking and environmental tobacco smoke (ETS) were on risk of small for gestational age infants (SGA). Maternal smoking in pregnancy was associated with an increased risk of SGA. An increased risk of SGA was find with exposure to ETS in the workplace or while socializing. Infants of mothers who ceased smoking during pregnancy were not at increased risk of SGA, but those who decreased but did not stop remained at risk of SGA. There was no evidence that the concentration of nicotine and tar in the cigarettes influenced the risk of SGA. Maternal smoking in pregnancy is a major risk factor for SGA.

According to Oluwafemi et al. (2013), babies are classified according to the relationship between birth weight and gestational age, the latter being the strongest determinant of birth weight. Small-for-gestational age (SGA) babies have birth weights less than the 10th percentile for age and sex or more than two standard deviations below the mean for age and sex. In the cross-sectional survey, the anthropometric parameters of term singleton infants were related to

maternal age, parity, socio-economic class, anthropometry and medical disorders in pregnancy. Clearly, the identified predisposing factors to SGA delivery constitute a valid prerequisite for evolving the relevant intervention strategies. It is therefore recommended that steps be taken to improve the nutritional status of mothers before and during pregnancy, as well as improve utilization of antenatal services in order to ameliorate the identified risk factors.

On the study of Sha (2009), it stated that paternal LBW was associated with lower birthweight of the offspring. Paternal characteristics including age, height, and birthweight are associated with LBW. Paternal occupational exposure and low levels of education may be associated with LBW. Medline, Embase, Cumulative Index of Nursing and Allied Health Literature, and bibliographies of identified articles were searched for English-language studies. Study qualities were assessed according to a predefined checklist. Thirty-six studies of low-to-moderate risk of bias were reviewed for various paternal factors: age, height, weight, birthweight, occupation, education, and alcohol use. Extreme paternal age was associated with higher risk for LBW. Among infants who were born to tall fathers, birthweight was approximately 125-150 g higher compared with infants who were born to short fathers.

2.2.5 Prevalence of Low Birth Weight

According to United Nations Children's Fund and World Health Organization (2004), there is significant variation in low birthweight incidence across the main geographic regions, ranging from 6 per cent to 18 per cent. The highest incidence of low birthweight occurs in the subregion of South-Central Asia, where 27 per cent of infants are low birthweight. For other subregions within Asia, the incidence is much lower, although there is considerable variation. More than half of the 49 Asian countries and territories have low birthweight rates below 10 per cent, while seven countries have levels above 20 per cent. The low incidence in China (6 per cent) dominates the average for Eastern Asia, but due to its large population size, contributes significantly to the overall number of low birthweight births. Overall, almost 70 per cent of all low birthweight births occur in Asia.

On the same report of UNICEF and WHO (2004), globally, more than 20 million infants are born with low birthweight. The number of low birthweight babies is concentrated in two regions of the developing world: Asia and Africa. Seventy-two per cent of low birthweight infants in developing countries are born in Asia where most births also take place, and 22 per cent are born in Africa. India alone accounts for 40 per cent of low birthweight births in the developing world and more than half of those in Asia. There are more than 1 million infants born with low birthweight in China and nearly 8 million in India. Latin America and the Caribbean, and Oceania have the lowest number of low birthweight infants, with 1.2 million and 27,000, respectively. It should be noted that in developing countries, more than 50 per cent of low birthweight infants are born in 13 of the countries that have birthweight estimates available and that

have among the highest incidences (20 per cent or higher), whereas only 14 per cent are born in 53 countries with an incidence of less than 10 per cent.

2.2.6 Caring for low birth weight baby

The study of Ramanathan et al. (2001), was conducted to study through a randomized control trial the effect of Kangaroo Mother Care (KMC) on breast feeding rates, weight gain and length of hospitalization of very low birth neonates and to assess the acceptability of Kangaroo Mother Care by nurses and mothers. Babies whose birth weight was less than 1500 Grams were included in the study once they were stable. The effect of Kangaroo Mother Care on breast feeding rates, weight gain and length of hospitalization of very low birth weight neonates was studied through a randomized control trial in 28 neonates. The Kangaroo group was subjected to Kangaroo Mother Care of at least 4 hours per day in not more than 3 sittings. The babies received Kangaroo Care after shifting out from NICU and at home. The control group received only standard care (incubator or open care system). Attitude of mothers and nurses towards KMC was assessed on Day 3 +/- 1 and on day 7 +/- 1 after starting Kangaroo Care in a questionnaire using Likert's scale. The results of the clinical trial reveal that the neonates in the KMC group demonstrated better weight gain after the first week of life (15.9 +/- 4.5 gm/day vs. 10.6 +/- 4.5 gm/day in the KMC group and control group respectively and earlier hospital discharge (27.2 +/- 7 vs. 34.6 +/- 7 days in KMC and control group respectively. The number of mothers exclusively breastfeeding their babies at 6 week follow-up was double in the KMC group than in the control group. KMC managed babies had better weight gain, earlier hospital discharge and, more impressively, higher exclusive breast-feeding rates. KMC is an excellent adjunct to the routine preterm care in a nursery.

22.7 Extending Additional Care

Extra and special attention needed by preterm and low birth weight babies is very important because babies born with birth weight less than 1,500 gm. Is a life-threatening problem in such tiny babies is that suckling, swallowing and breathing are not well coordinated, so they require special attention in order to feed them adequately and safely. They also have great difficulty in maintaining their body temperature, so they are at increased risk of hypothermia. These babies need advanced life support and should be referred immediately to a hospital with special care facilities for very tiny babies. An example of why preterm and low birth weight babies need special care is that they have a very poor resistance to fight infectious disease, because their immune system is not yet well developed. Therefore, on top of what is required for all babies, you and the mother need to be meticulous about hygiene and other infection prevention measures. Everyone who handles the baby should wash their hands very thoroughly first and handle the baby very carefully. You can easily damage the soft and thin immature skin of the preterm or low birth weight baby, creating an entry point for infection (Special Care for Preterm and Low Birth Weight Babies, 2015).

2.2.8 Emotional support

According to McCarton, (1998), low birth weight infants are at increased risk for behavioral and emotional problems. The Infant Health and Development Program was designed to evaluate the efficacy of intense pediatric and family support on reducing developmental and behavioral problems in low birth weight, premature infants. Half a century ago, children born prematurely already were described as suffering from "restlessness, nervousness, fatigability which resulted in distractibility and disturbed concentration.

Research on this population has been rather unsystematic, limited, and atheoretic. This study demonstrates that LBW infants, as a group, are at increased risk for emotional and behavioral problems. A comprehensive educational and developmental intervention program such as the IHDP was successful not only in improving the behavioral competence of LBW infants at 3 years of age but also in influencing maternal characteristics and mother–child interactions.

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The study employed a phenomenological research design to explore the challenges and coping of mothers caring for a low birth weight baby. This took place in natural settings employing a combination of observations and interviews. As stated by Nigel and Horrocks (2010), phenomenological research focused on how internal, psychological meanings guide human action. It also gives priority to the subjective aspects of human life. The goal is to describe how people understand their lived experiences as among the key informants of the study. Phenomenologist collects holistic, qualitative units of analysis under naturalistic conditions. The purpose of the phenomenological approach is to illuminate the specific, to identify phenomena through how they are perceived by the actors in a situation. In the human sphere this normally translates into gathering 'deep' information and perceptions through inductive, qualitative methods such as interviews, discussions and participant observation, and representing it from the perspective of the research participant(s).

3.2 Research Locale

The study was conducted in Valezuela City.

3.3 Description of the Key Informants

The key informants in the study were (6) mothers caring for low birth weight baby. Data saturation was utilized in deciding the number of informants to be included in the study. Snowball sampling method was used in the study to ensure trustworthiness of the research findings. As explained by Johnson (2005), snowball sampling is a well-known, nonprobability method of survey sample selection that is commonly used to locate hidden populations. The technique will be utilized because the researchers will rely on referrals from initially sampled respondents to other persons believed to have the characteristics or criteria set for selecting informants. The researchers set the following criteria as the bases for selecting six (6) key informants of the study: 1) 18- 45 years old; 2) at least

gravida 1 para 1term (G1P1); 3) delivered (between 38-42 wks); 4) gave birth not more than 2 years; 5) first time to take a low birth weight baby; 6) baby must be 2.5 kilogram or less.

Participant 1 is 34 years old and she is a mother of 3. It is her first time to take care of a low birth weight baby. The baby was 2 kilograms when she gave birth and currently 2 years of age.

Participant 2 is 21 years old and she is a mother of 2. It is her first time to take care of a low birth weight baby that weighs 2.3 kilogram when she gave birth and presently the baby is now 2 years old.

Participant 3 is 25 years old and she is a mother of 2. It is her first time to take care of a low birth weight baby that weighs 2.5 kilogram when she gave birth and presently the baby is now 8 months old.

Participant 4 is 26 years old and she is a mother of 3. It is her first time to take care of a low birth weight baby that weighs 2.4 kilogram when she gave birth and presently the baby is now 2 years old.

Participant 5 is 18 years old. It is her first time to take care of a low birth weight baby that weighs 1.2 kilogram when she gave birth and presently the baby is now 1 year old.

Participant 6 is 39 years old and she is a mother of 5. It is her first time to take care of a low birth weight baby that weighs 2.4 kilogram when she gave birth and presently the baby is now 2 months old.

3.4 Ethical Considerations

The study entails ethical considerations to protect the researchers, the subjects and the institution under study. One of the potential ethical issues that the informant might deal is the principle of informed consent. The informant has a right to fully know the purpose of the study and the research procedure and they must give their consent willingly before gathering any data. Another ethical concern is the respect for persons, key informants shall voluntarily participate in the research and she should be aware of the consequences of her participation and lastly the informant's identity and all information about them will be kept confidential.

Additional ethical consideration if the approval from IERC Institutional Ethics Review Committee (IERC).

3.5 Research Instrument

The researchers used an aide memoire as the data gathering tool which was constructed and subjected for content validation Jenica Ana Rivero, a person expert form the field to ensure the correctness and completeness of the questions created, the experiences of the key informants were explored. The aide memoir is the guide questionnaire used in the interview. This is in the form of open ended which means the answers are in the essay or narrative form. Twenty five (25) items were included in the guide questionnaire, which were all about the challenges and coping the informant caring for low birth weight baby. The data generated were digitally recorded and then transcribed verbatim into field text. The main purpose of the interview process was to get a deeper understanding of the key informants' challenges and coping of caring for a low birth weight baby. The interview was

conducted in a room where the key informants were comfortable and they were able to answer the interview questions without disturbance.

3.6 Data Collection

Using snowball technique, the researchers went to respondents respective houses to ascertain if they have low birth weight baby. After doing so, the informed consent was discussed by the interviewer and the participants willingly signed the consent before any data was gathered. An in-depth interview was conducted using a twenty-five (25) item aide memoir and was recorded. After the interview, the researchers transcribed verbatim into field text and data saturation was achieved. Data saturation was achieved at participant number six (6).

3.7 Data Analysis

The researchers employed cool and warm analysis for data analysis. The researchers culled the significant statements from the respondents and grouped and sorted the data that gave the names to the themes.

The Repertory Grid is an instrument designed to capture the dimensions and structure of personal meaning. Its aim is to describe the ways in which people give meaning to their experience in their own terms. It was devised by George Kelly in around 1955 and is based on his Personal Constructs theory of personality, warm analysis wherein empathy is integral to the analysis such as phenomenology or hermaneutics.

4.0 RESULTS AND DISCUSSION

The study focused on the mother's voice of challenges and coping in caring for a low birth baby.. Through phenomenological studies, in-depth interview and recorded voice helped the researchers to capture 2 major themes which are the The Scale of Challenges and The Scale of Coping. Under that are the six (6) minor themes that emerged from the study. For Scales of Challenges the themes were: "Fear of Vulnerability to Sickness", "Caring Difficulties", and "Financial Insufficiency" and for Scale of Coping" these were the themes: "Nutritional Enhancement", "Financial Support of Family", and "Additional Attention"

Figure 1. The Scale of Balance representing the Challenges and Coping experienced by Mothers Taking Care of Low Birthweight Infants

The mother's voice which are challenges and coping on caring for a low birth weight baby can be visualized on the metaphor above. Right scale represents negative conditions which are the challenges of the mothers, while the left side scale represents the positive conditions which are the coping mechanisms of mothers caring for their low birth weight babies.

Challenges came up when the respondents knew that their baby is a low birth weight. These challenges includes "Fear of Vulnerability to Sickness", "Caring Difficulties", and "Financial Insufficiency. To deal with these challenges, the respondents provided their own coping mechanisms which are "Nutritional Enhancement", "Financial Support of the Family", and "Additional Attention". Since 4 out of 6 of the respondents had positive outcome, we can tell that these coping mechanisms helped them balanced out the situation. This is how the balance scale symbolizes the caring for a low birth weight baby.

4.1 The Scale of Challenges

Largely because of improvements in medical technologies, more low birth weight infants are surviving and living into adulthood. However, many of these children and youth have longterm functional disabilities that have raised concerns about how best to care for low birth weight children. In addition to understanding the effects of low birth weight on children themselves, researchers are increasingly investigating the effects of low birth weight on parenting and parental well-being. While it is known that the birth of a low infant presents challenges for families, less is understood about exactly how parents adapt to these challenges.

4.1.1 Fear of Vulnerability to Sickness

Fear to sickness is an unpleasant emotion caused by the belief that someone or something is dangerous, likely to cause pain, or a threat, while pity a cause for regret or disappointment. These are usually the challenges that a mother can experienced during the birth of a low birth baby. Mothers whose children are born LBW experience more psychological distress, particularly depression and anxiety, than mothers whose infants are born at full-term. Additionally, parenting may be affected by low birth weight because the strains of parenting are exacerbated for parents of low birth baby. This theme was extracted based on the following statements of the participants:

*P1- Hmm.. hindi naman sa syempre, nakakatakot hawakan. Hehe. Na pwedeng magkasakit sya sa hinaharap. Pero yun nga sana wala. Uh uh! (*hmm… It's not that I was frightened to hold my baby is just that he might get sick in the future but im hopng that he wont.)

P2- na baka hindi na sya tumaba. (that my baby will not gain weight)

P3- Syempre natakot kasi ano parang bakit ganun yung anak ko, ginawa mo naman yung lahat para maging maayos yung timbang. Yung tama. Na baka magkasakit siya sa hinaharap. wag naman sana. (ofcourse, I got scared and wondered ehy my baby is like that. I did everything right for my baby to be normal. He might get sick in the future and I hope he won't.)

P4- Pag nagkasugat po yung ano hindi po siya gumagaling kaagad. Hindi, maraming pasa dito sa may kuwan. Sa puwet po ganun (Whenever she gets wounded it take a long time to heal)

P5- Parang ano, kulang sa timbang tsaka parang payat. Nakakaawa po. Opo, natanggap ko din po agad. (It's like she's lack of weight that makes her look like thin. I felt pity. And yes I accepted it right away)

P6- Oo Nagulat din ako kasi mababa yung tibang nya , tapos sa lahat ng anak ko sya lang kasi yung pinaka mababa yung timbang. Ahm.. baka mag kasakit . (Yes, I was shocked that her weight was low. Of all my children she is the only one with low birth weight. Ahm, she might get sick.)

The mothers of the low birth baby are afraid on the health condition of their babies. One participant even revealed that she was afraid in holding her baby, while another mother said that she is afraid her baby might not become healthy and will become sickly.

According to Mazedl (2013), while most babies born with a low birth weight do well, a small-for-gestational-age baby can have some health problems early on -- such as maintaining a normal body temperature, blood sugar levels that are too low, or difficulty fighting infections. Fortunately, more than 90 percent of SGA babies catch up to their counterparts in the first few years of life.

On the study of Ugwu and Eneh (2010), they mentioned that low birth weight (LBW), defined as a birth weight <2500g is basically due to prematurity or small for gestational age (SGA). These infants remain a significant public health problem in both developing and developed countries due to their significantly higher rates of morbidity and mortality.

4.1.2 Caring Difficulties

Difficulty of caring is when the mother is not used in caring a low birth baby. The mother experienced hard time in taking care of the baby because of its condition and fragility. Low birth baby are prone to breathing problems called respiratory distress syndrome (RDS), or unusual risk of infection. Sometimes there is also difficulty in keeping the baby warm. Because the baby is not normal in terms of weight, the mother is having a hard time in caring. As verbalized by the following participants:

P2- Mahirap, basta mahirap. pinakain naming siya ng masustansya at tsaka ung sa vitamins niya… inaagapan ko naman po ung sa timbang niya palagi. at breast milk lang walang iba. (It's hard, just hard. we fed him nutritious food together with vitamins. I always manage his weight and give him breastmilk and nothing else.)

P3- Mahirap, kasi minsan hindi mo maiiwasan magkakasakit yung bata eh kapag ka ano, kaya….gagawin mo talaga yung lahat ng ipapayo sayo nung doctor para maging malusog yung anak mo. (It's hard, because sometimes you can't prevent kids from getting sick. You would do anything that the doctor would advice just to get your child healthy.)

P4- Mahirap kasi mababa yung timbang nya.. Kasi kulang yung timbang niya, mahina siyang kumakain.. Tapos hindi umiinom ng vitamin.. (It's hard because she has low birth weight and she has weak appetite and won't drink vitamins.)

P5- Pinapakain ko po sya para umano yung timbang nya tsaka po… Yung ano po, pakainin po nung mga ano yung, mga gulay tsaka mga masustansyang pagkain. (I feed him to improve his weight and I feed him vegetables and nutritious food.)

P6- Anu.. Mahirap pero walang magagawa kasi , Mahirap din kasi maliit lang sya. (It's hard but I can't do

anything because it's not easy considering that she is so small)

The participants confirmed that they are having a hard time in caring for their low birth baby because the baby is too fragile to handle and its their first time to have a low birth baby. Although one participant said that they really focus their attention on their baby with low birth weight by means of feeding the baby correctly and giving vitamins. On the other hand, one participant revealed that she is having a hard time because of the low birth weight and the mother is afraid that the baby might easily get sick.

The study of Ramanathan et al. (2001), was conducted to study through a randomized control trial the effect of Kangaroo Mother Care (KMC) on breast feeding rates, weight gain and length of hospitalization of very low birth neonates and to assess the acceptability of Kangaroo Mother Care by nurses and mothers. Babies whose birth weight was less than 1500 Grams were included in the study once they were stable. The effect of Kangaroo Mother Care on breast feeding rates, weight gain and length of hospitalization of very low birth weight neonates was studied through a randomized control trial in 28 neonates. The Kangaroo group was subjected to Kangaroo Mother Care of at least 4 hours per day in not more than 3 sittings.

4.1.3 Financial Insufficiency

Financial insufficiency happens when the family is experiencing the lack of income that may be accompanied by other disadvantages and stresses that influence family life. The family that is experiencing this kind of problem may be the reason why they can't give proper care to their child for instance financial instability makes it hard for the mother to seek medical help whenever it is needed. As verbalized by the following participants:

P1: Financial ganun.kasi minsan kulang din kami. kung Minsan payo din ng isang magulang.. (We are lacking financially. But sometimes it's advice from other parents.)

P2: Sa pagkain niya ay wala naman problema sa anak ko… kahit kapos din kami sa pera basta pag kakain siya kahit tuyo ulam niya kakain siya… wla pong problema sa anak ko (There's not much problem when it come to eating. Even if we are lacking financially when he want to eat even if our food is just tuyo he will eat it. There is no problem with him.)

P3:oh ano laging ubo di nawawalan halos ng ubo, sipon, lagnat. Ganun tapos dalawa na sila, medyo lumalaki na din ung gastos. (He is counging. He's often sick with flu. And now there's two of them our expenses are increasing.)

P5: Ano po, 1,800 mga ganon. Isang linggo nya. kaya nagkukulang talaga.

(Around 1,800 a week and it's really not enough.)

4.2 The Scale of Coping

4.2.1 Nutritional Enhancement

Food provides the energy and nutrients that babies need to be healthy. For a baby, breast milk is best. It has all the necessary vitamins and minerals. Infant formulas are available for babies whose mothers are not able or decide not to breastfeed. Most of the repondents breast fed and some combined formula

with their breast milk and vitamins supplemeny to fully enchance the nutritional needs of their baby.

P1- Ah yun nga kelangan ibreast feeding. Hindi naman ako pwede kaya binibigyan ko naman sya ng kahit papanong milk supplement na makakbuti sa kanya. Nakapagpadagdag naman sa timbang nya. Tapos okay naman sya kumain. Dati sinosolid foods ko sya. Malakas sya kumain. Malakas. (She needs to be breast fed. I wasn't able toi, but I still provide her with formula milk that's good for her. It helped her to gain weight. Then her eating is okay. I fed her solid foods too. She eats good.)

P2- Mahirap, basta mahirap. pinakain naming siya ng masustansya at tsaka ung sa vitamins niya… inaagapan ko naman po ung sa timbang niya palagi. at breast milk lang walang iba. (It's hard. It's just hard. We feed her nutritious food and vitamins. I always try to manage her weight and give her breast milk.)

P3- Ay wala. Ano lang, breastfeeding at tsaka minimix ko siya sa bottle na yung gatas talaga. (Nothing, just breastfeeding and mixing breastmilk and formula.)

P4- oo naman, Ang vitamins lang na ipinaiinom ko yung ipinanganak ko siya tiki-tiki. breast milk lang din ako. (Of course, when I gave birth I just gave her Tiki-tiki as her vitamins and also breastmilk.)

4.2.2 Financial Support of Family

Family is the most important factor when it comes to unexpected problems. Most of the respondents have financial instability but with the involvement of the members in the family, rest assured that the low birth weight baby will grow healthy and will have a normal weight. Since here in the Philippines we tend to have strong family ties and whenever a problem occurs it is expected that they will the first in line to give support. As stated by the participants:

P1- Tinutulungan naman ako ng asawa ko. Pag nandito sya. Pero kadalasan ako talaga ang nagaalaga. Minsan pag nandun sa lolo nya inaalagaan din sila. (My husband helps me when he's here. But almost every time I'm the only one who is caring for our child. And sometimes when my baby comes over to my parents' house they also take care of my baby.)

P2- byanan ko..sa pagkain ganun, inaalagaan naman siya ng lola niya inaalagaan naman siya ng maayos (my mother-in-law… in the food, she also takes care of my baby)

P3- Mga tita ng pamangkin.. mga kapatid ko, nanay at tatay ko. (aunts, my siblings, my mother and father)

*-Pagka halimbawang may lakad syempre wala, hind naman pwede kasi maliit pa hindi mo pa pwedeng dalhin kung san san. Iniiwan ko sa kanila tapos sila nag aasikaso. Inaayos nila ng mabuti yung kung paano nila mapapadede ng sapat, ganun. Pinapakain na nila ng maayos. (*It is not possible to bring the baby with me for instance that I have to go somewhere else because my baby is so little to carry it with me. Therefore, I leave it to them and they take care of my baby like feeding formula milk very well.)

P4- Opo dyan sa may tindahan sa may factory si cheche Tumutulong sa pag pagamot, tapos sa pagpakain samin (Yes,

Cheche from the store nearby the factory helped us in medication and food supplies.)

*P5- Mama ko po, tito ko tapos po yung stepfather ko po. Ano po minsan sila nagbibigay ng pambili ng gamot sila rin po yung umano sakin nung nasa ospital ako tsaka po ano, inaalagaan nila yung anak ko kapag may ginagawa ako. (*My mom, uncle, and stepfather. Sometimes, they contribute for medication and helped me when i was in the hospital. They also take care of my baby when i am busy.)

P6- Tatay nya , oo ! Nag sasalitan kami sa pag aalaga at ska yung pamangkin ko oo! (Yes! His father. We take care of the baby as well as my niece alternately.)

4.2.3 Additional Attention

The lower the birth weight and gestational age of the newborn, the higher the risk of complications and death and the more special care he or she needs. Low birth weight babies need special care because they have a very poor resistance to fight infectious disease, because their immune system is not yet well developed. Therefore, on top of what is required for all babies, the mother needs to be meticulous in giving added attention.

P1- Edi inalagaan ko, pero yun nga breastfeeding hindi, Naggatas sa lata. Tapos, the usual na pagaalaga ng baby. May mga vitamins sya na tinetake pero walang reseta naman ng mga gamot na kelangan nya inumin. Basta dun sa ospital yung mga antibiotic nga na binibigay sa kanya tsaka ung breastfeeding normal naman. (I took care of him but I didn't give him breast milk, formula milk instead. Then the usual caring for the baby. She is taking vitamis but no prescription. And in the hospital the antibiotics that they gave him and breast milk.)

P2- tinutukan ko sya. ung una ko kasing anak hindi ko masyadong naalagaan eh. ung unang anak ko kasi kinuha na un ng kamaganak namin kc naano nung sa una ko nabuntisan lng ako (I focused on her, I wasn't able to give much attention to my first kid. My relatives are the ones who took care of my first kid. It was an unplanned pregnancy.)

P3- Ay wala. Ano lang, breastfeeding at tsaka miniks ko siya sa bottle na yung gatas talaga. (Nothing, I just mix the breast and formula milk in the bottle together.)

P4- tinutukan ko ng husto, at saka hindi siya ng dede sa bote. sa akin lang (I gave enough attention, She was only breastfed.)

P5- Natural lang po. Natural na pag-aalaga lang. Natututukan din naman namin yun bata Hindi po pinapabayaan pag naglalakad. Ok din naman sya sa pagkain (Just the natural. Just the usual caring. We focused on him and we always keep an eye on him when his walking.)

P6- Yun nga alagaan at , un nga padedehin ng wasto at sa tamang oras. (Take care of him and feed him properly and on time.)

3.0 MODERATUM GENERALIZATION

The study aims to explore the challenges and coping of mothers taking care of low birthweight baby. Participants

in the study were six (6) purposively selected mothers. Two (2) major themes emerged in the study The Scope of Challenges and The Scale of Coping. Under the major themes there are six (6) minor themes. For the Scale of Challenges the minor themes were: "Fear of Vulnerability to Sickness", "Caring Difficulties", and "Financial Insufficiency". For the Scale of Coping these were the themes: "Nutritional Enhancement", "Financial Support of Family", and "Additional Attention". The participants at first were afraid of their child of becoming sick because of its low birth weight. They knew that taking care of the baby is would be difficult and would require special care. But they are determined to all the possibilities just to make sure their baby will grow healthy. Research shows that presence of external factors such as support of the family members, health learnings, and awareness of the situation is very important to have an effective coping mechanism. Finally, it can be concluded that the challenges can be balanced through exercising their own proper coping mechanism.

4.0 REFLECTION

This study shows coping skills are your ability to handle life's challenges in the most effective ways, maximizing your chances of success or survival, and minimizing the damages and other negative consequences. As seen on the results, we can say that the respective mothers coping strategies together with their support system are very important for them to be able to handle the challenges that they faced. Future studies may focus on ways on how to strengthen the ability of the mothers to cope when challenges arises, especially when they take care of their baby. This study also focuses on the enhancement of the support system to ensure the whatever challenges that mothers experience that is related to taking care of their baby, they will able to handle it.

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THE EFFECTIVENESS OF SESAME OIL AGAINST PAIN INTENSITY OF PHLEBITIS IN CANCER PATIENTS UNDERGOING CHEMOTHERAPY

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ABSTRACT

Chemotherapy is one of the main methods in the treatment of cancer but has a vesicant and irritant nature that trigger phlebitis. The response to the tissue damage due to phlebitis is aching pain. This study is aimed to determine the effectiveness of applying sesame oil to the pain intensity of phlebitis in cancer patients undergoing chemotherapy. This study used a randomized controlled trial design. Forty samples were divided into groups: control and intervention groups. This study was analysed by using Paired T test. The results showed that there was a significant mean difference on pain intensity scores before and after intervention ($p = 0.001$) and also the results showed that there was a significant difference between two groups ($p = 0.001$). These results recommended that sesame oil can be used to reduce phlebitis pain in patients undergoing chemotherapy

Keywords: sesame oil, pain intensity, phlebitis, cancer and chemotherapy

BACKGROUND

Cancer is a disease that has become a public health issue in the world and in Indonesia. Every year, 12 million people worldwide suffer from cancer and 7.6 million people died from cancer. If there is no adequate control measure, then in 2030 an estimated 26 million people will suffer from cancer and 17 million will die from cancer (International Union against Cancer [IUAC], 2009)

Chemotherapy is one of the methods in systemic cancer treatment. It can be used alone or in combination with other therapies. It aims to cure, control or to be a palliative therapy in cancer and it is able to influence the activity of cells (Devita, Lawrence & Rosenberg, 2008; William & Hopper, 2007). The frequent access to chemoterapy is through an intravenous line (IV) (Karagozoglu & Ulusoy, 2005). Every chemotherapy that lasts more than 24 hours serves as an intravenous stimulant that can cause phlebitis (Hecker, 1992). Phlebitis in patients undergoing chemotherapy can be caused by irritant and vesicant nature owned by some types of chemotherapy (Leal et al, 2014).

Pain is one of the responses due to tissue damage in patients with phlebitis. The accuracy in determining the intervention can reduce pain intensity phlebitis and increase patient's comfort. Various attempts were made by nurses by immediately move the insertion area and provide warm, moist compress that can speed healing and provide comfort to the patient (Alexander et al., 2010; Hankins et al. (2001).

In addition to that, the interventions carried out among others are by conducting relaxation, distraction, and the use of herbal therapy which is believed to reduce pain intensity (DeLaune & Ladner, 2011)

Sesame oil (sesame oil) is one of the herbs that have effectiveness as an antioxidant, anti-inflammatory and analgesic. The analgesic characteristic due to the content of lignan is found in sesame oil, which is able to inhibit the pain-causing chemical mediators such as prostaglandins (Saleem et al., 2011). Research Nekuzad et al. (2012) concluded that there is a significant difference on the occurrence and incidence of phlebitis between intervention group that were given sesame oil and a control group that was not given ($p < 0.05$). So far there has been no specific research to examine the effectiveness of sesame oil on phlebitis pain intensity in cancer patients undergoing chemotherapy. Accordingly, this study was conducted to determine the effectiveness of sesame oil (sesame oil) to the intensity of pain phlebitis in cancer patients undergoing chemotherapy.

METHODS

This study is a randomized controlled clinical trials (RCT). The design used is a parallel design without matching. The location of this research is at Abdul Wahab Sjahranie Samarinda Hospital. This Research has been conducted from January until June 2014. The sample is selected by consecutive sampling, the number of samples involved in the study was 40 people, consisting of 20 people from the

intervention group and 20 from control group, with the inclusion criteria: hospitalized patients diagnosed with cancer and undergoing chemotherapy, patients experiencing phlebitis with degrees of phlebitis ≥ 2, patients with compos mentis awareness and cooperative, patients showing a negative result for a test allergies, patients given intravenous chemotherapy, patients who do not get analgesic prior to chemotherapy, patients who are willing to become respondents. The allocation of samples into the intervention group and the control group is performed by the randomization techniques.

Data collection tool was a questionnaire containing questions related to the characteristics of the respondent, the observation sheet on phlebitis degree adopted from *infusion nurse society: the standard of practice in 2006* and a scale measuring the intensity of pain using the Visual Analogue Scale (VAS) with a combination of Numeric Rating Scale (NRS).

In this study, the intervention group was given compress as much as 2 ml of sesame oil in an area of phlebitis, but before being given compress, the allergy test was done first. Furthermore, the compress was applied for 30 minutes for two times of treatments, the first treatment and the second treatment are in 3 hours gap time. After the completion of the second treatment of sesame oil, the pain intensity on phlebitis will be evaluated. Meanwhile, the control group was given standard care according to the hospital program in the form of alcohol compress and for the phlebitis pain intensity, it is measured equal to the intervention group. The researcher ensures that this research will not have a negative impact, and if experiencing discomfort, then the respondent has the right to stop and no legal sanction should be imposed to the respondent.

Analysis of the data in this study include univariate, bivariate and multivariate analyzes. Univariate analysis describes the characteristics of each of the variables studied. Presentation of each variable by using tables and interpretations based on the results obtained. Bivariate analysis were conducted to prove the hypothesis and multivariate investigate the influence of confounding variables. The statistical test used for bivariate analysis was T test (Paired T Test and Pooled T Test).

Paired T Test conducted to determine differences in pain intensity before and after the intervention in both groups and independent test T test to determine pain intensity difference between the control group and the intervention group after the intervention used a statistical test (Sabri & Hastono, 2006).

RESULTS

The mean age of the respondents in the intervention group was 47.55 years, with a standard deviation of 12.47 years. While the mean age of the respondents in the control group was 50.30 years with a standard deviation of 10.33 years. Most respondents in the intervention group is female by 65% and to experience the past in terms of overcoming the pain most of the respondents use the non-pharmacological action by 75%, while the proportion rate

of 55% ethnic Non-Dayak and the assessment level of anxiety, the proportion of equally great anxiety that are in the light and medium category by 50%. In the control group most respondents

were female by 55%. For the past experiences 70% of respondents use non-pharmacological measures, while rates for most of the Dayak tribes by 55% and at the time of assessment of the level of anxiety anxious majority of respondents in the category was at 75

Table 1. Average Pain Intensity Score of Plebitis, Before and After Intervention (n1=n2=20)

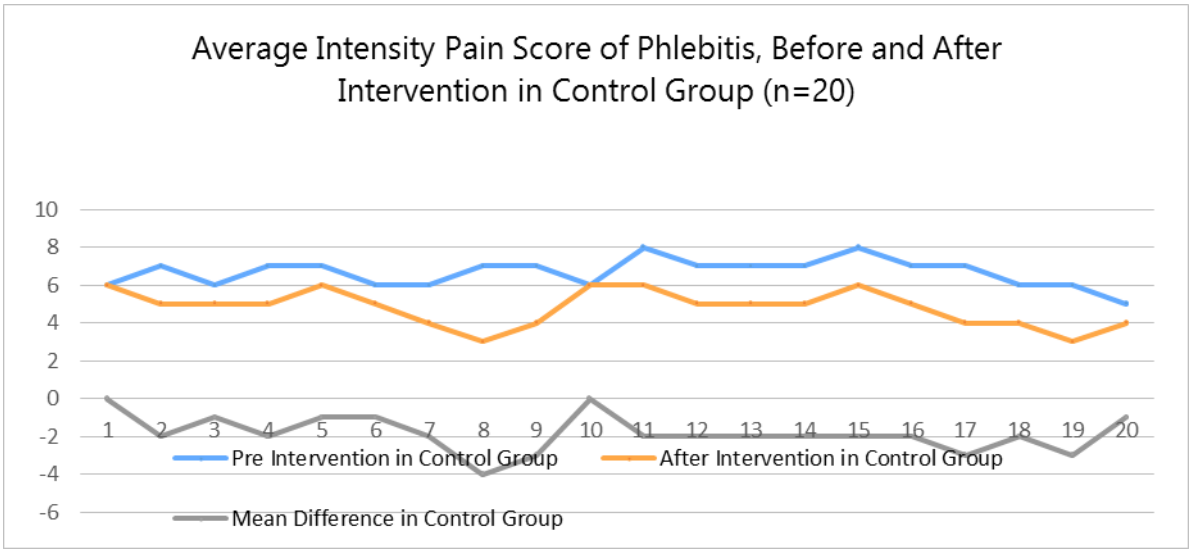
Variable	Group	Measure	Mean	SD	Min-Max	95% CI
Pain Intensity Score of Phlebitis	Intervention	Before	7,25	0,72	6-8	6,91;7,59
		After	1,95	0,83	1-3	1,56;2,34
	Control	Before	6,65	0,75	5-8	6,30;7,00
		After	4,80	0,93	3-6	4,35;5,25

Table 1. Shows the mean change in pain intensity phlebitis sizeable in the intervention group between before and after when the intervention compress sesame oil was given. The mean pain intensity phlebitis before intervention was at 7.25 with a standard deviation of 0.72 and after intervention is at 1.95 with a standard deviation of 0.83. Meanwhile, in the control group the mean change in pain intensity is not too significant in which prior to the intervention the mean pain intensity is at 6.65 and after the intervention is at 4.80 with a standard deviation of 0.93. The further results of the analysis of the homogeneity of confounding variables test and pain intensity before the intervention have showed no difference (variation). In this case all measured variables are homogeneous (similar).

Table 2. Differences Pain Intensity Score of Phlebitis, Before and After Intervention (n1=n2=20)

Variable	Group	Measure	Mean±SD	Mean Difference	95% CI	*p*
Pain Intensity Score of Phlebitis	Intervention	Before After	7,25±0,71 1,95±0,83	5,30	4,84; 5,76	0,001*
Pain Intensity Score of Phlebitis	Control	Before After	6,65±0,75 4,80±0,95	1,85	1,38; 2,31	0,001*

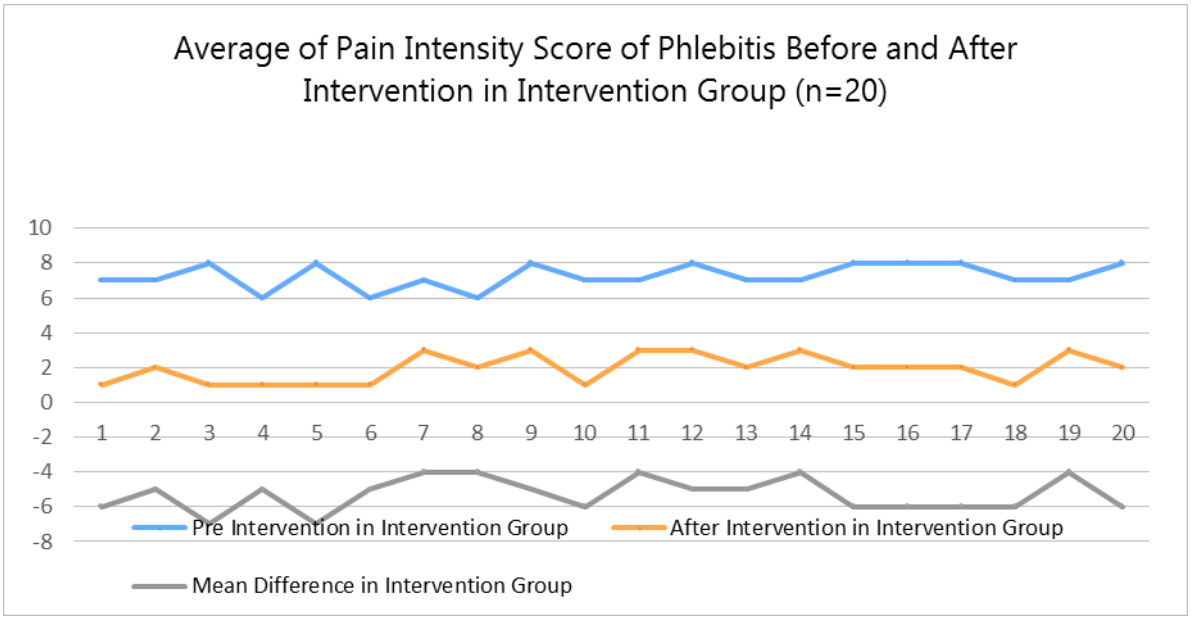
*Value Note α <0,05 by *Paired t test*



Picture 1: Average Score of Intensity Pain of Phlebitis, Before and After Intervention in Control Group

Table 2. Shows that there was an average difference in mean intensity of phlebitis between before and after intervention of 5.30 in the intervention group. While in the control group of 1.85. The result of estimation is believed that the difference of mean intensity of phlebitis pain in the intervention group is in the range of 4,84 -5,76, whereas in the control group is in the range of 1,38-2,31. The result of further analysis shows the difference of average score of pain intensity of phlebitis which was significant between before and after intervention in both the intervention group and the control group ($p = 0.001$, α 0.05)

2.31. The results of further analysis showed differences between the mean pain intensity score phlebitis significantly between before and after the intervention either the intervention group or the control group ($p = 0.001$; α 0.05)



Picture 1: Average Pain Intensity Score Of Phlebitis, Before and After Intervention in Intervention Group

Table 3. Average Mean Difference Decrease Intensity Pain Score of Phlebitis between Control Group and Intervention Group, After Intervention (n1=n2=20)

Variable	Measure	Group	Mean±SD	Mean Difference	95% CI	*p*
Pain Intensity Score of Phlebitis	After	Intervention	1,95±0,82	2,90	2,33; 3,46	0,001*
		Control	4,85±0,93			

*Value Note α <0,05 By *Independent t test*

Table 3. Shows that the mean decrease in the intensity score of phlebitis pain in the intervention group is greater than in the control group after the intervention. The difference in mean score decreased the intensity of phlebitis pain between the two groups after the intervention was 2.90 where the estimation result was believed that the mean difference was in the range of 2.33-3.46. The result of statistical test showed that there was a significant difference of pain intensity score between the intervention group and the control group after intervention ($p < 0.05$; α 0.05).

Based on the result of multivariate analysis, it can be concluded that age and anxiety level is the confounding variable to effectiveness of sesame oil to the intensity of phlebitis pain and anxiety level is the most contributing factor of confounding.

DISCUSSION

In the intervention group, there are differences in pain intensity before and after intervention. The results are consistent with the theory that explains that herbal therapy is effective in reducing pain intensity (DeLaune & Ladner, 2011). In this study the herbal therapy used is sesame oil (sesame oil). Sesame oil is extracted from sesame seeds are very rich in protein, vitamins, and minerals. Moreover, it has nutrients that contain the essential fatty acid, omega 6, omega 9, an antioxidant, which controls the balance of the immune system, inhibits the inflammatory process (Gauthaman & Saleem, 2009). Sesame oil also contains a number of lignans: sesamin, episesamin and sesamolin. Lignan found in sesame oil has a chemical and physiological properties as an analgesic, antioxidant and antihypertensive properties (Sankar et al., 2006). Research Salem et al. (2011) also stated that sesame oil (sesame oil) is effective in reducing pain intensity for the content of lignan found in sesame oil, capable of inhibiting the chemical mediators that cause pain such as prostaglandins. Other research results that explain the effectiveness of sesame oil found by Hirsch et al. (2008), in a study that compared the effectiveness ointment sesame oil (sesame oil) and flamazine in overcoming superficial burns. In the intervention group who use the ointment sesame oil (sesame oil) effective significantly reduce the intensity of pain, inflammatory processes and improve skin layer than the control group.

In the control group, it performed the appropriate standard of care hospital program and the results indicate a difference in pain intensity phlebitis before and after the intervention. In the control group decreased pain intensity phlebitis but did not show significant results. Standard care measures the displacement of insertion locations and giving alcohol compresses effective in reducing pain intensity phlebitis, according to the theory and the results of research suggested by Alexander et al. (2010) and Hankins et al. (2001) to quickly move the insertion area accelerate healing, reduce the intensity of pain and provide comfort to the patients who experienced phlebitis. In addition to the transfer of infusion insertion site, giving compress using the antiseptic such as alcohol can reduce the degree of

phlebitis. This is supported by research Nurjannah (2011) about the effectiveness of normal saline compresses, warm water and alcohol to the degree of phlebitis. The results showed that normal saline compresses, warm water and alcohol effectively reduce the degree of phlebitis $p < 0.05$.

Based on the results of multivariate analysis, age and level of anxiety is a confounding variable of the effectiveness of sesame oil on phlebitis pain intensity and anxiety level is a confounding factor most contributing. Age may affect the client's perception of the pain (DeLaune & Ladner, 2011). Transmission and perception of pain is getting slower with age, but the intensity of pain can not be reduced (Black & Hawks, 2009). The level of anxiety is a confounding factor most contributing in accordance with the opinion expressed by Unruh and Henrikson (2002) that emotional status influences the perception of pain. The sensation of pain can be blocked by a strong concentration or it can be increased by anxiety or fear. Anxious relevant or related to pain can increase the patient's perception of the pain. The same thing was also raised by LeMone and Burke (2008) that the anxiety can improve the perception of pain, and pain can cause anxiety vice versa. If a person experiencing severe anxiety, the pain experienced more severe (Matassarin-Jacobs, 1997). The influence of anxiety on the intensity of pain can also be seen from the gate control theory. If the input passes the input nociception, then blocked and the transmission gate nociception stopped or hindered in the substantia gelatinous dorsal horn of the spinal cord. Furthermore, behavioral and emotional factors influence the gate through the mechanism of inhibiting the transmission of pain impulses.

Perceived limitations for this study include: the limited references relevant to the study variables. Clinical trials conducted still uses the design of parallel without matching so the potential for bias in the control factor confounding, other than it is for the determination of randomization is done subjectively by the researchers adjusted for random table that was created earlier, for the type of chemotherapy used by each respondent still varies.

This research is helpful for nurses to perform nursing care, especially in the treatment of pain phlebitis in cancer patients undergoing chemotherapy by using sesame oil as one of the innovations in nursing interventions to reduce pain intensity phlebitis and as an input in creating a standard operating procedure of hospitalization. This research is also expected to be evidence based practice in nursing to become the scientific basis and can be applied to nursing practice to achieve goals and improve the outcomes of nursing in developing the practice of nursing science base and further in addressing the treatment of cancer patients with pain phlebitis due to the administration of chemotherapy

CONCLUSION

There is a significant difference in mean score of pain intensity of phlebitis before and after intervention in the control group and intervention group and there was a significant difference of mean

decrease of pain intensity score of phlebitis between control group and intervention group after intervention. Meanwhile, confounding factor contributing to effectiveness of sesame oil with the intensity of pain phlebitis is at the level of anxiety. Suggestions for further research: this study could be the initial foundation for further research to examine the effectiveness of sesame oil compared to the use of other essential oils used as a therapy in treating pain in phlebitis in cancer patients undergoing chemotherapy.

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EFFECT OF AEROBIC DANCE AND ZUMBA DANCE ON TOTAL CHOLESTEROL LEVEL AMONG ADULT WOMEN IN BANJAR TARUNA BHINEKA DENPASAR

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ABSTRACT

High cholesterol level can increase a risk of cardiovascular disease. One of the ways that can be done in order to control level of cholesterol is increasing physical activity. There are two type of dances that popular among women are aerobic dance and zumba dance. The aim of this study was to determine the difference of effectiveness between aerobic dance and zumba dance on total cholesterol in adult women. This was a quasy experimental design with two group pre-test post-test approach. The sampling technique was purposive sampling, and 40 adult women around 25-40 years old as the samples. The selected sample were divided into two groups, which consisted of 20 adult women in the aerobic group and 20 adult women into zumba group. Each group has to do dance three times a week for five weeks with a duration of 60 minutes. The level of total cholesterol was measured before the intervention starts and five weeks after that day. The average of total cholesterol level before and after intervention on aerobic group (from 188,60 mg/dL to 163,20 mg/dL) and on zumba group (from 217,15 mg/dL to 179,70 mg/dL). Based on dependent t-test, there was a significant effect of aerobic and zumba dance for total cholesterol level on adult women ($p<0,05$). According on independent t-test, it showed that the value of $p=0,474$ ($p>0,05$), which means there was no difference. It can be concluded that aerobic as effective as zumba in influencing total cholesterol levels on adult women and both dances can be alternative of physical exercise to control total cholesterol level.

Keywords: total cholesterol, aerobic dance and zumba dance

INTRODUCTION

Along with the increase of someone's age, the function of cells and organs in body tend to decrease thus, it affects the individual health. Age is an important risk factor that cannot be modified in developing some diseases, especially degenerative diseases. One of the degenerative diseases that mostly found in adult is heart disease. According to the research conducted by Zahrawardani, Herlambang and Anggraheny (2013) state that there is a significant relationship between ages with the incidence of coronary heart disease (CHD), it can be seen from cholesterol plaque attached to the blood vessels walls is thickened. Cholesterol levels above normal limits are called *hypercholesterolaemia*. According to the RISKESDAS data (2013) for the prevalence of *hypercholesterolemia* in Indonesia illustrates that cholesterol levels above normal in women (39.6%) higher than in men (30.0%) and in urban areas (39.5%) higher than in rural areas (32.1%).

To control cholesterol levels can be done by increasing physical activity. The more physical activity performed, the more energy expenditure thus helping to reduce the amount of blood cholesterol (Durstine, 2012). One of the most popular physical activities of women is aerobic and zumba dances.

According Sorensens in Gilang (2007) stated that aerobic dance is an activity done continuously by combining several movements that can strengthen heart, blood circulation and burn fat. Meanwhile, zumba dance is combination of aerobic dance accompanied by music, using Oriental and Latin dance patterns (*merengue, salsa, bachata, reggaeton*) (Micallef, 2014).

According to Narayani et al. (2010) said that after six weeks of aerobic and endurance exercises, total cholesterol levels decreased and increased High Density Lipoprotein (HDL) cholesterol in obese women. Zumba dance can also affect the body composition of women such as able to lose weight, fat percentage and body fat mass (Ljubojević, Akovljević & Popržen, 2014). Both types of dances are different in terms of movement type, exercise intensity and musical accompaniment.

Based on the background, researcher want to determine the comparison of effectiveness between aerobic and zumba dances on the total cholesterol level of adult women in Banjar Taruna Bhineka Denpasar.

RESEARCH METHOD

The research method used is quasi experimental with *two group pretest-posttest* approach. The study consisted of two groups selected through coin toss, they are; aerobic dance group and zumba dance group. Each group performed total cholesterol measurement through *pre-test* and *post-test.*

The population in this study was all adult women living in Banjar Taruna Bhineka Denpasar. The sampling technique used is *purposive sampling* with 40 adult women in accordance with the inclusion and exclusion criteria. The inclusion criteria is adult women aged 25-45 years, meanwhile exclusion criteria is women with history of heart disease, musculoskeletal disorders (fractures and osteoporosis), pregnant women, women who diet and take cholesterol-lowering drugs and also women who following fitness class.

The research instrument used to measure total cholesterol is a cholesterol meter device that has been equipped with a calibration *chip*. The tool was calibrated after five cholesterol measurements were performed. The selected respondents were given an explanation of the objectives, benefits, research procedures, and the rights and responsibilities of the respondent, then asked to sign the informed consent sheet if they were willing. Respondents were divided into two groups to perform one type of dance either aerobic (low impact) or zumba dance guided by the instructor. Respondents have been informed for fasting at least 6 hours before the measurement of total cholesterol levels through *pre-test* and *post-test*. Respondents performed dance for five weeks (3 times per week) with 60 minutes dance duration.

Normality test used is *Saphiro-wilk* test and it is stated that total cholesterol data in this study is normally distributed. Therefore, the analysis test used to test the two paired samples in each group is *dependent t-test*, meanwhile to test two unpaired samples used *independent t-test* with trust level of 95%.

RESULT

The characteristics result based on age found that most of respondents are in the age range of 35-44 years. Characteristics based on the exercise habits found that in aerobic group, 55.0% of respondents never did exercise

and so did 70.0% of respondents in zumba group.

Table 1. *Dependent t-test* result on total cholesterol

Zumba	*Pre-test*	217,15±53,56	0,010
	Post-test	179,70±39,33	
Aerobic	*Pre-test*	188,60±38,79	0,023
	Post-Test	163,20±40,92	

Table 1. shows that total cholesterol before and after doing aerobic or zumba dance using *dependent t-test* obtained the value of p <0,05 it means that there is significant influence after performed aerobic or zumba dance on total cholesterol in adult women.

Table 2. *Independent t-test* result of difference on total cholesterol of *Pre-test* and *Post-test*

Variables	*Mean*±SD	
Aerobic	25,40±46,04	4
Zumba		

Table 2. shows that the result of the difference on total cholesterol level before and after intergroup using *independent t-test* found that p> 0,05 means that there is no difference in effectiveness between aerobic and zumba dances on total cholesterol in adult woman.

DISCUSSION

Total Cholesterol of *Pre-Test* and *Post-Test* in Aerobic Group

The results of this study found that before performed low impact aerobic

dance, mean of total cholesterol on respondents was 188.60 mg/dL and after performed aerobic dance, mean of total cholesterol decreased to 163,20 mg/dL. Based on the American College of Sports Medicine in NutriStrategy (2015) states that energy burned for 60 minutes doing low impact aerobic dance is 352 calories.

The process of burning calories that take place in body as long as the respondents doing dance leads to increased consumption of oxygen and sweat expenditure. Aerobic dance performed in moderate intensity in a long time causes fatty acids in the metabolism producing energy then minimize the chance of synthesis of nuclear sterol thus, less cholesterol is formed. In addition, aerobic can cause the release of epinephrine and norepinephrine hormones by adrenal medulla. Both of these hormones can directly activate the lipase enzyme that causes *triglyceride* breakdown and accelerate the mobilization of fatty acids (Guyton & Hall, 2007).

The process leads to changes on total cholesterol in respondents before and after performed low impact aerobic dance for five weeks. This study is supported by previous study conducted by Utomo, Junaidi and Rahayu (2012) stated that there is influence of low impact aerobic dance on cholesterol level after doing dance three times a week for two months, total cholesterol decreased to 27,67%. Another study conducted by Sari, Berawai, Fiana and Soleha (2013) on 32 adult women found that there was a difference in total cholesterol before and after doing aerobic dance for six weeks (3 times per week).

Total Cholesterol of *Pre-Test* and *Post-Test* in Zumba Group

Intervention result of Zumba dance shows that before doing zumba, total cholesterol is 217,15 mg/dl and after doing zumba dance, mean of total cholesterol decreased to 179,70 mg/dl. Respondents who performed zumba dance enjoyed every dance movement and the music that accompanied them thus the respondents did not seem exhausted due to the high energy expenditure. The number of calories burned depends on body weight, gender, fitness level and other physical factors (Ario, 2014).

According to Luettgen, Porcari, Foster, Mikat and Morroyo, (2012) states that the calories burned after doing zumba for 60 minutes is 369 calories or about 9.5 kkal per minute. Well done physical activity can improve lipid profile. Changes in lipid profiles are influenced by enzymes activity such as *lipoprotein lipase, lecithin cholesterol acyltransferase*, and *hepatic TG lipase.*

Enzyme activity of *lipoprotein lipase* in fat and muscle tissue will increase along with the increase of physical activity thus can decrease LDL and blood cholesterol levels (Thompson & Rader, 2001).

This study is similar to Pantouw, Wongkar and Ticoalu (2014) study which stated that zumba dance significantly improves blood cholesterol level of 8.8 mg/dL, which is done three times a week for two weeks with one hour duration. Another study conducted by Araneta and Tanori (2015) states that after two weeks for 12 weeks of zumba dance there was a significant decrease in triglyceride level of 16.92 mg / dL (p = 0.025) in 13 adult women. In this study zumba dance performed for five weeks affecting total cholesterol of adult women.

Distinction of Total Cholesterol Difference between *Pre-test* and *Post-Test* in Aerobic and Zumba Groups

The mean difference of total cholesterol level between *pre-test* and *post-test* in aerobic and zumba groups was obtained p = 0,474 (p> 0,05) it means that there is no difference in the effectiveness of aerobic and zumba dance to the total cholesterol of adult woman. There are many factors that affect cholesterol levels, one of them is physical activity and diet. In this study there is an increase in physical activity on respondents thus the calories burned in body also increases.

According to Ganong (2008) states that during physical activity, lipoprotein lipase performance that serves as a triglyceride breaker also increases. The intracellular lipase hormone in adipose tissue catalyzes the breakdown of stored triglycerides into glycerol and fatty acids. Aerobic dance can decrease triglyceride concentrations up to 20% and increase HDL cholesterol concentrations up to 10%. Meanwhile, resistant exercise only decreases 5% of triglycerides without any effect on HDL concentrations. This study compared the effectiveness of aerobic and zumba dance in different intensity in which aerobic dance with low impact intensity (low to medium intensity) and zumba dance with higher intensity. Aerobic dance performed in low to moderate intensity for 30 minutes or more can burn fat thus it affecting blood lipid profile, while aerobic dance with high intensity in a short time or less than 30 minutes can burn sugar to produce energy (Brick, 2001).

According to Sherwood (2001) states that exercise done for an hour or more will increase the use of fat as the source of energy, meanwhile the use of carbohydrates will be reduced, after the

end of the exercise, free fatty acids supply 80% of the total energy required during exercise. The theory is similar with study conducted by Sabarigiri and Gopinath (2015) in which compared the intensity of aerobic exercise performed for five weeks on total cholesterol levels. The results suggest that low and moderate intensity of aerobic exercise has an effect on decreasing total cholesterol levels.

Study conducted by Marandi, Abadi, Esfarjani, Mojtahedi and Ghasemi (2013) has a different result from the previous statement, which states that moderate and high intensity aerobic performed for 10 weeks with duration of 60 minutes can significantly improve body composition and serum profile Lipid in obese women or *overweight*.

According Hiznayova (2013) states that the intensity of exercise during heating and movement of the core significantly increased in respondents who performed zumba dance compared with respondents who performed *tae bo* aerobic. Energy consumption during exercise was significantly higher in Zumba

group is about 34 kcal for 60 min. The effect of combination of aerobic, step exercise and 12 weeks of resistant exercise significantly increased HDL levels and reduced body fat percentage but no significant difference in total cholesterol, triglyceride and LDL levels in women who rarely doing exercise (Ossanloo, Najar & Zafari, 2012). In this study, the accuracy of exercise intensity and diet conducted by respondents is unknown. Based on this, the intensity of dance done properly and regularly also maintaining the diet can control the total cholesterol levels.

CONCLUSION

It can be concluded that there is no difference of effectiveness between aerobic and zumba dance on the total cholesterol levels of adult women in Banjar Taruna Bhineka Denpasar. This study shows that aerobic and zumba dance are equally effective in affecting total cholesterol levels in adult women.

SUGGESTION

It is suggested for further researcher to be able to control the diet of respondents and monitoring the maximum pulse rate to achieve the desired intensity of exercise. One of these exercises can be used as a physical activity chosen to control the total cholesterol level in order to remain within the normal range.

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FROM THE SHADOWS OF DEATH INTO THE LIGHT OF ACCEPTANCE: A LIVED EXPERIENCE OF PATIENTS WITH HIV-AIDS

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ABSTRACT

HIV/AIDS is one of the feared diseases worldwide. It is a disease thoroughly studied yet still incurable in this modern era. Having acquired it is like being faced with the possibility of spending life in limbo-marked by the disease, excluded from the norms of society and an outcast to many.

The study has aimed to capture how patients with HIV/AIDS struggled with living with the disease, the obstacle they had to overcome and how they were able to deal with the problems that they encountered after being diagnosed with such disease.

A descriptive phenomenology utilizing a semi-structured face-to-face interview was used. Four co-researchers from Metro Manila shared their lived experiences unreservedly. Through colaizzi's data analysis two major themes and five subthemes reflected the lived experiences of dying persons living with HIV/AIDS: (1) Scourging of the Pessimistic Spirits (a) fear is a dark room where negatives are developed, (b) a spirit crying for succor (2) Rise of the Optimistic Spirit (a) burning bush in the darkness, (b) transformation in the midst of the battle for life (c) acceptance as transcending condition.

In learning their HIV/AIDS diagnosis, the co-researchers had to go through a series of steps in their lives in order to accommodate this major trial into their identity. They had to experience the psychological distress and the physical limitations caused by the disease before discovering that they do not have to live in fear and isolation. They were able to emerge from the darkness of negativity into the light of acceptance and hope and have used their experiences as a way to teach and support others who are in the same predicament as they were before. They have also learned to accept their eminent death as part of their life.

Keyword: Lived Experience, HIV-AIDS, Dying, Descriptive Phenomenology, Colaizzi.

INTRODUCTION

Living the unconditional meaningfulness of life even in the tragic triad of pain, guilt and death can become positive and creative. It is through the attitudinal values that even negative, tragic aspects of human existence will experience achievement and accomplishment at the human level (Frankl, 2000). Human life, granted by God as most of us believe, is like being given an empty page to fill out- a music sheet ready for composition. We, individuals, are the writers of our story and the composers of our music. We accumulate a lifetime of our own unique experiences that give value to our short existence in this world. To some, life is a dissonance of failures, a curse-filled tragedy wrought in sorrows and regrets. To others, it is a balance of the undercurrent of dark music of trials, the explosive march of success and triumph and the symphony of blessing and contentment. But to those who are witnesses to the gradual waning of their life due to terminal illness, an ordinary, everyday existence to some is a priceless gift to cherish at every waking hour for them.

Having a terminal illness accompanied by severe medical conditions, is an event that drastically alters not only a person's lifestyle. It is also an event that slowly seeps into a person affecting his emotional and mental well-being. Communicable disease is a red flag to some which only plainly states to stay away from the afflicted person, resulting in stigma and rejection. These people find that they are not only marred physically, but also they are openly scorned and unjustly treated. They are often left behind and abandoned to their own devices. Despite today's advanced technology in medical treatment, HIV/AIDS still remains as one of the many incurable diseases in the world. It is a shadow that looms among many. It is an unseen foe, for one cannot always tell if the person next to you is infected.

Living with HIV/AIDS spells an agony of a slow painful death. It is a disease that forces a person to witness the gradual decline of their health until only a husk of their former selves remain. These people hide away for fear of being shunned by society and die while they yet live. To some, HIV/AIDS is a battle for belongingness. To others, it is an unacceptable condition and dying in anger while some succumb to death in peace, believing that their life is fated to be ended thus. It is in dying that time is given for reflection and a journey to one's purpose in life. Death at some time in life is unavoidable and should not be ignored. It is an event in human life that one cannot defy. Moreover, when a person receives devastating news that he has terminal illness he enters into five emotional stages that entail a process on death and dying issues. He experiences denial and isolation, anger, bargaining, depression, and acceptance (Kubler-Ross 1969). Hence, the researchers would like to explore the lived experiences of people in the terminal stage of HIV/AIDS as they battle for belongingness and the inevitable event of death.

BACKGROUND OF THE STUDY

It is generally thought that death and dying is the end of life. It is the

frightening and inevitable occurrence that will one day claim our existence. Most hope that such an event will be quick and painless. Terminally ill persons, on the other hand, do not have the fortune of having their wish of such a painless death answered.

AIDS/HIV is one of the most feared diseases worldwide. It is a disease thoroughly studied yet still incurable in this modern era and having acquired it is like being faced with the prospect of spending life in limbo; marked by the disease, excluded from the norms of society, an outcast to many. The Department Of Health (2012) calculated that about 51 percent of the reported cases of HIV transmission were from the National Capital Region (NCR). The reported modes of transmission were sexual contact and needle sharing among injecting drug users and mother-to-child transmission. The 87 percent were males which is the predominant type of sexual transmission. The 96 percent of the cases still were asymptomatic at the time of reporting. Information and studies about HIV/AIDS are ubiquitous, but what about the experiences of those who have the disease? Knowing that one will be dying because of HIV/AIDS is a stressful, life-changing event. Isolation and rejection resulting from HIV stigma can be painful and depressing, permanently changing social networks and negatively affecting mental and physical health (Emlet, 2006; Heckman, Kochman and Sikkema, 2002 as cited by Pointdexter and Shippy, 2010). Given the severity of the disease and the prospect of dying, these persons have to dig deep within themselves in order to find the strength to live and still find self-worth in the process.

PROBLEM STATEMENT

There is a lack of understanding on the lived experiences of persons living with HIV/AIDS. Most studies highlight the rising cases of the illness and stigma that accompany it, but limited studies present the lived experiences of persons with HIV/AIDS. The researchers wanted to know the experiences and the perceptions of people as they journey through life with HIV/AIDS.

METHODS

Phenomenology, as a design has been employed in this study. It is concerned with the lived experiences of humans and is an approach to thinking about what life experiences of people are like and what they mean (Polit & Beck, 2008). Through this method, the researchers strove to avoid external manipulation by going directly as possible to those who are living the experiences being studied (McNee and McCabe, 2008). It is the type of design that helps to allow the researchers to understand the ongoing phenomenon of dying in Persons with HIV/AIDS and it allows narration purely from the co-researcher's point of view which gave the researcher an opportunity to know how these people perceive the world. The design highlights the lived experiences of the co-researcher, which is the aim of the study and it is also helpful when the topic of interest by the researcher has been poorly defined or when there is no clear description (Polit & Beck, 2008).

Descriptive phenomenology has also been utilized in this study in order to accommodate the narration of experiences from the co-researchers. Since it focuses on the description of "things" as people experience them (Polit & Beck, 2008), the researcher has not deemed it necessary to employ the use of statistical analysis.

The study was conducted in greater Metro Manila, Philippines based on the statistical report of the National Epidemiology Center (NEC) of the Department of Health (2012). Moreover, the actual interview were conducted on the respective houses of the co-researcher for their privacy and for at ease of feelings in sharing their experiences and thoughts about HIV/AIDS.

The researchers have utilized Colaizzi's methodological interpretations because of its focus on the depth and exploration of lived experiences. It is also the only approach that involved the co-researchers in the verification of the researcher's interpretation of their experiences (Polit & Beck, 2008).

RESULTS

In the discovery of the phenomenon, there were four co-researchers from Metro Manila who qualified and participated in the study. Among the four qualified co-researchers, one of them was a female and married and three are male (two bisexual and one straight male) and single. Pseudonyms were used for all the co-researchers to protect their identity and maintain confidentiality.

Table 1. ***A Synopsis of the Co-Researchers Demographics***

Alias / Code Name	Age	Marital Status	Age and Year of HIV diagnosis	Occupation at time of HIV infection	Year of AIDS diagnosis
Batman	37	Single	27 y/o July 2003	Call Center Agent	March 2011
Spiderman	42	Single	31 y/o May 2002	Draftsman	November 2012
Captain Marvel	42	Single	32 y/o July 2003	Engineer	January 2013
Wonder Woman	45	Married	34 y/o January 2001	Housewife	July 2012

Table 2. Presentation of the major themes and sub-theme

Sub-Themes	Major Themes
• Fear is a dark room where negatives are developed • A spirit crying for succor	• Scourging of the Pessimistic Spirit
• Acceptance as transcending condition • Burning bush in the darkness • Transformation in the midst of battle for life	• Rise of the Optimistic Spirit

The sub-themes and major themes have been described and discussed by the use of actual statements from the co-researchers as well as literature studies discussing AIDS and dying.

1. *Scourging of the Pessimistic Spirit and its Sub-Themes.*

HIV/AIDS is a disease dreaded by many. Being infected with this disease spells social banishment. It is a disease that not only affects a person physically but also eats away one's soul. It brings with it a crippling fear that feeds a person's belief that nothing can be done, that the remaining years of his existence will be consigned to a life of suffering, pain and rejection from those whom he is closest to. He fears the disease and fear discovery. He believes that his situation cannot be made better. With no help or support, HIV/AIDS victims sink into despair and melancholy, burdened by both real and imagined fears.

A. Fear is a Dark Room Where the Negatives are Developed.

One thing that HIV/AIDS brings into a person is the sudden barrage of fear. Plagued by this, the victims tend to withdraw into themselves and allow their thoughts to wallow in worry and self-pity. They fear rejection and death. They fear the disease, they fear the unknown. They would prefer to keep the knowledge of having the disease to themselves to protect themselves from rejection, harsh judgement or difficult practical ramifications from family, church or employment (Pointdexter and Shippy, 2010). "*Fear what other people will say about me"*- Wonder Woman verbalizes. It is difficult to seek help for them since it entails disclosure of the disease. Revealing their HIV status was a barrier to relationships, and the fear of being rejected was ever-present. As consequence of disclosure, some co-researchers found out who stayed loyal to them and who did not, as Captain Marvel

states: "I've never felt so unwanted in my life', describing the treatment at the hands of his family upon learning that he was infected with HIV.

This loss of dignity and close social ties led to feelings of fear and shame (Lekgankanye and Plessis, 2011). Co-researchers also feared the disease as they noticed the appearance of signs and symptoms and feared death altogether. *"I'm afraid that I'm going to die… I didn't really want to die at such an early age*"- Wonder woman states. On the other hand, Captain Marvel expressed, "*I was really angry when I found out that I have a full-blown AIDS and cancer"*. The disease serves as a fuse to an explosion of stressful thoughts and feelings for the co-researchers.

B. A Spirit Crying for Succor.

The overwhelming intensity of emotions and uncertainty leaves an HIV/AIDS victim emotionally drained and hopeless. Wonder woman described the ordeal of knowing her own diagnosis: "*Devastated...I want to give up".* They are in fear of their own health and yearn for help and understanding. Knowing that there is no cure for the illness adds to the depression as Batman states, "*I felt that my world collapsed... I felt that I was a dead man... that sometimes I am thinking of ending my life because it is too difficult for me".* The results are loss of lifestyle, security, personal control and dignity, and eventually loss of life (Kiemle, 1994 as cited by Nulty, 2003). It leaves a person feeling frantic in order to survive, but at the same time, the fear of being cast away by society curbs his desire to seek help. He feels embarrassed and ashamed, prompting him to be secretive about their health (Lekganyane & Plessis, 2011).

2. *Rise of the Optimistic Spirit and its Sub-Themes.*

It is in the nature of humans to seek solace when faced with suffering, and this is especially true with the persons who have participated in this study. Having hit rock bottom, one has no choice but to carry on and continue with life's journey, albeit with the illness. But one cannot direct the wind. He can only adjust his sails, as an old adage says. Victims of HIV/AIDS eventually find that they cannot let the disease govern their lives and strive to adapt to the changes. They soon realize that all is not lost as they first believed and turn the disease to their advantage, using it to help others who are similarly affected and share their experiences to help another generation. To some, having the disease is an opportunity to examine their character and the life they have led and are leading so far while others perceive it as a chance to change for the better,

discover their purpose in life, undertake a journey to find out what it is and reconcile with death in the process.

A. Burning Bush in the Darkness.

Faith, emotional security and belongingness are factors that serve as a fuel to nurture hope within the co-researcher. They begin to feel comfortable knowing that they are HIV/AIDS positive and that there are another people whom they can share their thoughts with, without fearing rejection, as Captain Marvel verbalizes, "*I prefer talking more to those people at the hospital, I feel relaxed whenever I talk to them…I can comfortable tell my story to them, recognizing that I am not alone in this of problem"* Religious faith has also become essential for the co-researchers, believing that it is God's will that they undergo a life with HIV/AIDS as Batman expresses, "*It is a relief to trust someone who has powers greater than my own*". Romans 8:28-29 of the bible explains that ―we know that God causes everything to work together for the good of those who love God and are called according to his purpose for them (Warren, 2003). Wonder woman demonstrates faith by verbalizing that, "*I leave my fate to God. It is very important for me to always pray to Him; it seems that through prayer I keep myself from falling apart, this is what God had given me so I might as well make the most out of it".* Persons living with HIV/AIDS looked at life as going on with normal activities, having wishes and desires and having hope for the future. This striving for normalcy in an abnormal world requires courage (Blake, Robley & Taylor, 2012). The researcher has found that the support of a family plays a major role in helping the co-researchers overcome their fears. They also believe that the disease has benefited them, as a co-researcher, Batman states, "I think I became a better person because of this".

B. Transformation in the Midst of the Battle for Life.

It is true for the co-researchers that you can only help others once you have helped yourself. In coming to terms with their illness, they have become more open to others, as for the greater good or for education of the youth – possibly acts of altruism (Pointdexter & Shippy, 2010). They reach out to others who are also in need of help as Spiderman states, *"I will just help our support group. There are a lot of things to do there that do not involve giving money. It is very important for me to help people to be aware of this disease".* It is a point in life where one focuses on the welfare of others who are undergoing similar problems and often themselves as a friend to those who feel that they are alone.

C. Acceptance as Transcending Condition.

After the conflicts and struggles that they have undergone, the co-researchers eventually learned to accept their condition and eventually accept death. They then proceeded to tell their family, which has caused anxiety and fear, but which they held a promise for growth and catharsis (Emlet, 2008). Batman states that, "*I saw how my family is helping me",* revealing how his family has accepted his disease and have wholeheartedly supported him. Some of the co-researchers like Spiderman, have found a greater foster family in a support group saying that, "*It is only there that I feel that I am still worthy in this world"* after his biological family refused to accept him. The family has been described by UNAIDS (2000) as the first source of support to be mobilized when a person falls ill or encounters serious problems (Lekgayane & Plessis, 2011).

Acceptance of condition and acceptance of death was also shown as Wonder woman states, *"I already accepted that my days are at numbered...I'm actually happy and content right now, even though I am aware that I have AIDS".* It is in this realization that grants them peace of mind as they begin to accept their having HIV/AIDS as part of their identity. Batman supports this in his statement,*"this disease had been part of my life…I've already learned to live with it".* Most of the co-researchers also do not fear death as Wonder woman candidly states,' I've made peace with death.' To the researcher, this is a powerful pronouncement of contentment. Happy people are not afraid to die. Death is a part of life, but to embrace death, we must know we have lived (Izzo, 2008). The co-researchers show that life does not cease to become meaningful, even when burdened by disease and death. Life, as Frankl (2000) states, not only holds a meaning, a unique meaning, for each and every man, but also never ceases to hold such a meaning—retaining it literally up to the last moment, to one's last breath.

The title of the paradigm reflects what the co-researchers of the study have to undergo, once they find out about their diagnosis. It is similar to being plunged headlong into a deep, dark abyss. It is all confusion, pain and despair until they start to hope and fight to carry in living. They step into the light of acceptance and belonging and find themselves reconciled with the disease and dying. The paradigm shows a series of steps leading to occurrence. It shows an individual carrying a backpack marked HIV/AIDS. This is a representation of the disease as something to carry along as the individual steps up to the stairs. The posts with round heads symbolize each major theme while the other posts represent the sub-themes.

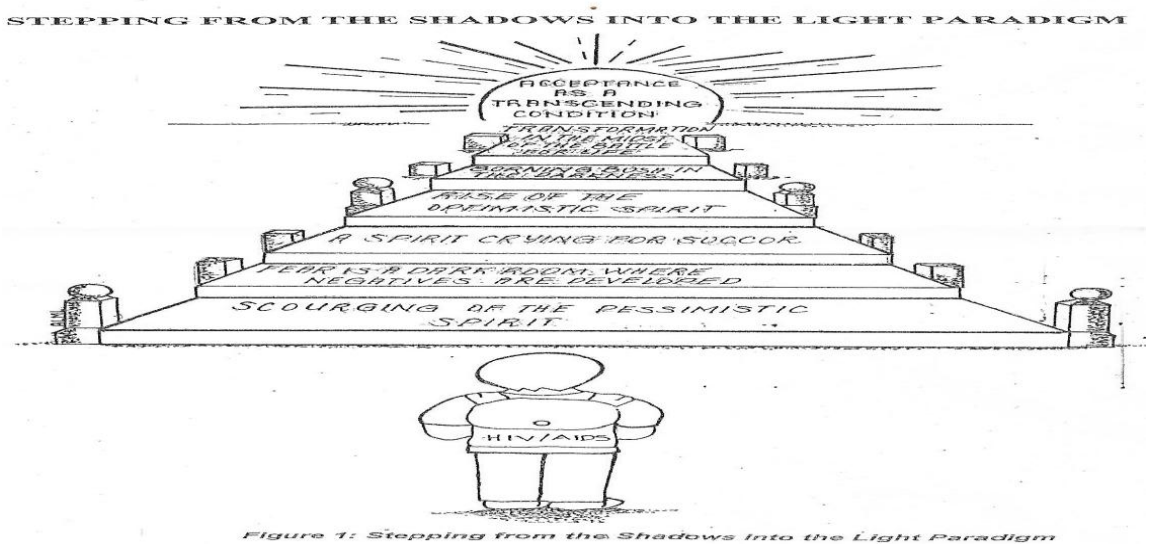

Figure 1: Stepping from the Shadows into the Light Paradigm

The first stair –"The Scourging of the Pessimistic Spirit" - represents the suffering of those persons living with HIV/AIDS when they first find out about the diagnosis. The first of the sub-themes, "Fear is a Dark Room where the Negatives are Developed", represents the barrage of fears the disease brings, causing psychological distress. There is the fear of death, rejection and fear of the unknown and of the condition. Persons Living with HIV/AIDS soon begin to sink into depression and think that there will never be a way out, an experience which echoes the next step, the sub-theme, "A Spirit Crying for Succour". This is where they need help the most, but thinks that their situation is hopeless, when the burden they carry almost crushes them with its weight.

The individual soon finds it within himself to get to his feet. He begins to examine his resources slowly and cautiously as he reaches out for help. This is the second step to the second major theme, "The Rise of the Optimistic Spirit".

The first sub-theme, “Burning Bush in the Darkness”, denotes faith, emotional security, belongingness and hopefulness. This is where the individuals seek help from others and find ways to alleviate physical, psychological and emotional pain through treatment and also through support groups. They feel the need to belong and not be ostracized as someone different. They take hold of what they believe in and seek spiritual comfort to help the get through the pain and the psychological distress brought by HIV/AIDS.

The second sub-theme, 'Transformation in the Midst of the Battle for Life', denotes the realization that Person Living with HIV/AIDS need not to be useless. The individuals soon realize that the hardship and pain that they have undergone were not for naught. They realize that there are others who are experiencing the same pain, fear and loneliness. It is here that they reach out to help – that they offer themselves and learn selflessness in their own way for the greater good.

The door represents the last sub-theme, ' Acceptance as a Transcending Condition'. This portrays the individual's acceptance of death, acceptance of condition and acceptance from family. It is the resolution of the psychological distress associated with death the disease. The individual accepts HIV/AIDS as a part of his identity and learns to live with it. Eventual death is also acknowledged and prepared for, which brings the individual a feeling of inner peace.

Supporting Literature

Finding out one's HIV/AIDS positive status creates shock, initial disbelief and a sense of being overwhelmed (Blake, Robley & Taylor, 2012). The individual’s definition of himself changes, regardless of culture, race, age, geography, social or economic status, or relationship status (Remien & Mellins, 2007). Victims have to face relentless challenges physically, psychologically and physiologically. They need to integrate new information in their existing identity that translates into questioning assumptions about many aspects of one's life, rethinking priorities and goals, and acquiring new skills that may be necessary to accomplish reformulated goals. These people undergo psychological distress in response to real or feared societal response such as the loss of home, employment, rejection by partners, family, community, and violence (Remien & Mellins, 2007). They suffer loss of self-dignity, low self-esteem, neglect of self-care, hopelessness, denial and social isolation (Lekganyane &

Plessis, 2011; Blake, Robley & Taylor, 2012). Faced with these, they use unproductive coping strategies including secrecy, social isolation and spontaneous disclosure or nondisclosure which may block access to support services. They believe that their HIV status is a barrier to relationships and the fear of being rejected was ever-present (Blake, Robley & Taylor, 2012). However, this concern is balanced with a need to share this information with others which involve a certain group of individuals (Emlet, 2008); a small group of intimates and helpers to whom one tells all or to friends and family who were afraid that one may have HIV/AID (Pointdexter & Shippy, 2010), a decision which is made with careful deliberation, frequently based on anticipated results and reactions (Pointdexter, 2002 as cited by Pointdexter & Shippy, 2010). To some, disclosing their HIV/AIDS status demonstrates an openness which allows freedom from worry. It is about being honest and open for others which is used for the public good, to educate and help prevent the spread of the disease. This may be associated with generativity (Erikson, 1997) - using disclosure for the greater good. The concept of generativity emanates from the literature on adult development, where one of the final stages of development is to care for and mentor the younger generations (Emlet, 2008).

In seeking help, disclosing their status lead to support and the possibility to elicit support from family and friends (Lekganyane & Plessis, 2011). Assistance also came in the form of having relationships with care providers, enlisting support services, groups and family (Blake, Robley & Taylor, 2012). Pausch (2008) demonstrates his own coping mechanism in facing death with his family by strengthening his bonds with his children. He quotes, “Given my limited time, I‘ve had to think about how to reinforce my bonds with them. So I‘m building separate lists of my memories of each of the kids. I‘m making videos so they can see me talking about what they‘ve meant to me. I‘m writing letters for them. I also see the video of my last lecture—and this book too—as pieces of myself that I can leave for them.”

Individual and family psychotherapy with a mental health professional is also helpful in responding not just to HIV/AIDS, but to the context of the infected person's life. People living with HIV/AIDS may exhibit a variety of responses requiring different types of medical attention and psychological support (Remien & Mellins, 2007). The researcher has found that one of the coping strategies that the co-researchers

in the study have utilized was their belief in their faith. Most of them have surrendered the outcome of their lives to God, which allowed them the peace of mind that they needed. They accepted the metaphor that "life is a game of cards: you have to play the hand that you are dealt." They endured the disease which they perceive as a trial for them. The bible says: ―God keeps His promise, and He will not allow you to be tested beyond your power to remain firm; at the time you are put to the test, He will give you the strength to endure it, and so provide you a way out (Warren, 2003).

Seeking acceptance is a seemingly gargantuan task for the co-researchers. Yet, when they are finally accepted by their loved ones and those closest to them and have adjusted to the changes in their life, they are now faced with the prospect of death.

We do not like the words ―death and dying. Many human activities are designed to shield us from the truth about life; that it is limited, that at least here in this place, we do not have forever. Still, it is a fact that we die and that our time is limited. When we are young, we may feel that death is a distant and far-off reality, but the truth is always close at hand, reminding us to get on with life (Izzo, 2008). It is a terrifying thought and at first, the co-researchers have opted to deny the very idea of dying. Death has always been distasteful to man (Kubler-Ross, 1969). Even some of history's popular scientists and writers are of the opinion that death is a dreadful gloomy, concept.

Aristotle called death the thing to be feared the most because "it appears to be the end of everything". Jean-Paul Sarte asserted that death "removes all meaning from life". Robert Green Ingersoll, one of America's most outspoken agonistics, could offer no words of hope at his brother's funeral. He said, "life is a narrow vale between the cold and barren peaks of two eternities. We strive in vain to look beyond the heights". The pessimism of French philosopher Francois Rabelais was equally arctic. He made this sentence his final one: "I am going to the great perhaps". Shakespeare described the afterlife with the gloomiest of terms in Hamlet's line: "The dread of something after death, the undiscovered country from where bourn no traveller returns" (Lucado, 2009).

It is inconceivable for our own unconscious to imagine an actual ending of our own life here on earth but we have put this consideration away in order to pursue life. Denial is a healthy way of dealing with the uncomfortable and painful situation with which some

persons have to live for a time. It functions as a buffer, allowing a person to collect him/herself and with time, mobilize other less radical defences (Kubler-Ross, 1969).

But it is actually unhealthy to live in denial of death and not consider what inevitable (Warren, 2003) is. The researcher has surmised that denial varies with individuals, and the co-researchers eventually had to accept the disease and accept that they were dying. It is a long way in coming to terms with death, but when the co-researchers had done so, the researcher noticed an air of quiet resignation to the fact. There was 'a common sense of peace' (Izzo, 2008) that was present and, it is interesting to observe, that these people have expressed their happiness and contentment despite the disease and the physical suffering. It showed that there is still that unconditional meaningfulness of life, because either life has meaning—and then it retains this meaning even if the life is short lived—or life has no meaning—and then adding even more years just perpetuates this meaninglessness. But even if a life that has been meaningless all along, that is, a life that has been wasted, may—even in the last moment—still be bestowed with meaning by the very way in which we tackle the situation (Frankl, 2000).

To die well is not to complain. To continue to have good spirit, and to let those who are still living know that it is okay, it is a part of life. This is the last gift we give. The last direct influence you can have is how you die. We cannot live until we assimilate the truth of our mortality, unless we come to peace with death, not as some foreign invader, but as a part of what it means to be unafraid. "To die without fight or fright...perhaps with a smile" (Lucado, 2009).

The researcher agrees with the literature stated. There may be some people who may still resist death, they may taunt, jeer and even flirt with death, but it cannot be denied that every beginning has an ending and it is exactly what life is – from the womb to the tomb, as a well-known adage states. But the co-researchers and the researcher as well, take comfort in the thought that life is a temporary assignment, that earth is only a temporary residence (Warren, 2003). It is, as one co-researcher stated, another beginning of a journey. It is a "new adventure in existence" (Lucado, 2009). At death, it is not about leaving home - - it is going home (Warren, 2003).

CONCLUSIONS

Statement of Identification.

In forming the statement of identification, the researcher has

reviewed the exhaustive description of the phenomenon and reduced it into a brief statement that describes the substance of the experiences of Persons Living with HIV/AIDS in this research. These have been verified by the co-researchers as an appropriate description for what they have had to undergo in their life.

In learning of their HIV/AIDS diagnosis, the co-researchers had to go through a series of steps in their lives in order to accommodate this major trial into their identity. They have had to experience the psychological distress and the physical limitations caused by the disease before discovering that they do not have to live in fear and isolation.

They were able to emerge from the darkness of negativity into the light of acceptance and hope and have used their experiences as a way to teach and support others who are in the same predicament as they were before. They have also learned to accept their imminent death as a part of their life.

Researcher's Reflection.

An individual afflicted by AIDS has needs that are not limited to the physical aspect only. The care that needs understanding, open-mindedness and the absence of prejudice is what he also longs for.

In listening to the personal accounts of these persons, one can see that they are often shunned by society and even by their own families. They are sensitive to what others have to say and are very careful in having to disclose their experiences. They yearn for acceptance and to unbiased listeners; they would willingly talk about themselves.

In caring for them, it is essential for these people to be with others whom they can most relate to in order for them to feel a sense of belongingness. They need to feel that they are not alone and they need to know that there are others who will truly care for them without prejudice and without hearing a word of blame to the situation that they are now experiencing.

It is also important, on the caregiver‘s part, to be aware of his/her own feelings and actions. Difficult is an understatement when you not only cater to the physical needs of the patient, but are also faced with the harrowing human suffering brought on by pain and the prospect of death. A nurse should have a cheerful disposition and a strong unwavering character to be able to handle the special care needed by these patients.

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The Effect of Balances and Lower Limb Strength Training to Functional Balance, Mobility and Fall Incidence in the Elderly

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Abstract

Aging is associated with a progressive decline in overall muscle strength. Loss of lower limb strength leads to an increased risk of falls which results in morbidity and mortality. Given the magnitude of the impact caused by the fall incident, it is necessary to preventive efforts in the form of exercise. The purpose of this study was to investigate whether balances and lower limb strength training leads to improve functional balance, mobility and decrease the incidence of fall of elderly in Banjar Tangtu Desa Kesiman Denpasar Timur. The study was one group pre post test design with 22 respondents. Intervention is given three times a week and assessed for one month.Bivariate analysis using dependent t test on BBS and TUGT measurements was employed. The result shows there are significant difference of BBS and TUGT values on the measurement before and after the intervention with p value <0.001 and 0,001. Meanwhile, measurement of risk fell before and after intervention using Wilcoxon test with p value 0.083. Although there was no statistically significant risk of falling before and after the intervention, clinically it found a decreased incidences of falling. Improvement in balance and lower limb strength may lead to balance and mobility enhancement to prevent the risk of falling in the elderly.

Keywords: balance, lower limb strength training, functional balance, mobility, faal incidence, elderly

Introduction

One of the most common health problems of the elderly is the increased incidence of falls that result in morbidity and mortality requiring considerable health care costs (Sinaki, Brey, Huges, Larson & Kaufman, 2005). Causes of falls in the elderly include impaired balance, neurological disorders, sensory disorders, musculoskeletal diseases, postural hypertension and the effects of treatment (Campbell in Madureira et al 2006). Research shows that disturbance of equilibrium is the main cause of fall incidence in the elderly (Silsupadol, Siu, Shumway & Woollacott, 2006.

The most feared consequences of fall incidence are pelvic fractures. Fall incidence is responsible for 90% of pelvic fractures and as the sixth cause of death in patients over 65 years of age (Suzuki, 2004 & Barraff, 1997). This death is not directly caused by the fall event itself, but the consequences associated with falling, such as immobility, infection or embolism. Given the magnitude of the impact of the fall incident, it is necessary to take preventive measures to prevent the incidence of falling in the elderly.

One effort that can be done to prevent the incidence of falling in the elderly is through an exercise program. Exercises that can be done to reduce the risk of falling are balance exercises and lower extremity strength exercises. Some related studies, ie research conducted by Madureira, et al (2006) on the influence of balance exercises on the improvement of functional status and reduce the risk of falling in elderly women with osteoporosis.

Overstall (2003) suggested that a combination of balance and muscle strength training proved to reduce the risk of falling. To get maximum results, it is recommended that exercise should be done at least 3 times a week for 12 weeks. Given the magnitude of the impact of this fall and see our role as nurses in taking preventive action against the fall incident, the researcher is interested in doing research. The effect of balance training and lower limb muscle strength on functional balance, mobility and fall incident in elderly in Banjar Tangtu Desa Kesiman Kertalangu East Denpasar.

Design

The design was pre post test design. The study involved 22 respondents who met the criteria of inclusion and exclusion. Inclusion criteria: Aged ≥ 60 years old and willing to be the subject of research by signing

inform consent. Exclusion criteria: Using a walking aid, experiencing severe visual, hearing and balance disturbances, having hemiparesa on one or both legs, unable to walk independently over 10 m and drop out criteria ie respondents who did not follow the exercise 3 times in a row

The research was conducted at Banjar Tangtu Desa Kesiman Kertalangu East Denpasar after obtaining a letter of passing ethical test from the ethics committee of Sanglah-FK Udayana Hospital and kelian Banjar. At the stage At the working stage, the researcher / research assistant performs a functional balance measurement using BBS and performs mobility measurements through the TUGT test. Respondents were also interviewed about the number of fall incidents experienced during the last 1 month. Furthermore, respondents were given balance training and lower extremity muscle strength for 30 minutes with a frequency of 3x a week for 1 month. After 1 month of treatment, both groups will be re-measured BBS, TUGT and the number of incidents experienced.

Result

1) Characteristic of respondent

Table 1

Distribution of Respondents By sex, history of drug use, fall incidence before and during intervention in Banjar Tangtu Desa Kesiman Kertalangu Denpasar Timur in 2016

Variables	sum	Percentage (%)
Sex		
Men	3	13,6
Women	19	86,4
Total	22	100
History of drug used		
Yes	1	4,5
No	21	95,5
Total	22	100
Fall incidence pre intervention		
Yes	3	13,6
No	19	86,4
Total	22	100
Fall incidence during intervention		
Yes	0	0
No	22	100
Total	22	100

Based on table, it can be seen the majority of respondents are female about 86.4%. The majority of respondents had no history of the use of antiarrhythmic drugs, diuretics, digoxin, anticonvulsants, psychotropics and antidepressants about 95.5%. A total of 86.4% of respondents said they had no history of falling 3 months before the intervention, and all respondents did not fall during the intervention

Table 2

Distribution of Respondents by Age, Berg Balance Scale (BBS) and Time Up Go Test (TUGT) before and after the intervention, in Banjar Tangtu Desa Kesiman Kertalangu Denpasar Timur in 2016

Variable	Mean	SD	Min-Max	95% CI
Age	67,86	8,89	60 - 85	63,92 – 71,80
BBS				
Pre test	48,77	5,49	36 - 55	46,34 – 51,21
Post test	52,45	2,48	47 - 56	51,35 – 53,55
TUGT				
Pre test	13,23	4,07	8 - 23	11,42 – 15,03
Post test	11,41	3,25	8- 18	9,97 – 12,85

The analysis results the mean age of respondents 67.86 years (95% CI: 63.92 - 71.80), with a standard deviation of 8.89 years. The mean BBS value before intervention 48,77 with minimum score 36 and maximum 55. The mean BBS value after intervention 52,45 with minimum score 47 and maximum value 56. The mean TUGT value before intervention 13,23 sec with value minimum 8 and maximum 23 (95% CI: 11,42 - 15,03). The mean value of TUGT after intervention was 11.41 seconds with a minimum score of 8 and a maximum score of 18 (95% CI: 9.97 - 12.85).

2) Bivariate analysis

Table 3
Distribution of Berg Balance Scale (BBS) and Time Up Go Test (TUGT) Respondents Before and After Intervention in Banjar Tangtu Desa Kesiman Kertalangu Denpasar Timur in 2016

Variable	Mean	SD	SE	p value	n
BBS					
Pre test	48,77	5,49	1,17	0,0001	22
Post test	52,45	2,48	0,53		
TUGT					
Pre test	13,23	4,07	0,87	0,001	22
Post test	11,41	3,25	0,69		

The mean of BBS value in the first measurement was 48.77 with a standard deviation of 5.49. After the intervention the mean value of BBS of 52.45 with a standard deviation of 2.48. The mean difference between the BBS measurements before and after intervention was 3.68 with a standard deviation of 4.12. The statistical test results obtained p value 0.0001 it can be concluded there are significant differences in BBS values on the measurement before and after the intervention.

The mean of TUGT value in the first measurement is 13.23 seconds with a standard deviation of 4.07 seconds. After the intervention the mean value of TUGT of 11.41 seconds with a standard deviation of 3.25 seconds. The mean difference between TUGT measurements before and after intervention was 1.82 seconds with a standard deviation of 2.15 seconds. The result of statistical test obtained p value 0,001 hence can be concluded there is significant difference of TUGT value on measurement before and after intervention.

Table 4
Wilcoxon Test Result of Fall incidence Before and After Intervention in Banjar Tangtu Desa Kesiman Kertalangu Denpasar Timur in 2016

	n	P	Z
Pretest	22	0,083	-1,732
Posttest	22		

Based on Wilcoxon test results it can be seen no difference of fall incidence before and after the intervention which p value of 0.083

Discussion

The results showed significant differences in functional balance dan mobility before and after intervention. Muscle strength exercises, especially the lower limb muscles of today, have been widely recommended in the elderly to increase muscle mass, strength and ability to perform daily physical activities independently. The decrease in lower limb muscle strength is associated with limitations in daily life activities (Lee & Park, 2013). Muscle strength exercises followed by balance exercises have a minimal impact on the elderly. Muscle and muscle strengthening assessment is known through functional status checks using Berg Balance Scale (BBS) and physical mobility assessment with Time Up Go Test (TUGT). BBS is designed to help determine changes in both static and dynamic functionality of the elderly. The result of the research shows that the change of BBS value before and after intervention with the mean value of BBS on pretest measurement is 48.77 with SD 5.49 and post test value of 52.45 with SD 2.48. The mean difference between the BBS measurements before and after intervention was 3.68 with a standard deviation of 4.12. In general, the respondent's BBS score is within the normal range and well although there is one respondent who has BBS value before intervention of 36 or is in sufficient range. After intervention for 4 weeks BBS value all respondents to be normal, even there are respondents who reached the maximum value of 56.

The result of BBS assessment is in line with the result of TUGT assessment. The results showed that there was a significant difference of TUGT value on the measurement before and after the intervention. The mean value of TUGT in the first measurement was 13.23 seconds and after the intervention the mean TUGT value was 11.41 seconds. There are variations in the

difference in the value of TUGT on each respondent. Before the intervention the maximum TUGT value of 23 seconds indicates the existence of a problem on the ability of the mobility of respondents. Normally elderly TUGT values are expected ≤ 10 seconds. After intervention the TUGT maximal value drops to 18 seconds and there are some elderly who have a normal TUGT value of 8 seconds.

The purpose of the intervention is to prevent the occurrence of falls in the elderly. The statistical test results show that there is no difference in risk level fall before and after intervention. Although statistically significant, the differences can be seen clinically. Before the intervention was given there were 13.6% of elderly people who said they had a history of falling within the last 3 months and during the intervention no elderly had fallen.

Different variations of BBS and TUGT values change in each respondent were caused by several factors, including age, history of drug use, previous disturbance of balance, discipline and accuracy in doing the exercises. Muscle strength and muscle mass decrease with increasing age. Respondents with age ≥ 80 years, history of antidepressant drug use and previous history of fall had a low value of BBS and TUGT values. The physical exercise interventions given to the respondents were also adjusted to the limits of physical ability that pasein tolerated. Individuals who have walking disorders due to foot shape changes and arthritis are unable to follow the exercises appropriately. Some respondents who did not follow the full frequency of exercise also showed significant changes in the value of BBS and TUGT.

Conclusion

1. The mean age of respondents was 67.86 years, the majority of female sex was 86.4%, had no history of drug use of 95.5%, had no history of falling 3 months prior to intervention of 86.4%, all respondents has not experienced a fall during the intervention. The mean BBS pretest score of 48.77 and post test 52.45. The mean pretest value is 13.23 seconds and the posttest is 11.41 seconds
2. The statistical test results show that there is significant difference of BBS value on the measurement before and after intervention with p value 0.0001
3. The result of statistical test shows that there is significant difference of TUGT value on the measurement before and after intervention with p value 0,001

4. Statistical test results showed no difference in risk values falling on measurements before and after intervention with p value 0.083

Suggestion

Future studies should involve control groups, longer intervention times, using quantitative measures of muscle strength such as using a leg dynamometer and using special interventions for respondents who have previous walking and balance disorders.

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WHEN CULTURE MEETS FLOOD PREPAREDNESS: GOOD OR SHOULD BE ELIMINATED?

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ABSTRACT

Background: Flood is one of frequent natural disasters in South Kalimantan. Disaster risk reduction has been always followed by the disaster management cycle. The stages of preparedness is one of them. At that stage, participation of communities are needed because they are a part that will receive the impact of the disaster. The communities usually have local wisdom and traditional knowledge, both determinant factors impact on effort of disaster risk reduction.
Aim: The aim of this study was to explore how culture impact on community preparedness to face of flood.
Method: A cross-sectional study design was conducted and used total sampling. Data were collected by using through Federal Emergency Management Agency (FEMA) Preparedness of Whole Community questionnaire.
Findings: Fifty-five participants completed the study from September to October 2015 (male: 35, female: 20). The setting of this study was Tunggul Irang village in South Kalimantan. This study indicated that 81.8% participants were always alert danger signal before the flood. Participants believed that they didn't need to always do tradition rituals to avoid flood (94.5%) and they also didn't need to do special rituals every year (94.5%). 90.9% participants were convinced that they didn't have to perform some rituals to prevent flood disaster. They didn't have the habit of providing offerings at home to remember the ancestors (96.4%). 34.5% Tunggul Irang community believed that flood was a punishment from God.
Conclusion: This study indicated that better understanding about culture can help the stage of preparedness. In Tunggul Irang, community preparedness was prepared well. However, the culture of each region will be different.

Keywords: Culture, Flood, Preparedness, and Community

INTRODUCTION

Flood is one of the most common type of natural disasters. Flood can cause various problems such as social, economic, and health problem. Health problem that caused by flood is very various, depending on the type and onset of the flood. Massive flood can cause loss of life due to the destruction of buildings and the power of water that can be washed away (Subbarao, et al, 2013).

In Indonesia, flood is also one of frequent natural disasters. There were 60.6% of natural disasters caused by floods, 63.6% landslides, and volcanoes as much as 65.57%. As well as in South Kalimantan, there are floods in some areas with varying heights and lengths every year (Khairuddin, 2011). One of the areas that experienced flood every year is Tunggul Irang village in South Kalimantan. This area is on the edge of the Martapura river so it is prone to experience the flood of river water during the rainy season arrives (seasonal floods). Based on observations, flood that occured in this area has an experience of increase in intensity and also the duration of flooding each year.

A structured and systematic activity of disaster risk reduction is required to minimize risks that occured during flood. Risk reduction can be done by strengthening the capacity of a region while reducing flood threats and vulnerabilities. Disaster management is formulated in an activity cycle that consisting of mitigation, preparedness, response and recovery stage.

Preparedness is one of the stage in disaster management. The phase of activities at this stage is directed to anticipate the disaster through appropriate and efficient steps. Community participation at this stage is necessary because they are potentially victims when disaster strikes. Community preparedness is greatly influenced by various factors such as knowledge, attitude, behavior and culture (RAN-PRB, 2006).

Community has the most important contribution in disaster management because the community is the subject, the object as well as the main target of disaster risk reduction efforts. In the case of disaster management, people usually have local wisdom and traditional knowledge. These two aspects are the determinant factor in disaster risk reduction efforts associated with many traditions of disaster management that already exist and develop in the community. As the subjects, the community are expected to actively access the formal and informal information, so that disaster risk reduction efforts can directly involve the community (RAN-PRB, 2006).

The aim of this research was to identify aspects of community preparedness in the flooded areas, namely Tunggul Irang village in South Kalimantan. Moreover, the specific aspect that studied was the community culture in facing flood.

METHODS

This research was an analytical descriptive research with Cross-Sectional method. Data collection techniques in this study used questionnaires that were distributed to the community to identity the culture factor that influenced

community preparedness in the face of flood disasters. Data were collected by using through Federal Emergency Management Agency (FEMA) Preparedness of Whole Community questionnaire and Organizational Culture and Leadership questionnaire.

This research was conducted in Tunggul Irang Village, Martapura Subdistrict, Banjar District, South Kalimantan. This region was chosen because it was an experienced flooding area. This research was conducted during September-October 2015.

The sample used in this research was the community in Tunggul Irang village, Martapura. The sampling technique was done through total sampling. The number of samples was as much as total population of head of family that was 55 respondents (male: 35, female: 20). The data have been analyzed using descriptive analysis.

RESULTS

a. Alert danger signal

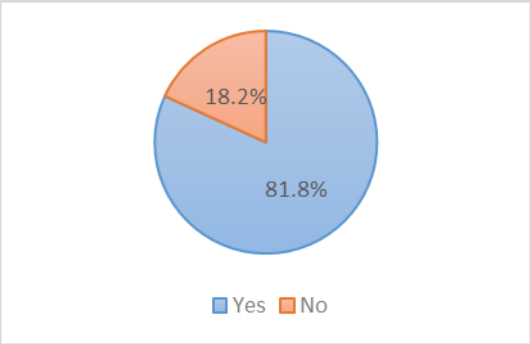

Diagram 1. Alert danger signal

The respondent's distribution about community preparedness to alert danger signal as shown in Diagram 1 showed that 45 people (81.8%) agreed to always make sure of the alarm by listening to the announcement from the village officer or by observing the signs before the flood, but as many as 10 people (18.2%) disagreed with it.

b. Tradition rituals to avoid flood

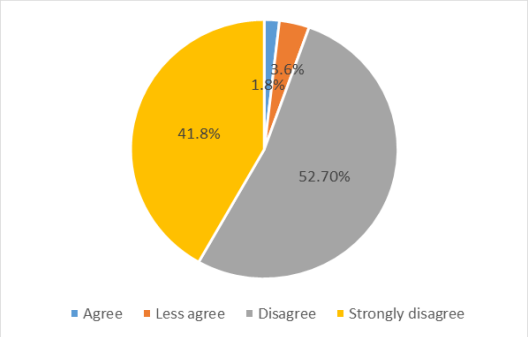

Diagram 2. Tradition rituals to avoid flood

The distribution of respondents on the culture to do tradition rituals shown in Diagram 2 showed that as many as 29 people (52.7%) stated disagree culture to always do tradition rituals to avoid flood, 23 people (41.8%) stated strongly disagree with that, 2 people (3.6%) stated less agree and the remaining 1 person (1.8%) agreed to always do tradition rituals to avoid flood.

c. Do special rituals every year

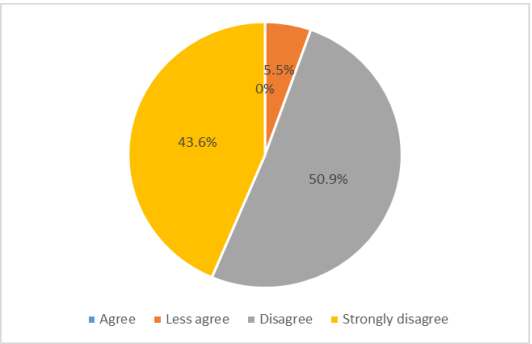

Diagram 3. Do special rituals every year

The respondent's distribution of culture toward doing special rituals as shown in Diagram 3 indicated that as many as 28 people (50.9%) disagreed to do special rituals every year. Moreover, 24 people (43.6%) stated strongly disagree about it. While the remaining 3 people (5.5%) stated less agree on it.

d. The habit of providing offerings

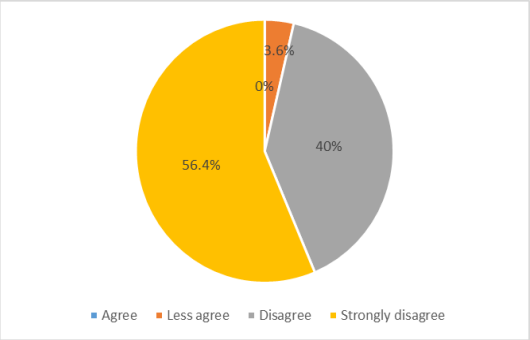

Diagram 4. The habit of providing offerings

Distribution of respondents on culture about the habit of providing offerings at home to remember the ancestors shown in Diagram 4 showed that as many as 31 people (56.4%) said that they were strongly disagree, as many as 22 people (40%) stated disagree to that, while the remaining 2 people (3.6%) said less agree about that.

e. Belief about a punishment from God

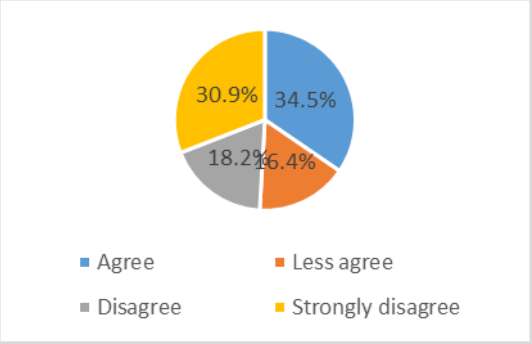

Diagram 5. Belief about a punishment from God

The distribution of respondents about community belief on a punisment from God shown in Diagram 5 showed 19 people (34.5%) agreed that flood is a punishment from God. But, 17 people (30.9%) stated strongly disagree with that, 10 people (18.2%) said disagree and the remaining 9 people (16.4%) less agreed the belief.

f. Perform some rituals to prevent flood

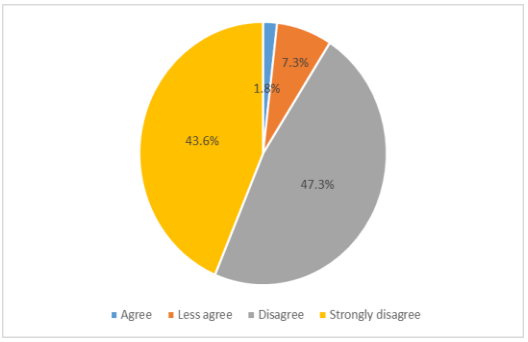

Diagram 6. Perform some rituals to prevent flood

Respondent distribution about community faith that they have to perform some rituals to prevent flood was shown in Diagram 6. That indicated 26 people (47.3%) disagree that some rituals can prevent flood disaster. In addition, 24 people (43.6%) said strongly disagree and as many as 4 people (7.3%) stated less agree with it. But, there was 1 person (1.8%) agree.

DISCUSSION

In general, community in Tunggul Irang village for culture aspect was in good category (average 16). They community didn't assume the obligation to do special rituals and also offerings to prevent flood. A constructive cultural aspect has important role in improving community preparedness. A constructive culture will be able to trigger the active role of community because they think that disaster can be overcome and must be actively addressed.

The presence of local wisdom in disaster response, strong social networks and community organizations, *gotong royong* culture and solidarity is also an element to build capacity. Community

capacity can be said to be high if people are able to build houses and settlements that meet building security standards, and have adequate assets or resources to cope with extreme situations. These community know what dangers are threatening them and how to mitigate the risks of these hazards, through rehearsals and disaster simulations, the development of community-based early warning systems and disaster preparedness groups (RENAS-PB, 2010).

The values or norms adopted by the local community will also affect a person's behavior in responding to disasters (Green 2000). The real example is the event of the death of a key guard of Merapi Mount in Jogjakarta who also became the victim due to the values and beliefs that he embraced. Health care giver should ensure that community receive effective, understandable, and respectful care that is provided in a manner compatible with their cultural health beliefs and practices and preferred language (SRA International, Inc., 2008).

The cultures of local racial and ethnic communities may or may not be similar to the respective cultures of their countries of origin, or even in keeping with what might be understood as the larger, national racial or ethnic character. Due to issues of acculturation, there may even be differences between adjoining communities. Increasing cultural competence in the field of disaster management is a process. To be achieved and effective, it will take time and sustained effort. Because both culture and the nature of disasters are dynamic, to be effective, the process of change must include ongoing efforts to ensure that the needs of those vulnerable to and affected by disasters are met (Scott, 2007).

CONCLUSION

The conclusion from this research was community culture in Tunggul Irang village in facing flood was in good category. However, about 34.5% of participants (n = 19) agreed that flood is a punishment from God. Another finding to be followed up was that better understanding about culture can help the stage of preparedness.

Based on the findings in the study, researchers suggest the need for different strategies for the culture of each region. Future specific culture researches may be needed.

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QUALITY OF LIFE OF ELDERLY PATIENTS WITH BREAST CANCER IN THE INPATIENT UNIT

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ABSTRACT

The older the person gets the more susceptible he or she will be to health problems. One of the diseases that may attack an older patient is breast cancer. The study has a purpose to identify quality of life of the elderly patients with breast cancer in the inpatient unit. This study is a quantitative descriptive study involving 109 elder people. The respondents was selected with a purposive sampling where inclusion criteria including elderly patients age 60 – 74 years old, not being in an emergency situations (should have oxygen saturation of more than 95%), ability to communicate and understand Indonesian language, and willingness to become a respondent. The quality of life was measured by the World Health Organization Quality of Life-BREF questionnaires (WHOQOL-BREF) which consisted of four domains (physical health, psychological aspect, social relationships and environment). The ethical approval for this study was acquired from the Mochtar Riady Research Institute and Nanotechnology. The data was analyzed using a descriptive analysis. The results of this study showed that out of 109 respondents, 75 respondents (72,5%) had a good physical health, 66 respondents (60,6%) had an unstable physiological condition, 61 respondents (56%) were inactive in social relationship, and 60 respondents (55%) had an adequate environment. Further research is warranted to identify the quality of life among the elderly patients with breast cancer using another measurement that is specifically designed for elderly patients with breast cancer to get a more accurate data.

Keywords: Quality of Life, Elderly, Older People, Breast Cancer, WHOQOL-BREF, Inpatient Unit

INTRODUCTION

The World Health Organization estimates that by 2025 the world's elderly will reach 1.2 billion and will continue to grow to 2 billion by 2050. WHO estimates that 75% of the world's elderly population by 2025 is in the developing world. Indonesia is one of the fastest growing population of elderly people. In 2012, Indonesia is among the third Asian countries with absolute numbers of population in age of 60 years above after China (200 million) and India (100 million). It is estimated that Indonesia will reach 100 million elderly by 2050 (Ministry of Health, 2013)

According to the Republic act no. 12 of 1998 on Elderly Welfare, the Elderly is a person who has had the age of 60 years. According to the Ministry of Health of the Republic of Indonesia (2003), the elderly is divided into 3 categories, namely pre elderly (45-59 years), elderly (over 60 years), high-risk elderly (over 70 years). Elderly is the age group in humans who have entered the final stage of the phase of life which at that time will undergo a process called aging. This is a natural process, this process will also decrease the physical condition, psychological, social condition and the elderly will tend to experience health problems.

One of the diseases that may attack older adults is breast cancer. According to the Hospital Information System (SIRS) in 2010 the number of breast cancer patients has the highest prevalence of cases which is 12,014 inhabitants. Based on the data from Balitbangkes Ministry of Health RI (2013), Banten Province has a population of breast cancer patients with a total of 2252 inhabitants (Info DATIN, 2015) while for the province of DKI Jakarta amounted to 3946 inhabitants (Ministry of Health, 2015).

The number of elderly in Banten Province, based on the datas from the Social Department in 2012 are 30,656 people (11,702 men and 13,250 women). The capital of Banten province is Tangerang City which has 2,043 elderly (549 men and 1,494 women). Based on Surkernas's data in 2001, the number of elderly in DKI Jakarta province is 641,124 people. Based on these data, the Tangerang and Jakarta areas have a considerable number of elderly populations, which means that cases of declining health status in the elderly will also be frequent.

To anticipate this, one of hospitals in Jakarta and Tangerang provides a holistic service to all patients who use health services in the hospital, including elderly patients. This is in accordance with Republic act no. 13 year 1998 article 3 which regulates the social welfare of the elderly. The medical records at hospitals in Tangerang in 2015 mention that the number of elderly patients aged over 60 years who are hospitalized are 3119 inhabitants. Of these, 720 of them are cancer patients. Of the 720 people, 150 patients were diagnosed with breast cancer. One of the hospitals in Jakarta 2015 reported the number of patients with breast cancer was 877 people, 280 of whom were elderly. Judging from these figures, there are a lot of elderly people with breast cancer.

Both hospitals in Jakarta and Tangerang, have never done research on

the quality of life of elderly patients, especially elderly patients with breast cancer in the inpatient room. Considering the large number of elderly patients with breast cancer, it is important to conduct research on the elderly, especially related aspects of the quality of life of elderly patients with breast cancer in hospital wards.

The general aim of this study was to identify the quality of life of the elderly patients with breast cancer in the inpatient department. The specific purpose of this research was to know the quality of life of the elderly based on the perception of the quality of life in the inpatient room, and to be able to know the quality of life of the elderly can be seen from the physical domain, psychological domain, social relations, and environmental conditions in the inpatient room of a hospital.

METHODS

This research was used descriptive quantitative research design method. The place of research was conducted in the inpatient ward at one of the hospitals in Jakarta and Tangerang. The population of this study based on the data from 2015 are elderly patients with breast cancer residing in the inpatient ward at one of hospital in Jakarta, which were 150 patients, and one hospital in Tangerang, about 280 patients. The number of samples taken for this research was 109 samples using a purposive sampling. The inclusion criteria in this study were elderly patients aged 60-74 years with breast cancer who received treatment in the inpatient ward, willing to be the respondent and to fill the questionnaire, not in emergency condition, and can communicate in Bahasa Indonesia.

Quality of life was measured by the Indonesian version of WHOQOL – BREF consisting of four broad domains: physical health, psychological aspect, social relationships and environment. Consisting of 26 questions, the WHOQOL – BREF was a shorter version of the original instrument (WHOQOL-100) which was developed by WHO aimed at assessing quality of life across culture. The Indonesian version of WHOQOL – BREF has been proven valid and reliable with good internal consistency of the item domain. During the period of filling out the questionnaire, respondents were accompanied by family member.

Ethical approval for this study was received from the Mochtar Riady Research Institute and Nanotechnology. Data was analyzed with descriptive analysis.

RESULT

Table 1. Percentage of Perception About Quality of Life of the Elderly Patients with Breast Cancer (N = 109)

	Age	Category	Frequency	Percentage
Hospital in Jakarta	60 - 65	Bad	0	0
	66 - 74		1	0.9
	60 - 65	Medium	46	42.2
	66 - 74		0	0
	60 - 65	Good	9	8.2
	66 - 74		4	3.6
Total			60	55
Hospital in Tangerang	60 - 65	Bad	2	1.8
	66 - 74		1	0.9
	60 - 65	Medium	27	24.7
	66 - 74		1	0.9
	60 - 65	Good	16	14.6
	66 - 74		2	1.9
Total			49	45
Total respondents			**109**	**100**

Based on the table, from 109 respondents, 74 respondents (67.9%) are in the category of moderate quality of life, while 31 respondents (28.4%) have good quality of life, and 4 respondents (3.7%) have poor quality of life.

Table 2. Percentage of Elderly Patient's Health Perception with Breast Cancer (N = 109)

	Age	Category	Frequency	Percentage
Hospital in Jakarta	60 – 65	Bad	0	0
	66 – 74		1	0.9
	60 – 65	Medium	46	42.2
	66 – 74		0	0
	60 – 65	Good	9	8.2
	66 – 74		4	3.6
Total			60	55
Hospital in Tangerang	60 – 65	Bad	2	1.8
	66 – 74		1	0.9
	60 – 65	Medium	27	24.7
	66 - 74		1	0.9
	60 - 65	Good	16	14.6
	66 – 74		2	1.9
Total			49	45
Total respondents			**109**	**100**

At the table, the quality of the life of the elderly based on the health perception of 109 respondents, 88 respondents (80.7%) have moderate health perception, 9 respondents (8.3%) have good health perception, and 12 respondents (11%) have poor health perception.

Table 3. Distribution of Physical Domains Quality of Life of Elderly Patients with Breast Cancer (N = 109)

	Age	Category	Frequency	Percentage
Hospital in Jakarta	60 - 65	Not good	14	12.8
	66 - 74		1	0.9
	60 - 65	Good	41	37.6
	66 - 74		4	3.6
Total			60	55
Hospital in Tangerang	60 - 65	Not good	13	11.9
	66 - 74		2	1.8
	60 - 65	Good	32	29.3
	66 - 74		2	2.8
Total			49	45
Total respondents			**109**	**100**

Based on the data, the quality of life in the physical domain of the elderly showing that from 109 respondents, 79 respondents (72.5%) said that they were good and 30 respondents (27.5%) said they were unfavorable

Table 4. Distribution of Psychological Domains Quality of Life of Elderly Patients with Breast Cancer (N = 109)

	Age	Category	Frequency	Percentage
Hospital in Jakarta	60 - 65	Not good	29	26.6
	66 - 74		3	2.7
	60 - 65	Good	26	23.8
	66 - 74		2	1.8
Total			60	55
Hospital in Tangerang	60 - 65	Not good	32	29.3
	66 - 74		2	1.8
	60 - 65	Good	13	13.7
	66 - 74		2	1.8
Total			49	45
Total respondents			**109**	**100**

Based on these data, the quality of life of the elderly based on the psychological domain, from 109 respondents, 66 respondents (60.6%) said they were less well, 43 (39.4%) said they were good.

Table 5. Distribution of Social Domains Quality of Life of Elderly Patients with Breast Cancer (N = 109)

	Age	Category	Frequency	Percentage
Hospital in Jakarta	60 - 65	Not good	29	26.6
	66 - 74		3	2.7
	60 - 65	Good	26	23.8
	66 - 74		2	1.8
Total			60	55
Hospital in Tangerang	60 - 65	Not good	26	26.6
	66 - 74		3	2.7
	60 - 65	Good	19	18.3
	66 - 74		1	0.9
Total			49	45
Total respondents			**109**	**100**

From the table on the social domain of the elderly shows that from 109 respondents, 61 respondents (56%) are in a bad social condition category and 48 respondents (44%) with good social condition.

Table 6. Distribution of Domain Environments Quality of Life of Elderly Patients with Breast Cancer (N = 109)

	Age	Category	Frequency	Percentage
Hospital in Jakarta	60 - 65	Not good	26	23.8
	66 - 74		0	0
	60 - 65	Good	29	26.6
	66 - 74		5	4.5
Total			60	55
Rumah Sakit Tangerang	60 - 65	Not good	21	19.3
	66 - 74		2	1.8
	60 - 65	Good	24	22
	66 - 74		2	1.8
Total			49	45
Total of all respondents			**109**	**100**

Based on the data about the domain of elderly environment, from 109 respondents, 60 respondents (55%) they were with a good environmental conditions while 49 respondents (45%) they were with a poor environmental conditions.

DISCUSSION

Based on the measurement of perception of the quality of life based on the health status of 109 respondents, 74 respondents (67.9%) are in the medium category. Pradono (2007), states that the elderly are more able to accept their physical condition when it is due to illness, compared to when they were younger in terms of the readiness of facing illness. According to the researchers, the quality of life of respondents were in the medium category this is related to the characteristics of respondents which is age, where respondents in this study is aged 60-74 years old. According to Novitri (2009), adult individuals express higher wellbeing in middle adulthood. Elderly people find the contribution of the age factor to the subjective quality of life of individuals may be influenced by their life experiences, they tend to evaluate their lives positively compared to the time of his youth.

Based on the results of this research, the quality of life in the physical domain of 109 respondents, 79 respondents (72.5%) said that the quality of life on the physical condition are within a good criteria. In Felce and Perry's (1996) theory that physical well-being is focused on health. In the elderly, a person will experience changes in physical, cognitive, and psychological life (Papalia, Olds, & Feldman, 2001; Ariyanti, 2009). Optimum aging can be defined as the functional condition of the elderly are at maximum or optimal conditions, allowing them to enjoy their old age with a full meaning, happy, and useful. Based on the research, the age range of respondents is 66 – 74 years of old, respondents who claim that they are in a good physical condition means that they are enjoying their old age with a full meaning and quality.

In the psychological domain, more than half of the respondents are in the less good category, 66 respondents (60.6%). This can be caused by most of the respondents said that they often feel anxious with the disease and their vitality was not like it used be, they experienced limitation in doing activities. This was in line with Taylor (1999), who said that women with breast cancer will show a certain psychological symptoms such as depression, stress, anxiety, and other psychological problems that will negatively affect their psychological state. Psychological aspects have a significant role in determining quality of life (Sarafino, 2011). The results of this study, psychological conditions are in a poor condition, so if this condition continues could worsen emotional pressure and and it may lead to depression and anxiety.

In the domain of personal and social relationships of 109 respondents, 61 respondents (56.0%) are in the less favorable category. The personal and social relationship of the respondents were in the bad category, it can be caused by insignificant quality of the respondents' relationship with others. It also can be affected by the changes of family behaviour, such as the changes expressed by the respondent's husband to their sexual life after they were diagnosed by breast cancer. Furthermore, it may be caused by the poor family support about their health development.

In accordance with Friedman's theory (2010) family support is a form of interpersonal relationships that include attitudes, actions and acceptance of family members, so that family members feel there is

a concern but when the support provided by the family is less then this will affect the health of the elderly particularly with chronic illness.

The result of the research based on the environment domain of 109 respondents, 60 respondents (55%) were in good environment. This result showed that more than half of the respondents were in good environmental condition; this was because the level of security in their daily life, residance, living environment, the opportunity to obtain new information on transportation and the availability of health services were satisfactorily adequate. In accordance with the opinion of Mutaqqin (2008), the quality of life of elderly in community is influenced by the level of education and economy, which plays an important role in meeting the needs of a decent and adequate environment. These include the availability of clean and healthy housing, information, transportation and affordability to health services.

CONCLUSION

This study was conducted on 109 respondents to identify the quality of life of elderly in the four domains (physical, psychological, environmental and social relations) in the inpatient department of a hospital in Jakarta and Tangerang using WHOQOL-BREF instrument. The results showed that the perception of elderly patients in the inpatient department of the hospitals were different in each domain. The quality of life of the elderly is good in physical health domain, psychologically unstable in the psychology domain, inactive in social relationships, and adequate in terms of the environment

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EFFECTIVENESS OF CHEST PHYSIOTHERAPY (CLAPPING AND VIBRATION) IN COMBINATION WITH WARM WATER ON SPUTUM EXCRETION OF COPD PATIENTS

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ABSTRACT

COPD is a disease characterized by airway obstruction that it is not fully reversible. Blockage of air flow is generally progressive and associated with an abnormal inflammatory response of the lungs to noxious particles or gases. WHO (2007) reported that COPD with asthma were third diseases causing death in the world (4.3 million death). In Prof. DR. W.Z Johannes Kupang hospital, there were 56 patients who diagnosed COPD from January-September 2014. One of patient's complaint was difficulty to release the sputum from airway. Chest physiotherapy and warm water hydrationtherapy are one of the non-pharmacological measures to remove sputum from airway.

The purpose of this study was to identify effectiveness of chest physiotherapy (clapping and vibration) combines with warm water to release the sputum of patients with COPD. The research design used in this study was pre-experimental, with one group pre-post test design. The total sampling for one month were 25 respondents. This research did in Kelimutu ward DR. W.Z Johannes Kupang hospital on Januari 2015.

The results showed an average of excretion sputum before the action was 4.64 cc, the average amount of sending sputum after the action was 6.96 cc. This study used t test where the test result obtained with the value p= 0,000. It was mean physiotherapy (clapping and vibration) combined with warm water proved to be effective excretion of sputum for COPD patients. Thus Clapping and vibration combined with warm water can be continued as a non-pharmacological interventions that can be done independtly by nurses.

Keyword: chest physiotherapy, warm water, sputum excretion

A. Introduction

COPD is one of the non-communicable diseases that is the main cause of morbidity and death of the world. According to WHO data 2008, COPD together with asthma ranks third (4.2 million deaths), after cardiovascular disease (17 million deaths) and cancer (7.6 million deaths). By 2020, COPD is expected to cause 7% of all deaths worldwide (4-5 million people annually) (WHO, 2008). The prevalence of COPD in Southeast Asian countries is estimated at 6.3% with the highest prevalence in Vietnam (6.7%) and China (6.5%).

Data from The Ministry of Health of Republic of Indonesia (Depkes RI) in 2008, respiratory disease rate (including COPD) reached 12% with 2% mortality rate, and higher in men than women. Director of hospital medical and nursing services Murni Teguh, Dr. Jong Khai, MARS said, in Murni Memorial Hospital in Palembang on Desember 2013 said that out of 100 patients there are 3% included in the top 10 most inpatient diseases with the order of 6 is the type of bronchitis. This is 90% caused uncontrolled active or passive smokers. In Prof. DR.W.Z Johannes hospital, Kupang data of people with COPD as of January 2014 until September 2014 reached 56 people, outpatient 25 people and hospitalization 31 people. Of the 31 treated patients with COPD were pure COPD, and 25 people with cardiac complications.

There are two disorders that occur in COPD is chronic bronchitis and empyema. Chronic bronchitis is a condition characterized by mucous hyperproduction of the bronchial branch with chronic cough. This symptom occurs at least 3 months in a year and occurs for at least 2 consecutive years. While emphysema is a lung disorder characterized by enlarged distal air cavities to the bronchial ends are abnormal and permanent accompanied by alveoli damage.

Normally the cilia and mucus in the bronchus protect the lung from irritant inhalation, by catching and removing it. Continuous irritation such as cigarette smoke or pollutants can cause excessive response to this defense mechanism. Factors that cause the failure of mucociliary clearance are the presence of goblet cell polifies and ciliated epithelial displacements with the un-ciliated ones. Hyperplasia and hypertrophy of the mucus-producing gland cause mucus hypersecretion in the airways. The irritation of cigarette smoke also causes inflammation of bronchioles (bronchiolitis) and alveolus (alveolitis). As a result, macrophages and neutrophils infiltrate the epithelium and strengthen the rate of epithelial damage.

Together with the presence of mucus production, there is a blockage of bronchioles and alveoli. The large number of thick and sticky mucus and decreased mucociliary clearance can increase the risk of infection.

Implementation of clients with COPD can be done pharmacologically and non-pharmacologically, (Lewis et al, 2014). Non-pharmacological management includes comprehensive smoking and pulmonary rehabilitation. Including comprehensive pulmonary rehab is physiotherapy, deep breathing exercises, relaxation exercises, chest percussion and postural drainage, optimizing medical care, psychosocial support and health education. There are several independent actions of the nurse that can be performed in patients with secretive secretions such as chest physiotherapy is a nursing action with postural drainage, clapping and vibration. Postural drainage action is an action that puts the patient in various positions to drain secretions from the respiratory tract and followed by clapping and vibration. Clapping is done by tapping the chest posteriorly and providing vibration (vibration) of the hand on the area that is done at the time of expiratory patient (Hidayat, 2012). In addition, patients with COPD should drink warm water (8-10 glasses / day) and proper nutrition fulfillment (TKTP diet). Drinking warm water therapy for people with COPD by accumulation and increased production of mucus / sputum is very useful for thinning sputum so sputum is easily removed, (Doengoes, 2014).

The purpose of this research was to identify effectiveness of chest physiotherapy (clapping and vibration) combines with warm water to release the sputum of patients with COPD

B. Method

The research design used in this study was pre-experimental, with a one-group pre-post test design. The purpose of this design is knowing comparasion before and after an intervension without control group (pollit & Beck, 2012).

The inclusion criteria of samples are patients with COPD are subjected to a buildup of secretions in the airway, patients with COPD are difficult to remove secretions / sputum / sputum, understand the instruction, conscious awareness of the Compos mentis, no complications and COPD patients are willing to be respondents. Using purposive sampling, there were 25 samples. Data colleting were on January 5-February 25, 2015 in inpatient room Prof. Dr. W.Z Johannes Kupang.

The procedure of clapping and vibration started by explaining the procedure, ask for approval, wash hand, set the clien position, auscultasion lung sound, bend the crooked or sputum pots near the head, drink warm water ± 250 cc, put the hand on the area to be done vibration, put the fingers like kips

pointing upwards. Vibrate the chest area by hand several times, if necessary by using 2 hands placed on a stack, perform procedures 3 to 4 times at 1 minute intervals. Intruments using for this research were Stethoscope, small basin , tissue, 250 cc warm water and measuring cup. Reseracher did ethical consideration when did this research and have permittion from board of Directors of Prof. Dr. W.Z Johannes Kupang

C. Result

The result of this research can be seen on table 1-3 below.

Table 1. Demography Data

Demography	F	%
Sex:		
Male	23	92
Female	2	8
Age:	10	40
>65		
46-55	9	36
56-65	5	20
35-45	1	4
Work:		
Farmer	15	60
Private	5	20
Fisherman	3	12

Table 1, shows that the highest number of respondents was male with 23 people (92%). Most respondents were over 65 years old (40and the youngest were 35-45 years 1 respondent (4%) and the most respondents were work as farmers ie 15 people (60%).

Table 2 Mean of Sputum before and after Clapping and Vibration

Variable	Mean	N
Mean of Sputum before physiotherapy	4.64 cc	25
Mean of Sputum after physio	7.36 cc	

The table 2 shows that mean of sputum before physiotherapy was 4.64 cc and mean of Sputum after physiotherapy was 7.36 cc.

Table 3 shows that mean of decreased of sputum after given clapping and vibration was 2,76, which maximum decreased was 3.82 cc sputum and minimum was 1.69 sputum. On α 0.05, it shoes that p value was 0.000. So, clapping and vibration was effective to increase sputum excretion for COPD patients.

Table 3 Effectivenes clapping & vibration

Variable	Mean	SD	SE Mean	Lower	Upper	P
Sputum excretion pre and post	2.76	2.58	0.52	-3.82	-1.69	0.000*

C. Discussion

The presence of respondents who are still difficult to remove sputum caused the failure of mucociliary clearance and the presence of goblet cell polifies and the substitution of ciliated epithelium with the un-ciliated. Hyperplasia and hypertrophy of the mucus-producing glands cause mucus hypersecretion in the airways, along with mucous production, clogging of bronchioles and alveoli. The large number of thick and sticky mucus and decreased mucociliary clearance can increase the risk of infection causing difficult mucus or secretions to be excreted (Ekawati, 2008).

Researchers agree with the above theory because in patients with COPD experience reduced number of cilia and cilia movement to clear mucus, then the patient is susceptible to infection. Bacteria that can attack the streptococcus pneumonia and haemophilus influensa. This condition leads to signs of infection such as increased volume of mucus, mucus becomes viscous and a change of color becomes purulent. Increase in the number of mucus, thick and sticky mucus on the airway is difficult to remove only by the way of alone, then other actions that can help sputum excretion, among others; pharmacological and non-pharmacological measures such as chest physiotherapy coupled with warm water consumption. Important thing must be remembered that vibration, clapping is beneficial only in patient who typically produce > 20 to 30 ml of mucus daily (Irwin, Boulet and Clouter, 1998)

The purpose of physiotherapy, among others, to restore and maintain respiratory muscle function, helps cleansing the secretions of the bronchus, prevents secretion of secretions, improves movement and flow of secretions, increases respiratory efficiency and lung expansion so that the client can breathe freely and the body gets enough oxygen, from the respiratory tract (Grippi, 2008). Clapping action is done by tapping on the chest wall in order to release the secreted secretions. Clapping (percussion) of the chest is the mechanical energy in the chest that is passed on the lung airway. Vibration will provide hand vibration in the chest area performed at the time of expiratory patients (Berman & Shirlee, 2012). Hydration of water aims to dilute thick secretions, so that when clapping and vibration sputum easily apart from the respiratory tract and vibration to move the secretion of the airway is great (Doengoes, 2014). Researchers agree

with the theory of some experts in which chest physiotherapy is necessary in patients with the accumulation of secretions on the airway as in COPD patients. In patients with COPD, mucous production and decreased ciliary function to clear mucus cause mucus to multiply and become thick and difficult to excrete. The action of water administration in this case, the researchers use warm water before chest physiotherapy aims to dilute the thick mucus then clapping and vibration so that the mucus that has been released and dilute was easy excreted by coughed or in suction. As for some respondents who experienced a decrease in the amount of sputum excretion or did not experience changes in the amount of sputum excretion after the action due to the amount of sputum has been reduced or the effect of previous therapy.

Chest physiotherapy is indicated for patients who have a buildup of secretions, especially in patients with COPD (Kusyati, 2006). The goal is to restore and maintain respiratory muscular function, assist in clearing the secretions of the bronchus, prevent secretion of secretions, improve movement and flow of secretions, improve respiratory efficiency and pulmonary expansion. The goal is that the client can breathe freely and the body gets enough oxygen, and can remove secretions from the respiratory tract, (Tamsuri, 2008). Drinking warm water in COPD patients aims to dilute the thick secretions of the airway so it is easy to remove, (Doengoes, 2014).

From the results of the above experiments, researchers believe that chest physiotherapy combined with warm drinking water may have a positive effect on increasing secretions or mucus secretions in patients with respiratory disorders especially in COPD patients. This simple treatment method is an independent nursing action commonly used by nurses in the treatment of patients with respiratory disorders, especially COPD as an alternative non-pharmacological therapy for the excretion of secretions. Drinking warm water in COPD patients aims to dilute the thick secretions of the airway making it easy to remove (Doengoes, 2014)

This simple thing turned out to provide a benefit to patients with COPD in line with the opinions of Kusyati, 2006 and Tamsuri, 2008 that this nursing self-directed action aims to restore and maintain respiratory muscular function, help clearance of bronchial secretions, prevent secretion buildup, improve movement and flow secretions, improves respiratory efficiency and pulmonary expansion so that the client can breathe

freely and the body gets enough oxygen, and secretes secretions from the respiratory tract. Beside that Chest physiotherapy, including chest wall percussion and vibration increase airway clearance as assessted by sputum characteristic (ie, volume, weight, and viscocity) & clearance of radioaerosol from the lung (McColl & Rosen, 2006)

D. Conclusion

Chest physiotherapy (clapping and vibration) in combination with warm water has been shown to be effective against the sputum excretion of COPD patients

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THE RELATIONSHIP LEVEL OF RELIGIOSITY PARENTS TO ADOLESCENCE SEXUAL BEHAVIOR IN THE 3RD GRADE OF JUNIOR HIGH SCHOOL IN DENPASAR

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ABSTRACT

Adolescence sexual behavior is begun from kissing, necking, petting, anal to intercourse. Parent's religiosity will affect their attitudes and actions in nurturing, educating and shaping their adolescent's behavior. The purpose of this study is to determine relationship between level of religiosity with the sexual behavior of 3rd grade students in junior high school in Denpasar. Type of this research is correlational descriptive research and using cross-sectional research design. The sample that used in this research were 200 people that selected through simple random sampling technique and stratified random sampling technique. Data collection in this study used questionnaires that consists of demographic data instrument, parent's religiosity level instrument, and adolescent sexual behavior instrument. Based on Spearman Rank test, it obtained p value= 0,000 ($p < 0.05$). In conclusion, there is a significant correlation between parent's religiosity and sexual behavior of 3rd grade students of junior high school in Denpasar. Results of this study can be used as reference for socialization programs regarding prevention of negative adolescent sexual behavior.

Keywords: adolescents, adolescent sexual behavior, parents, religiosity.

INTRODUCTION

Adolescent sexual behavior is defined as a form of behaviors from kissing, necking, petting, until anal intercourse committed by adolescent because the need of sexual desire (Sarwono, 2012). In each country, adolescents begin their sexual intercourse from age 12 to 17.5 years and the average begin at 15 years (Rahyani, Utarini, Wilopo & Hamiki, 2012). In the previous study by Utomo and Mc Donald (2009), 25-51% adolescents in Indonesia have premarital sexual intercourse. Adolescent sexual behavior can lead to negative effects such as guilt, depression, anger, unwanted pregnancies, sexually transmitted diseases, HIV/AIDS, and abortion (Sarwono, 2012). In 2016, according to Ministry of Health statistics on HIV/AIDS in Indonesia, the cases of HIV/AIDS in adolescents range from 15-19 years reached 2,208 cases. About 68% of HIV/AIDS cases are transmitted from sexual contact (Spiritia, 2016).

In the previous study conducted at the Bali Provincial Health Office, the HIV/AIDS cases in 2016 recorded 308 cases among adolescents aged 15-19 years. Most cases were conducted in Denpasar with 137 or about 44.48%. The data can be one of the references that the adolescent sexual behavior in Bali still high, especially in Denpasar.

One of the factors that can affect adolescent sexual behavior is the role of parents (Safitri, 2015). Parents have a role to teach basic religious education, create a harmonious home atmosphere, and provide an understanding of the norm in society (Suci, Wahyuningsih & Haryani, 2015). Parents play a role in guiding and directing their children to behave in accordance with the scriptures and religious teachings through embedded religiosity (Susilo, 2006).

Landor et al's (2011) suggests that parental religiosity indirectly can also affect adolescent sexual behavior in which religious parents enable the behavior of children who are also religious. The religious adolescents tend to get along with friends who are considered good so that the possibility of negative adolescent sexual risk can be reduced. Low parental religiosity can affect the low adolescent religiosity as well. This makes adolescents easily commit deviant behavior without thinking about the religious norms (Krisnha, 2008).

Research on adolescent sexual behavior, especially schoolchildren has been widely practiced, but there has been no research on the religiosity of parents

relating to teenage sexual behavior. Based on the phenomenon that occurs above, we interested to examine the relationship level of religiosity parents to adolescent sexual behavior.

RESEARCH METHODS

This study used cross sectional design with the entire population of students in the 3rd grade of Junior High School in Denpasar. The simple random sampling method used to find affordable population, obtained from SMP Negeri 7 Denpasar and SMP TP45. The amount of sample is 200 people. Proportionate stratified random sampling is used in determining the sample size taken from each class, and then the sample is taken using simple random sampling. The data were collected using parents' religiosity and adolescent sexual behavior questionnaire.

The respondents' adolescents are given an explanation of the purpose and benefits of the study and give the level of religiosity questionnaire to take home to be filled out by parents. Informed consent and parental level of religiosity questionnaire were collected two days later. The respondents' adolescents who have been allowed by parents are given sexual behavior questionnaires with previously been explained on how to fill out the questionnaire.

Questionnaire data on the level of parental religiosity and adolescent sexual behavior using ordinal data scale. The data were analyzed using Spearman Rank test with a confidence level of 95%, $\alpha = 0.05$.

RESEARCH RESULTS

Table 1. The characteristics of Respondents Relationship Level of Parents to Sexual Behavior of 3rd Grade Junior High School Students in Denpasar

Characteristics of Respondents	**Frequency**	**Percentage (%)**	***Mean***
Parents Age	-	-	44,48
Teen Age	-	-	14,89
Female Puberty Age	-	-	12,57
Male Puberty Age	-	-	12,88
Female gender	128	64%	-
Male gender	72	36%	-
N	200		

Table 2. The overview of 3rd Grade Junior High School Parents' Religiosity in Denpasar (2017)

Level of Religiosity of Parents	Frequency	Percentage (%)
High religiosity	150	75%
Low religiosity	49	24,5%
Medium religiosity	1	0,5%
N	200	

Table 3. The overview of sexual behavior of adolescents in Denpasar (2017)

Sexual Behavior of Youth	Frequency	Percentage (%)
Positive Sexual Behavior	157	78,5%
Negative Sexual Behavior	43	21,5%
N	200	

Table 4. The relationship level of religiosity parents to sexual behavior in the 3rd grade Junior High School in Denpasar

	Adolescents Sexual Behavior		
	+	-	∑
Parents' Religiosity	n (%)	n (%)	n (%)
High	149 (74,5)	1 (0,5)	150 (75)
Medium	8 (4)	41 (20,5)	49 (24,5)
Low	0	1 (0,5)	1 (0,5)
Amount	157 (78,5)	43 (21,5)	1 (0,5)

The results showed that the value of p= 0.000 which mean there is no significant association between the level of religiosity of parents to adolescent sexual behavior in the 3rd Grade Junior High School in Denpasar. The result of research also received the value of r = 0,879 which mean there is positive and strong relation between parent religiosity level with sexual behavior of 3rd Grade Junior High School in Denpasar.

DISCUSSIONS

Based on the results of statistical tests found that there is a positive and strong relationship between the level of religiosity parents with adolescents' sexual behavior. The results of this study indicate that the higher the religiosity level of parents the more positive the sexual behavior of 3rd Grade Junior High School in Denpasar in 2017.

Based on the research, the study obtained 74.5% of parents with high levels of religiosity have adolescents who have positive sexual behavior. This can be because the level of parental religiosity can indirectly affect adolescent sexual behavior in which religious parents improve the behavior of children who are also religious. Adolescents who are religious tend to make hanging out with friends that they thinks is right so that the possible risk of negative sexual behavior in adolescents is also reduced (Landor *et al*, 2011).

The majority or equal to 75% of parents of 3rd grade Junior High School in Denpasar have a high level of religiosity. Yuliyati (2009) obtained parental outcomes in Paremono Village belonging to high level of religiosity. The high level of parental religiosity in Paremono Village is because parents have high religious knowledge, so that parents always practice the religion well. One factor that can affect a person's level of religiosity is knowledge (Thouless, 2000). This can be due to a religious person obliged to understand the basic beliefs, rituals, scriptures and traditions in his religion, which can affect the level of one's religiosity (Sari, 2014).

The high level of a person's knowledge can be affected by age. Age affects the ability to catch and how to think a person, so the knowledge obtained will be increased (Notoatmodjo, 2007). Based on the characteristics, the researcher obtained the average parents of respondents aged 45 years are included in middle adult age. Middle age of one's interest in religion is increasing. A person who is in the middle of adult tends to

deepen his understanding of religious teachings (Mustafa, 2016).

In contrast to high levels of religiosity, low levels of parental religiosity may affect low adolescent religiosity. Based on the results obtained 21% of parents with moderate and low levels of religiosity have adolescents who have negative sexual behavior. This may be because less religious parents tend to be lower in their monitoring of children, so their children tend to associate with colleagues who have negative behaviors, one of which is risky sexual behavior (Manlove, Logan, Moore & Ikramullah, 2008).

Table 3 showed that the majority or 78.5% of 3rd Grade Junior High School in Denpasar have positive sexual behavior. The results of this study different from the findings of Fresilia (2013) that get 71.1% of Junior High School in Jakarta had negative sexual behavior. This difference is caused by several factors that can affect adolescents' sexual behavior such as gender and age of puberty.

The female sex view sexual urges and love as loving relationships, resulting in positive sexual behavior mostly in girls (Wedani, 2010). Based on the characteristics of respondents, 64% of respondents in this study are female sex, so the result of the research shows that majority of respondents have positive sexual behavior. This can be because parents tend to be more protective of girls so that the behavior of adolescent girls can be better observed.

In contrast to female, male tend to be more sexually negative. Based on the findings of researchers in this study obtained the majority of respondents who have negative sexual behavior is male respondents. Lestari (2011) gets most teenagers or 55.8% of teenagers who have unhealthy sexual behavior are male teenagers. This can be because adolescents of male sex are more likely to have free personalities, want to experiment or do things that are risky and easily affected by peers (Wedani, 2010).

In addition to gender, the age of puberty is also a factor that can

affect adolescent sexual behavior. Based on the data of respondent's characteristic, it is found that the average of male respondents in this research experienced is in the early puberty. The earlier a person experiencing puberty can lead to the greater the risk of premarital sexual behavior. This is due to changes in hormones that occur during puberty that contribute to increasing sexual involvement in attitudes and relationships with the opposite sex (Hyde, 2006). Nurcahyani (2015) found that the majority of respondents or 82.6% of respondents who experienced early puberty had negative sexual behavior.

Negative sexual behavior in adolescents can also be caused by a lack of adolescent knowledge about reproduction health (Suryoputro, 2006). Based on the characteristics of the study sites, in both schools only once held adolescent reproduction health education every year when new students received the acceptance, so that the teenager in this study only once got reproduction health education in the last three years. Djamhoer (2005) states health education is very important in an effort to improve knowledge of adolescent reproductive health so that adolescents can avoid negative sexual behavior.

Based on the research, the study also obtained data that there is an adolescent with negative sexual behavior have parents with high religiosity level. The existence of these anomalies can be caused by other factors such as lifestyle, culture, peer groups, the influence of mass media; social control is less precise, economic and social influence (Soetjiningsih 2010; Suryoputro, 2006).

CONCLUSIONS AND SUGGESTIONS

There is a strong and positive relationship between the level of religiosity of parents to adolescent sexual behavior of 3rd Grade Junior High School in Denpasar with a value of $p = 0.000$ and $r = 0.879$. Most of the Junior High School parents in Denpasar had a high level of religiosity (75%) and most of the

sexual behavior of Junior High School adolescents in Denpasar had positive sexual behavior (78.5%).

The suggestions for schools are expected to improve adolescent reproductive health education programs to improve prevention of adolescent sexual behavior. For adolescents, to be more introspective about adolescents sexual behavior. For health workers at Health Clinic, the results of this study can be the basis for the preparation of the socialization program about the importance of the role of parents against the prevention of adolescent sexual behavior. For further researchers, it is advisable to examine other factors associated premises adolescent sexual behavior such as peer groups, mass media, and social control, cultural, economic and social influence.

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DESCRIPTION OF KNOWLEDGE OF LAWAR PROCESSING ON LAWAR TRADERS IN KECAMATAN ABIANSEMAL OF BADUNG REGENCY

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ABSTRACT

The identification of lawar traders' knowledge relating to lawar processing is still low. The incorrect lawar processing such as, using raw meat, uncleaned raw vegetables, and unwashed hands of prior to processing lawar. The use of raw meat and fresh blood can cause the growth of microorganism on lawar processing which affects the health issue, me of them is meningitis. This will certainly cause health issues which affect economically as well as psychologically. Knowledge of the correct way of processing lawar is important to know. This study aims to find out the description of knowledge of "lawar" processing on lawar traders in Kecamatan Abiansemal of Badung Regency. This research is a quantitative research using descriptive design study. Samples taking in this research has been done by Probability Sampling using Total Sampling Technique with a number of 28 respondents. The data were collected using questionnaire of lawar processing knowledge. The result of this study indicates that most respondents graduated from primary schools only. Seen on the basis of knowledge found that most respondents have a low level of knowledge about lawar processing way. Based on the results of this study it can be concluded that the knowledge of respondents is still relatively low therefore it requires efforts from the government or local health centers to conduct counseling or coaching on lawar traders in Abiansemal District.

Keywords: Way of processing lawar, traditional food, knowledge.

PRELIMINARY

Traditional food is one of cultural forms with its own character, in various kinds, respective processing method in each region reflects natural potential of each region (Nurhayati, Mulyana, Ekowati & Meilawati, 2013). *Lawar* is one of Balinese traditional foods.

Lawar is a typical culinary in the form of vegetables mixed with chopped meat which is specially seasoned and normally served in ritual ceremonies of Balinese Hindus, served as family cooking or widely sold. The most desired *lawar* among Balinese people and tourists is pork *lawar*. Pork *lawar* has the ingredients which are pork meat, pork skin, vegetables, coconut, spices and fresh blood (Tantra, 2015). There are two types of pork *lawar* namely red *lawar* containing fresh pig's blood and white *lawar* which does not contain any fresh blood at all. Balinese and tourists prefer the red *lawar* as it has its own uniqueness as it is processed with fresh pig's blood (Surayin, 2014).

The incorrect way of *lawar* processing which is using raw meat and uncooked fresh blood causes health problems, and one of them is meningitis. Using unwashed raw vegetables and dirty hands of *lawar* processors before processing *lawar* affects the health issues such as diarrhea and typhoid (Purnama, Pratiwi, & Purnama, 2015).

Streptococcus Suis Meningitis (MSS) is a meningitis transmitted through a *Streptococcus Suis* - infected pig toward humans through microorganisms that live in its flesh. The transmission of bacteria through food in the form of raw pork products, such as fresh blood, intestines, offal, and pork which are not properly cooked (Artdita, 2012).

The cause of MSS is presumably suspected from improper food processing. There is an inappropriate *lawar* processing such as using non-fresh meat and not being cooked all the way through as well as bad environmental sanitation which is surely endangering the consumers.

The impact of improper lawar processing causes intoxication to death. Other emerging effects are economic impact and psychological

impact undergone by community and patients. The community will experience trauma in buying processed food outside (Purnama, Pratiwi, & Purnama, 2015).

Based on the preliminary study, randomly obtained the results of interviews with 7 vendors in Abiansemal Subdistirct of Badung Regency that the lawar processing done by the lawar sellers is not correct yet where they merely boil meat for 30 minutes, using fresh blood in red lawar without being boiled, not washing their hands with running water and soap before processing lawar, not using any spoon when tasting the lawar and the bad environmental sanitation.

Abiansemal District is now an area with Extraordinary Incident of health issues. Total cases of MSS suspects were 40 cases and 2 MSS positive on March 5, 2017 (Bali Post, 2017). It was also supported through MSS phenomenon in Abiansemal Sub-district on March 10, 2017 where there were 13 patients who were 7 among them coming down with positive MSS after the examination of blood samples at Microbiology Clinic Laboratory of Sanglah Hospital (Suluh Bali, 2017). This can be caused by *Streptococcus Suis* infection due to improper meat processing done by lawar vendors. Until now the research on the description of the Traditional Food Processing Method in Indonesia is still limited and upon having a close look on the occurring phenomenon, the researcher gets interested in conducting a research entitled The Knowledge Description of "Lawar" Processing Method On Lawar Vendors in Abiansemal Sub-district of Badung Regency.

RESEARCH METHODS

This is a quantitative research using a *descriptive design* with a *cross-sectional* approach to assess the description of lawar processing on lawar vendors in Abiansemal Sub-district. The population in this research is all lawar vendors in Abiansemal Sub-district of Badung Regency. The Sample consisting of 28 respondents with *Total Sampling* technique. The instrument uses a questionnaire of lawar processing knowledge developed by the researcher. Data collection was begun with applying for

a research permit, then determining the sample and distributing *informed consent* sheet. Respondents were accompanied while completing the questionnaire.The collected data was then analyzed using univariate data analysis to find out the description of the variable.

RESEARCH RESULT

Tabel 1. Research Result

Variable	Frequency (n)	Percent (%)
Age		
18-40 years	20	71,4
41-60 years	7	25,0
>60 years	1	3,6
Total	28	100,0
Sex		
Famale	15	53,6
Male	13	46,4
Total	28	100,0
Education		
Tidak Sekolah	1	3,6
SD	15	53,6
SMP	7	25,0
SMA	1	3,6
SMK	4	14,3
Perguruan Tinggi	0	00,0
Total	28	100,0
Knowledge Of Lawar Processing		
High	4	14,3
Medium	5	17,9
Low	19	67,9
Total	28	100,0

DISCUSSION

A. Characteristics of respondents by age

Based on the research that has been done on all lawar vendors in Abiansemal Sub-district of Badung Regency, the result of most respondents aging between 18-40 years as many as 20 respondents who are classified into early adulthood (Elizabeth Hurlock in Susanto, 2013). This suggests that lawar vendors in Abiansemal Sub-district are mostly early adulthood.

The results of this study are similar to the results of research conducted by Purnama, Pratiwi and Purnama (2015) mentioning of 44 respondents of lawar vendors mostly in the age group of early adult as many as 32 respondents (72.7%), the elderly age group of 8 respondents (18 , 2%), and teenage age group only 4 respondents (9%) with the youngest age of 18 years old and 65 years old is the oldest. This category goes into productive age, according to Indonesia Republic of Health Ministry (2009) productive age is defined as an age group able to produce product and or service and independent in life with the age range of 15 until 64 years old.

In the theory of knowledge, age is one of the factors that influences one's knowledge where the older someone is, the better his or her mental development will be, but at a certain age, the increase of mental development process is not as fast as when they are teens (Hendra, 2008).

B. Characteristics of respondents by sex

Based on the results of research that has been thoroughly done on all lawar vendors in Sub-district Abiansemal of Badung regency, obtained the results of most vendors who process lawar are relatively females. Lawar vendors are identically female, this is because women are more careful and meticulous in processing food. This is similar to a theory that women are considered having more accuracy and skills that deserve to be placed in the field of service (Suhapti, 2016). The similar research results are also obtained by Purnama, Pratiwi and Purnama (2015) who got the result that most of female lawar processors are 38 respondents (86,3%) while the male ones are only 6 respondents (13,6%) .

C. Characteristics of respondents by education

Based on the research that has been done to all lawar vendors in Abiansemal Sub-district of Badung Regency, it is found that respondents with elementary education background as many as 15 respondents (53.6%) and only 4 respondents who own education level of Tourism Vocational School majoring in food production.

Education is one of the factors that influences the knowledge of a person which is closely related to the learning process to develop or improve certain skills so that the target of education itself can be reachable (Hendra, 2008). Mathis and Jackson (2006) explain that the level of education greatly affects the quality of one's work, the higher the level of education is, the higher the ability to work can be because higher education will improve one's intellectual, interpersonal and technical skills.

D. Characteristics of respondents based on knowledge of lawar processing

Based on the results of research conducted on all lawar vendors in Abiansemal sub-district of Badung Regency in terms of their lawar processing knowledge, obtained the low knowledge of lawar processing owned by the lawar vendors in Abiansemal Sub-district as many as 19 respondents (64.3%) while the high knowledge is only 4 respondents (14, 3%).

Knowledge is specific information about something that is carried out by the individual and becomes a foundation of the formation of individual behavior towards others (Finkelman & Kenner, 2013). One of the factors that influences knowledge is education. The higher the level of education a person is, the better he will pay more attention to his or her health and safety issues (Hendra, 2008). The results of this study show that most lawar vendors with elementary education is as many as 15 respondents. This is likely to be one of the causes why lawar vendors in Abiansemal Sub-district have a low level of knowledge related to the correct way of processing lawar.

Based on interviews, most respondents said they were never exposed to information either through electronic media (gadgets) or directly. This is due to the respondents' incapability to access the internet using electronic media (gadgets). In addition, respondents are also never exposed to information or counseling from the relevant agencies on how to process food properly.

This is contrary to the research conducted by Purnama, Pratiwi, & Purnama (2015) whose result said that an education level was affecting the knowledge of a person, where most respondents with high school education were as many as 20 respondents (45.4%). The observation result from Purnama, Pratiwi, & Purnama (2015) found that respondents with high school education owned less *personal hygiene* practice.

This is triggered by the unavailability of adequate sanitation

facilities and the lack of cleanliness of the respondents' environment vicinity. It can also be caused by a knowledge affecting factor namely information (Hendra, 2008).

In terms of knowledge measurement obtained the result that all respondents give a "yes" answer to negative statement of lawar process meat is boiled with boiling water for 30 minutes at temperature 100 ° C. According to Sucipto (2015), cooking food perfectly must be with temperature > 70 ° C for 60 minutes on meat using process and for 30 minutes on vegetables so that it can kill germs or bacteria that cause disease. The respondents who give a "yes" answer to the negative statement of lawar process meat is boiled with boiling water for 30 minutes at temperature 100 ° C are ultimately wrong or get an "0" score. Respondents who answered "yes" to the negative statement of meat were stored in the refrigerator with a temperature of 10 ° C got an "0" score. According to Siregar and Surata (2017) the correct meat storage at 3-4^{o}C for daily storage time, while -18^{o}C for storage time up to 6 months. Storage in the refrigerator aims at slowing the enzymatic processes and bacterial growth. Meat which will be stored in the refrigerator should be tightly wrapped first so that it can minimize contamination with other foodstuffs.

Respondents who answered "yes" to a negative statement that in the event there is a lawar processor who cuts his or her finger unintentionally, she or he should use iodine without bandaging it are incorrect or got an "0" score. Based on a theory, the transmission of *Streptococcus Suis* bacteria can be transmitted to humans through wounds when cutting or slicing infected pork and processing infected pork meat incorrectly. *Streptococcus Suis* bacteria will enter a human body through an open body tissue (wounded fingers) when cutting or processing infected pork. Bacteria spread through the bloodstream, into the brain and infect the surrounding vital organs (Tarini, 2017).

Respondents who answered "yes" to a negative statement of the fresh meat selection where the meat looks pale red, has typical smell of meat, felt stiff and sticky on hands get an "0" score. According Susanto's research (2014) on Standard Management of Post-Fresh Meat Harvest, the characteristics of newly slaughtered meat without any treatment are bright red and shiny red meat, with the distinctive smell of fresh meat which is not sour or rotten, chewy texture, solid and not stiff, when pressed by hand then the former pressure will quickly back to its original position, not having slimy appearance, not

felt sticky on hands and the wetness of the flesh can be felt.

The result of this study also shows that there are 4 respondents (14.3%) who have a high level of knowledge. Those four respondents are SMK (Vocational High School) graduates. Vocational School education allows respondents to get information early on how to process food properly. Three out of the four respondents with high knowledge were females. Women tend to have the nature of preferring to learn, being more careful, meticulous and hard to give up. The four respondents are mostly classified as early adulthood from the range of 18-40 years. This is because the early adult age has a good level of concentration, understanding, and memory. Based on the result of interviews on the respondents with high knowledge, some of them come from social environments that care about health. The four respondents get good information on the importance of processing food properly and they also have experience working in hotels and restaurants that customizes them to process food properly.

Based on the theory of knowledge, one of the factors that influences the knowledge is information and the environment. Information will have an effect on one's knowledge. In spite of one's low education but if he or she gets good information through radio, television and mass media then the knowledge they possess will be the higher as well as the ability of individuals to grasp the information provided (Ahmadi & Uhbiyati, 2007). Environmental factor provides the first influence to a person, where one can learn good things and also bad things depending on the nature of the group. Someone will gain experience that will affect the way one thinks (Hendra, 2008). The environment also causes a person to gain experience that influences his way of thinking and knowledge (Nursalam, 2008).

CONCLUSION

Characteristics of respondents based on the age of lawar vendors in Abiansemal Sub-district of Badung Regency are mostly between 18-40 years old as many as 20 people (71.4%) and female majority of 15 people (53,6%) with elementary education level are mostly 15 people (53.6%). Based on the knowledge, most lawar vendors have low knowledge about lawar processing as many as 19 people (67.9%) and only 4 people (14.3%) who possess high knowledge.

SUGGESTION

The results show that the level of knowledge of lawar processing in Abiansemal District of Badung Regency is still relatively low. It is hoped that after knowing the result of this research,

Community Health Centers in Abiansemal area can cooperate with Abiansemal Sub-district office to conduct socialization in the form of counseling and guidance to lawar vendors about the importance of proper lawar processing and lawar vendors are expected to follow and apply the counseling and coaching of processing lawar traditional food correctly. This research is only able to describe what the characteristics of lawar vendors are like based on age, sex, education, and knowledge of lawar vendors on lawar processing way so that this research still cannot tell how the relationship of these two variables is, the next researchers are expected to be able to do better research in order to know what the relationship between the two variables is. And expected in subsequent research to expand the scope of the region to obtain more information and be able to control the factors that affect the knowledge that can cause bias on the results of research.

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THE INFLUENCE OF FAMILY SUPPORT GUIDELINES TOWARDS FAMILY FUNCTION IMPROVEMENT IN ADOLESCENT WITH UNWANTED PREGNANCY

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ABSTRACT

Objective: This study were to determine the effect of family support guidelines application to increased the family function in adolescents with unwanted pregnancy.

Methods: This study used Quasi Experiment with pretest and posttest Nonequivalent Control Groups Design. The study was conducted in KYC Bali Province. The subjects in this study were adolescents with unwanted pregnancy who came with her parents. Consecutive Sampling was used to determine the total sample of 56 respondents, then the randomize allocation was conducted to divide into two groups: 28 people of intervention group and 28 people of control group. Collecting data used the questionnaires. Analysis used Mann Whitney test to evaluate the difference between intervention and control group and Wilcoxon test to determine the family function changes in adolescents with unwanted pregnancy after intervention.

Result: This study showed significantly of the family function changes in adolescents with unwanted pregnancy after received assistances with family support guidelines ($p<0,05$).

Conclusion: Application of family support guidelines can improve family function in adolescents who experience unwanted pregnancy.

Keywords: Unwanted Pregnancy, Family Support Guidelines, Family Function.

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INTRODUCTION

Pregnancy could be a desire but also disaster if pregnancy is experienced by unmarried adolescents. Pregnancy among adolescent women became one of the problems that developed quite rapidly in many countries both developed or developing countries, including Indonesia (Dariyo, 2004). Unwanted pregnancy is a condition of the couple does not want the birth of a pregnancy. Pregnancy is the result of a sexual act or sexual relationship either intentional or unintentional (Widyastuti, 2009).

In 2011, the World Health Organization (WHO) says there are 19% of the 16 million adolescents aged 15-19 years worldwide experience unwanted pregnancy. In the United States, each year more than 100 adolescents experience unwanted pregnancy. Teen pregnancy rates are quite high in Indonesia. It can be seen through observations and a survey of the Badan Koordinasi Keluarga Berencana Nasional (BKKBN) in 2013, found that of the total population of adolescents (aged 14-19 years) with 34 million or 19.6% experienced unwanted pregnancy and promiscuity numbers throughout the city large in Indonesia exceeded 50%. qualitative study done by PKBI during 2013 which states that the highest percentage of teenage with unwanted pregnancy in Bali, Mataram and Yogyakarta.

Data obtained through the unwanted pregnancy in adolscents of Bali from PKBI programs that is Kita Sayang Remaja Youth Clinic (KYC). KYC Bali Province noted, adolscents with unwanted pregnancy in Bali in 2013 as many as 177 cases with an average in a month is 15 cases. Then, the data in 2014 found 111 cases with an average of one month is the case in 11 cases. This data was revealed by the adolescent counseling to KYC Bali Province.

Adolscents with unwanted pregnancy effect on adolescents is much larger when compared with the effects of unwanted pregnancy at older age group both physically, and psychologically. This happens because in adolescence growth and changes in physical, cognitive and psychological not optimal. If the process is not yet optimal growth and development, and coupled with the adolscents with unwanted pregnancy then the effect will be felt much heavier (Gray, 2001).

Teens need of attention and help from those around him, both directly and indirectly in addressing this crisis period. Support most expected by teenagers in the face of this crisis is the her family support, especially of parents and siblings (Hurlock, 2004). The family has a crucial influence on health and health beliefs associated with individual behavior (Schor, 1993). Families help teenagers with unwanted pregnancy in the decision. When teenagers with unwanted pregnancy is not accompanied by the family can lead to destructive behaviors such as choosing to terminate a pregnancy and suicide (Steinberg and Duncan, 2002).

Based on the results of preliminary studies on KYC Bali province on January 22, 2015 it is known that the form of support for families toward unwanted pregnancy that family involvement in mentoring young people with adolscents with unwanted pregnancy when counseling to decision-making. but in practice, not all adolescents with

adolscents with unwanted pregnancy bring his family by reason of embarrassment, fear or do not dare, do not close or have a busy family. Adolescents with unwanted pregnancy tend to cover up a mistake of his family, it is the primary obstacle in the implementation of interventions in adolescents with unwanted pregnancy .

This is the reason to increase family functioning. Families optimal support must meet the criteria for family functions. Research from David H. Olson (1999) mentions that there are three dimensions of family functioning (Circumplex Model of Marital and Family Systems) is a cohesion function, the function of flexibility and communication functions.

Therefore, health care should overshadow adolescents with unwanted pregnancy if it finds the case requires family assistance obligations during the counseling process until the decision making. Then, accompanying family must be given health education and family support as guidance guide the family in dealing with their teenagers with unwanted pregnancy. This is expected to improve the function of the family is most needed in the process of handling adolescents with unwanted pregnancy. Under these conditions, researchers interested in doing research. This study aimed to analyze the increase in family function in the group that received assistance with the guidelines of family support than the group with routine intervention in adolescents who experience unwanted pregnancy in KYC Bali Province.

METHODS

1. Study design and partisipants

This study used Quasi Experiment with pretest and posttest Nonequivalent Control Groups Design. The study was conducted in KYC Bali Province. The subjects in this study were adolescents with unwanted pregnancy who came with her parents. Consecutive Sampling was used to determine the total sample of 56 respondents, then the randomize allocation was conducted to divide into two groups: 28 people of intervention group and 28 people of control group.

2. Measure

The independent variables in this study are guidelines for family support. The dependent variable in this study was a family function (cohesion, flexibility and communication) in adolescents with unwanted pregnancy. Control variables in this study were age, education level, and economic status. Collecting data using a questionnaire designed by the researchers with reference to the three dimensions of family functioning in Circumplex Model of Marital and family Systems (Olson, 1999).

3. Data collection procedures

The study begins with a study permit to the Faculty of Medicine, University of Gadjah Mada and taking care of ethical clearance letter issued by the Medical and Health Research Ethics Committee (MHREC) Faculty of Medicine, University of Gadjah Mada. Then, researchers permit research into the KYC Bali Province. Once licensing is completed, the researchers chose to study co-author and research began on

July 31, 2015. At the first visit, the prospective respondents who came to KYC Bali meet researchers conducted anamnesis companion for reasons related to her arrival. When potential respondents who visited met the inclusion criteria, the study co describes an overview of research, research objectives and asked the willingness of potential respondents to participate in the study. If a potential respondent is willing to participate, the researcher companion asked potential respondents to sign informed consent. Fellow researcher gave a questionnaire containing demographic data to the respondent and provide time for five minutes to respondents to fill out the questionnaire. After the demographic data collected, researchers companion did pretest by giving questionnaires to measure family functioning (cohesion, flexibility and communication) to the respondent. Furthermore, the implementation of visits three times that in the 6th, 11th and 14th for the respondent and family came to the study. On a recent visit (day 14) was measured posttest.

4. Statistical methods

Analysis used the Mann Whitney test and the Wilcoxon test used is the predictive value of $\alpha = 0.05$ and CI = 95%.

RESULTS

1. Characteristics of participants

Table 1 shows that most adolescent age is the age of 18 years, the intervention group of nine people (32.1%) and the control group consists of eight people (28.6%). Respondents were predominantly Hindu that the intervention group as many as 24 people (85.7%) and the control group as many as 14 people (50%). Education level of respondents in the intervention group and control the majority of graduate SMP (Junior High School) that has the same number as many as 13 people (46.4%).

Family economic level respondents mostly had revenue >Rp. 1.000.000, - namely in the intervention group as many as 14 people (50%) and a control group of 15 people (53.6%). Then the age of first intercourse respondents ie intervention groups at the age of 17 years as many as eight people (28.6%) and group cases at the age of 18 years as many as eight people (28.6%). On the table also explained that the data characteristics of respondents homogeneous.

Table 1

Survey of characteristics participants in the KYC Province of Bali

July-October 2015 (n=56)

Characteristics of participants	Intervention		Control		*p-value*
	N	%	N	%	
Age:					0,827*
• 14 years	1	3.6	0	0	
• 15 years	4	14.3	3	10,7	
• 16 years	1	3.6	4	14,3	
• 17 years	6	21.4	7	25	
• 18 years	9	32.1	8	28,6	
• 19 years	4	14.3	2	7,1	
• 20 years	2	7.1	2	7,1	
• 21 years	1	3.6	2	7,1	
Total	28	100	28	100	
Religion:					0,090**
• Hindu	24	85,7	14	50	
• Islam	2	7,1	12	42,9	
• Kristen protestan	2	7,1	1	3,6	
• Budha	0	0	1	3,6	
Total	28	100	28	100	
Level of education:					0,358**
• SD	3	10,7	3	10,7	
• SMP	13	46,4	13	46,4	
• SMU	11	39,3	9	32,1	
• Diploma	1	3,6	3	10,7	
Total	28	100	28	100	

Level of family finances:					0,540**
• >Rp. 1.000.000,-	14	50	15	53,6	
• Rp.500.000-Rp. 1.000.000,-	12	42,9	11	39,3	
• <Rp. 500.000,-	2	7,1	2	7,1	
Total	28	100	28	100	
The age of first intercourse:					0,367**
• 14 years	2	7,1	0	0	
• 15 years	3	10,7	6	21,4	
• 16 years	1	3,6	6	21,4	
• 17 years	8	28,6	4	14,3	
• 18 years	7	25	8	28,6	
• 19 years	4	14,3	1	3,6	
• 20 years	3	10,7	2	7,1	
• 21 years	0	0	1	3,6	
Total	28	100	20	100	

**Mann-Whitney Test **Fisher Exact Test*

2. Analysis of differences in family functioning (cohesion, flexibility and communication) between the intervention and control group

Based on the table 2 is known that the difference in a family function in the intervention group was higher than the control group.

Table 2

The differences in family functioning (cohesion, flexibility and communication) between the intervention and control group in July-October 2015 (n=56)

Variable	Intervention		Control		*p-value*
	Low	High	Low	High	
Cohesion:					
Pretest	10 (35,7%)	18 (64,3%)	16 (57,1%)	12 (42,9%)	0,111
Posttest	0 (0%)	28 (100%)	22 (78,6%)	6 (21,4%)	0,000 *
Flexibility:					
Pretest	14 (50%)	14 (50%)	13 (46,4%)	15 (53,6%)	0,791
Posttest	2 (7,1%)	26 (92,9%)	14 (50%)	14 (50%)	0,000 *
Communication:					
Pretest	10 (35,7%)	18 (64,3%)	17 (60,7%)	11 (39,3%)	0,064
Posttest	0 (0%)	28 (100%)	18 (64,3%)	10 (35,7%)	0,000 *

*pvalue<0,05 with *Mann-Whitney* test = there is a difference score of family function

3. Analysis of changes in family functioning (cohesion, flexibility and communication) in adolescents who experience unwanted pregnancy before and after receiving assistance with family support in the KYC guidelines Bali Province

Based on Table 3 are known assistance with family support guidelines in the intervention group significantly influence changes in family functions with p <0.05.

Table 3

Changes in family functioning (cohesion, flexibility and communication) in the intervention group and control in July-October 2015 (n=56)

Variable	Intervention			Control		
	Pretest (%)	Posttest (%)	p-value	Pretest (%)	Posttest (%)	p-value
Cohesion:						
Low	10 (35,7%)	0 (0%)	0,002 *	16 (57,1%)	22 (78,6%)	0,064
High	18 (64,3%)	28 (100%)		12 (42,9%)	6 (21,4%)	
Total	28 (100%)	28 (100%)		28 (100%)	28 (100%)	
Flexibility:						
Low	14 (50%)	2 (7,1%)	0,001 *	13 (46,4%)	14 (50%)	0,317
High	14 (50%)	26 (92,9%)		15 (53,6%)	14 (50%)	
Total	28 (100%)	28 (100%)		28 (100%)	28 (100%)	
Communication:						
Low	10 (35,7%)	0 (0%)	0,002 *	17 (60,7%)	18 (64,3%)	0,317
High	18 (64,3%)	28 (100%)		11 (39,3%)	10 (35,7%)	
Total	28 (100%)	28 (100%)		28 (100%)	28 (100%)	

*Nilai p<0,05 pada uji *Wilcoxon* = ada perubahan nilai skor fungsi keluarga

4. Analysis of the relationship outside variables to changes in the level of family function (cohesion, flexibility and communication)

Based on the results of Table 4 shows that the educational level variable has a value of p <0.05, which means the relationship between the level of education to change the level of family functioning in adolescents with unwanted pregnancy.

Table 4

Multivariate analysis of external variables to changes in the level of family functioning (cohesion, flexibility and communication) of respondents in i the KYC Province of Bali in July-October 2015

Variable	Cohesion		Flexibility		Communication	
	Wald	OR	Wald	OR	Wald	OR
Level of education	0,053*	3,734	0,002*	9,595	0,009*	6,820
Level of family finance	0,591	1,053	0,366	0,835	0,484	1,449

**p-value* with regresi logistic test, p<0,05

DISCUSSION

1. Characteristics of participants

Life characteristics of the respondents indicate that most adolescent age is the age of 18 who belong to the late teens. According Havinghurst (1995), when it was a teenager, the individual has a social relationship that is wider than the previous childhood. This suggests that individuals teen no longer depend on their parents. Parental controls already started to decrease during this phase. Supposedly teenagers have passed through its development tasks well, just because he felt he had grown and matured reproduction of the more daring teens to take risks.

Respondents were predominantly Hindu because a study conducted in the province of Bali are predominantly Hindu According to Crain (1992), the way people in life is strongly influenced by socio-cultural factors that influence individual behavior patterns.

Education level of respondents in the intervention group and control the majority of graduate SMP (Junior High School). Adolescents with low levels of education and low aspirations stages tend to be more often led to sexual activity (Kusmiran, 2013).

Family economic level respondents mostly had revenue >Rp. 1.000.000, - that the economy is at a good level. Social and economic life settled family is one of support which forms the happiness of family life.

The age of first intercourse respondents ie intervention groups at the age of 17 years. According to Thornburg (1982) pointed out that in this age teens are at the stage of productive time to maturity of the reproductive system and the sex drive (libido). Thus, the biological changes that occur and can lead to the activation of hormonal sexual behavior.

2. The influence of family support guidelines to increase the cohesion function

Results reveal that there is an increase in the value of family closeness function (cohesion) in the intervention group after receiving assistance with family support guidelines. It can be seen from the increase in value of the posttest and test different functions of family closeness (cohesion).

Ginting (2004) stated that the incidence of unwanted pregnancy significantly both quantitatively and qualitatively affect the lack of closeness function. Efforts are being made in order to achieve increasing closeness in the family values one through the implementation of guidelines for family support. This was confirmed also by the research Corcoran (1999) which shows that the family has an important role affecting the lower and higher emotional attachment feelings of closeness or adolescents. During the process the teens face unwanted pregnancy, family support is indispensable. Including those closest family with teenagers. Giving meaning to the family's reaction to the pregnancy and unwanted pregnancy especially become very important.

3. The influence of family support guidelines to increase the flexibility function

The results show that there is an increase in the value of the posttest and test different functions of the family flexibility (flexibility) in the intervention group after receiving assistance with family support guidelines.

Corcoran (1999) in his research that flexibility is a significant factor on the incidence of unwanted pregnancy in adolescents. In the group of teenagers who become pregnant have a low flexibility function because of its leadership in the family largely controlled by the father (paternal) and there is no democracy or a balance of leadership in the family. Implementation of the guidelines that family support is one of the efforts undertaken in order to achieve increasing the value of flexibility in the family.

4. The influence of family support guidelines to increase the communication function

The results show that there is an increase in the value of the posttest and test different functions of family communication (communication) in the intervention group after receiving assistance with family support guidelines.

Lee (2001) showed that communication between parents and teens have a significant effect on the incidence of unwanted pregnancy in adolescence and depression in teenagers with unwanted pregnancy. Balanced system in the family tend to have very good communication, while the system is unbalanced tend to have communication that is not good. Balanced system in the family tend to have very good communication, while the system is unbalanced tend to have communication that is not good. Implementation of the guidelines that family support is one of the efforts undertaken in order to achieve increasing the value of communication in the family.

5. Factors that affect the function of the family

The results showed that the respondents' education level variables that affect the function of the family: the function of cohesion, the function of flexibility and communication functions. According to Mubarak (2006), the higher the education level, the more easily juvenile teenagers receive information so that more and more able to adjust in the lead role as a teenager.

IMPLICATIONS AND CONTRIBUTION

Results of this study are expected to provide information for further research and family support guidelines can be used as one of the methods in the intervention of adolescents with unwanted pregnancy visiting adolescent reproductive health services.

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DETERMINANTS OF ASSOCIATE NURSE'S SELF-EFFICACY IN TREATMENT ROOM INSTALLATION OF HOSPITAL IN BALI, INDONESIA

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ABSTRACT

Associate nurse's self-efficacy is the perspective of associate nurses about their ability to implement specific task, which can affect some aspects of change in purpose to producing better nursing care. This study aims to identify the determinants of associate nurse's self-efficacy. This research design was a cross-sectional study with a sample size of 70 people chosen by purposive sampling using inclusion and exclusion criteria. The questionnaire used was analyzed by univariate, and bivariate analyses. The results of normality test with Kolmogorov-Smirnov (n>50) shows that age, work experience, burnout, self-efficacy and self-esteem data did not meet the normal distribution criteria (p value≤α, α=≥0,05). The rank spearman, and Mann-Whitney statistics test used in this research (p value<α, α=0,05). Rank spearman correlation shows that there is a significant relationship between age (p value=0,039, r=0,247), work experience (p value=0,019, r=0,280), burnout (p value=0,000, r= -0,603), and self-esteem (p value=0,000, r=0,476) with associate nurse's self-efficacy. However, there are no significant relationships found between gender (p value=0,370), and level of education (p value=0,396) with associate nurse's self-efficacy. Based on this study, it is recommended that associate nurses can increase self-efficacy value in their self through increasing an optimal self-function which can have an effect on nursing care quality.

Keywords: burnout, characteristics, nurses, self-efficacy, self-esteem.

BACKGROUND

Nurses are the front line guard with important roles for nursing care with a focus on enhancing the client's health and functionality (Kiblasan, Eltayef, Briones, Garcia, & Elwahaishi, 2015). The provision of nursing services is based on the individual ability of the nurses, one of them is self-efficacy. Taylor, Peplau, and Sears (2009) defined self-efficacy as a specific view of the individual's ability to perform specific actions. The associate nurse's self-efficacy is their view of their ability to perform specific tasks, which can affect various aspects of the changes with the aim of producing better nursing performances. Self-efficacy could be the main modals for the individual, including the nurse in ensuring good performance (Lailani, Rifayani, & Paramita, 2014; Novita, & Dewanti, 2013; Pajares & Urdan; 2006; Taylor et al., 2009).

Previous research showed a variation in self-efficacy values of nurses. Novita and Dewanti (2013) stated that 49% of nurses had moderate self-efficacy. Meanwhile, Harnida (2015) found that nurses with high self-efficacy of 23.3%. The Nakhaee and Mofrad (2015) study found that 79% of the nurses had moderate self-efficacy. Park, Han, and Jo, (2016) found that in the range from one to five, the associate nurse had a self-efficacy of 2.93.

Careers nurses are required to have high value of self-efficacy. This is because self-efficacy is one of the factors with significant impacts on nurse performance (Indrawati, 2014, Lee & Ko, 2010), commitment and motivation (Bandura, 2008; Soudagar, Rambod, & Beheshtipour, 2015; Taylor et al., 2009).

The role of self-efficacy for nursing personnel makes self-efficacy an important matter of concern. Nursing demands in the health services implementation are very significant. Nurses are also known as a hospital's driving force in the provision of health services with nursing care (Nursalam, 2011). Self-efficacy is needed so that the nurse's performance could be optimized in working and supporting health services in the hospital.

Based on a preliminary study with interview methods, it was found that eight out of 12 associate nurses in treatment room installations often had doubts in working when confronted with nursing actions against clients with different difficulty levels. In addition, it was also found that five out of eight associate nurses who had doubts often feel a lack of focus while working. According to an

interview with one of the head's rooms, stated that the possibility depends on each individual characteristic of the associate nurses. The preliminary study shows that it is still unknown as to the matters relating to the associate nurse's self-efficacy. Through this research, the researcher wants to know and prove the determinant of self-efficacy in nurses, especially the associate nurses who work in the treatment room installation.

METHOD

Research design

This research is a quantitative research with analytical descriptive analysis and using cross-sectional research design.

Population and Sample

This study used 101 associated nurses with a sample size consists of 70 associate nurses. Sampling method using purposive sampling technique with inclusion and exclusion criteria.

The inclusion criteria:

1. Associate nurses at treatment room installation.
2. Willing to be a research respondent by signing an informed consent.

The exclusion criteria:

1. Associate nurses who are on leave, study and or are outside the island (Bali) during the period the research was conducted.

Research Instruments

This study used questionnaires consisting of demographic data questionnaires (gender, age, educational level, and work experience), Maslach Burnout Inventory-Human Service Survey, Rosenberg's self-esteem, and The Nursing Competence Self Efficacy Scale which have gone through a series of validity and reliability tests.

Data Collection and Analysis Procedures

This research was conducted in several stages. The researcher conducted the selection of nurses who fulfilled the inclusion and exclusion criteria to be the respondents. Further the researcher took an informal approach by explaining the purpose of the research, research procedures, rights and obligations to be respondents, and ask prospective respondents to sign informed consent documents. After that, the researcher gave the questionnaires and provided assistance to the respondents in completing the questionnaire. The data was analyzed by Rank Spearman and Mann Whitney statistic test with 95% confidence level.

This research has also been declared 'passed the ethical clearance' by the ethical commission of Faculty of Medicine, Udayana University/Sanglah Public Hospital.

RESULTS

The results showed that from 70 associate nurses at the treatment room installation, the distribution of associate nurses was known to have the youngest age of 23 and had a working experience of 12 years. The distribution of nurses is not evenly distributed based on the level of education with the percentage of Diploma Nursing of 74.3% and gender with the percentage of female associate nurse is higher or equal to 84.3%.

Univariate test results showed that the value of self-efficacy had a minimum value of 117 and the highest in 187, burnout score found a minimum value of 14 and a maximum of 28, the value of self-esteem with minimum value 18 and maximum value 28. Bivariate test results indicate there are significant correlations between age (p value=0, 039, r=0, 247), work experience (P value = 0,019, r = 0,280), burnout (p value = 0,000, r = -0,603), and self-esteem (p value = 0,000, r = 0.476) with associate nurse's self-efficacy. However, there was no association nurse's self-efficacy differences by sex (p value = 0.370), and educational level (p value = 0.396).

DISCUSSION

Based on the results, it was identified that the high value of self-efficacy and self-esteem of associate nurses could be one of the reasons for the high quality and service indicators valued by the hospitals. However, a considerable percentage of burnout was felt by the associate nurses. This is likely due to many various factors. The study also found that this can depend on the condition of each individual. Aloe, Amo, and Shanahan (2014) suggest that the individual condition including mental health can play a role in the burnout adaptation of the nurse.

Age and Associate Nurse's Self-Efficacy

The study findings indicated that there is a significant relationship with weak positive correlation, between age and self-efficacy of associate nurses. Other studies have supported this finding which found that there is a difference in the self-efficacy value, by age (Lee & Song, 2010; Mackoniene & Norvile, 2014). This finding may be due to differences in experience between individuals. The higher age of associate nurse tends to

cause the associate nurse to have a better work experience. Bandura (2008) states that when individuals have an increased mature age, individuals tend to mature based on experience. Gkolia, Dimitrios, and Koustelios (2016) in his research with different subjects also stated that age can affect the value of self-efficacy. This is because the learning processed has been ongoing for some time as compared to others.

Gender and Associate Nurse's Self-Efficacy

The absence of a relationship between the gender and the self-efficacy of the associate nurse is likely due to an uneven distribution of the total study respondents. The researcher's findings are in line with other studies conducted by Soudagar et al. (2015) and Farzianpour, Foroushani, Amerzadeh, Kor, and Hosseini (2013) who found no relationship between self-efficacy and gender. Other studies with different subjects were also previously performed and provided similar results (Afta, Shah, & Mehmood, 2012; Aregu, 2013).

The results from the researcher's data showed that male associate nurses had a higher value of self-efficacy. But it cannot prove the researcher hypothesis statistically. This means the self-efficacy value is not depended on gender and the researcher cannot explain that self-efficacy value higher in one gender.

Educational Level and Associate Nurse's Self-Efficacy

The absence of correlation between educational level and self-efficacy of associate nurses is likely due to the unequally distributed sample size based on education level. The research about educational level linked to self-efficacy has limited. Previous research has also found similar results (Ghadmgahi, Zighaimat, Ebadi, & Houshmand, 2011; Farzianpour et al., 2013).

Other results from study findings is that associate nurses proportion with bachelors' degree showed a high value of self-efficacy. Educational level was links to cognitive processed which one of self-efficacy process. The higher value of associate nurse's self-efficacy could be linked to the learned experienced which can be increases cognitive process and affects to individual perceptions about their ability (Pajares & Urdan, 2006), and their critical thinking (Gloudemans et al., 2013). Positive visualization inside the individual also can trigger the individual perception about their ability (Bandura, 2008).

Work Experience and Associate Nurse's Self-Efficacy

The relationship between work experience and the associate nurse's self-efficacy, significantly with weak correlation between work experience and self-efficacy of associate nurses was found in this study. The researcher's findings in this study are in line with previous studies (Li, He, Luo, & Zhang, 2016)

Associate nurses at treatment room installations tend to have more mature work competencies based on work experience. Experienced associate nurse report greater success and competence when repeating routine procedures. Associate nurses tend to feel more capable of performing nursing actions if they have previously done the same activities before. Associate nurses with more work experience also tend to have strong self-motivation. It is one of the factors that give rise to the belief to always look at themselves and be confident to work well (Toode, 2015).

The conditions that researcher's found also supported the existence of cognitive social theory for the individual perspective. Bandura (2008) states that successful experiences can be an individual's self-mastery to turn failure into success. Individuals who had past experience tend to have stronger self-belief when facing similar activities again. Nursalam (2011) also stated that work experience may reflect the nurse's ability to solve problems and skills including confidence in action. Personal success can certainly create a resolute approach. The success achieved by persistence promotes a learning for individuals to manage and meet the challenges confronted (Pajares & Urdan, 2006).

The nurse's work experience is not only achievable in everyday work, but also through training and/or planned simulation. Simulation can also lead to the experience required by nurses in dealing with various problems (Nursalam, 2011). Burke and Mancuso (2012) found that successful experiences of simulated learning can support individual self-efficacy. Other studies have also found similar relationships (Roh, Lee, Chung, & Park, 2013).

Burnout and Associate Nurse's Self-Efficacy

The researcher's findings also indicated a negative direction with a strong correlation between burnout and self-efficacy. The findings in this study were supported by previous similar studies (Yang, 2011; Consiglio et al., 2013; Ki, 2011). The associate nurses with high self-

efficacy values tend to adopt positive coping, but nurses with low self-efficacy scores tend to adopt negative coping styles. Research by Li, Guan, Chang, and Zhang (2014) suggest that coping may have a mediating effect on clinical self-efficacy and burnout relationships with nurses. The ineffectiveness of coping of nurses can also trigger high emotional fatigue rates in nurses which are an indicator of burnout. Ding, et al. (2015) supports the analysis of researcher in which self-efficacy is associated with one of the burnout indicators of emotional fatigue. This condition is caused by the nurse's inability to adapt to burnout conditions.

Burnout is a condition that covers both physical and psychological aspects. Saam and Wahyuni (2013) states that physical components are the things that can cause many changes in the psychological condition. Burnout condition is manifested by a culmination of physical, psychological and mental symptoms that are destructive, caused by monotonous fatigue and caused pressure (Pangastuti in Sari, 2015). When experiencing burnout, nurses will think difficulty and tend to affect self-efficacy (Quan, 2011). This means that when nurses who experience physical fatigue, they also tend to experience psychological changes including a change in self-confidence.

These findings also proved the results of a preliminary study that researcher have previously obtained. The nurse in the treatment room installation tends to feel that there is doubt about working when feeling tired and the mood is less than optimal for personal condition. Less than optimal personal conditions were declared to occur due to various factors, one of which is exhaustion by the lack of good management of the nurses. This then affects the perception of self-efficacy of associate nurses.

Self-Esteem and Associate Nurse's Self-Efficacy

The results also showed that there is a strong positive correlation between self-efficacy and self-esteem. The researcher's findings indicated that when the nurse had a high self-esteem, the nurse will have a high self-efficacy as well. The research on the relationship of self-esteem with associate nurse's self-efficacy has limited research studies. However, there are several similar studies with different samples also performed and may support the findings of researcher (Zorlu, 2012, Saksri et al., 2012; Prasetya et al., 2013).

The researcher's analysis is supported by Zulvosky (2009), with his

assertion that low self-efficacy is associated with low self-esteem conditions. Individuals with low self-esteem may be pessimistic about personal ability and personal development which can lead to lower self-efficacy. This is in line with other literature that positive self-esteem of nurses can also generate confidence, including self-confidence (Tambunan in Sari, 2015). The researcher's findings on high self-esteem, values indicate that the associate nurses felt well received from the internal and external environment. Thus good self-acceptance, then can lead to better feelings of the associate nurse that leads to feelings of being valued, and cared for, which then impact on self-confidence (Saam & Wahyuni, 2013).

The self-esteem relationship with the associate nurse's self-efficacy also can be attributed to a sense of self-esteem of the associate nurse which then increases the nurse's self-confidence. Saam and Wahyuni (2013) stated that high self-esteem will give positive values to individual characteristics, including self-belief. Similarity the associate nurses, the who have a high self-esteem tend to have a good personality and self-confidence that can build positive behavior (Burger, 2011). Positive attitudes possessed by individuals will lead to courage in making decisions which assist dealing with confronting activities (Pajares & Urdan, 2006).

The existence of a good self-esteem is also likely caused by the feelings of value from the associate nurses. This proves the result of a preliminary study based on an interview with the 'head of the room' that the associate nurse always received support from the 'head of the room'. One of the supports provided is the motivation to work to optimum performance. It can have an impact on good self-esteem and then can trigger positive self-efficacy within the associate nurse.

CONCLUSION

The study found that based on individual characteristics, age was associated with self-efficacy (p = 0.039), there was no difference in self-efficacy by sex (p = 0.370), as well as educational level (p = 0.396), however there is a relationship between work experience and self-efficacy of associate nurse (p = 0,19). In addition, it was found that there was a relationship between burnout and self-efficacy of associate nurses with p = 0,000, and there was a relationship between self-esteem and self-efficacy of associate nurse with p = 0,000. Based on this study, it is suggested that further research of associate nurse's self-efficacy in general be

undertaken in an effort to improve the hospital's quality of care. In addition, it is recommended that the next researcher conducts research on the self-efficacy of associate nurses with a larger population, so that can generate research results examining other factors which were not fully analyzed in this study.

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TEMPERATURE INCREASE ON POST SURGERY HYPOTHERMIA PATIENT THROUGH WARMED IV LINE AND BLANKET

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ABSTRACT

Hypothermia is a condition where the body's core temperature is below 36 ^{o}C. This is a major problem in post-operative patients that should be handled properly to prevent complications such as heart failure, respiratory failure or even death. The purpose of this study was to examine the effectiveness of warmed IV line and blanket implementation on temperature variance changing in post-operative patients with hypothermia. This analytical descriptive study applied quasi experiment method that involved 34 subjects. The result indicated that the use of warmed IV line was effective to increase temperature in post-operative patients with hypothermia (p-value = 0,011). The findings could be useful for clinical practice related with nursing intervention of hypothermia in post-operative patients.

Keyword : Warmed IV line, Hypothermia, Post Operation

INTRODUCTION

Hypothermia is a condition of body core temperature under 36°C (normotermi: 36.6°C – 37.5°C) (Guyton & Hall, 2008). Hypothermia is a condition of medical emergency that could emerge when body losses heat faster than heat production. When body heat decreases the nerves system and other body organ cannot work normally. If it doesn't be followed up the hypothermia will finally be able to cause failure of heart and respiratory system, and even death.

Hypothermia is one of complications from surgery action. Hypothermia is very difficult to be avoided by post surgery patient. Post surgery hypothermia is very disturbing to patient's comfort in recovery process. This hypothermia is caused due to the operation and ICU rooms have low temperature. Post surgery hypothermia is also be able to happen due to open injury, muscles activities, cool gases inhalation, infusion with cold liquid, drugs agents (bronchodilator, fenotiasin, anesthesia), old age and neonatus (Black, 2009).

Post surgery hypothermia is the core temperature which is lower than normal body temperature which is 36°C after patient undergone a surgery. In normal condition, human body can control temperature in hot and cold environment through temperature shelter reflex which is controlled by hypothalamus. During general anesthesia, this reflex is not functioned so the patient will be very susceptible to experience hypothermia. This condition is supported with the operation's and ICU's rooms temperature which is under the room temperature. The post surgery hypothermia highly harms the patient. Post surgery hypothermia can cause disritmia of heart, extending operation wound recovery, trembling, shock, and decreasing of patient's comfort rate (Marta, 2013).

Body temperature decrease (hypothermia) is one of disturbance on physical comfort needs fulfilling which has closely related to comfort needs. Physical comfort needs is the lack in process physiologically that experience disturbance or having risk

due to illness. Intervention comfort standard is addressed to regain or maintain balance (Kolcaba in Sitzman & Eichelberger, 2011). Role and function of nursing is to always give the sense of comfort to patient who experience disturbance of comfort especially body temperature decrease (hypothermia).

In Indonesia and Bali there is also no concrete data about hypothermia incident rate, because during these times there has not yet any recording regarding the post surgery hypothermia incident rate. According to Marta (2013) hypothermia incident happens to 60%-90% of all post surgery patients who uses spinal anesthesia. Spinal anesthesia is one of method to remove motoric sensation by putting in anesthesia drug to subaraknoid space. In spinal anesthesia action there is blocking in sympathy system so vasodilatation causes heat movement from central compartment to periphery. This anesthesia effect can cause hypothermia due to threshold displacement in thermoregulation so body responds body heat decrease faster. According to Fauzi Akbar (2014) the incident of hypothermia is 33-65% of all post surgery with general anesthesia and 33-56.7% of all post surgery with spinal anesthesia in Regional Public Hospital of Karawang. In Regional Public Hospital of Buleleng there are 56 times of various types of surgery action in average of one month. Hypothermia incident rate in Regional Public Hospital of Buleleng generally is not yet known for certain, but in June 2016 in ICU Room of Regional Public Hospital the recording was carried out to post surgery hypothermia incident. The result that from 10 post surgery patients it is found out that for 7 patients (70%) experienced hypothermia.

Intervention of effective warmer can help patient in maintaining normothermia. Intervention of warmer given to patient suffers from post surgery hypothermia can reduce anxiousness increase patient's comfort. Intervention of this warmer can even

reduce pain complaint to patient that had surgery wound after the operation. Thermal comfort is one of dimensions of overall patient's comfort showed by the giving of post surgery warmer intervention. Temperature is an integral component of patient's welfare perception during perioperation (perioperasi) experience. Thermal comfort feeling or discomfort during perioperation (perioperasi) affects patient's satisfaction (Marta, 2013).

Black (2009) explains that to prevent extreme hypothermia to post surgery patient, the main target if hypothermia is occurred, and purpose of the intervention is to minimize or to reverse the physiological process. There are some efforts to overcome post surgery hypothermia, among others are by opioid or non opioid medicines that has been tested to overcome post surgery hypothermia such as pethidin, tramadol, klonidin, meripidin and various mechanical interventions such as warm intravenous liquid, warmer light, warmer blanket, warmer mattress, warm humidifier, and increasing the room temperature (Nazma, 2008); air pressured warmer system, electrical mattress and blanket, and water mattress and covers (Bartosz Horosz, 2014). Research performed by C.H. Ihn et al (2008) in South Korea showed that there is increasing of body temperature to abdominal hysterectomy post surgery patient who suffered from hypothermia in the 30th, 60th, 90th, and 120th minutes by using surgery blanket, covering upper part of body, and using circulating water mattress.

Based on above description the using of warmed IV line can increase temperature to patient with post surgery hypothermia. Researcher was interested to perform research about the effectiveness of Warmed IV Line and blanket in increasing temperature to post surgery hypothermia patient in ICU of Regional Public Hospital of Buleleng.

METHOD

This research is a quantitative research, quasi experiment / pre

experiment. Research design used is the pretest and posttest group design with control group. In this research intervention given is the warmed IV line and blanket to patient who suffers from post surgery hypothermia. Control group in this research is the patient who suffers from post surgery hypothermia who is only giving blanket.

Amount of sample in this research is 34 respondents with 17 respondents for every group. Primary data in this research is the change of patient's temperature before and after giving to intervention group and control for 30 minutes. Temperature measurement is measured by calibrated digital thermometer. Measures taken in data processing in this research cover the editing, coding, entry, and tabulation. This research protects the research subjects from human rights violation. In performing this research the researcher considers the ethical principle to protect the respondents. There are three ethical principles in nursing research those are the beneficent, respect the human's value, and justice.

RESULT

Table 1.

Temperature Of Control And Intervention Group (N = 17)

Group	Data	Mean	SD	Min-Max
Control	Before	34,95	0,63	33,8-35,7
	After	35,5	0,81	33,9-37.7
Intervention	Before	35,01	0,64	33,8-36,4
	After	36,32	0,62	35,5-37.7

Table 1 shows the average of respondent's temperature before intervention, after intervention and temperature increase to control group. The average of respondent's temperature before the giving of intervention is for 34.95°C. The average of respondent's temperature after the giving of intervention is for 35.5°C.

Table 1 also shows the average of respondent's temperature before intervention, after intervention and increasing of temperature to intervention group. The average of respondent's temperature before the giving of intervention is for 35.01°C. The average of respondent's temperature after the giving of intervention is for 36.32°C.

Table 2.

Analysis of Temperature Difference Before and After for Control Group, Temperature Before and After for Intervention Group, and Temperature after for Control and Intervention Group.

No	Analysis	t	95% CI	*p-velue*
1	Temperature Difference Before and After for Control Group	-4,433	0,81 ; 0,28	0,000
2	Temperature Before and After for Intervention Group	-9,079	1,62 ; 1,01	0,000
3	Temperature after for Control and Intervention Group	-2,883	1,42 ; 0,22	0,011

Analysis from table 2 shows that of the three bivariat performed it shows that there is difference from data analysis. It can be seen from the p value. Statistical test result for temperature before and after intervention (giving blanket) for control group has result for *p-value* =

0.0001 ($p<0.05$), so it can be concluded that in alpha 5% there is significant difference between temperature before and after intervention to control group. Statistical test result for temperature before and after intervention (giving of warmed IV line and blanket) to intervention group has result for p-value = 0.0001 ($p<0.05$), so it can be concluded that in alpha 5% there is significant difference between temperature before and after intervention to intervention group.

DISCUSSION

Statistical test result for temperature change to control and intervention group has result for p-value = 0.011 ($p<0.05$), so it can be concluded that in alpha 5% there is significant increase between temperature for control and intervention group. With this result the hypothesis of this research is that the zero hypothesis is rejected ($p < \alpha$). Zero hypothesis is rejected has meaning that there is effectiveness of warmed IV line and blanket to temperature increase in post surgery patient.

This research result is similar to research result performed by Ch Ihn et al. (2008) with sample of 30 respondents, it is found out that there is temperature increase and decreasing of trembling symptoms by using warmed IV line. Other research result is also similar to research result performed by Hsiu Ling et al. (2012) with sample of 65 respondents which found out that there is temperature increase and decreasing of trembling symptoms by using warmed IV line.

Giving of warmed infusion liquid or irrigation liquid can avoid hypothermia to post surgery patient. Irrigation liquid should be warmed in temperature of $37^{o}C$. Warm intravenous liquid with temperature of $37^{o}C$ enters by conduction into blood vessel so it will have more effective speed from warming by intrinsic. The temperature increase in blood vessel will be directly detected by thermoreceptor in hypothalamus. Hypothalamus directly monitor temperature rate in

blood that flows through brain. And then, through traktus desendens it stimulates vasomotor center so there is vasodilatation of blood vessel that cause increasing of blood flow. The high speed of blood flow to skin causes heat to be conducted from inner part of body to skin with high efficiency. Body temperature transfer from blood through blood vessel to body surface, so body surface will turn to be warm.

Mechanism of heat transfer occurred in the using of Warmed IV line is conduction. Conduction is heat transfer directly from higher temperature to lower temperature. Temperature in blood vessel will slowly increase and will always be conducted extensively through blood vessel. Blood flow that already has temperature increase enters the smallest blood flow that is the capillary. In capillary, the blood temperature will be conducted with surrounding tissue and cellular. By the temperature increase in cell it will increase cell metabolism rate. This cell metabolism will stimulate through efferent nerve to hypothalamus to reactivate the regulation of blocked temperature control due to anesthesia effect. And then hypothalamus responds it by increasing heat production. Cell metabolism increase needs oxygen, so the needs of oxygen will be more during that time (Wagner, 2006).

According to Prentice, E.W (2002), warm intravenous liquid with temperature of 37^{o}C by conduction enters the blood vessel. The temperature change in blood vessel is directly detected by thermoreceptor in hypothalamus. Hypothalamus directly stimulates heat in blood that flows through brain. And then, through traktus desendens it stimulates vasomotor center so there is vasodilatation of blood vessel that causes the increasing of blood flow. The high speed of blood flow to skin causes heat to be conducted from inner part of body to skin with high efficiency. Body temperature transfer from blood through blood vessel to body surface, so body surface will becomes warm (Guyton & Hall, 2008).

CONCLUSION

From this research result it is concluded that there is significant increase between temperature in group using blanket warmer and group using warmed IV line warmer plus blanket. From analysis result it is obtained that p-value = 0.011 ($p<0.05$) so hypothesis of this research is that the zero hypothesis is rejected ($p<\alpha$). Zero hypothesis is rejected has meaning that there is effectiveness of warmed IV line and blanket to temperature increase to post surgery patient in ICU room of General Public Hospital of Buleleng. Suggestion for next research is that to perform research of analysis factors that affect the occurrence of hypothermia to post surgery patient and performing research of warmed IV line that is combined with other intervention in order to overcome post surgery hypothermia patient.

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SELF EFFICACY AND EMOTIONAL INTELLIGENCE AS AFFECTING FACTORS COMMUNICATION FOR NURSES IN THE EMERGENCY CARE UNIT OF DR. HASAN SADIKIN GENERAL HOSPITAL.

I Nyoman Asdiwinata

STIKes Wira Medika Bali

ABSTRACT

Emergency experienced is unexpected situation that may occur at any time and place. The high rate of patient entry at emergency department, which is not following with adequate communication skill of emergency nurses, may lead to reducing quality of communication between nurses and patients and their families.

The role of self-efficacy and emotional intelligence of nurses is expected to be supporting the implementation of effective communication in the emergency unit. This study aimed to analyse the relationship between self-efficacy and emotional intelligence with effective communication of nurses in providing nursing care at the Emergency Unit of the Dr. Hasan Sadikin General Hospital Bandung.

This study used analytical correlation with cross sectional method. Fifty Five Nurses were recruited in this study using total sampling technique. The research instrument modified from self-efficacy questionnaire and emotional intelligence are taken from the inventory of self-efficacy and emotional intelligence test result validity and reliability of 0.80 and 0.73. Effective communication observation sheet was adapted from Kalamazoo Essential Communication with the validity of the test results 0.93. Data were analyzed by Pearson Product Moment to bivariate analysis and multiple linear regression for multivariate analysis.

Results showed that between self-efficacy and emotional intelligence, it was only self-efficacy which has a significant relationship with the effective communication of nurses ($p < 0.05$). Self-efficacy is the dominant affecting factor for the effective communication, so that the self-efficacy of nurses need to be increased to maintain the quality of nursing care.

Keywords: Effective Communication Nurses, Emergency Room, Emotional Intelligence, Self-efficacy

BACKGROUND

Emergency Unit (ER) is one unit of service in a hospital that became the main entrance of clients in emergency and critical emergency conditions. The main services provided aims to save lives, avoid damage before action is given and follow-up care and restore the client's condition.

The state of emergency experienced by clients may occur at unexpected times and places. Based on the time of the incident, the emergency situation occurred in a very fast time and resulted in the number of victims. The World Health Organization (WHO) noted that in 2007, an estimated 20 to 50 million people entered emergency services from traffic accidents and were injured. Of these figures showed nearly 1.3 million people died.

According to the American Association of Critical Care Nurse (2005), critical patients have both life-threatening and life-threatening potential characteristics, so this condition will increase the client's needs. According to the Canadian Association of Critical Care Nurse (2009), the needs of clients with critical conditions include physical and non-physical needs. A physical need in question is an adequate need for air, nutrition and elimination. Non-physical needs include social, spiritual, self-esteem, information and communication needs.

Comparing the high number of incoming patients and poor nurses in emergency conditions and non-conducive environments resulted in communication performed by the nurses not in accordance with what is expected by the client and family, thereby reducing the quality of nurse communication. Nurses as subjects who perform these communications may provide poor communication to clients or other colleagues. The quality of communication performed by the nurses is highly dependent on one of the emotional intelligence levels of the nurse (Mcqueen, 2005). Not only emotional intelligence that needs to be considered for a nurse who works in the ER. Several other aspects related to self-efficacy become one of the factors that affect the performance of nurses in the work.

A strong self-efficacy in nurses will have a positive impact on nurses especially on a nursing unit (Chang, Li, Wu, and Wang, 2010). In addition, there is an increase in client service outcomes and health care systems. Lee and Ko (2010) found that high levels of self-efficacy of nurses are closely related to nursing performance.

To the knowledge of the researchers there has been no research that identifies the effective communication done by the ER nurses at dr. Hasan Sadikin Hospital Bandung. In relation to this the researcher is interested to examine the relationship of self- efficacy and emotional intelligence with effective communication nurses in the provision of nursing care in the ER.

RESEARCH METHODS

Research Design

This study uses correlational analytics with cross sectional approach. This study also using RASCH Model.

Population and Sample

Population in this research is all nurses who work in emergency department dr. Hasan Sadikin Bandung starting from December 2015 - January 2016. Sampling of 55 people using total sampling techniques.

Research Instrument

The research instrument was modified from self-efficacy questionnaire and emotional intelligence taken from self-efficacy inventory and emotional intelligence with validity and reliability test result 0.80 and 0.73. The communication observation sheet was effectively adapted from Kalamazoo Essential Communication with validity test result 0.93.

RESULT

Most of the nurses who worked in ER at dr. Hasan Sadikin Hospital Bandung has a high self-efficacy with dominant characteristics, which are male, with age <30 years old, have married, have working experience of 6-10 year, and with diploma education qualification. Most of the nurses who worked in ER at dr. Hasan Sadikin Hospital Bandung has a high emotional intelligence with dominant characteristics of women aged 31-40 years, married, has a working period of more than 16 years with diploma education qualifications.

Communication performed by nurses who worked at the ER in dr. Hasan Sadikin Hospital Bandung mostly have effective communication. The results of study observation showed 52 nurses have effective communication value above 0.

The results of Pearson Product Moment test showed there is a significant association between self-efficacy with nurse communication, but there is also a significant connection between emotional intelligence with effective communication nurses at the ER in dr. Hasan Sadikin Hospital Bandung. Furthermore, the results of multiple linear regression test indicated that self-efficacy becomes the most dominant factor to effective communication nurses at the ER in dr. Hasan Sadikin Hospital Bandung.

DISCUSSION

Self-efficacy has a significant effect on effective communication conducted by the nurse. Nurses' self-efficacy at emergency department in dr. Hasan Sadikin Hospital Bandung is generally at a high level. This is one of the factors to improve nursing care. High self-efficacy indicates good nurse's communication skills during nursing care. Not only that, high self-efficacy makes nurses are motivated take more challenging actions. Bandura (1997) in his theory states that the higher the value of self-efficacy possessed by nurses will challenge nurse on trying to complete higher tasks, and they will have a high purpose to their work. Conversely without self-efficacy the nurses will lees motivated on trying to reach the goal and limit their self to take the actions.

Self-efficacy in nursing affects the development of the profession. Starting from the nurse education process, the self-efficacy relationship is evidenced by McLaughlin, Moutray, and Muldoon (2008) in his

research conducted on first-year nursing students. The study used longitudinal design and linked self-efficacy with student initiative ability in learning. The results show that students who have high self-efficacy are able to achieve high scores in the educational process.

Emotional intelligence of emergency nurses dr. Hasan Sadikin Hospital Bandung is at a high level. It plays an important role in every interaction with others. Great pressure on the workplace will affect the emotional intelligence condition of a person. For nurses, having a good emotional intelligence will help build a good relationship in the interaction of the nurse with the patient. Goleman (2000) mentions that a good person's emotional intelligence will give awareness to the situation and people so that someone is able to behave appropriately.

The emotional intelligence of the nurse when associated with work experience will provide a unidirectional relationship. Shipley, Jackson and Segrest (2011), provide an explanation in his research that the longer a person's work experience will provide a significant relationship to the condition of emotional intelligence. In this study it was found that almost all nurses with less than 5 years work experience had low emotional intelligence. Unlike nurses who have worked more than 16 years.

Based on the results of self-efficacy relationship analysis and emotional intelligence with effective communication nurses at the ER in dr. Hasan Sadikin Hospital Bandung shows that self-efficacy becomes a variable that has a significant relationship to effective communication conducted by the nurse. Communication is one part that cannot be separated from a nursing service. Any nursing action that aims to save a person's life is not only judged by the skill of action. A good nursing action should also be based on effective communication delivered to the client. Achieving an effective quality of communication is influenced by self-efficacy.

Quality of self-efficacy nurses at the ER in dr. Hasan Sadikin Hospital Bandung has shown high results. The high self-efficacy possessed by the nurses is strongly influenced by various factors. One of the factors that can affect self-efficacy is the personal characteristics of the nurse. The development of self-efficacy owned by the nurse is in line with the personal characteristics and also the characteristic of the organization. Bandura (1997), stated that the characteristics of the organization give effect to the development and opportunity of autonomy for nurse to improve self-efficacy.

The quality of one's emotional intelligence is only influenced by the personal internal factors of each. Until now there has been no research that links between external factors with emotional intelligence.

CONCLUSION

Based on the results of analytical tests that have been done related to self-efficacy and emotional intelligence with effective communication nurse found that self-efficacy becomes the most dominant factor to the communication changes made by nurses.

It is expected that nurses will maintain and develop skills related to emergency psychiatric skills to improve the quality of nursing care provided, in addition, with high emotional intelligence is expected nurses are able to realize every situation yourself and clients to foster good interpersonal relationships, so that the quality of communication will be more optimal.

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THE EFFECT OF DYSMENORRHEA WEB-BASED HEALTH EDUCATION PACKAGE TOWARD MENSTRUAL PAIN IN ADOLESCENT.

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ABSTRACT

Dysmenorrhea is one of the menstrual problem that can affect adolescent's activities. The aim of this study was to identify the effect of dysmenorrhea web-based health education package toward menstrual pain in adolescents. This research used quasi-experiment pretest-posttest with control group design. There were 94 samples chosen by simple random sampling and divided into intervention group (47 respondents) and control group (47 respondents). The results show that the dysmenorrhea web-based health education packages reduced menstrual pain intensity (p=0,001), but did not influence to the number of dysmenorrhea complains among adolescent (p=0,52). Dysmenorrhea web-based health education package is recommended to use for adolescence.

Keywords: Dysmenorrhea Health Education, Web, Adolescent, Dysmenorrhea.

INTRODUCTION

Menstruation is a situation that can not be separated from women. There are some probleme experienced in menstrual periode like dysmenorrhea[1]. Dysmenorrhea has the most complaint in adolescent. Study found that the prevalence around were from 20% to 90% like research in Turkey, it was occurred in 55.5% of adolescents, and the other study found 80% case in Hong Kong[2,3]. There is not special report registered in Indonesia, but it can be said almost 90% of adolescents have experienced dysmenorrhea[4].

Dysmenorrhea can effect learning achievement. Study found that 55.8% of female students with moderate to severe dysmenorrhea could not attend school and impaired their social interactions[5,6]. This problemes need to reduce so that adolescents girl do not have sense of regret were born to be a woman.

There were some ways had been developed to make peoples to be independent[7]. It is known that adolescents are close to technology and Internet. Research suggests that adolescents in 14-18 year old male and female have similar interests to Social Networking and tend to become a habit[8]. It can be an opportunity for health professionals to provide health promotion. The aim of this research was to identify the effect of dysmenorrhea web based health education package toward menstrual pain in adolescents. The research question was "what is the effect of dysmenorrhea web based health education package on adolescents menstrual pain?"

METHOD

This study used quasi-experiment pretest-posttest with control group design. 94 samples were chosen by simple random sampling and divided into intervention group (47 respondents) and control group (47 respondents). This study was carrid out at a senior high school of Badung regency in Bali. The data was collect from may until june in 2016. The inclusion criteria are (1) adolescent with dysmenorrhea with pain scale ≥ 4, (2) have access to technology, (3) Balinese and (4) do not have gynecological disorders.

Exclusion criteria are (1) known diagnosed of secondary dysmenorrhea, (2) Who have other diseases as contraindications of application health

education package dysmenorrhea such as broken bones or head injuries, (3) Get pregnant, (4) smoking. Ethical considerate were *autonomy and respect for human dignity, confidentialy, beneficiency, justice, protection from discomfort and harm*.

The intervention was given by send the web based package and the pain was measured after four weeks by *Numerical Rating Scale* (NRS). It's validity 0,56-0,9 and reliability 0,75-0,89[9]. It was administred to adolescents both of intervention and control group. Data were analysed by computer programe.

RESULT

The results saw that majority of respondents were 16 years old, good nutritional status, mean of fatige scale was 4, good knowledge of menstruation and had lack of family support when menstrual periode occur. Statistical analysis showed that all of variables are homogen (p> 0.05).

Table 1. The Difference of Pain Intensity In Intervention Group Before and After Used of Web Dysmenorrhea in Bali 2016 (n = 47)
P < 0,05

Time	Mean	SD	Min-Mak	95%CI	p-value
Pre	6,74	1,46	4-10	2,49; 2,99	0,001
Post	4,00	1,50	1-7		

For 47 adolescents in intervention group, mean of pain intensity before intervention was 6,74 (SD 1,46) decreased to 4 (SD 1,50) after intervention. Statistical analyses demonstrate that p-value was 0.001.

Table 2 saw that pain intensity was lower in intervention group than in control group and had mean difference 1.64. Statistical analyses show that p-value was 0.001.

Table 2. The Differences of Intensity In Intervention and Control Group After Using Web Dysmenorrhea In Intervention Group in Bali 2016 (N = 94)
P < 0,05.

Variable	Group	Mean	SD	Min-Mak	MD 95% CI	P
Intensity	Intervention	4,00	1,50	1-7	-1,64 - 2,22; -1,04	0,001
	Control	5,64	1,37	3-9		

Table 3. The Difference Of Mean Dysmenorrhea Between Intervention and Control group After Using Dysmenorrhea Web Based Health Education Packages On Intervention Group in Bali 2016 (N: 94)

Group	Mean Diference	SD	MD 95%CI	p-value
Intervention				
Pre- Post	2,74	0,84	1,72	0,001
Control			1,38;	
Pre- Post	1,02	0,82	2,06	

P < 0,05

Based on table 3 know that mean difference in the intervention group was larger 2.74 (SD (0.84) Statistical analyses show that the p-value was 0.001.

DISCUSSION

This research show that there were significant differences in pain intensity before and after the intervention in intervention group. It was be knewn that pain intensity was lower in the intervention group after treatment. The other dysmenorrhea on previous study were done by Hasanah, Yetti, and Wanda in 2010. The other research was application of acupressure package by Ningsih, Setyowati, and Rahmah in 2011, which had same effect to decrease pain intensity. The difference were on the technique of the intervention like had been carried out by researchers or printed media[10, 11]. This research want to knew the differences result of using technology that are close to adolescents to solve dysmenorrhea problem.

Changing of dysmenorrhea complaint indicated that adolescent girls in this study join this research well. Previous study about some kind of intervention found that listen to music for 30-60 minutes a day can release relaxation hormone [13,14]. The other study said that doing physical exercise two weeks before menstruation can reduce dysmenorrhea complaints [15,16]. According to physiology of pain, Yogasana can affect to gate control mechanism. It's technique of breath during yoga are relaxation techniques to give calm expiratory breath so it can increase of endorphin's level [16].

The implementation of this study did not make a change in the number of dysmenorrhea complaints. Previous observational research on first, second and third period experienced that were a decrease in pain intensity almost half of each period, but these studies did not assess the perceived difference in the number of complaints 17. This condition maybe occur due to peoples had different responses to pain. Symptom of dysmenorrhea is caused by the influence of estrogen and progeteron and prostaglandins in the blood[5]. In addition,

changes can occur because respondents were more focused on her self during the study occur. It can be possibility bias or weaknesses in this study that could not be controlled by the researchers.

Researchers did not find the other studies that discused about the change in the number of dysmenorrhea complaints, but we previous research said duration of pain had not been able to change significantly only on one observation[16]. The intervention in this research had not able to changed in reproductive hormone, but it was able to change and stimulate relaxation hormone to reduce menstrual pain.

This study consider to the cultural influence of individual response to pain. Culture was a factor that can affect how pain perceived and communicated[18]. Previous research through qualitative study found that the Balinese regard pain as karma or the consequences of life obtained from the deeds[19]. Whitman in 2007 said that Hindu's people faith addressing and overcoming pain related to karma. They did meditation that believe can control their mind to dealing with pain. However, this activity had positive and negative effect when administered to heterogen society. Thus future research is need to considered in diverse region. As a research found before, culture was not fully affect to people's perception but had more influence to the way people find solutions to solve pain[20]. Other studies which discussed about menstruation related to cultural and religious stated that menstruation was taboo and women set aside temporarily while undergoing menstruation. This stigma which currently must be addres so that women have a comfortable environment to gain access of information regarding menstruation without any sense of discrimination or embarasment[21].

Previous research did their intervention to cope dysmenorrhea with auricular acupressure was done by provided interactive internet which could improve understanding of the application of acupressure [22]. However, It only represent an increase of ability to care for themselves, but did not show the difference in pain changed in the intervention group. This condition was same case with this research that had not changed the number of dysmenorrhea symptoms. It could be because of both of them need more time to have had an evaluation of the benefits. The other research before reported that duration of pretest and posttest on pain perception had not been able

to changed significantly only on one the menstrual cycle monitoring[16].

Knowing the impact of dysmenorrhea it is very important to developed a health education[23]. Health education should be close to adolescent lifestyle [24]. Based on Bloom's theory, the learning process consists of three domains, such as cognitive, affective, and psychomotor. Appropriate to this research, learning was takes place on considering, applying and evaluating of the changes experienced after had been given intervention[25]. Media was also affect the achievement of learning outcomes, as previous research which claimed 24.8% of students choose visually, 24.5% through voice, 23.2% through writing and reading, and 27.55 Kinesthetic [26].

Using visual stimulating media will be responded better to social and emotional stimuli such as influence of image that will be responded quickly by the limbic brain, especially the days of puberty[27]. It was been also supported by systematic review that explained the benefit of electronics such as computer and the Internet for adolescents. They were able to changes in activity early teens and late adolescence [28]. Research before said that using technology among adolescence especially on 14-18 years old actualy have not difference on type but it tends to become a habit[8]. Other research also said that were not difference in the behavior and life style of adolescents with and without dysmenorrhea[24]. So it was same opportunity to used media of interest for health promotion in adolescence.

There was a different view on implementation of online media according to age-related or generation states. It explained that both of written and electronic information should be run simultaneously, because it had a perspective and tastes of each other[29]. In addition it should be viewed suitability of goals, capabilities and the object [30]. This implementation also related to economic status in that area[31]. It could be some consideration to take this intervention at school in more remote area in Indonesia and also the internet access and electronic holdings are not evenly distributed. While at this research took place in Bali has been developed rapidly in technological development because Bali is world tourist destination.

This study was supported by Orem self care theory[32]. Previous research state that self care and habits in adolescence was influenced by themselves or obtained from imitating, supportive environment [7]. Under these conditions, nurse has play an important

role esspesialy maternity nurses to provide caring to adolescents as a reproductive health educator [33]. The other roles are as a health promotion manager, role model, and counselor. Nurses need to have comprehensive competence and should have respect for their clients[34].

The limitations of this research that researchers had not been able to control the respondents to be more focused on their complaints during the study, so that the number of dysmenorrhea complaints had not changed. It was not able to apply stratified random sampling because the participants had different proportion in each class. This study also monitors in one menstrual cycle.

The implications of this research that despite dysmenorrhea is not life-threatening yet but it had an impact on the learning process, activity, quality of life in adolescence. This implementation was expected to help adolescents achieve an excellent conditions at each menstrual cycle. It was also expected to bolster the performance of nursing in health education with greater reach with the use of technology "nursing informatics".

CONCLUSION

This study concluded that the dysmenorrhea web-based health education packages reduced menstrual pain intensity among adolescents. We sugested for further research through quantitative studies to be applied full range of respondents with consideration strata and qualitatively determine the adolescent experience in dealing with menstrual pain associated culture.

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YOGA SURYANAMASKARA TECHNIQUES IN REDUCING WOMEN'S ANXIETY DEALING WITH MENOPAUSE

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ABSTRACT

In this current globalization era, health is an important aspect, especially women reproductive health. Nowadays women do not want to look old or get old therefore much simple problem become bigger and even make desperate and anxious in facing menopause. The anxiety experienced by the women is often associated with anxiety in facing unprecedented situation. Non-pharmacological techniques can be used as one of the efforts to treat anxiety in facing menopause named Surya Namaskara Yoga technique. This study aimed at identifying the impact of Surya Namaskara Yoga technique towards anxiety level in facing menopause.

This study used pre experiment with one group pretest-posttest design without control group with sample chosen using purposive sampling technique. The number of sample in this study was 30 respondents. Data was analyzed using statistical test named Wilcoxon Signed Rank Test.

The average of anxiety level in facing menopause before and after implementing Surya Namaskara Yoga technique was in the range of (1,77 ± 0,626) and (0,73 ± 0,583).Based on statistical test named Wilcoxon Signed Rank Test could be obtained that p = (0,000) < α (0,05) therefore it could be concluded that there was significant impact of Surya Namaskara Yoga technique towards PWD's anxiety level in facing menopause in Banjar Umalas Kauh Kelurahan Kerobokan Kelod and in order to achieve maximum result, it should be implemented regularly.

Keywords **:** Menopause, Anxiety Level, Surya Namaskara Yoga

INTRODUCTION

In the current era of globalization health is very important, especially women reproductive health. Women reproductive health problems including not only pregnancy and childbirth, but also menarche to menopause (Susanti, 2016).

Menopause phase is usually preceded by pre-menopause phase, in this phase women will experience chaos menstrual pattern, psychological and physical changes occur. Pre-menopause phase occurs between the ages of 40-50 years old and lasts for four to five years. Central Bureau of Statistics (CBS) in 2015 stated that the number of women in Indonesia during pre-menopause phase (age 40–50 years old) was 17.21 million people, while those who entering menopause phase (age 50 years and over) reached 21.22 million people. It is estimated that in 2035 the number of female population in Indonesia will reach 152.69 million people with the number of women in pre-menopause phase is 20,36 million people who experience menopause symptoms. These symptoms are physical and psychic symptoms (Bappenas, 2013).

Some of the physical symptoms experienced by women who enter menopause phase are hot flashes which is known as a sudden sensation of heat and sweating especially on the upper body. The common and most intensive hot flashes occur in peri-menopause and post-menopause phase (Kronenberg, 2010), night sweats, insomnia, headaches, difficulty in urinating, increased heart rate, and weight gain (Spencer & Brown, 2007). It is also accompanied by some prominent psychic symptoms such as mood swings, irritability, unsteady emotions, feelings of worthlessness and the emergence of anxiety which can interfere daily activities (Proverawati & Sulistiyawati, 2010).

The anxiety experienced by the women is often associated with anxiety in facing an unprecedented situation. This kind of women are usually very sensitive to emotional influences. Generally women do not get right information therefore in their mind there is only negative effects which will be experienced after menopause phase (Rostiana, 2009). Anxiety is an uncomfortable emotional condition, characterized by anxiety, discomfort, worries, unfavorable fears of an unpleasant subject when facing something that threatens themselves (Sarastika, 2014).

Anxiety is an emotion and an individual subjective experience which is communicated interpersonally, has its own power and difficult to be observed directly (Nursalam, 2011). Hawari (2011) expresses anxiety is a condition when a person is unable to cope psychosocial stressors faced. Based on the definitions above can be concluded that the anxiety is

a condition when person are unable to cope psychosocial stressors faced which is characterized by anxiety, discomfort, worries, subjective fears in facing something that threatens themselves and difficult to be observed directly.

In overcoming this case needs a method to cope anxiety by using deep breathing techniques such as Yoga. Practicing yoga regularly can provide some benefits, such as strengthening organs and overall muscles, improving spine and joint flexibility, calming mind and digestion. One way to reduce anxiety is by implementing yoga breathing exercise or commonly known as Surya Namaskara (Pujiastuti, 2013).

Preliminary study results conducted on October 9th 2016 in Br. Umalas Kauh, Kerobokan Kelod obtained the number of women in Family Welfare Development (FWD) group was 177 people. The number of FWD women in the range of age 40-50 years old was 160 and those with the age under 40 years old was 17. The results of interviews conducted on 10 FWD women obtained nine women experienced anxiety and only one who did not experience anxiety. Nine women who were interviewed said experiencing sleeping disorder, changes in menstruation patterns, fatigue, weight changes, skin changes, emotional disturbances and decreased sexual arousal.

RESEARCH METHODS

This study used pre experiment design (one group pretest-posttest design). In this design there was not control group but at least the first observation (pretest) has been conducted which allows researchers to test the changes that occur after the experiment (Setiadi, 2013).

Subjek	**re**	**erlakuan**	**ost**
K	)1		)2

Table 1 Research Design

Note:

K : Subject

O1 : Observation of anxiety levels before practicing Yoga Surya Namaskara

X : Intervention by practicing Yoga Surya Namaskara technique

O2 : Observation of anxiety levels after practicing Yoga Surya Namaskara

Population is the whole object of research or object to be studied (Notoatmodjo, 2010). The population in this study was all FWD women in

Banjar Umalas Kauh, Kelurahan Kerobokan Kelod about 177 people.

The sample is partly taken from the entire object to be studied and considered to represent the entire population (Notoatmodjo, 2010). Sample chosen using sampling technique of nonprobability sampling types named purposive sampling which is known as a technique of determining sample with certain consideration (Sugiyono, 2014). Sample in this study was determined by looking at inclusion and exclusion criteria. The inclusion criteria is the criteria or characteristics which should be met by each member of the population which can be taken as a sample while the exclusion criteria is the characteristics of the population members which can not be taken as a sample (Notoatmodjo, 2010).

RESULTS AND DISCUSSION

Characteristics by Age

Table 2

Characteristics of Respondents by Age

Age (years old)	Frequency (f)	Percentage (%)
40-45	19	63,3
46-50	11	36,7
Total	30	100

Based on table 2 can be obtained that the results of experiencing anxiety in facing menopause mostly at the age of 40-45 years old about 19 people (63.3%).

Univariate Analysis

Table 3

Overview of Anxiety Levels in Facing Menopause Women Before Implementing Yoga Surya Namaskara

Anxiety Level	Frequency (f)	Percentage (%)
Without anxiety	0	0
Mild anxiety	10	33,3
Moderate anxiety	17	56,7
Severe anxiety	3	10,0
Super Severe anxiety	0	0
Total	30	100

Based on table 3 obtained that before implementing Yoga Surya Namaskaraa, the level of respondents' anxiety level was mostly at moderate anxiety level about 17 people (56.7%).

Table 4

Overview of Anxiety Levels in Facing Menopause Women after Implementing Yoga Surya Namaskara

Anxiety Level	Frequency (f)	Percentage (%)
Without anxiety	10	33,3
Mild anxiety	18	60,0
Moderate anxiety	2	6,7
Severe anxiety	0	0
Super Severe anxiety	0	0
Total	30	100

Based on table 4 obtained the result which showed that after implementing Yoga Surya Namaskara the level of respondents' anxiety level was mostly at mild anxiety about 18 people (60.0%).

The Distribution of Anxiety Level Frequency in Facing Menopause Before Implementing Yoga Surya Namaskara Technique

Table 5

The Distribution of Anxiety Level Frequency in Facing Menopause Before Implementing Yoga Surya Namaskara Technique Based on Age

Age (years old)	Pain Level					
	Without anxiety	Mild anxiety	Moderate anxiety	Severe anxiety	Super severe anxiety	Total
40-45	0	8	9	2	0	19
46-50	0	2	8	1	0	11
Total	0	10	17	3	0	30

Based on table 5, it was found that those who experienced anxiety in menopause mostly at the age of 40-45 years old with the criteria of moderate anxiety about nine people.

Table 6

The Distribution of Anxiety Level Frequency in Facing Menopause After Implementing Yoga Surya Namaskara Technique Based on Age

Age (years old)	Pain Level					
	Without anxiety	Kecemasan Ringan	Without anxiety	Kecemasan Berat	Without anxiety	Total
40-45	8	10	1	0	0	19
46-50	2	8	1	0	0	11
Total	10	18	2	0	0	30

Based on table 6 obtained the results that those who experienced anxiety in facing menopause was mostly at the age of 40-45 years old with the criteria of mild anxiety about 10 people.

Bivariate Analysis

The analysis of the influence of Yoga Surya Namaskara technique against anxiety level in facing menopause in Banjar Umalas Kauh Kelurahan Kerobokan kelod using statistical test named Wilcoxon Signed Rank Test with α was 0.05, the calculation using computer application can be shown in table 7

Table 7

The Influence of Yoga Surya Namaskara's Technique against Anxiety Level in Facing Menopause

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chniqu	erata	ean	)	
etest	77		526	
		)4	)00	,396
sttest	73		583	

Based on table 7 could be obtained the result of statistical test of Wilcoxon Signed Rank Test was p value = 0.000 which meant that p value <0,05 therefore there was significant influence between the average of anxiety level before and after practicing Yoga Surya Namaskara technique. Z value calculated from the level of anxiety in facing menopause before and after practicing Yoga Surya Namaskara technique = 5.396 and Z table with value 1.96 means Z value was greater than Z table, it could be concluded that there was a significant influence of Yoga Surya Namaskara against anxiety level in facing menopause of FWD women in Banjar Umalas Kauh Kelurahan Kerobokan Kelod.

DISCUSSION

1. The results of study conducted in Banjar Umalas Kauh Kelurahan Kerobokan Kelod, from 30 FWD women as respondents could be seen that the level of anxiety in facing menopause before practicing Yoga Surya Namaskara was mostly at moderate anxiety level about 17 people (56.7 %), mild anxiety was 10 people (33.3%), and severe anxiety was three people (10.0%).
2. The results of study conducted in Banjar Umalas Kauh Kelurahan Kerobokan Kelod after practicing Yoga Surya Namaskara was mostly at mild anxiety level about 18 people

(60,0%), moderate anxiety was two people (6,7%), and without anxiety was 10 people (33.3%).

3. Decreased level of women's anxiety in facing menopause could also be seen from the average level of pain before practicing Yoga Surya Namaskara technique was 1.77 ± 0.626, the average level of anxiety after practicing Yoga Surya Namaskara technique was 0.73 ± 0.583, the difference average of anxiety level before and after practicing Yoga Surya Namaskara technique was 1.04.

   The result of statistical test with Wilcoxon Signed Rank Test showed p value = 0,000 which means that p value <0,05 therefore there was significant influence of Yoga Surya Namaskara technique againsts anxiety level in facing menopause of FWD women in Banjar Umalas Kauh Kelurahan Kerobokan Kelod.

CONCLUSIONS AND SUGGESTIONS

Based on the study about the influence of Yoga Surya Namaskara technique against anxiety level in facing menopause in Banjar Umalas Kauh Kelurahan Kerobokan Kelod, it could be concluded that there was significant influence of Yoga Surya Namaskara technique against anxiety level in facing menopause women in Banjar Umalas Kauh Kelurahan Kerobokan Kelod with p value = 0,000 <α = 0.05.

Suggestions which can be given in this study are:

1. For Nursing Services
   The results of this study is expected to serve as knowledge for the nursing profession to provide services, especially nursing care for women who experience anxiety in facing menopause.
2. For the Community
   The results of this study is expected to provide reference and improve the degree of better health through Yoga Surya Namaskara activities against anxiety in facing menopause
3. Educational Institutions
   It is expected to be used as a scientific information in the study of the influence of Yoga Surya Namaskara technique against anxiety level in facing menopause.
4. For the Development of Nursing Science
   This study can provide knowledge for the development of nursing education, especially nursing maternity and geriatric and improve the quality of service to clients of individuals, groups, and society.

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EMERGENCY CASE MANAGEMENT USING TELEHEALTH IN RURAL OR REMOTE AREAS

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ABSTRACT

Background
One of obstacles faced in achieving sustainable development is inequality of health services. The concern about health service inequality is not only focused on the disproportion numbers of health professionals, but also is specifically uneven number of health specialists of rural and urban areas. Specific emergency cases may need specific intervention to enhance successfulness of emergency management. Several studies indicate that telehealth could ease the problem of inequality health service. Thus, teleheath is one of advanced attempts in achieving sustainable development.

Aim
The aim of this study was to describe how telehealth is applied for manage emergency cases specifically in rural and remote regions

Method
A literature review of eighteen articles was carried out; articles were retrieved from MEDLINE, CINAHL, PsycINFO, EMBASE and Global Health databases. The articles were critically reviewed and analized to answer this study's aim.

Result
The critically review of the articles were categorized in themes: 1) application of telehealth in rural emergency care, 2) implication of telehealth in rural emergency care, 3) potential challenges and facilitators for tele-emergency implementation, 4) nursing implication on tele-emergency. Telehealth is feasible to apply in rural emergency care; furthermore, assessment and clinical decision making using telehealth is indicated as reliable. Telehealth application in remote emergency care is also indicated as time and cost effective. Several implications of telehealth on rural emergency care have also been recognized, such as the implication on clinical decision-making process and patient safety during emergency case management. The potential challenges of tele-emergency are internet connectivity, lack of ability of users in operating telehealth technology, and trust issue. Telehealth facilitates rural nurses to consult in remote specialists during emergency case management.

Conclusions
Although several challenges might be potentially affected its application, telehealth is feasible and reliable system to be implemented in rural emergency health service. Furthermore, telehealth is also considered as simple, effective and efficient system, which is both cost and time effective.

Keywords: *telehealth, emergency care, rural*

1. INTRODUCTION

The use of telecommunication technology in health is a WHO recommendation as a part of a sustainable development strategy to increase the efficiency of health services, particularly in rural or remote areas, as well as to enhance the quality of care by connecting healthcare providers in all areas with specialists or experts, in order to obtain professional guidance (WHO, 2015b). Telehealth has been established in 106 countries globally (World Health Organization, 2016). Additionally, roughly 30% of WHO's member states have a national agency for telehealth development (World Health Organization, 2010). The lack of specialist support is the main challenge for emergency services in rural and remote areas, thus the telehealth system may reduce the disparity between the effectiveness of rural and urban emergency service (Schwamm et al., 2009).

This paper is an attempt to critically evaluate the body of literature about the implementation of telehealth for the facilitation of emergency care in rural or remote areas. The paper will first discuss the telehealth concept and its implementation in emergency care; secondly, the feasibility of the application of tele-emergency will be discussed. Third, the implication of telehealth in an emergency vehicle is explored; and finally the potential barriers and facilitators of telehealth implementation for emergency care will be identified and analysed.

2. SEARCH STRATEGY

This study is a critical appraisal investigating evidence in literature stored in several source databases. The sources used during the search were MEDLINE, CINAHL, PsycINFO, EMBASE and Global Health. Several combinations of keywords including "telehealth or telemedicine or teleconsultation or tele-emergency or e-health or m-health or mobile consultation" and "emergency" and "rural or remote areas" and "nurs*" have been used in order to obtain the most relevant journal articles. Additionally, inclusion criteria were decided, as follows: papers to be in the English language and published since 2010. Duplications have been sorted out and remaining articles' abstracts have been read as part of selection process. Eventually, 18 articles were selected; together with several supporting articles selected from the main articles' lists of references. The search strategy is depicted on figure 1.

The selected articles are mainly about telehealth practice in stroke emergency and psychiatric emergency. This orientation may be because the telehealth system has been developed well in both practice areas. Furthermore, another probable explanation is that telehealth seems to be significantly applicable in stroke and psychiatric emergency care, as the systematic reviews concluded that telemedicine is feasible, safe and suitable for acute stroke management (Johansson and Wild, 2010) as well as for psychiatric management (Pesamaa et al., 2004; Ekeland et al., 2010; Bolton and Dorstyn, 2015)

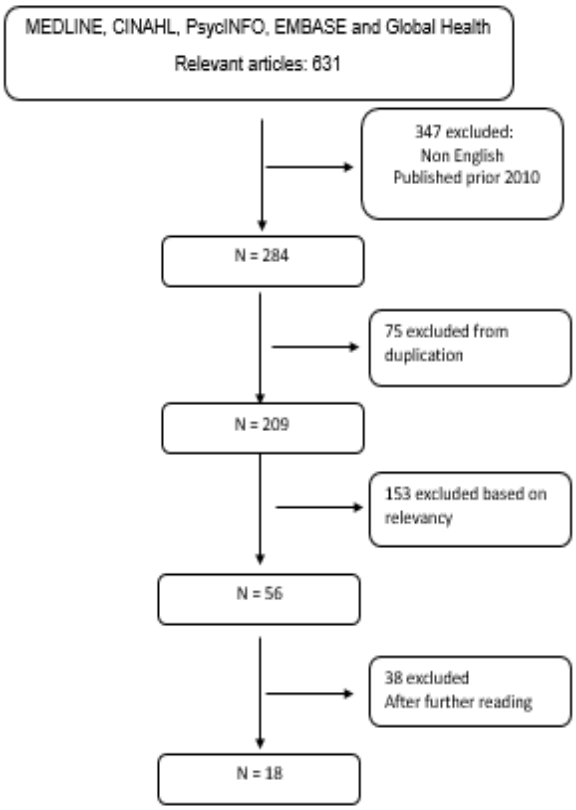

Figure 1. Search strategy

3. BACKGROUND

3.1 Definition and types of telecommunication in health

The technology of communication used in health care has developed in recent decades. This communication technology is commonly grouped into two types, which are telehealth and e-health. The WHO has highlighted telemedicine as "an open and constantly evolving science, as it incorporates new advancements in technology and responds and adapts to changing health needs and contexts of societies" (World Health Organization, 2010, p.11). Telemedicine aims to provide clinical support, particularly for those who live where their geographical location challenges access to health services. Telemedicine involves a wide range of information and communication technologies (ICTs) which improve connections among healthcare users to improve health outcomes. In practice, some observers may differentiate telemedicine from telehealth, based on the main focus of the two models: telemedicine aims to connect physicians only, while telehealth aims to support healthcare professionals in general, including nurses, midwives, pharmacists, and others. However, the WHO considers telemedicine and telehealth as synonymous and these terms are used interchangeably in WHO reports and publications (World Health Organization, 2010).

Telehealth, as the provision of health care using telecommunication technologies, is the main base of e-health, which involves a range of ICTs (WHO, 2015b). E-health is the use of ICTs for health issues including health education and promotion, healthcare services, research, and health profile surveillance (WHO, 2015a)

The transformation from the pioneering model to the most recently form of telemedicine is not aimed to replace the earlier inventions but to complement the earlier technologies. The first form of telehealth was electrographic data that were delivered via telephone wires in the 19th century. This initiative was followed by mental health distant consultation, via television, between specialists and general practitioners. The technologies have been continuing to develop, and since internet technology

has been introduced telehealth development has rapidly expanded. The ICTs used in telehealth include real time video conferencing, teleconsultation, emails, digital imagery and others (World Health Organization, 2010).

Practically, there is a wide range of terms that has been used to describe telehealth, including telemedicine, telecare, teleconsultation, e-health, m-health, and mobile health (World Health Organization, 2010; Solli et al., 2012; Frade and Rodrigues, 2013; Free et al., 2013; WHO, 2015a). Specifically in emergency care, the terms have also been developed into various specific names, including telEmergency and Tele-emergency system (TES) (Galli et al., 2008; Herrington et al., 2013)

3.2 Telehealth implementation in health care services

Telehealth allows a connection between the hub hospitals and satellite hospitals or clinics; thus, this technology enables clinicians (nurses, general practitioners, physicians assistants, or other healthcare providers) in the satellite hospitals or clinics to consult with the specialists who are based in the hub hospitals (Maheu, 2001). The illustration depicted how is the connection within telehealth system as example from tele-stroke is shown in figure 2. The common problem of hospitals or clinics located in geographically rural or remote areas is lack of specialist support (Schwamm et al., 2009). Thus, telehealth enables patients and rural clinicians to be connected with specialists located in urban hospitals (Moffatt and Eley, 2010).

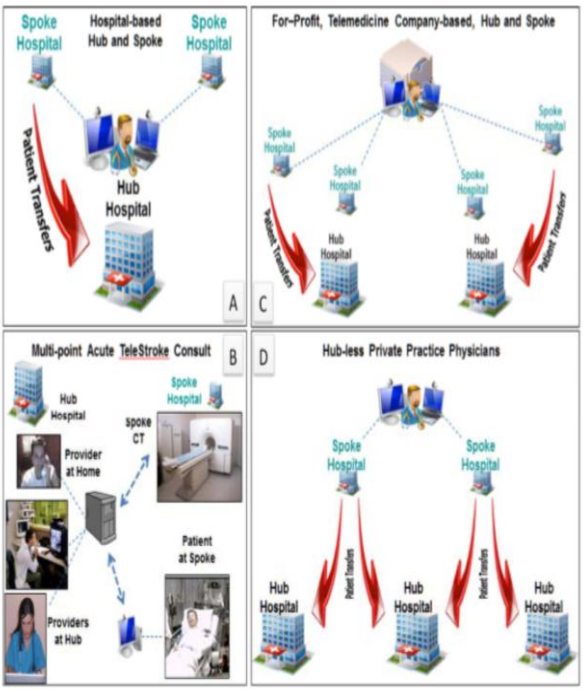

Figure 2. The illustration of telehealth system in stroke management including A) simple type of telehealth; B) multi-point acute tele-stroke consult; C) telehealth company based and D) hub-less private practice physicians (Silva *et al.*, 2012)

Patients' conditions which need specialist services could be managed locally by rural clinicians, with guidance from specialists in the hub, via telehealth technologies. Telehealth appears to be utilised in a wide range of specialities, including psychiatric/mental health, ophthalmology, cardiovascular, respiratory, paediatric, obstetrics and gynaecology, chronic diseases, stroke, geriatric, emergency care and other specialities (Ekeland et al., 2010; Kulshrestha et al., 2010; Moffatt and Eley, 2010; Ward et al., 2015).

An emergency situation is one specific health care area which progressively uses more telehealth technology. Telehealth is used by clinicians to support them in managing particular emergency cases. The study conducted by Bergrath et al. (2013) indicated that 57 % of emergency cases using telehealth were trauma, acute coronary syndrome and circulatory emergencies, such as acute stoke. In addition, the systematic review conducted by Ward et al. (2015) classified emergency patients' characteristics that were managed by using telehealth into three groups: "general ER use, minor injuries and illnesses, special patient population (SPP)" (p.603). The various patients' conditions categorised into SPP include "stroke symptoms (26%), trauma (21%), ophthalmology conditions (16%), cardiac problems (11%), and other conditions (e.g dermatology, psychiatric, respiratory)" (p.603).

4. RESULT

4.1 Application of Telehealth in Rural Emergency Care

4.1.1 Feasibility and reliability of telehealth applications in rural emergency care

a) Feasibility of telehealth applications in rural emergency care

Telehealth has progressively been implemented in emergency care and several studies have been conducted to assess the feasibility of telehealth application for emergency case management. Pilot studies have been carried out prior to the implementation of a tele-emergency incident; other studies have evaluated the established telehealth application in an emergency department. The majority of studies appear to support the premise that tele-emergency is feasible and reliable (Mougiakakou et al., 2011; Bergrath et al., 2013; Van Hooff et al., 2013; Wu et al., 2014; Yperzeele et al., 2014)

A pilot study conducted by Liman et al. (2012) indicated that only 40% of total scenarios of teleconsultation, using video-conferencing for acute stroke, were successfully completed without connection problems. Interestingly, Wu et al.(2014) showed an 85% success rate from teleconsultation, more than double that of Liman et al. (2012).

However, the main weakness of these two studies is that they did not involve real patients, as their subjects were healthy actors recruited as emergency patients, during simulation of ambulance-based teleconsultation. Therefore, their results may contain biases and be relatively weak to prove the feasibility of telehealth implementation in emergency situations.

Other studies however, have been conducted to evaluate the feasibility of the tele-emergency model with real patients as their subjects. For instance, the studies conducted by Yperzeele et al. (2014) and Meyer et al. (2008) indicate that telehealth is feasible to be employed in emergency departments. Their studies showed emergency case managements were 95% and 100% successful, when using telehealth without experiencing any technical problems such as signal loss.

Furthermore, a systematic review conducted by Schwamm et al. (2009) also suggested a recommendation that prehospital telehealth is feasible and can

be considered as an effective approach to enable patients to get initial treatment for acute stroke.

Although telehealth has been evaluated as including feasible technologies which can be implemented in emergency departments, the feasibility of its implementation specifically in rural and remote areas may be needed to be explored further. Mougiakakou et al. (2011) assessed the telehealth platforms in 17 pilot locations in Greece, Cyprus and Italy, including rural areas. Their study indicated that the telehealth platform application was feasible and generally well-functioning, although connection failure happened for "ambulance/emergency" which rated 10% of the time

Further evidence that supports the feasibility of the tele-emergency model is contained in a study by Rushworth et al. (2014), which assessed the implementation of remote triage, based on e-transmission of ECGs in Highland Scotland. This study indicates that a triage emergency is feasible to be implemented in a variety of geographical locations. This study also supports the idea that telehealth could reinforce health service coverage in areas which are geographically far from the hub hospitals (World Health Organization, 2010).

b) Reliability of assessment and clinical decision making using telehealth in emergency care

The reliability of tele-emergency implementation could be assessed by several approaches. One possible approach is carry out a reliability evaluation between direct bedside assessment and remote assessment using the telehealth model. Several studies have investigated this approach and the results indicate that there is an excellent inter-rater agreement between the assessments from specialists in the hub and clinicians in the local emergency departments, which means telehealth is reliable for use in emergency assessments (Van Hooff et al., 2013; Wu et al., 2014; Yperzeele et al., 2014).

An example of research supporting the reliability of remote assessment via telehealth is the study carried out by Demaerschalk et al. (2012) in which videoconferencing using smartphones is reliable for telehealth National Institute of Health Stroke Scale (NIHSS) assessment. Another study conducted by Meyer et al. (2008) however, indicates that telehealth with NIHSS could achieve 67% agreement and 82% agreement with modified NIHSS (mNIHSS). This study implies that the assessment method may influence the level of reliability of telehealth intervention, and it may also suggest, particularly for acute stroke management, that mNIHSS may be chosen as the first alternative for stroke assessment via telehealth.

The reliability may also be evaluated from assessment results or clinical decisions made pre-hospital with telehealth, compare to in-hospital. For example, a study conducted by Yperzeele et al. (2014) indicated that pre-hospital diagnosis by telehealth decided by a clinician in an ambulance, together with a specialist in the hub, achieved 90.2% agreement, with a final diagnosis being decided by a specialist in hospital. Additionally, Demaerschalk et al. (2010)

suggest that there was an excellent inter-rater agreement between a vascular neurologist nurse practitioner (VN-NP) and vascular neurologist assessments for NIHSS scores, diagnosis, head CT interpretation, and overall thrombolysis eligibility.

Taken together, these studies' results suggest that tele-emergency is feasible and reliable; however, several factors may be needed to be considered for in improving the quality of tele-emergency itself.

4.1.2 Time and cost effectiveness of tele-emergency

a) Time effectiveness

One factor which is a relative concern, regarding the efficacy of telehealth application in an emergency care situation, is time effectiveness. This worry may be because time is one of the most significant factors in emergency management and most of emergency and acute cases need short-time, rapid decision making. A qualitative study conducted by N. Moloczij et al. (2015) indicates that rural nurses and physicians consider teleconsultation in emergency department/situations as time consuming, thus they suggest that the tele-emergency system needs to be streamlined, to make it more effective and efficient. The telehealth system in an emergency department designed appropriately, and supported by suitable technologies, may function efficiently thereby enabling effective patient management (Switzer et al., 2009). Switzer et al. (2009) further explain that an effective telehealth system will be likely to reduce the time interval from onset of signs and symptom to initial treatment. For example, in an acute stroke management situation, time is really critical; usually indicated as "time is brain". In such a case telehealth will be likely to significantly reduce the time needed for stroke management, as compared to the time needed to transfer patients from rural emergency clinics to hub hospitals.

Time effectiveness in tele-emergencies can be illustrated briefly by Wu et al. (2014) whose data suggest assessment guided by teleconsultation takes an average of 13.9 minutes during transfer by ambulance. It takes roughly 24.9 minutes based on a study conducted by Bergrath et al.(2013). The differences of average time from these studies may be caused by the variations of the emergency cases from both studies. Wu et al. (2014) focused only on acute stroke patients while Bergrath et al. (2013) studied emergency cases in general, including cardiac arrest, circulatory emergency , respiratory emergency, trauma and other emergencies; thus, the duration of the teleconsultations may differ, based on the complexity of each case.

Telehealth enables rural emergency clinicians to be guided by specialists from hub hospitals, in patient case management, without necessarily transferring the patient to the hub hospital. Less than 30 minutes teleconsultation, via telehealth technology, is definitely shorter than the average time needed to transfer patients to hub hospitals; particularly because the distances between rural hospitals and hub hospitals are often both great and challenging. Thus, telehealth appears to be time effective, since clinicians could

be guided by specialists via the telehealth system, and patients could be treated directly; which means telehealth could significantly reduce the need for prolonged patients' treatment (Bergrath et al., 2013; Mueller et al., 2014).

b) Cost effectiveness

One indicator to demonstrate that the tele-emergency concept is cost effective could be the cost saving resulting from the avoidance of unnecessary transfers of patients from outlying to hub hospitals. Wadhwani (2015) conducted a year-long pre-post study to evaluate the impact of a teleconsultation centre (TCC) in supporting 12 rural districts in Ghana. One of the results showed that TCC support could avoid 37% of unnecessary transfers, and for each avoided referral, Ghana could save roughly 31 USD. Although this study did not explain how the saving prediction per avoided transfer was calculated, it was a first attempt to illustrate the cost effectiveness aspect of a telehealth programme.

Another study conducted by Switzer et al.(2013) indicates that telestroke networks were cost effective for both hub and spoke hospitals. They studied the costs and effectiveness of a telestroke network over a 5-year time horizon, compared to the situation without the telestroke network. Their study suggested that an average saving as a result of the telestroke network each year is roughly $360.000, while a spoke hospital and a hub hospital may save approximately $110.000 and $410.000 every year, respectively. Although this study only investigated the topic of telestroke, it offers supportive evidence that the tele-emergency concept seems to be a cost effective one. As the study evaluated acute stroke management, thus it may have a lot of similarities with other acute case-management scenarios in emergency departments.

4.2 Implication of Tele-Emergency

4.2.1 Tele-emergency implication on clinical decision making and emergency case management

Tele-emergency appears to be an innovative solution to support clinicians in rural and remote areas in formulating clinical decision, particularly in emergency and/or complex cases. Telehealth enables rural emergency clinicians in spoke hospitals or clinics, to consult with specialists in the hub hospitals (Herrington et al., 2013; Moloczij, 2015; N. Moloczij et al., 2015). Telehealth supports clinicians in deciding a diagnosis (94%) and in administrating the delegation of treatments, which was 60% of the total consultations (Bergrath et al., 2013).

Tele-emergency enables consultations between rural clinicians and specialist to become more efficient; which may lead to making the clinical decision making process more effective. However, the tele-emergency system needs to be streamlined and effective (N. Moloczij *et al.*, 2015). The tele-emergency system (TES) may simplify clinical advice and coordination pathways, which used to be complex; a complexity considered as a burden for rural health services, especially those with restricted staffing (Herrington et al., 2013). Telehealth enables the process of consultation with hub-based specialists to

become simpler, more effective and efficient (Jeffrey A. Switzer *et al.*, 2009; Bergrath *et al.*, 2013) The consultation process only needs a telephone call to specialists at the hub for urgent cases; next the specialists could examine patients via video camera with further assistance from rural clinicians. Following that, the TES specialists could suggest both diagnosis and treatment for the rural clinicians' patients. Thus, this process could minimise patient transfer, which was used for consultation with specialists only (Herrington et al., 2013). In addition, in particular circumstances that nurses and paramedics are not allowed to administer specific medicines without a physician's direction, the telehealth system can prevent delayed treatments, as nurses could receive the physician's prescription advice via the telehealth system. This system enables rapid treatments to be carried out without violating the law (Bergrath et al., 2013)

Telehealth consultation has an impact on clinical decision making and it leads to the reduction of unnecessary patient transfers from rural hospitals to central hospitals, because emergency cases are now becoming locally manageable. A study conducted by Saurman et al.(2013) revealed that patient transfer fell by 28% during the three year implementation of a rural emergency telepsychiatry programme. Their study explains that the telepsychiatry programme enabled rural nurses to consult via telephone with psychiatrists in the hub hospital and, if it were considered necessary, patients would further be assessed by psychiatrists via a video-conference. Their study indicates around 71% of emergency mental health patients' cases were decided as outpatient care, without the need to be transferred to a mental health inpatient unit (MHIPU). This is because after being assessed patients were able to be cared for locally, in the community, with support from the local hospital. Kulshrestha et al. (2010) and Mueller et al. (2014) also support that telehealth enhances the scope of emergency care in rural areas, and it may lead to the prevention of unnecessary transfers of patients.

Telehealth may support rural health care professionals in clinical decision making process by enhancing their confidence, especially when managing patients with complex conditions. Herrington et al. (2013) indicate TES may also be of benefit for nurses, as anecdotal evidence suggests that ETS improves nurses' confidence to manage patients appropriately if they are backed by specialist support. However, Herrington et al. (2013) only offers weak anecdotal evidence. Another study, which supports the suggestion that telehealth could improve clinicians' confidence levels, is qualitative explorative research by Trondsen et al. (2014). Their study suggests that telehealth, using a video-conferencing system, could enhance rural nurses' and psychiatrists' confidence in dealing with emergency challenging situations in several ways, including by reducing uncertainty, by sharing responsibility for clinical decisions, and by functioning as a safety net. First, video-conferencing enables a psychiatrist to assess a patient's condition "directly"; thus they could make well-considered decisions, which previously would have

only been based on the descriptions of the patient's condition, provided by nurses via the telephone. Second, video-conferencing enables nurses and psychiatrists to share responsibility in patient management. The teleconsultation seems to be a great support for rural nurses in managing challenging situations, because it may reduce the nurses' feeling that they have to be fully responsible for the complex situation, without receiving any support. Third, the opportunity for nurses to consult with specialists via video-conferencing may become a safety net, especially during times when fewer healthcare staff are available. At such times they still can reach psychiatric support via the telehealth system.

Trondsen et al. (2014) may support the presence of clinicians' confidence in patient management with stronger evidence than Herrington et al. (2013). However, a study using an ethnography approach could probably supply better evidence, since the confidence of nurses and physicians in the clinical decision making process and patient management, would not only be gathered from their statements in interviews, but could also be observed from their performances during patient management, by the use of the telehealth system.

Interestingly, clinicians' attitudes towards telehealth may vary and those attitudes are probably influenced by their levels of confidence in clinical decision making. A qualitative thematic analysis conducted by Moloczij et al. (2015) indicates the neurological advice through telemedicine, was considered as a significant asset by junior physicians and less experienced rural/remote clinicians. On the other hand, senior physicians thought that neurological advice was unnecessary, especially when it was regarding thrombolytic treatment for stroke.

Another potential positive impact of tele-emergency implementation in rural sites is that patients with complex conditions, who therefore need specialist supervision, could remain to be cared for via patient-centred care management in their local rural hospitals. Mueller et al. (2014) suggest telehealth enables rural emergency hospitals to improve their patient management capacity due to continuous support from specialists from the hub hospital. Patients with challenging conditions could still be managed in rural hospitals, which are more likely to use a patient-centred care approach than are the hub hospitals. Also, staying in rural hospitals means patients could still stay near their families, another important factor supporting patient-centred care. However, the limitation of the study by Mueller et al. (2014) is that their finding was only supported by interviews with rural clinicians.

In terms of expert involvement, an experienced and well trained nurse may also become a consultant for rural clinicians using telehealth. Saurman et al. (2011) illustrate this point in their research, where they evaluated a mental health emergency-care, rural-access project (MHEC). Their study indicated 40 % of video assessments were conducted by specialists and 60% of them were conducted by well-trained

mental health nurses. However, Saurman et al. (2011) did not fully explain why mental health nurses delivered a greater proportion of video assessments, compared to psychiatrists. This outcome may be due to the nurses being more reachable in the MHEC hub; thus they could be more easily contacted by ED staff in the spoke hospitals.

4.2.2 Tele-emergency association on patient safety

Patient safety is one of key indicators that need to be considered in tele-emergency implementation. The tele-emergency concept may improve the quality of patient management, which also means increases in accurate decision making, including diagnosis and treatments, hopefully leading to the improvement of patient safety. Demaerschalk et al.(2010) demonstrated that the partnership between VN-NP and specialists, through tele-emergency, resulted in accurate diagnoses and effective treatments for patients. Similarly, Schwamm et al. (2009) indicate that acute stroke patients could be treated timely and accurately in rural hospitals. Clinicians in spoke hospitals, who may be less familiar with the initial patient characteristics of those who need rapid thrombolysis therapy, can be supported by specialists in the hub hospital who can assess patients via video-conferencing. In addition, Martínez-Fernández et al. (2015) also demonstrate that teleconsultation m-health could decrease incidents of maternal and child mortality. Therefore, it can be implied from the studies cited that tele-emergency services, which enable accurate, rapid and effective patient management, may lead to strengthening patient safety.

On the other hand, tele-emergency implementation, to some extent, may also contain a risk for patient safety. Wu et al. (2014) indicate that video-assessment during ambulance transportation may risk patient safety. They further explained that, while performing stroke assessment, guided by specialists through video-conferencing, clinicians needed to loosen the belt buckle on the stretcher securing the patient's legs, in order to test leg strength and ataxia. However, based on emergency medical transport standards, this buckle needs to be fastened during transfer by vehicle, for the patient's safety. This study demonstrates that intervention during a tele-emergency may create a patient's safety-related risk. However, Bergrath et al. (2013) in their study, demonstrated that there were no negative medical effects reported during implementation of the pre-hospital telehealth system during an ambulance emergency situation.

4.3 Potential Challenges And Facilitators for Tele-Emergency Implementation

4.3.1 Potential barriers/challenges of tele-emergency implementation

There are several identified factors which may become potential barriers to telehealth implementation.

First, technical issues may potentially become the major challenges for telehealth implementation in emergency situations. Several studies have investigated the technical factors which may influence telehealth

application. Limited internet connectivity and low bandwidth capacity are two factors that may become barriers to telehealth usage (Audebert, 2006; Medeiros de Bustos et al., 2009; Liman et al., 2012; Yperzeele et al., 2014). Furthermore, connection timing may also influence the quality of telehealth technologies' performances. Yperzeele et al. (2014) demonstrate that video-conference failure, caused by signal loss, mostly occurred during office hours. This connectivity problem may be the result of high competition with other internet users during office hours. This problem, however, could be minimised by using the latest generation of internet technology. Telehealth, by using 4G, could achieve a more than 80% success rate, if free from technical issues (Van Hooff et al., 2013; Wu et al., 2014); as compared to only 40% success for telehealth systems which use 3G technology (Liman et al., 2012).

Second, a lack of abilities and skills of the users who are trying to operate a telehealth system may also become a potential challenge. Yperzeele et al. (2014) indicate that human error is one of the most influential factors which may cause a failure in telehealth. The more complex the technologies that are used in telehealth, the more advanced are the skills needed to operate that technology. Random survey to 5000 family physicians (FPs) in US resulted only 15% of FPs used telehealth in a year and 54% of them reported lack of telehealth training (Moore *et al.*, 2016). However, this challenge seems to be manageable; thus being trained to effectively and confidently use the technology may reduce and eliminate this burden. Conducted study on 130 nurses regarding training prior telehealth implementation, their research shows that 100% of nurses demonstrated improvement on their level of competences in using telehealth system after completed 2 months of telehealth training supported with user manual and regular practice (Brebner *et al.*, 2003).

Third, another potential challenge for tele-emergency consultation is the presence or lack of "trust" between clinicians in the spoke hospitals and the hub hospitals' specialists. Moloczij et al. (2015) demonstrated that rural clinicians may feel more confident to accept e-advice from recognisable specialists, as their competence and abilities will be familiar to the rural clinicians. Additionally, it is possible the specialists at the hub may not "trust" rural clinicians to assist them in performing video-assessments. Therefore, it seems to be important to make clinicians in spoke hospitals familiar with specialists from the hub hospitals by providing those clinicians with general details of the specialists' professional backgrounds. Furthermore, Schwamm et al. (2009) illustrates that continuing education and training have contributed to the development of clinicians' skills needed for assessing and delivering patient care.

4.3.2 Potential facilitator of tele-emergency implementation

users' knowledge and skill in particular areas of speciality, and in operating telehealth technology, may enhance the effectiveness of telehealth programme implementation. Clinicians recognise the importance of knowledge

and experience about telemedicine technology, so they could utilise telemedicine services effectively (N. Moloczij *et al.*, 2015). Similarly, Wu et al. (2014) also illustrates that experienced specialists in the hub enabled highly efficient teleconsultations, although they were less experienced in assisting rural clinicians

4.4 Nursing Implications

Telehealth has implications for nursing practice in various ways. Telehealth may support rural nurse practitioners with experts' consultation, to help them to manage various emergency cases including acute stroke, psychiatric emergency, cardiac emergency, respiratory emergency and others (Demaerschalk et al., 2010; Saurman et al., 2011; Ward et al., 2015). In addition, the opportunity of nurses to consult with specialists over challenging cases, may improve their understanding and skills regarding clinical assessment, interventions and other skills which they might acquire during the consultation process (Moffatt and Eley, 2010)

Switzer et al. (2015) suggest that management by a nurse coordinator has positive implications for patient management, when using a telehealth system. Their study demonstrated that the spoke hospitals, with nurse coordinator support, showed higher thrombolysis therapy supported by the telehealth system, compared to those without nurse coordinators. They further explain that this may be due to a successful patient management algorithm and consultation system, implemented via a telehealth system working well under the supervision of nurse coordinators. The coordinators may try to ensure that all of the health care personnel in their team could understand and participate well in the telehealth system and its use.

5. CONCLUSION

The body of literature has been examined and critically reviewed, and it indicates that telehealth appears to be a feasible and reliable system, which could potentially be used for emergency care management in rural or remote areas. Telehealth is considered as a simple, effective and efficient system, which is both cost and time effective. The implementation of a telehealth system for use in emergency care seems to contribute positively to patient management and clinical decision making. A telehealth system may prevent unnecessary patient transfers, positively affect patient safety and enable patient-centred care implementation. Additionally, telehealth may have implication for healthcare professionals, as it may enhance clinicians' confidence to make clinical decisions regarding patients with challenging conditions.

Several potential barriers and facilitators of telehealth's application in rural emergency care situations have been identified, including technical issues, clinicians' knowledge and skills, and levels of "trust" between clinicians and consultants. These factors could potentially be managed in order to improve the quality of tele-emergency systems and usage.

Telehealth implementation in emergency care may have implications for nursing practice in several ways,

including enabling specialistconsultation, by up-skilling nurses to be able to offer competent teleconsultations and by supporting the nurses' roles as coordinators.

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CHEWING GUM IS MORE EFFECTIVE THAN HONEY SOLUTION GARGLING REDUCING ORAL MUCOSITIS

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ABSTRACT

Mucositis is one of side effect in patients undergoing chemotherapy, it can cause physiological and functional disturbance which lead to decrease quality of life in pediatric cancer patients. An established non pharmacological intervention to overcome oral mucositis is gargling with honey solution and chewing gum. The aim of this study was to compare effectiveness of chewing gum and gargling with honey solution in the oral mucositis score. This study used quasi experiment. Sample size was 44 children divided into two groups. The analysis of the data was using Wilcoxon Test. There was a significant difference between oral mucositis score after intervention (p=0,001). It was also shown a significant mean difference between both groups, which the mean difference of decreasing oral mucositis score in chewing gum was higher than gargling with honey solution (p=0,001). In conclusion, chewing gum is more effective than gargling with honey solution and it can be used as a nursing protocol for pediatric cancer.

Keywords: chemotherapy, chewing gum, mucositis, honey solution

INTRODUCTION

Oral mucositis is a side effect of chemotherapy in children with cancer. The incidence of oral mucositis in the United States amounted to 132,000 cases[1], and in Indonesia, particularly in Sanglah Hospital Denpasar, based on preliminary study on January to February 2016, the data obtained from 30 children who had chemotherapy showed that 20 children experienced oral mucositis. Although the mortality rate is only 1%, but 40% of patients experienced severe ulceration that cause physiological and functional disorders which decrease the quality of life of children with cancer. It requires proper management.

Management of oral mucositis in Sanglah Hospital Denpasar is still limited to oral debridement and oral decontamination. Oral debridement as described above can cause a very intense pain, traumatic, risk of bleeding, and infection. Regarding oral decontamination, Sanglah Hospital still uses three main ingredients, namely 0.2% chlorhexidine, iodine, and saline. However, some studies do not recommend the use of chlorhexidine and iodine because of their ineffectiveness in reducing the severity of oral mucositis[2,3]. Both of these materials should not be used for a long period of time since they interfere with normal flora of mouth, and its alcohol content can cause dry mouth and irritability[4].

Nurse as professional health worker has a role and responsibility in preventing and managing oral mucositis in children with chemotherapy. One of treatment developed is the use of chewing gum to increase saliva's production and pH. This can prevent the mouth from dryness (xerostomia), so irritation and ulceration can be prevented or minimized. honey solution is also an option because it is useful in keeping moisture of oral mucosa and accelerates tissue granulation.

The purpose of this study was to compare effectiveness of chewing gum and gargling honey solution on incidence of oral mucositis in children with cancer undergoing chemotherapy. The results of this study are expected to enrich pediatric nursing science which applies nursing care principles such as a traumatic pediatric care and family centered care, especially in oral mucositis treatment of children with cancer receiving chemotherapy.

METHODS

The study design was quasi experiment. The sampling method used consecutive sampling; the sample was children with cancer who undergo chemotherapy with minimum of age is five years old, total of 44 children were divided into two groups, chewing gum and honey solution gargling intervention group. Instrument that is used to measure oral mucositis score was Oral Assessment Guide (OAG)[5]. This instrument has been translated by previous researchers and

tested for its validity and reliability[6]. Data collection was performed within a month, the first two weeks was gargling honey solution intervention and the last two weeks was chewing gum intervention. Children were measured for their pre- test score prior to chemotherapy. Intervention began on first day of chemotherapy until the sixth day. Gargling honey solution and chewing gum intervention were given three times a day, the children was fasted one hour before intervention. Measurement of post test scores performed on seventh day. Data analysis include univariate and bivariate analysis. Bivariate analysis used non-parametric test because the data are not normally distributed.

RESULT

Table 1. Pre and Post Measurement

Variable	Group	Measurement	Mean	*p value*
Mucositis score	Chewing Gum	Before	13,41	**0,001**
		After	9,27	
	Honey	Before	11,55	**0,001**
		After	9,45	

Remarks: *) significant at α <0.05

Table 2. The Range Difference of Oral Mucositis Scores Decreasing in Both Groups

Variable	Group	Mean	SD	*p value*
Mucositis score	Chewing Gum	4,23	1,99	**0,001***
	Honey	2,09	1,90	

Remarks: *) significant at α <0.05

Analysis in Table 3 shows there is a decline in oral mucositis scores in both chewing gum (4,23) and gargling honey solution group (2,09), where the decrease in mucositis score is greater in chewing gum group (p = 0.001; α= 0.05). This result showed that chewing gum is more effective than gargling honey solution to reduce oral mucositis.

DISCUSSION

Result of analysis reveals a significant difference of mucositis score after the intervention in both chewing gum and gargling honey solution group. This result is in line with study conducted by Didem et al. (2014), which stated that the sweets in gum can increase saliva production and saliva pH to prevent the occurrence of xerostomia (dry mouth) due to chemotherapy. As it is known that chemotherapeutic agents can directly damage epithelial cells of oral mucosa or cause a decrease in child's immune system that can cause a child vulnerable to infection. Gargling honey solution intervention also decrease children oral mucositis scores due to mechanism of honey to keep the moisture of oral mucosa.

When viewed from the difference of decrease in mucositis score, it shows that chewing gum is more effective than honey saline solution. There has been no previous literature describing or confirming this result, but authors have assumptions based on experience, observation, and interviews with children and parents, that children prefer chewing gum over gargling honey solution intervention, the reason behind is gum's taste and colors are more attractive. Because child prefers chewing gum intervention, he becomes more eager and motivated to brush his teeth before chewing gum was given. This certainly has an impact on improving oral hygiene in

reducing the risk of infection occurrence due to gram-negative bacteria or fungi.

The saliva compositions are also expected to contribute in difference of mucositis score. The organic contents of saliva are composed of lysozyme, lactoperoxidase, proline-rich protein, and mucin. Lysozyme, and lactoperoxidase are helpful to inhibit bacteria growth and kill bacteria. Proline-rich proteins form new tissue in oral mucosa epithelial. Mucin protecting mucosa from drought and as a buffer system that prevents bacterial colonization and cleans acid substance resulted from bacterial metabolism. In addition to organic compositions, saliva also has an unorganic composition which resembles a saline solution, that contains sodium and chloride. Thus, mechanism of honey in maintaining oral hygiene only to keep moisture oral mucosa. This is why chewing gum is suspected to be more effective in reducing oral mucositis score of children with cancer.

CONCLUSION

Based on the analysis and discussion that has been described, authors can make conclusions, There were significant differences found in mucositis scores after the intervention and the difference in decrease of mucositis score in the chewing gum and gargling saline solution group. Chewing gum intervention showed a greater decrease so it can be said that chewing gum is more effective than gargling honey solution.

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The Effect of Guidance Program: Home Room Technique to Adolescent's Cognitive and Attitudes about Pre marital Sexual Prevention in Senior High School 1, Sawan, Buleleng Regency

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ABSTRACT

Most of adolescents have a high curiosity, so they will seek and try something that has never happened, including premarital sex. Prevention can be done by group counseling homeroom technique that aims to discuss the problems experienced by individuals in the group.The study purposes to determine the effect of group counseling homeroom techniques toward knowledge and attitudes of adolescents on premarital sexual prevention in SMAN 1 Sawan Buleleng.This study uses a quasi-experimental design that is one-group pretest-posttest samples were conducted on 33 samples were selected by proportionate stratified random sampling.The data collected by giving questionnaires knowledge and attitudes about prevention premarital sex before and after a given intervention homeroom group counseling techniques.Based on Wilcoxon Signed Rank value test ρ (Asymp.Sig. (2-tailed)) for 0000 is less than the critical limit of 0.05 research, so there is influence between the pretest and posttest on knowledge and attitudes of adolescents about premarital sexual prevention.Based on the research, suggest to the guidance and counseling teachers, as well as nurses in health centers to implement the method group counseling homeroom techniques to provide guidance among adolescents.

Keywords: Premarital sex, group counseling, homeroom.

INTRODUCTION

Sexual behavior is all the behavior that individuals do with the sexual desire, whether committed against the opposite sex or same-sex. Various factors that influence adolescent sexual behavior include internal factors that are hormonal changes, as well as external factors that are wrong information about sexuality through the internet or peers (Sarwono, 2012). Teens' sexual behavior is increasingly a worrying problem as a result of unwanted pregnancy, abortion, and sexually transmitted diseases (Delamater, 2007). The statistical data on adolescent sexual behavior is increasing every year, in 1970, premarital sexual behavior showed 7-9%, in 1980 increased to 12-15%, 1990 increased to 20%, in 2000 to 26.35%, on in 2005-2006 premarital sexual behavior of 47.54%, in 2014 increased to 63% (BKKBN, 2013). Solutions that can be done one of them is through the guidance of the teachers in the school, the teacher BK in providing group guidance (Gendys, 2013).

Group guidance is an activity given to individuals in a group situation of 8-9 group members who aim to discuss resolving problems experienced by individuals in the group. The approach technique is to use homeroom technique, that is by creating family atmosphere through game which has been agreed before by group member and counselor as facilitator by using effective time of group guidance that is 30-45 minutes.

Several studies related to the guidance of the homeroom technique group have been conducted. Nafiah & Handayani (2014) found that there is influence of applying homeroom group technical guidance to the decrease of aggressive behavior of grade VIII student of Salafiyah Pekalongan Junior High School. Meilani (2010) in his research indicates that appropriate group guidance is used in conveying material to adolescents including on reproductive health.

METHODS

This research uses experimental quasi design with one group sample pretest-posttest design. The research was conducted through ethical approval from the Research Ethics Commission of Medical Faculty of Udayana University / Sanglah General Hospital Denpasar. The study was conducted on 20 February to 24 March 2017 at SMAN 1 Sawan, Buleleng with population of 201 class XI. The sample was chosen by using probability sampling with

proportionate stratified random sampling technique. The number of samples in the study There were 33 students of class XI in accordance with inclusion and exclusion criteria and already signed informed consent. Inclusion criteria included in this study are students of class XI SMAN 1 Sawan, willing to be sampled in the research by signing informed consent, while exclusion criteria are class XI students who do not attend school, students of class XI sick, uncooperative students. The samples were given guidance intervention of homeroom technique group for four meetings, in one week held one meeting for one month.

Knowledge and attitudes were assessed prior to the guidance given by the homeroom technical group at the first meeting and after being given the guidance intervention of the homeroom technical group at the fourth meeting using a knowledge and attitude questionnaire on premarital sexual prevention that has been tested for validity and reliability, with results obtained in both questionnaires are valid and realiabel.

RESULT

Tabel 1. Characteristics of Respondents

Characteristic of Respondents		frequency	percentage
Age	15-17 years old (middle adolescent)	28	84.8
	> 17 years old (late adolescent)	5	15.2
Sex	Men	12	36.4
	Woman	21	63.6
Occupation of parent	health service worker	0	0
	Not health service worker		
	a. laborer	16	48.5
	b. entrepreneur	8	24.2
	c. Farmers	5	15.2
	d. Merchants	2	6.1
	e. Civil servant	2	6.1
Source of Information	Print Media	5	15.2
	Electronic Media	15	45.5
	Peer group	13	39.4

Tabel 2. Results of Influence Analysis of Homeroom Group Guidance

Homeroom Group Guidance	Knowladge			Attitude			P
	Mean	Minimal	Maximal	Mean	Minimal	Maximal	
pre test	9.3	7	13	37.3	30	50	0.000
post test	14.7	13	16	52.8	45	56	0.000

Based on Table 1 the characteristic data by age indicates that the frequency of the study subjects was more aged 15-17 (28 people). According to data characteristic of research subjects based on sex indicate that the frequency of research subjects more on female gender (21 people). According to the work of parents showed that all the research subject of the parent's job is not the health worker (33 people) with the most parent work frequency is laborer (16 people). According to the characteristics of the research subjects indicate that the frequency of most information sources is via electronic media (15 people).

Table 2 shows that there is a significant influence on the provision of guidance interventions of homeroom group techniques on the knowledge and attitude of adolescents about premarital sexual prevention based on pre-test and post-test results with the value (p = 0,000 <0.05).

DISCUSSION

Based on the research, it was found that the average value of knowledge and attitudes of adolescents on pre-marital sexual prevention before and after intervention was improved and there was a significant influence (p = <0.05). Based on the characteristics of the research subjects found that most subjects were in the age range of 15-17 years which included in the category of middle adolescents who already have the characteristics and the desire to start looking for identity, the attraction with the opposite sex, began to arise feelings of deep love with couples, and want to know things that have never done before including about sexuality (Widyastuti, 2009). Based on the characteristics of research subjects, most of the research subjects looking for information about sexuality through electronic media, one of the internet. Misinformation about sexually available teenagers easily and all things pornographic will be easily accepted by teenagers who will cause misconceptions about sexuality. According to (Syafruddin, 2008), half-and-half knowledge is even more dangerous than not understanding at all, it is because half-and-half knowledge can elicit teenagers' desire to experiment.

Knowledge of sexuality has to be learned, not based on personal experiences, feelings, or misinformation that can make teenagers misunderstand sexuality and do not know the likely consequences of premarital sexual intercourse (BKKBN, 2013).

Attitudes have four functions, including ego defense function, cognitive function, affective function, and conative function (Wawan & Dewi, 2010). Various factors that influence attitude include knowledge, education, socio-cultural, and experience (Azwar, 2010). Based on the result of research, the score of knowledge before being given the guidance intervention of the homeroom technique group is directly proportional to the attitude score after the intervention given, that is the majority of research subjects are in enough category, so also the knowledge score after given the guidance intervention of the homeroom group technique is directly proportional to the attitude score after given intervention, the majority of research subjects are in good category. According to (Walgito, 2010), a person's attitude will reflect the person's knowledge, so it can be concluded that adolescents who have less knowledge about premarital sexual then they will tend to have a negative attitude toward premarital sexual prevention.

The result of statistical test on the influence of guidance group of homeroom technique toward knowledge and attitude based on pre test and posttest result have significant influence with value (p = 0,000 <0,05). The results of the study were supported by other research conducted by Gendys and Sutijono (2013) entitled "Application of Homeroom Group Guidance to Improve Students' Understanding on Free Sex Danger", based on the discussion and research result mentioned that there is an increase in understanding score of danger of free sex from post test result tested before with pre test and post test after intervention of group guidance by using homeroom technique. So based on the results of research can be concluded that group guidance method using homeroom technique can improve students' understanding about the danger of free sex. Research conducted by Widayani (2013) entitled "The Influence of Guidance Service Guidance Group Homeroom Technique Topics Kespro to Sex Attitude Pranikah Students Class VIII SMP Negeri 18 Medan Academic Year 2012/2013", based on the discussion and research results can be concluded that there is influence from the

provision guidance services group with homeroom type kespro topics to premarital sex attitudes of class VIII students in SMP Negeri 18 Medan obtained from the results of pre test and post test.

The average value of knowledge before being given the guidance intervention of the homeroom technique group is 9.3, whereas the average value of knowledge after given the guidance guidance of the homeroom technique group is 14.7, so it can be said that there is an increase in the average value of the pre test and post test results with the amount of increase value of 5.4. The average attitude value before being given guidance intervention of homeroom technique group is 37.3, whereas the average attitude value after given the guidance intervention of homeroom technique group is 52.8, so it can be said that there is an increase of average value from result of pre test and post test with amount of increase value of 15.5. a variety of intervention methods that can be used to improve the knowledge and attitudes of adolescents about premarital sexual prevention, such as providing health education kespro topics, peer group education, Focus Group Discussion (FGD), Simulation Game, and providing information by using print media. Research conducted (Setyaningrum, 2014) related extension methods, based on research results obtained an increase in the average value of knowledge from the results of pre test and post test with an increase in value of 3.18, as well as an increase in average attitude values from pre test results and post test with an increase amount of 5.82. Research conducted (Desmarnita, 2014) related to the peer group method, based on the results of research found an increase in the average value of knowledge from the results of pre test and post test with the amount of value increase of 1.61, as well as the decrease in the average attitude value of pre-test results and post test with the amount of impairment value of 0.38. Research conducted (Oktaviani, 2014) related to the method of providing information with print media, based on research results found an increase in the average value of knowledge from the results of pre test and post test with the amount of increase in value of 1.11. Research conducted (Rizki, 2012) related to Focus Group Discussion and Simulation Game method based on the result of research found that there is an increase of knowledge value from result of pre test and post test of Focus Group Discussion method with increasing amount value 3,67, average of knowledge

value from result of pre test and post test method of Simulation Game with amount of increase of value equal to 6.3.

Based on the results of the analysis of the results of the average value of pre test and post test can be concluded that the method that has the value of the increase of the highest average to the lowest level of knowledge or attitudes about premarital sexual prevention and including reproductive health based on pre test and post test is provision of information with the method of simulation game, giving information with guidance method of homeroom group technique, giving information by Focus Group Discussion method, giving information by extension method, giving information by peer group method, giving information with print media. So it can be concluded that the guidance intervention group homeroom techniques effectively performed as one method that can be used in providing information about premarital sexual prevention.

CONCLUSIONS AND SUGGESTIONS

Application of homeroom group technical guidance can improve youth knowledge and attitude about premarital sexual prevention at SMAN 1 Sawan, Buleleng.

Based on the conclusions that have been suggested it can be advisable to use the guidance application of the homeroom technique group as one of the methods to improve the knowledge and attitude of adolescent about premarital sexual prevention. This method can be incorporated into the PIK-R program at SMAN 1 Sawan, Buleleng.

For nurses at puskesmas it is expected to apply the application of homeroom group guidance techniques in an effort to improve adolescent knowledge and attitudes about premarital sexual prevention. This method can be incorporated into teen counseling programs. For future researchers it is desirable to use larger samples and to examine related factors that influence knowledge and attitudes about premarital sex in adolescents, and to examine more about the frequency and interval of meetings that are more effective in providing guidance interventions of homeroom group techniques in adolescents.

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Fulfillment of Spiritual Needs and Mental Status Level in people with Psychiatric Disorder (ODGJ) at Puskesmas II West Denpasar

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ABSTRACT

The fulfillment of spiritual needs was required by the people with Psychiatric Diorder (ODGJ), considering the spiritual needs are very important in the change of mental status. This study was aimed to finding out the correlation between Fulfillment of Spiritual Needs and Mental Status Level in people with Psychiatric Disorder (ODGJ) at Puskesmas II Denpasar Timur. This was a quantitative study that applies cross -sectional method. The sample for this study is 69 respondents by using purposive sampling technique. The data are analyzed by using Spearman-Rho. The instruments which are used for collecting data of this study are a questionnaire about spiritual fulfillment and Mini Mental State Examination (MMSE) questionnaires.

The results showed the number of loading spiritual needs either as much as 46 respondents or 66.7%. Meanwhile, most of the respondet has a high level of mental status that is 37 respondents or 53.6%. The result of the analysis shows that there is a correlation between fulfillment of spiritual needs and Mental Status Level on ODGJ with p value 0.000 with positive correlation 0,863 and positive direction. Based on the findings above, it is advisable to the nurse to make programs related to the spiritual such as routine joint prayer and ODGJ peguyuban which is spiritual meaning.

Keywords : *ODGJ, fullfillment of spiritual needs, mental status level*

INTRODUCTION

The Mental Health Act No.18 of 2014 article 1 states that mental health is a condition in which a person can develop optimally both physically, mentally, spiritually and socially so that the individual can be aware of his abilities, can cope with external pressure, can work productively, and able to contribute to the environment.

The problem of mental health every year always increases significantly. Based on the overall disease the prevalence of mental health problems in Indonesia reaches 13% and will likely grow to 25% by 2030 (WHO, 2009).

Basic Health Research in 2008 describes the pravalence of severe mental disorders in Indonesia amounted to 4.6%, while mental emotional disturbance is much greater that as much as 11.6%. The high level of mental health problems identifies that individuals experience an emotional change that if not handled properly can develop into a pathological that becomes sick or mentally disturbed.

Mental disorders occur because some of their soul needs are not met. The same thing is explained by Erviana Kustanti (2008) in the New in Nursing Journal that mental disorder can occur because of an increasingly difficult life and increasing psychosocial stressors due to an increasingly modern society culture, so the pressures in life can not be avoided. Mental disorders can have a holistic impact both on physical or biological, psychological, social and spiritual aspects. According to WHO data in 2012 the number of people with mental disorders explained that about 450 million people suffering from mental disorders.

Speaking of related mental status is closely related to people with mental disorders (ODGJ), where the mental status of patients with mental disorders (ODGJ) is uncertain every time. It causes frequent recurrence of ODGJ.

The literature review conducted by Reeves, RR, & Reynolds, MD in 2009 explains that spiritual role is needed in improving mental status of a person with mental disorder, where spiritual activities inserted in the daily activities of patients with mental disorders can be an important aspect in patient health . This happens because the spiritual activity allegedly can increase the confidence of a person, especially patients with mental disorders and later when it appears confidence in him will be able to improve

the patient's immune with mental disorders.

Research conducted by McIntosh, D.N, Poulin, M.J, Silver, R.C, and Holman, E.A (2011) explain that spiritual and religious can have a positive impact in improving one's health and mental status. It is also explained that with the increase of spiritual behavior there will be improvement of one's mental health because the relationship with one another is very close (Pargemant, et al., 2005). It is also supported by Newton and McIntosh (2010) spirituality affect a person's psychological, so that someone will feel comfortable and can solve problems encountered.

Based on a preliminary study conducted at Bali Province Mental Hospital in May of 2016 explained that spiritual activities have been routinely done every week that inserted in rehabilitation activities. Based on the results of interviews conducted to one of the rehabilitation officers explained that with the existence of spiritual activities are perceived to improve communication and interaction of patients with mental disorders.

Based on data from Puskesmas II Denpasar Timur (2016), the number of ODGJ recorded in the work area of East Denpasar Public Health Center was 84 people. Based on the results of interviews to one nurse at Puskesmas II East Denpasar said that there is often a recurrence in people with mental disorders (ODGJ) who are already at home. The nurse said she did not know the exact reason for the recurrence.

Given the importance of spiritual contribution in stabilizing the mental status of ODGJ, the researcher is interested to examine "The Relationship Between Spiritual Fulfillment Requirement with Mental Status Level on People With Mental Disorders (ODGJ) in Working Area of Puskesmas II Denpasar Timur".

The purpose of this study to determine the relationship between the fulfillment of spiritual needs with the level of mental status in ODGJ.

RESEARCH METHOD

This research is a quantitative research with cross sectional approach. The study was conducted on 13 February to 20 February 2017 at Working Area of Puskesmas II East Denpasar.

The study population was all ODGJ recorded in the Working Area of Puskesmas II with total population 84 people. The sample was selected by non-probability sampling technique with

purposive sampling technique. The sample size of 69 ODGJ living with the family and meeting the inclusion and exclusion criteria and already signing the informed consent sheet.

Fulfillment of Spiritual Needs is measured by a spiritual needs fulfillment questionnaire consisting of 14 questions. The level of mental status was measured by a Mini Mental State Examination (MMSE) questionnaire consisting of 30 questions.

The study was conducted by visiting every ODGJ house that lived with the family. ODGJ address data obtained from Puskesmas.

In the family research is given a questionnaire of spiritual needs fulfillment. At the time of answering the questionnaire the family was accompanied by the researcher. Subsequent to completion of the family completion of the questionnaire of spiritual needs of respondents given 30 questions to assess the level of mental status. The question was read by the researcher but if the respondent refused then the family who gave the 30 questions with the researcher's assistant.

The data were analyzed using univariate and bivariate test. Univariate analysis was conducted on respondent characteristic variable. Bivariate analysis was conducted on research variables. The relationship between independent variables and the dependent variable was tested with Spearman-Rank using SPSS program with 95% confidence level ($p \leq 0.05$)

RESEARCH RESULT

Table 1. Characteristic of Respondents

Characteristic	Research samples	
	Frequency (n)	Percentage (%)
Age		
16-22	6	8,7
23-29	9	13,0
30-36	7	10,2
37-43	9	13,0
44-50	18	26,1
51-57	12	17,4
58-64	6	8,7
65-71	2	2,9
Total	69	100
Gender		
Male	35	50,7
Female	34	49,3
Total	69	100,0
Duration of Sickness		
8-11	17	24,6
12-15	12	17,4
16-19	6	8,7
20-23	12	17,4
24-27	8	11,6
28-31	10	14,5
32-35	4	5,8
Total	69	100,0

The data characteristic of the research sample is age, sex and duration of illness. According to age shows that the majority of sample frequency is in the age range 44 - 50 years that is as many as 18 people (26.1%).

According to the sex shows that the frequency of research sample of the majority of men are as many as 35 people (50.7%).

According to the old pain shows that the frequency of the majority sample sample in the long range of illness 8-11 years, amounted to 17 people (24.6%).

Table 2. Distribution of Frequency of Fulfillment of Spiritual Needs in ODGJ by 2017

Fulfillment of Spiritual Needs	Frequency (n)	Percentage
Good	46	66.7 %
Deficient	23	33.3 %
Total	69	100%

The result of measuring the fulfillment of spiritual needs, obtained the result that the fulfillment of spiritual needs with good kategoti is 46 respondents or 66.7%. While for the less good category as much as 23 respondents or 33.3%.

Table 3. Distribution of Mental Status Frequency in ODGJ by 2017

Mental State	Frequency (n)	Percentage
Low	18	26.1 %
Average	14	20.3 %
High	37	53.6 %
Jumlah	69	100%

Based on table 3, it can be described that the result of mental status level measurement on the respondent in Working Area of Puskesmas II East Denpasar, obtained the result that mental status with high category as many as 37 respondents or 53.6%, mental status with medium category 14 respondents or 20.3%, the rest low mental status as much as 18 respondents or 26.1%.

Table 4. Result of Analysis of Spiritual Needs Fulfillment Relation with Level of Mental Status at ODGJ in Working Area of Puskesmas II Denpasar Timur

Correlation analyses with *Spearman Rank*		
		Mental state of ODGJ
Spiritual fullfillness	*Correlation Coefficient (r)*	0.863
	Sig (2-tailed)	0.000
	n	69

Based on table 4, it can be explained that there is a significant relationship between the fulfillment of spiritual needs with the level of mental status in the respondent is 0.00 (p = 0,000 <0.05) with a strong correlation value of 0.863 and the direction of positive correlation which means when the spiritual needs increase then the level of mental status will increase vice versa if spiritual needs are decreased then the level of mental status will decrease.

DISCUSSION

Based on the data obtained through the questionnaire Spiritual Fulfillment Needs which consists of 14 questions from 69 respondents found that the

respondents are in the category of spiritual needs fulfillment either. The results obtained from 69 respondents, 23 respondents (32.9%) are in the fulfillment of spiritual needs is not good and the remaining 46 respondents (65.7%) are on the fulfillment of spiritual needs well.

According to Hidayat (2006) explained that the factors that affect the basic needs of someone such as illness suffered, family support, self concept, and stage of development. In fulfilling the spiritual needs of the family has a strategic role, because the family always interact in everyday life and have the same strong emotional bond (Hidayat, 2009). The same thing is conveyed by Hamid (2000) in which the family has a role in shaping the individual's spirituality because it is an early stage of spiritual development. From an individual family will gain experience, a spiritual outlook on life and learn about God, himself, and the life he lives.

The fulfillment of spiritual needs is needed on ODGJ where reading the holy verses or listening to religious holy mantram, can reduce the tension of the nervous system spontaneously, considering the ODGJ disturbing nature of thought so gradually for those who listen to the mantram will be calm, relaxed, and recover from physical complaints (Izzat and Arif, 2011).

In fulfilling the spiritual needs, ODGJ requires the participation of the closest people, considering that ODGJ is a less stable mental health. When linking family support to the fulfillment of individual needs, the family has an important role in meeting the needs of ODGJ. Families are seen as institutions or institutions that can meet human needs, especially for care in everyday life. (Isro` & Andarmoyo, 2012).

The same is explained in a study conducted by Irma Rahmawati (2015) which states that the role of the family in the fulfillment of the spiritual needs provided by the family in the patients treated in the ICU General Hospital District Dr.Pirngadi Medan overall room in good category.

Based on data obtained through Mini Mental State Examination (MMSE) questionnaire showing from 69 respondents, 18 respondents (25,7%) have low mental status level, 14 respondents (20%) have moderate mental status level and the rest 37 respondents (52, 9%) have a high level of mental status.

The level of mental status in ODGJ can be observed from its relapse. Recurrence occurs due to the unstable mental state of ODGJ. It is aligned in the book of Nursing Soul explained that the assessment that can be done in assessing

the mental status of people with mental disorders is by observing the level of recurrence, obedient medication, how to talk to others, the ability to count. (Craven and Hirnle, 2000)

In a study conducted by Nugraheni, 2016 explained that the change in mental status in schizophrenics is influenced by several factors, including biological factors, psychological factors, environmental factors and the last socio-cultural factors are factors that often occur among the problems caused by the existence social stratification, social interaction, family support, social changes.

According to Sirait's (2008) study, the increased relapse rate is associated with excessive emotion in the individual in the home environment, especially in the less harmonious house, the family's ignorance in facing the patient and the lack of regular treatment of the patient. Therefore, family support on ODGJ is necessary so that the patient's mental status will be stable and recurrence can be minimized.

The result of the research shows that there is a significant correlation between the fulfillment of spiritual requirement and the level of mental status in the respondent which is 69 is 0,00 (p = 0,000 <0,05). with a strong correlation value of 0.863 and the direction of positive correlation which means if the fulfillment of spiritual needs increases then the level of mental status will increase vice versa if spiritual needs decrease then the level of mental status will decrease. Fulfilling spiritual needs will lead to inner peace in people with mental disorders so that ODGJ conditions will become stable (Canadian Nursing Association, 2009).

The study of the brain structure using Computed Tomography and Magnetic Resonance Imaging shows the shrinking of brain volume in schizophrenic patients. In addition there is loss of GABA (Gama Amino Batiric Acid) neurons in the hippocampus resulting in hyperactivity of dopaminergic and noradrenegic neurons (Stuart & Laraia, 2005).

In a study conducted by Jauhari, J (2014) delivered that psychoreligious therapy with prayer and dhikr give a positive emotional response which runs in the body and is received by the brain stem. Once received by the brainstem, it is then transmitted to one of the major brain parts of the thalamus, then the thalamus transmits the hippocampal impulse (the vital memory center to coordinate everything absorbed by the senses) to secrete GABA (Gama Amino Batiric Acid) in charge of emotional response control , and inhibits asetylcholine, serotonis and other

neurotransmitters that produce cortisol secretion. So that will happen the process homeostasis (balance).

A study entitled "*Associations Between Dimensions of Religious Commitment and Mental Health Reported in the American Journal of Psychiatry and Archives of General Psychiatry"* explains that caring with spiritual approach will have positif impact comprehensively on mental state of ODGJ.

CONCLUSION

It can be concluded that there is a relationship between the fulfillment of spiritual needs with the level of mental status in people with mental disorders (ODGJ) in the Working Area of Puskesmas II East Denpasar.

SUGGESTION

Advice for health workers to visit home more often and encourage families to communicate more frequently with ODGJ and in providing spiritual fulfillment. It is also expected to the health workers to make programs related to spiritual such as tirta yatra routine, peguyuban ODGJ in which contained spiritual meaning. For later researchers to pay more attention to family characteristic factors that care for people with mental disorders (ODGJ) related spiritual.

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REVELATION OF A NURSE: NURSES WORKING DESPITE ILLNESSES AND ITS' EFFECT TO THE QUALITY OF NURSING CARE

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ABSTRACT

The study aimed to gain understanding of nurses working despite illnesses and investigate why they go to work despite illness, knowing what are the common physical and emotional illnesses that they encounter, learning what is the after effect of working despite being ill to the quality of nursing care; and on an additional note this study aims to know how the participants prevent and manage the illnesses. Ten participants were selected from a primary hospital catering for pregnant women, new-borns, children, adolescents and mild medical services to adults. Unstructured phone recorder interviews were conducted on the institute. The data collected underwent stages of Interpretative Phenomenological Analysis (IPA) as it aims to give evidence of the participants making sense of the phenomena under investigation, understanding and interpreting the gathered data. A brief model of the nurses with illnesses and their working phase was develop. Behind the scenes of an ill working nurse consist of 3 phases, the flight phase, the fight phase and the freight phase – this consist of the overall processes that ill nurses are dealing with at work. The study reveals that the working process of an ill nurse is much different as to a well nurse. The process may have slight change especially in the quality nursing care that an ill or a well nurse can provide thus it create a more complex working phase for the nurses.

Keywords: Nurses, Working, Illnesses and the Quality of Nursing Care

1.0 INTRODUCTION

It is no question that nurses should provide hundred percent on their job to facilitate patient's return to optimum level of functioning. Throughout history, it is seen that nurses plays an important role on tending to sick patients. Despite projections that nursing is one of the top ten growth jobs for the next 15 years, our health care system is on the verge of an overwhelming nurse shortage and health care crisis (Reynel Dan, 2011). It is estimated that 50% of nurses will be at retirement age within 15 years, and that no nurses are not entering the field fast to stabilize the imminent mass departure (Reynel Dan, 2011). In the midst of this health care crisis, one question that may contribute to this health care crisis would be that of the nurses and their health. Furthermore, being a nurse cannot guarantee being safe and healthy all the time because they are potentially exposed to many pathogenic microorganisms that make them susceptible to many diseases.

On a simpler note, not only does working while sick make nurses less productive, but it can pose significant risk to patients and cause illness to spread among colleagues and other hospital staff (Melissa WirkusHagstrom, 2015). However, one may wonder why a nurse still tend to a patient's needs while the nurse himself seems to have the necessity to be attended to. How does this nurse can be capable of taking care of others but not able to take care of their wellbeing and why do he still have to work despite an ill condition? or how sick is too sick when it comes to caring for patients in a hospital or other medical setting? (Melissa WirkusHagstrom, 2015)

The researchers would like to know the common illnesses that are usually acquired by the Filipino nurses and what are the common reasons behind nurses working despite feeling unwell. On a broader aspect, the researchers would like to know its impact in the quality of nursing care.

The researchers thought that this topic will be significant in practice, through providing an evidenced-based knowledge on the variables involved. The researchers would also like to understand the nurses working despite all the odds of feeling unwell. By giving information, the nurses will know the consequences of their action when working despite illness. Through providing information to the future nurses and registered nurses, they will understand the importance of providing right care, preventing illness and promoting health. The researchers know that learning and researching about this topic will gain impact in educating future registered nurses, imparting that their health is also as important as the patients' are. Being sick will not only decrease the quality of patient care, but also decreases the chance to help improve their client's condition.

2.0 REVIEW OF RELATED LITERATURE

2.1 Theoretical Framework

Seeing that the researcher's topic is about nurses who still work despite of illnesses, the researchers founded a theory that they utilized. This theory is "Personal Knowing: Nursing as a Caring and Healing Process" by Barbara

A.Carper. Personal knowing have three categories: 1) The relational dimension according to Carper that personal knowing concerned with the knowing, encountering and actualizing of the concrete, individual self. Carper also stated that in a relational sense, personal knowing is about self and others. The relational dimension is about nurses having good relationship with their clients, within a nurse patient interaction a nurse comes to know himself or herself and comes to know the patient as well. 2) The tacit dimension described personal knowing as something that emanates inside of a person, it is when we can tell something, or demonstrate something we know tacitly, without necessarily knowing how to explain how or why we believe as we do. The researchers related the tacit dimension through the nurse knowing their limitations, by knowing their capacity of providing care the nurse can prevent harm to the patient and to themselves. 3) The reflexive dimension is a phenomenon of reflection. It is stated that what we know of or what we have come to know of is a result of knowing. That when we know something we can therefore reflect it. The researchers applied this theory to test if the nurses know themselves and for them to be a better instrument in taking of the sick. A nurse cannot function well if they cannot understand themselves, for one to be capable of taking care of others one must gain knowledge. Nurses serve as role model what they do reflect to others, if nurse know how to take care of their own being then it will reflect on how good that nurse in care.

Another theory that can be utilize in the study is Jean Watson's theory "nursing: human science and human care". According to this theory, nursing is concerned with promoting health, preventing illness, caring for the sick and restoring health. Holistic health care is the focus of nursing practice. In this study, nurses provided this holistic approach when they are not feeling well. The sickness that they are feeling is a hindrance in delivering appropriate nursing care to their patients, thus they cannot perform their task effectively.

2.2 Literature Review

2.2.1 The researchers searched for the appropriate related literature. The researchers founded the act of professionals working despite illnesses is called "Presenteeism". Presenteeism is also described as when a professional is physically present but due to certain issues whether it be physical or emotional, this issues tend to distract them reducing their productivity in work (Reyes, Presenteeism)

2.2.2 A research entitled "Why do Registered Nurses Work When Ill?" said that nurses viewed their decision to come to work when ill as being an inevitable consequence of the tensions that existed between their own needs and the perceived needs of others. According to Crout et al (2005), nurses decides to come to wok despite being ill because of a sense of tension. The sense of tension have 3 subthemes being: between the nurse and the supervisor, between the nurse and the team and In the nurse themselves. The tension between the nurse and the supervisor is because the nurse needs to report

sickness within an "acceptable" time frame meaning there is a need for an early notice so that the supervisors can obtain staffs to replace the sick nurses, also this entitles the sick nurse to seek medical legitimization of the illness. The second tension, which is the tension between the nurses and the other nurses in the ward, starts when it is about the line, "a strong sense of responsibility to the team". When the replacement's lack of familiarity within the ward places additional burden in the permanent team members. Lastly is the tension in the nurse themselves which is influenced by their identity as a nurse, the nursing socialization process and their need for financial security, this happens when a sick nurse think of their role as a health care provider thus increasing the tension of working when ill and caring for themselves. In the identity as a nurse, some nurses revealed that the identity is linked to perception of themselves as a part of a group and how the people in the community view the nurses. Nursing socialization process affects the development of a nurse's work ethics. Work ethics are developed on the job. Nurses still go to work because they mirror the behaviour of their co-workers meaning the exposure to colleague's attitudes and behaviours greatly influence nurse's work ethics. Another factor that influences the decision of a nurse is because they want to be financially secured. Unpaid absences can affect their financial security. Nurses sick leave is inadequate thus making them being in a higher risk for having illness. Poor staffing and heavy workload are the factors why nurses are experiencing workplace stress.

Research question #1: *Why do Filipino nurses report to work despite having illness?*

Assumptions:

Filipino nurses report to work despite being ill because of having the need to provide for everyday needs and because of caring so much for the patients

2.2.3 Nurses are unique in a way that you can treat them as superheroes, but even superheroes have weaknesses such as that of a nurse. Since nurses worked in the hospital they acquire illnesses as well. According to Lombardo and Eyre (2011) there are two classifications of common illnesses, these are 1. Physical Illness that nurses can acquire are headaches, digestive problems (e.g. diarrhea, constipation, upset stomach), muscle tension, sleep disturbances (e.g. inability to sleep, insomnia, too much sleep), fatigue and cardiac symptoms. It is very hard for a nurse to work if the nurse have physical problems this can decrease the nurses productivity in working. 2.Emotional Illness these are problems that nurses deal on their own, this emotional illness are mood swings, restlessness, irritability, oversensitivity, anxiety, excessive use of substance, depression, anger and resentment, loss of objectivity, memory issues and poor concentration, focus and judgement. All these illnesses are very hard to endure especially to nurses working in the hospital or clinic yet despite feeling this illnesses nurses still tend to care for the sick.

2.2.4 The researchers founded an article about the effects of presenteeism in the quality of care. According to the article "Nurses' presenteeism and its effects on self-reported quality of care and costs." By Letvak, Ruhm and Gupta that a research has been conducted how the health-related productivity of nurses is related to quality of care. Two major causes of worker presenteeism (reduced on-the-job productivity as a result of health problems) are musculoskeletal pain and mental health issues, particularly depression. The primary goal of the research is to investigate the extent to which musculoskeletal pain or depression (or both) in RNs affects their work productivity and self-reported quality of care. The results show that the prevalence of musculoskeletal pain was 71%; that of depression was 18%. The majority of respondents (62%) reported a presenteeism score of at least 1 on a 0-to-10 scale, indicating that health problems had affected work productivity at least "a little." Although the results said presenteeism affects the quality of care by a little, it still affects the quality of care therefore it somehow decreases the quality of care.

2.2.5 Quality is when we nurses applied the knowledge to the profession and create a care that could help the patient recover from the disease. According to Kozier and Erb's (2008) nursing practice involves 4 areas, namely the promotion of health and wellness, prevention of illness, restoration of health and caring for the dying. Nurses promote health to both healthy and ill patients, motivate to enhance healthy lifestyles like restrict smoking, improving their nutrition, proper diet and exercise, which could help enhance health and wellness. Nurses also encourage patients to comply with illness prevention programs available include immunizations, prenatal and infant care and prevention of sexually transmitted infections, this could help protect patients and others from requiring and transmission certain diseases. Other activities of nurses include admission, medications (preparations of meds and administration), charting, bedside nursing care, assessment, health teaching, vital signs monitoring and input & output taking observation. Nurses were the major health care providers because they are the one who gives direct care to ill patients. Nurses are also the one who are helping patients cope up with new events in their lives like supporting them to cope with their death. Not only that, nurses are the one who are in the side of patients when they need help the most. All in all, if all this quality care will be given to our patients like they all say this could bring the patients to their optimum level of function not only for the sick but to all people.

Research question # 2: *How do physical and emotional illnesses affect presenteeism among nurses?*

Assumptions:

The effect of the physical and emotional illnesses in presenteeism is that nurses may decreased the quality of nursing care.

Research question # 3: *How does physical illnesses affect the quality of nursing care rendered by Filipino nurses?*

Assumptions:

Physical illnesses may affect the quality of nursing care rendered by Filipino nurses through decreasing the quality of care provided by nurses.

Research question # 4: *How does emotional illnesses affect the quality of nursing care rendered by Filipino nurses?*

Assumptions:

Emotional illnesses may affect the quality of nursing care rendered by Filipino nurses through decreasing the quality of care provided by nurses.

3.0 METHODOLOGY

3.1 Research Design

In this study, the researchers used qualitative research design. According to Copes, (2012) qualitative research design is utilized for the collection of information about the necessary opinions and beliefs of the respondents about the subject matter. It is a subjective approach used to describe life experience. The overall process of qualitative research design involves in-depth study focusing on individual views and experience, emphasis on context, open-ended data, emergent design, and inductive interpretation (Maxwell, 2013).

Specifically, the researchers employed phenomenological qualitative design. According to Donley, (2012) stated that phenomenology is the descriptive process of understanding the individual experience of the respondents based on the particular phenomenon. In this view, the study describes the exact reasons that has influenced the nurses to work even in ill condition. Furthermore, it has an advantage to produced descriptive and accurate opinions and views of the respondents rather than the presentation of a predictive results (Rudison, 2015).

3.2 Research Locale

The researchers have found an institution situated at the 2nd District of Quezon City near the vicinity of Commonwealth Market, Commonwealth Avenue. The institution is a primary hospital known Wellserved Drugstore Medical Maternity Lying-In & Diagnostic Center. It was established in 1994 as a medical clinic, drugstore, lying-in and diagnostic center that include x-ray and laboratory facilities. It caters to pregnant women, new-borns, children, adolescents and mild medical services to adults. The Wellserved Drugstore Medical Maternity Lying-In & Diagnostic Center have 10 nurses overall in which are rotating in three shifts. The total bed capacity is unknown but it is in between 10- 15 bed capacity. The researcher had conducted the study here finding that the nurses working from Wellserved Drugstore Medical Maternity Lying-In & Diagnostic Center had met the criteria, being that the nurses have established a nurse-client relationship

3.3 Research Populations and Sampling

To promote substantial proof for the study, the chosen populations are nurses. Sampling criteria includes the Nurses in the ward. The subjects can be both males and females with no range of age, span of work in the institution and number of population per area. They are considered a respondent as long as they are employed in the research locale as a staff nurse.

The researcher used purposive sampling. Purposive sampling is known

as judgmental, selective or subjective sampling. It is a type of non-probability sampling technique where the units that were investigated was based on the judgment of the researcher. Purposive Sampling is very useful for situations where you need to reach a targeted sample quickly and where sampling proportionality is not the main concern (Crossman, 2014).

The main goal of purposive sampling focused on a particular characteristic or criteria of a population that are of interest, which is why it is the best sampling technique that was used in the study. Anyone that did not met the criteria that the researches set were excluded in the study.

3.4 Research Ethics

The researchers have applied and used the following nursing ethics:

Informed consent is a kind of process by which the health care provider discloses appropriate information to a patient and the patient will decide whether to accept or refuse treatment. The consent should be voluntary and the patient should be competent to make decision at hand (Bord, 2014). The researcher briefly discussed the study to the nurses and they decided whether to accept or refuse to be the respondents.

Autonomy is an agreement to respect another's right to self determine, a course of action and it is also the support of independent decision-making (American Nurses Association, 2011). In this research, the researchers applied autonomy by respecting the decisions of the respondents and not forcing them on anything that they do not want to do.

According to the American Nurses Association (2015), protection of privacy and confidentiality is important in the maintenance of trusting relationship between health care providers and patients and integral to professional practice. The facts about our patient are for their great benefit and interest. We as researchers protected their identities and provided them privacy when they did not want to answer some questions.

Beneficence is taking a positive action to help others and it is also the desire to do good that can benefit others (American Nurses Association, 2011). The Researchers proved that beneficence was applied in their study it primarily benefits nurses and the future nurses in ways to improve nursing practice and nursing education.

Non-maleficence is to avoid harming or hurting others (American Nurses Association, 2011). This research tackled nurses working despite illnesses and through learning more about the topic we may be able to prevent nurses from harm or any treat in the area or workplace.

Justice is referring to equal treatment and fair distribution of resources to all the participants (American Nurses Association, 2011). By using the ethics justice, it implied that all the respondents have the same importance about their opinion and contribution to the study.

3.5 Research Instrument

The researcher had used a semi-structured interview. According to Jamshed, 2014 semi structure interview is involved interaction between the

researcher and respondent. It is composed of open-ended questions that allow the respondents to dictate his/her feelings and identify their experiences on their own concept; and the questions are based on the researchers topic, which is helpful to obtain information from respondents. The results had further helped us to understand the reasons why these nurses are still working if they themselves are not physically well (McLeod, 2014). To achieve a better use of time upon interview, the researcher used interview guide for a useful purpose of having a more systematic and formative questions and maintained a focused questions regarding the respondent's point of view. The researcher recorded the interview with a mobile phone recorder in order to focus on the interview and obtain the information accurately and efficiently and thus enables the researcher to produce a word for word answer of the respondents upon interview (Jamshed, 2014).

Furthermore, the researcher's interview guide was printed to enhance legibility and was validated by the research adviser, specialist and a medical practitioner.

3.6 Data Collection

The researchers secured a consent from the management of the chosen institution by sending them a letter asking for permission to allow the students to conduct the research.

Utilizing the researcher-made semi-structured questionnaire validated by psychology professor and research adviser, helping us warrant the appropriateness of the contents. Once the questions have been validated, the researchers visited the institution to formally conduct the data gathering process. Informed consent from the participants was also obtained initially. The researchers used voice recording device that recorded each interview and it was strictly used for data collection. The recorded interview was transcribed for further analysis of the researchers.

3.7 Data Analysis

The researchers used the design of a qualitative data. A qualitative data interprets emerging themes, insights, patterns, concepts and understandings (Bazeley, 2013). In conducting a data analysis the researchers used an Interpretative Phenomenological Analysis (IPA) in understanding and interpreting the gathered data. Interpretative Phenomenological Analysis (IPA) aims at giving evidence of the participants' making sense of phenomena under investigation and, at the same time, document the researcher's sense making (Pietkiewicz* and Smith, 2014). In using the IPA researchers should look at the data through a psychological lens, interpreting it with the application of psychological concepts and theories, which helps in the understanding of the research problems. Not only that, but researchers also look at the data in the perspective of others, thus given a chance in developing higher level of theories and insights in which respondents may not have thought of (Pietkiewicz* and Smith, 2014). Each interview is transcribed into narrative form. The researchers carefully read and re listen the whole interview transcript and recordings a few times repeatedly which is important to have a reliable

insight to the data (Pietkiewicz* and Smith, 2014). Then after having an insight to data it is important to look for connections between emerging themes, grouping them together according conceptual similarities and providing each clustered data with a descriptive label (Pietkiewicz* and Smith, 2014).

4.0 RESULTS

4.1 Theme1: Flight Phase

Theme 1 shows why nurses work despite illnesses, the participant body's limitations, how the participants prevent illnesses, and how they manage them. In finding why nurses work despite illnesses the participants gave several reasons, among those reasons the most common are the Sense of duty of nurses, for patient sake, for self-reasons and for family. As for the participant body's limitations, seven out of ten stated that the limitations that their body have is only if the illness worsens. While in the prevention of illnesses, six out of ten of the participants stated that living a healthy life style helps and others mainly five of the ten participants stated that they take multivitamins. In managing the illness, five out of ten participants stated that taking meds relieves them of the illness

4.1.1 Reasons: Sense of duty

In this article it is stated that according to the *International Council of Nurses*, "Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes promoting health, preventing illness, and caring ill, disabled and dying people. Advocacy, promoting a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles."

Out of the ten participants, four have stated that it is a nurses' role to go to work even with illness because it is there duty.

"Aaahhh…kasi anu…duty kasi walang magrerelieve ehhh…kasi kadalasan sa isang hospital sakto lang yung staff may sobra man dalawa tatlo lang…pagka di ka pumasok wala na papasok kawawa na yung pasyente" (Aaahhh…because of…it is our duty and no one can be a reliever, and mostly because in an hospital the staff are just enough there may be an excess of 2 to 3 staff only…and if you can't attend no one else will, the patient will suffer the consequence.) – Participant 10

One of the participants stated that if a nurse is to not work while ill even though he\she can and is able to work, his\her co staff including the patient will suffer.

4.1.2 Reasons: for patient's sake

More often than not, patients happen to be enduring or have endured immense pain and suffering. Eccentric nurses have empathy for them and are able to be compassionate to provide comfort (Kapoor, 2016).

Out of ten participants only four stated that they attend work for the patient's sake. One of the participant stated that as a nurse, one should attend work for the sake of caring the patients for them to return to the optimum level of health.

"*Syempre ano, as a nurse, gagawin mo pa rin ang lahat para sa pasyente mo, parang magtratrabaho ka pa rin kasi mas kawawa sila eh siguro wala lang yung sakit para sayo pero yung sa kanila siyempre mas ano pa rin na makaka tulong ka sa kanila"* (Of course as a nurse, you are doing everything for the sake of your patients, and you still go to work because they needed you. Maybe the pain for you is not that bad as to them but its more (great) if you can help them.) – Participant 4

4.1.3 Reasons: Self reasons

According to the business dictionary, Self-Motivation is the ability to do what needs to be done, without the influence from other people or situations. People with self-motivation can find a reason and strength to complete any task, even when challenged, without giving up or needing another to encourage them.

Three out of the ten participants stated several self-reasons why they attend work with illness. But one of the participants stated that she attend work because of self-motivation.

"Motivation keeps me working despite being ill physically, emotionally and psychologically." – Participant 9

4.1.4 Reasons: Family

According to Cambridge dictionary being the breadwinner of the family means the member of the family who earns money and meet the family's needs. Being a nurse is hard but being a nurse who cares and looks after a family is much harder especially if you need to meet cartain needs and certain bills.

According to three of the ten participants family is the one of the reasons why they attend work. One of the participants stated that as a breadwinner one should know his or her priorities.

"Pangalawa family di ba lalo na kung breadwinner ka kailangan mong magprovide sa mga needs nya yun ang kailagan mong ma focus mo lagi tsaka laging yung priorities mo in life ang kailangang isipin mo." (Second is your family, especially if you are the breadwinner, you need to provide their needs those that is you should focus on and you should know and think your priorities in life.) – Participant 7

4.1.5 Manage working despite illness: Taking Meds

Self-medication is a frequent practice among the nurses and is associated with factors that should be taken into account when planning strategies aimed at improving workers' health conditions. (Barros AR1, 2009)

There are many legitimate reasons that may be given for why drinking plenty of water is a good idea when you're sick, all of which relate to the prevention of dehydration and its adverse health effects. It is stated in this article that drinking fluids meet daily fluid needs, control fever, prevent and control N&V and help clear secretions. (John, 2013)

Five of the ten participants stated that nurses they take medications to relieve being ill. One stated that he takes medicine, take rest and drink plenty of water

"By taking medicines and taking a rest and plenty of water" – Participant 8

4.1.6 Prevention: Living a healthy life style (Diet exercise) and taking Multi Vitamins

Nurses play an important role in healthcare whether they are working at the patient bedside, caring for patients in a physician office, or providing care and education as part of public health. This is why it is very important for nurses to take care of themselves as well. Nurses can benefit from good, sound nutrition to help them lead healthy lives. (Denise Reed MS, September 2014)

Six out of ten participants stated that they avoid unhealthy lifestyle and avoid eating unhealthy foods.

"Increasing my oral fluid intake. I avoid unhealthy lifestyle and avoid eating unhealthy foods." – Participant 9

"I also boost my immune system by taking multivitamins" – Participant 9

4.2 Theme 2: Fight Phase

Theme 2 shows that physical illnesses and emotional illnesses that are experienced by the staff nurses during the time of their duty hours. Among the participants, 4 out of 10 answered in physical illnesses answered that they experienced fever, cough and colds while 3 of them experienced episodes of back pain. On the other hand, 4 out of 10 dictate that they experienced emotional illnesses, which is stress during their duty hours.

4.2.1 Emotional Illness (Stress)

Nursing is a very stressful occupation, and high levels of occupational stress are believed to affect the nurses physically and mentally. Occupational stress among nurses is the result of exposure to a combination of both working environment and personal factors.(Hui Wu, 2010)

The participants have stated many emotional illnesses that they experienced during work. As to four out of ten of the participants stated that stress is the most common emotional illness that they encounter while working.

"Emotional illness? Kapaganolang nama npo ah... naiistress sa mga pasyente, like kung yung mga patient medyo toxic tapos medyo… ah medyo..medyo demanding." (Emotional illness? Its only when… I am stressed out because of patients. Like when the patients are toxic and sometimes too demanding.) – Participant 2

One of the participants stated that the stress that he experience came from patients when they are too demanding and if there is so many workload for the participants to handle. It is stated in the article that there are a lot reasons why healthcare providers are getting stress to patients. There may be times that the diagnosis may be challenging, the situation could be demanding, or the patient is "difficult". (LEARNING, 2016)

4.2.2 Physical Illness (Fever, Cough and Colds)

Nurses are prone to have a colds, cough and even fever related to their work since we are the first line in taking care of the patients. These conditions are common illnesses that nurses experienced. According to (Stokowski, 2015) despite having cough, fever or colds nurses still go to work.

"Ayun. Ahmm Cough and colds flu ganun minsan, fever ganun "(Ahmm. Cough and colds. Sometimes Flu and fever.) –Participant 4

Participant 4 stated that she experienced cough, colds and fever when she's on duty which is commonly as stated before. Although it's not that severe we should also take a look on its effect to the quality of care given to the patients.

4.2.3 Physical Illness (Back pain)

In the healthcare field, nurses are the one who really are on the bedside care. The moving of the patient from one place to another (transferring) or simply positioning the patient is routinely done resulting to physical exertion manifested by low back pain. (Rasmussen et al 2016). Chronic low back pain (CLBP) among nurses is a truly concern. (Pinky Budhrani-Shani et al 2016)

"…*Chronic back pain due to lifting heavy objects*." – Participant 9

Participant 9 reveals that she experienced episodes of back pain due to lifting heavy objects. According to article, that low back pain is a growing concern among nurses due to poor techniques on how the proper handling or lifting the patients.

4.3 Theme 3: Freight Phase

Theme 3 shows the comparison between an increase and decrease in the quality of care in physical and emotional illnesses by the staff nurses after the time of their duty hours. According to the participants, both physical and emotional may decrease the quality of care, but other participants stated that they experienced an increase in quality of care when having emotional illnesses.

4.3.1 Emotional illnesses: Increases the quality of care

According to the business dictionary, self-motivation is the ability to do what needs to be done, without the influence from other people or situations. People with self-motivation can find a reason and strength to complete any task, even when challenged, without giving up or needing another to encourage them.

Out of the ten participants four have stated emotional illnesses increases the quality of care that they provide to patients by encouraging them and the relative to support their patient.

Uhmm.. For me, I take it as a positive so it increases my quality of nursing care and ah by encouraging more… encouraging more the patient and the relative support their patient in the hospital." - Participant 8

4.3.2 Emotional illnesses and Physical illness: Decrease the quality of care

Presenteeism may have a greater adverse impact on the quality of patient care. A nurse who calls in sick can be replaced with a healthy reliever, but a nurse who remains on the job despite being ill may not fully meet the hospital and the patients' demands. (Letvak, Ruhm, & Gupta, February 2012)

Out of ten participants, three have stated that they experience a decrease in the quality of care when having emotional illnesses. Eight out of ten participants stated that when experiencing physical illnesses there is a decrease in the quality of care.

"Ahhm parang may side din na nagbibigay ng mababang quality sa pagtatrabaho kase nakakapag, parang iniiisip mo rin habang nagtatrabaho yung problema na yon pero sa kabila ng yon syempre may mas ano pa, kagaya ng sinabi ko kanina may mas nangangailangan so i-set aside muna

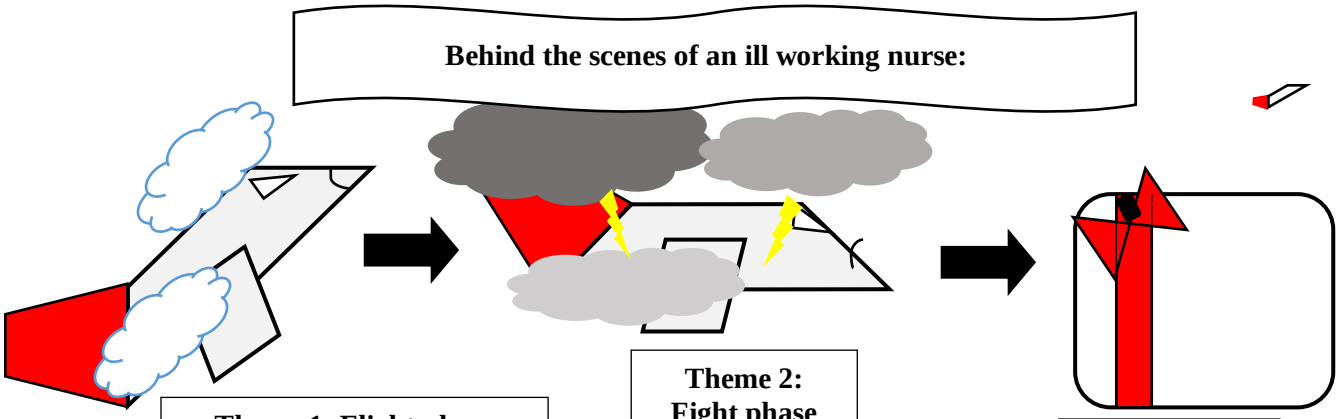
yung problems na yon for the sake of others." (There is an instance where the quality of care decreases. When I think of my problems while working but just like what I said there is someone who needs me so I set aside my problems for the sake of others.) – Participant 3

Participant 3 stated that emotional illnesses may decrease the quality of care but despite that as a nurse we should take care of our patient because it is a role and a duty.

"Physical illnesses decreases the quality of my nursing care to my patients. It is a distraction to my focus at work resulting to a longer time carrying out doctor's order and/or nursing independent actions." – Participant 9

Participant 9 stated that physical illnesses decrease the quality of care, it decreases in a way that independent nursing action cannot be done well.

5.0 Moderatum Generalization



Theme 1: Flight phase

Reasons:
Sense of duty of nurses, for patient sake, for self-reasons and for family

Prevention:
Multi-vitamins
Living healthy life

Theme 2: Fight phase

Management:
Taking meds.

Theme 3: Freight phase

Increase or Decrease in the Quality of Nursing care

The study shows that nurses working despite being ill can affect the quality of nursing care rendered to the patients. The researchers formulated three working phases of an ill working nurse: The Flight phase, the Fight phase, and the Freight phase.

The Flight phase composes why nurses keep on working despite being ill, according to the respondents the most common reasons are the following: the sense of duty of nurses to the patients, self-reasons, family reasons and financial reasons. On the other hand, the researcher include how the nurses prevent having illness it includes of taking medications such as multi vitamin and living a healthy lifestyle.

Next is the Fight phase, the researchers identify how the nurses manage being ill while working, it includes taking OTC drugs or medications like paracetamol, ambroxol, and cimvex. According to the respondents, it helps them to manage the illness that commonly experienced by the respondents.

Lastly, the Freight phase, which is the outcome of nurses working despite being ill; it only has two answers, whether it increases or decreases the quality of care. Upon gathering that data the researchers confirm that it really decreases the quality of care when the nurses itself is the one who is sick.

The researchers found some limitations on this study that the results gathered may not be enough to support other answers of the respondents. By this study, it also recommends to the future researcher that this research may increase the number of respondents and level it up from primary hospital to secondary or even tertiary hospital.

6.0 Reflection

The whole process of this study is to gain understanding of nurses working despite illnesses and investigate why they go to work despite illness, what are the common physical and emotional illnesses that they encounter, also to understand what are the effect of working despite being ill to the quality of care, and to know how the nurses prevent and manage the illnesses. It is not just because doing the research can be applied to our daily lives as a student nurses. Doing the research the researchers have understood what roles nurses play in the lives of the patients, and have gained knowledge that nurses do what they do to benefit both the patients and their role to the respected relatives of the patient. Researching about this topic have given us a brief look at the situation, it had also prepared the researchers for what roles they are about to do in the near future. Those nurses are worth studying and are worth of the time to get to know their reasons behind working while sick.

Looking at the finished result of the researchers' paper, both strong points and weak points of the research can be seen. The strong points of the research paper is the gaining of the understanding and knowledge on why nurses now a days work and what are the common reasons that was said, also knowing the common illnesses acquired by nurses in a primary hospital. Another strong

point was that the researchers have found coping mechanisms and prevention done by these nurses. The biggest strong point was that the researchers was able to know the effect of illnesses for nurses, and the care that have been rendered wherein before the common effect which decreases the quality of nursing care. The present nurses stated that having emotional illnesses actually increases the quality of care given. The weak points of the study is that the study was conducted in a primary hospital, which may cause the researchers few or limited answers, unlike if the study was conducted in a tertiary hospital. Furthermore, the study was not able to elaborate how the quality of care decreases and increase which is a big factor in the research, and lastly the researchers have found the answer of nurses ranging from the age of 20-35 they were not able to see or found the answers of old nurses.

The researchers would recommend future researchers to do the research in a tertiary hospital wherein more information regarding the topic can be gained. It is also recommended that the future researchers do a comparison between nurses in the past and the present nurses on the difference on how illnesses affects them, and the care that was rendered. The researchers recommend the future nurses to try to do the research again but in a quantitative type of research, and for those future nurses that want to have a more accurate answer to the study the researchers recommend to do a triangulation type of research, which is a combination of both qualitative and quantitative type of research. By this recommendation, the researchers hope that the study may help not only the nurses but also the student nurses. The researchers impart new knowledge through this study that aimed to make nursing better.

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HOW IS PARENT REACTION WHILE BEING INFORMED ABOUT THEIR CHILDREN HAVING ACUTE LYMPHOBLASTIC LEUKEMIA?

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ABSTRACT

Objective: This study aims to obtain a picture of the experience and meaning of family in caring for children suffering from ALL.
Methods: This research is a qualitative research using phenomenology approach. This research uses the researchers themselves as an instrument of data collection because researchers seek and explore information in depth so that the researcher's own role as a tool for obtaining information. The supporting instrument used in this research is to use semi-structured quesionaire which is an interview guide. Analysis is done by assessing the semantic relationship between the variables studied.
Result: The study showed there were four themes of the results of the analysis of emotional responses, family perceptions about the disease, difficulties faced by families, and family expectations. Nurses are expected to continue to provide support to patients and families in the form of education required by the family.

Keywords: Acute Lymphoblastic Leukemia, families' experience, taking care of children

INTRODUCTION

Acute Lymphoblastic Leukemia (ALL) is a malignancy in white blood cells that appear suddenly and if not treated, disease progress will be faster. ALL can occur in children and adults, with two incident patterns. ALL is more common in children, the incidence peaked at age between 2-5 years and very rarely under 1 year of age. ALL incidence is higher in men than in women in all age groups, but children have a better prognosis than adults. The average survival rate in children is about 80% and almost 90% for a 5-year survival rate (Meenaghan, et al, 2012).

Data from the Division of Hematology and Oncology of the Department of Child Health Faculty of Medicine Universitas Indonesia Cipto Mangunkusumo Hospital (IKA FKUI RSCM) from January 2000 to June 2008 there were 517 new LLA patients with male and female ratio of 1.6: 1. During year 2000 -2004, 35% of patients were diagnosed as Acute Lymphoblastic Leukemia (ALL) among 486 cancer patients treated at Dr. Sardjito (Mulatsih & Meiliana 2009). In Dr. Soetomo Surabaya, the new case of Acute Lymphoblastic Leukemia (ALL) ranks first in children malignancy. Acute leukemia is ALL about 90% and 10% is Acute Myeloid Leukemia (AML). The incidence rate in developing countries is around 83% for ALL and 17% for AML (Permono & Ratwita 2010). The current success rate of LLA therapy has been close to 80%. The prognosis of LLA is best compared with other cancers because more than 95% are in remission and 63-83% do not recur within 5 years after chemotherapy (Kamima et al, 2009).

Management of cancer in children requires a complex and orderly planning in order to achieve optimal healing. The overall services provided should pay close attention to prompt access to medical treatment from diagnosis, treatment planning, to the provision of planned therapy. Cancer management in children also needs to pay attention to the psychoso- logical aspects of children and families involving health professionals (Hull & Johnston, 2008). Giving chemotherapy is one of the management in patients with cancer. The effects of chemotherapy will damage cells that have high proliferative activity such as bone marrow and mucosal epithelial cells so that chemotherapy is suspected to cause bone marrow depression, alopecia, and mucositis (Permono et al, 2010). Families with children suffering from cancer have high levels of stress due to fear of death and concerns about the disease's effects on their child's life. Nurses need to identify concerns, difficulties, and family experience in caring for their children to plan for family-needed nursing interventions as well as support for families, thus lowering stress levels in families (Alves, 2013).

Families especially family members who act as carers in children with cancer have a burden that contributes to their quality of life. This requires interventions that can support social and emotional aspects to decrease the burden and improve the quality of life of caregivers in children which may later influence the provision of better care

(Santo, 2011). It is therefore important to identify family experiences in caring for children with ALL to explore family views in providing care as well as the difficulties and support needs of families to support the provision of care to children with ALL. This study aims to explore the experience and meaning of family in caring for children suffering from ALL at Sanglah General Hospital Denpasar

METHOD

This research is qualitative research using phenomenology approach to identify family experience of caring for children with ALL. Qualitative research is selected because this study tries to explore the meaning and experience of family caring for children with ALL. The study was conducted in a special non-infective care room at Sanglah Hospital Denpasar. The time of study began in September to November 2016. Participants in this study were parents who had children with ALL in the age range 1 to 5 years. The number of participants in this study were 8 participants.

This research uses the researchers themselves as an instrument of data collection because researchers seek and explore information in depth so that the researcher's own role as a tool for obtaining information. The supporting instrument used in this study was to use semi-structured quesionaire which was an interview guide containing open-ended questions about family feelings during the treatment process, family experience in caring for children, and difficulties experienced in caring for children. The researchers documented the non-verbal response of the participants during the interview and all the information obtained during the interview was recorded using a voice recorder.

RESULT

This study describes the experience of families who are caring for a child suffering from Acute Lymphoblastic Leukemia (ALL). Participants in this study amounted to 10 respondents consisting of 2 people who are nurse at keyperson in Pudak room and 8 participants who are parents of children suffering from Acute Lymphoblastic Leukemia (ALL). Interview conducted in the environment around Pudak Room Sanglah Denpasar Hospital as in the treatment room, in the garden Pudak Room, and Space Care One Day Care. At the time of meeting with the partispan, the researcher introduces himself and explains the purpose of the research, if the prospective participant has understood and agreed to be a participant, the researcher gives informed consent to the participants. Further interviews were conducted to participants until the interview ended by thanking the participants for their contributions in the research.

The results showed there were four themes of the results of the analysis of emotional responses, family perceptions about the disease, difficulties faced by families, and family expectations. Subthemes for themes of emotional response are sad emotional responses and fearful emotional responses. Subthemes for the theme of family perception of the disease are a disease that is difficult to cure, diseases with chemotherapy

treatment, and avoiding swarming foods. The subtheme for the theme of the perceived difficulty of the family is cost and can not work, the subtheme for the theme of family expectation is fast recovery from the disease.

Theme	Sub theme	Participants
Emotional responses	Sad	"ya sedih..ndak bisa dibayangkan gimana sakit begini" (P1) "Gak bisa ngomong apa..keadaan sedih, susah dibilang" (P4) "sedih…..sedih saya tahu anak kena leukemia" (P7)
	Fear	"takut…rasanya itu campur takut, ada jalan lain apa gak untuk sembuh" (P5) "yaa…takut, sembuh ga nanti dia" (P2) "kije kaden orang tiang keneh tiange jek takut" ("entah kemana pikiran saya…takut") (P6)
Family perception about the disease	Difficult to cure	"penyakit yang ganas…penyembuhan gak terlalu" (P2) "apa itu sakit kanker…belum ada obatnya, umurnya tidak panjang" (P6) "ya paling gini…kan sakitnya anak itu keras, saya pikir gini aja…bisa sembuh tidak anak saya itu" (P7)
	Disease with chemotherapy	"mungkin kemoterapi" (P1) "kemo…kemoterapi, pengobatan lewat infuse" (P2) "ya terapi termasuk kemo" (P4) "pengobatannya yaa kemoterapi" (P5)
	Avoiding swarming food	"kayak makanan ringan gitu, minuman siap saji gitu ga boleh"(P5) "apalagi makan makanan, ada banyak yang ga boleh dimakan, kaya pengawet, penyedap" (P7) "ya makanan isi vitsin gitu" (P8) "makanan yang snack snack ga dikasi gitu" (P6)
Difficulties faced by families	Cost	"pasti masalah biaya, biarpun pakai BPJS tetap mahal disini"(P4) "kesulitannya sih gini masalah biaya…biaya sehari-hari disini"(P2) "ya..biayanya susah untuk disini"(P8) "karena tidak ada biaya, bapaknya tidak kerja, cari

		biaya tidak bisa"(P7)
	Can not work	"tidak bisa dagang, tidak bisa udah disini" (P7) "kerjanya libur dulu, kerja deket soalnya disamping"(P4) "waktu pertama anak disini berhenti sampe 3 bulan ndak kerja"(P6) "ya saya disini sekarang ga bisa jahit lagi…pasrah"(P3)
Family expectations	Fast recovery	"mudahan bisa sembuh"(P1) " ya sembuh total..ya gitu dah"(P2) "kesembuhan. Hanya itu saja, biar bias kerja kembali seperti dulu"(P5) "pengen anak sembuh. Gitu aja"(P8)

DISCUSSION

a. Emotional Responses

The response the family feels when the child is first diagnosed by ALL is to feel sad and afraid. Feelings are felt because the family at first did not know about the illness suffered by his son. Families feel sad to see the condition of his son and just want to get his son healed. This is due to the fact that the condition of his sick child is not what the family expected (Kozier et al, 2004). The feelings were apparent to Partispan 3 and Participant 7 who cried during the interview. The results of this study in line with research Aritonang (2009) which states that there is an emotional response of parents in caring for children who suffer from chronic diseases. Parents will also become more sensitive and worried when their child is diagnosed with ALL disease (Clarke et al, 2014). Fear felt by the family because of ignorance about the disease and treatment that will be lived by his son. Parents who know their children suffering from ALL will also feel the psychological stress associated with low acceptance of their child's condition (Sherief et all, 2015). The first child diagnosed with ALL is a stressful condition for both the patient and the parents. Uncertainty of the condition, the possibility of relapse, and length of treatment are some sources of stress that is felt by parents (Neu et al, 2014).

b. Family Perceptions about The Disease

Family perceptions about cancer, especially ALL is a disease that is difficult to cure. Almost all participants stated that cancer is a disease that is difficult to cure and there is no cure. All participants mentioned that ALL treatment is with chemotherapy. Handling ALL done curative and supportive. Supportive treatment involves handling of symptoms that arise in the form of transfusion, antibiotics, nutrition, and psychosocial approaches. Curative handling aims to cure ALL specifically by giving chemotherapy (Permono et al, 2010). Almost all participants also mentioned some foods that should be avoided by their children such as preserved food

c. Difficulties faced by Families

Difficulties faced by the family during caring for their children is a cost issue and can not work so decreased or even no income earned by the family. The chemotherapy treatment that children undergo is a cost of BPJS, but the cost difficulties felt by the family especially for the cost of daily life during the hospital and transportation costs from the area of origin to the hospital. This study is in line with the study of Lau, et al (2014) which states that parents whose children have leukemia will have a risk for job loss, decreased income, and decreased effective working hours. One of the causes of stress in parents whose children suffer from ALL is a material difficulty. Parents often calculate expenses and expenses made during their child's illness. This is a burden for parents because they not only think about the condition of the child but on the other hand they also think about the financing that must be issued or prepared (Cepuch et al, 2013).

d. Family Expectation

All participants stated that they hoped his son would recover completely from his illness and would not recur again. Participants hope the condition of his child will recover as before the illness so as to be able to move as usual. Parents also hope that their children will be able to go to

school and play like any other child. Parents, especially mothers who care for children with ALL tend to experience a decline in health conditions. Mothers usually do not pay attention to health conditions because it is too focused on children's health. Parents always want the condition to return to normal as before the child is sick so that bias lead life as usual (Rafii et al, 2014).

CONCLUSION

From the results of the study, researchers concluded The response of parents when their children first diagnosed ALL is the emotional response such as sadness and fear. Parents' perception of ALL disease is a cureable disease, treatment with chemotherapy, and avoiding preserved foods to maintain the condition of the child. Difficulties experienced by parents during caring for children suffering from ALL is a cost issue. The expectation of the parents for the child is to have the child fully recovered from his illness. Hospital as a health care institution is advised to pay attention to the psychological condition of parents and children suffering from ALL. Activities such as support groups should be established as social support for families with ALL-affected children. The hospital is also expected to provide information that is easily accepted by the patient's family.

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THE EFFECT OF HEALTH EDUCATION BY JIGSAW LEARNING MODEL ON THE IMPROVEMENT OF CLEAN AND HEALTHY LIFE BEHAVIOR OF STUDENTS IN SDN 4 NYALIAN

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ABSTRACT

Implementation of clean and healthy behaviour in schools still under average, if reflected form the incidence of disease that caused by bad health behavior in school. Cooperative learning with jigsaw is a health education model that demands student activeness in learning process. Purpose of this research is to determine the effect of jigsaw model to increase student's clean and healthy behaviour of SDN 4 Nyalian. This research used quasy experiment with nonequivalent control group design. Sample consisted of 20 students in intervention group and 20 students in control group. The intervention group received clean and healthy behaviour education with jigsaw learning model, meanwhile the control group received education with learning model that usually used in SDN 4 Nyalian (lecture and discussion). Health education was given once per week (70 minutes) for two weeks. Student's clean and healthy life behavior is measured using knowledge, attitude and action questionnaire. Based on statistical analysis, the intervention group obtained knowledge (p=0,001), attitude (p=0,000), and action (p=0,000)(p<0,05). Afterwards, in control group obtained knowledge (p=0,011), attitude (p=0,157), and action (p=0,317). Health education with jigsaw model able to give significant improvement to three behavioral variables: knowledge, attitude and action. Besides, the model of education in control group is only able to increase knowledge of students. As shown above, health education with jigsaw learning model has effect on the improvement of clean and healthy behavior in SDN 4 Nyalian's students.

Keywords: Clean and healthy behavior, elementary students, health education, Jigsaw

PRELIMINARY

According to Gunarsa (2006), school is the core experience of a child because in this period children are considered to be responsible on their own behavior in relationships with others. Children at school age are very different from adult age, because school-aged children are starting to know their environment and play in there. Therefore, children are very easily infected some health problems, which can disrupt their achievement in school. Some common diseases that occur are diarrhea, intestinal worms, skin diseases, and dental diseases.

In 2011, based on the number of the death cause from infectious diseases, diarrhea is the third cause of death after Tuberculosis and Pneumonia. The prevalence of intestinal worms reached 76.67% in 2012. In addition, the number of children who got caries problems on their teeth was 31.04% in 2009. And in 2000, the prevalence of scabies was about 6-27% of the general population and tended to be higher in children. Diarrhea, intestinal worms,and dental diseases are common diseases caused by low clean and healthy life behavior applied by students.

Based on the theory proposed by Green (1991), revealed that the occurrence of disease on individuals or groups was affected by predisposing, enabling, and reinforcing factors that can be manipulated by providing health education. If the orientation is on learning strategy, a good learning is a learning that requires on students' activities (Hanafiah & Suhana, 2009). In health education, the provision of health education will be good and effective if the participants' activities is high in that health education, therefore, one of learning methods that can be adopted for health education is jigsaw learning model.

The principle of jigsaw learning model is basically dividing large groups of population into small groups called groups of origin. Students learn similar material in the expert group, then return to the original group to re-discuss the material that has been obtained in the expert group so that all students understand all the learning materials. The activity ended by a presentation in front of the class (Chotimah, 2009).

In the jigsaw learning model, each student gets an opportunity to express an opinion, and process the information; therefore, it will improve the communication skills and increase the absorption of material to be maximum

(Rusman, 2010). This is also supported by the development of school-aged children in accordance with the theory proposed by Kay (in Yusuf, 2008) that improving interpersonal communication skills and socializing learning is part of the developmental tasks of school-aged children.

Based on the research, it is found that jigsaw learning model improve learning outcomes, students' interpersonal intelligence, and students' understanding compared to conventional methods (Oka, 2012).

Based on the result of this research, it can be seen that jigsaw learning model can improve students' knowledge and understanding of a problem. However, there is no related research yet on the improvement of elementary students' behavior after providing health education by jigsaw model, especially about clean and healthy life behavior. Based on the result of preliminary study which conducted at SDN 4 Nyalian, it is found that the clean and healthy life behavior level of students is still low.

RESEARCH METHODS

Research Design

The type of the research was quasy experiment design using non equivalent control group.

Population and Sample

The population was all students of SDN 4 Nyalian amounted to 147 students. The sampling technique using nonprobability sampling and purposive sampling. The sample amounted to 21 people in each group so that the total sample used 42 students.

Research Instruments

The instruments applied was questionnaire about knowledge, attitude, and action of clean and healthy life behavior. The objective questions were 16 items of questions about knowledge, 23 items of questions with likert scale to examine attitude, and 23 subjective questions to know the action. The questionnaire was made by the researcher herself.

Data Collection and Analysis Procedures

This research has paased the ethical eligibility with number 908./14.2/KEP/2017 by Research Ethics Committee Faculty of Medicine / Sanglah Hospital on April 21th 2017. Data collection was conducted from May 2nd

until May 9th 2017. Researcher did pre-test and post-test using questionnaire of konwledge, attitued, and action of clean and healthy life behavior in both groups before and after providing health education about clean and healthy life behavior. Health education was done once a week for two weeks. Provision of health education was conducted for 70 minutes at each session. Health education was provided using jigsaw learning model in the treatment group, and using commonly learning model (lecture, question and answer) in the control group.

Data analysis was using non parametric tests, Wilcoxon test and Mann-whitney test.

RESULT OF THE RESEARCH

Table 1. The Frequency of Distribution by Age of Students Grade IV and V at SDN 4 Nyalian in 2017

	N	Median (minimum-maximum)	Mode	Mean±SD
Age of Treatment Group	21	10 (9-11)	10	9,95 ±0,805
Age of Control Group	21	10 (9-11)	10	10,5 ±0,669

Based on Table 1, it can be seen that the age mode in both groups was 10 years old.

Table 2. The Frequency of Distribution by Gender of Students Grade IV and V at SDN 4 Nyalian in 2017

Gender	Treatment Group		Control Group	
	N	%	n	%
Male	9	42,9%	12	57,1%
Fenale	12	57,1%	9	42,9%
Total	**21**	**100%**	**21**	**100%**

Based on the gender in Table 2, most of the respondents were female (57.1%) in the treatment group and most male (57.1%) in the control group.

Table 3. The Frequency of Distribution by Experience Obtaining Health Education About Clean and Healthy Life Behavior of Students Grade IV and V at SDN 4 Nyalian in 2017

Experience of Obtaining Health Education About Clean and Healthy Life Behavior	Treatment Group		Control Group	
	n	%	n	%
Ever	0	0%	0	0%
Not yet	21	100%	21	100%

Total	**21**	**100%**	**21**	**100%**

Based on the experience of obtaining health education about clean and healthy life behavior in Table 3, all respondents (100%) had not yet obtained health education about clean and healthy life behavior.

Table 4. Result of Analysis of Knowledge, Attitude, and Action Related to Clean and Healthy Life Behavior, Pre-test and Post-test of Treatment Group and Control Group at SDN 4 Nyalian in 2017

Items	Treatment Group	Control Group
Knowledge		
p group*	0,001	0,011
*p pre-test***	0,779	
*p post-test***	0,040	
Attitude		
p group*	0,000	0,157
*p pre-test***	0,946	
*p post-test***	0,002	
Action		
p grop*	0,000	0,317
*ppre-test***	0,466	
*p post-test***	0,002	

*using *Wilcoxon* test

**using *Mann-Whitney* test

Based on the result of statistical analysis in Table 4, it appeared that there was a significant improvement between result of pre-test (knowledge, attitude, and action) and post-test in treatment group. Meanwhile, there was merely a significant improvement on knowledge domain in control group.

Based on statistical test result using Mann-whitney on the Table 4, there were no significant differences on knowledge, attitude, and action between treatment group and control group prior to providing health education. The result of statistical test on post-test showed that there were significant differences among knowledge, attitude, and action between treatment group and control group after provided health education.

DISCUSSION

Based on statistical analysis of treatment groups during pre-test and post-test, there was a significant improvement among the level of knowledge, attitude, and action before and after treatment. This relationship showed that health education

by jigsaw learning model effectively improve the three behavioral domain variables, that are knowledge, attitude, and action related to clean and healthy life behavior.

Health education about clean and healthy life behavior by jigsaw learning model is able to influence the level of students' knowledge which is in line with PRECEED-PROCEED theory proposed by Green in 1991. Green stated that predisposing factors can be manipulated by giving appropriate health promotion. The implementation phase of health education by jigsaw learning model can relieve the tension of students during the discussion process. Interaction to each other happens and freedom of commenting.

According to Azwar (2009), persuation can be enriched by messages that can increase feeling of strong, mainly the emotion of fear in a person. It is in line with factors that can affect someone's attitude, namely emotional factor (Azwar, 2009). Students' attitude related to clean and healthy life behavior which being improved in treatment group are closely related to persuasive discussion stages. Stages of discussion on jigsaw learning model makes it easier for students to filter the information which being obtained, so that discussion session with the process of persuasive communication happens.

In that phenomenon, it is also seen that health education about clean and healthy life behavior by jigsaw learning model able to improve students' action related to clean and healthy life behavior. The improvement of the action is closely related to information delivery which adequate so that students able to perform a guided response or do something in the right order or as appropriate (Azwar, 2009). Based on eight points of clean and healthy life behavior, most of the points require a guided response to realize an obvious improvement of clean and healthy life behavior on students.

In control group, based on statistical analysis of treatment group during pre-test and post-test, it was shown that health education model in control group was merely able to significantly improve the knowledge of the students related to clean and healthy life behavior and not able yet to improve the attitude and action significantly.

Aprilia (2008) stated that question and answer method is able to facilitate the teacher in mastering the class, therefore, it is easier to organize the students. Yet, learning model in control group is beneficial merely for students who are able

to absorb the material audibly. In question and answer method, learning is dominated by one-way material giving so that students tend to get bored easily because they become passive (Zain and Syaiful, 2010).

In control group, a large group learning system was used causing not all students were able to monitor their level of knowledge. Knowledge gained by students is inadequate; therefore, it has not been able to change attitudes and actions of students related to clean and healthy life behavior significantly. It is in line with theory proposed by Azwar (2009), that inadequate absorption of material causes students to have not been able to perform a guided response or do something in the right sequence or as the example. This was seen in control group's action outcomes based on the eight points of clean and healthy life behavior. After being given health education, there was no increasing category on all points. This phenomenon showed that health education in control group did not provide an improvement in students' actions associated with clean and healthy life behavior.

Health education about clean and healthy life behavior by jigsaw learning model and conventional learning model which is commonly done at SDN 4 Nyalian (question and answer), was found able to improve students' knowledge about clean and healthy life behavior. Health and education by jigsaw learning model is also able to improve attitude and action. However, in control group there was no significant improvement in attitude and action.

The result of statistical test at pre-test of treatment group and control group was obtained that there was no difference of pre-test result in control group and treatment group. Meanwhile, the result of statistical test at post-test of treatment group and control group obtained result that there was a difference between post-test result in control and treatment group.

Based on the phenomenon, it can be seen that health education about clean and healthy life behavior by jigsaw learning model can improve students' knowledge, attitude, and action. The information conveyed by jigsaw learning model is more acceptable to the students and can significantly improve students' knowledge, attitude, and action. This result in line with research which states that health education by jigsaw learning model can improve students' knowledge and understanding more effectively than health education by conventional method (Oka, 2012). The learning model in control group was able to improve students' knowledge, yet, the improvement of

students' knowledge in control group was no more significant than the treatment group so that they had not been able to improve the attitude and action of the students related to clean and healthy life behavior.

Health education about clean and healthy life behavior by jigsaw learning model is an appropriate learning model for students. The implementation of jigsaw learning model for students at SDN 4 Nyalian provided different learning atmosphere from the usual learning process at that school which commonly used question and answer method. On jigsaw learning model, the discussion process which involving the facilitator is able to help students to remain in the right discussion material so that the information obtained by students is correct and not out of the discussion context.

The advantages of jigsaw learning model as part of cooperative learning can improve the interaction between teacher and researcher as facilitator for students through several discussion sessions that encourage communication among members, positive dependence, individual responsibility, face-to-face as well as group evaluation (Gintings, 2008). Different from health education model in control group which dominated by one-way lecture. One-way lecture lead the class to be dominated by active students, while passive students are not encouraged to express their opinions (Yamin, 2007). Interaction between teacher and students merely focuses on active students; therefore, passive students find it difficult to join classroom's discussions.

This phenomenon is in accordance with the research by satria, Masyhud, and Yuliati (2014), who found that education by jigsaw model affects the learning outcomes of elementary school students compared to question and answer method.

Based on the exposure above, it proved that health education by jigsaw learning model is more able to improve clean and healthy life behavior of students consisting knowledge, attitude, and action.

CONCLUSION

Health education by jigsaw learning model affects the improvement of clean and healthy life behavior of students at SDN 4 Nyalian.

SUGGESTION

Jigsaw learning model can be used to provide health education. Researcher, then, can see the impact of health education by jigsaw learning model on different health behavior aspects in adolescents and adults.

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THE COMBINED EFFECT OF MICROWAVE DIATHERMY TREATMENT AND PERTURBATION TRAINING ON FUNCTIONAL ABILITY IN INDIVIDUAL WITH KNEE OSTEOARTHRITIS

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ABSTRACT

Background: Knee osteoarthritis is a chronic degenerative joint disease that causes damage of the articular cartilage and reduction of functional ability. Osteoarthritis usually occurs in older people which is estimated around 60%-70% cases at the age of 60 years. Osteoarthritis is a major cause of disability among elderly group.
Aim: The purpose of this research was to verify the differences of microwave diathermy treatment and isometric quadriceps muscle exercise compared with microwave diathermy treatment and perturbation training in improving functional ability of people with knee osteoarthritis.
Methods: This research was an experimental study with pre and post-test control group design. The sample consists of 24 people who were divided into two groups. Group 1 was received microwave diathermy treatment and isometric quadriceps muscle exercise, while Group 2 was received microwave diathermy treatment and perturbation training. WOMAC Index was used to measure the functional ability.
Results: The hypothesis was tested using paired sample t-test in Group 1 showed p=0.000 with a mean difference 18.167±1.528, while in Group 2 showed p=0.000 and mean difference 21.250±1.712. These results represent a significant improvement in functional ability in each group. Comparison was tested using independent sample t-test and the difference was obtained with p=0.000 ($p<0.005$).
Conclusion: Based on these analytic, the conclusion is the microwave diathermy treatment and perturbation training is significantly more effective compared with microwave diathermy treatment and isometric quadriceps muscle exercise to improve functional ability in individual with knee osteoarthritis.

Keywords: Knee osteoarthritis, microwave diathermy, isometric quadriceps muscle exercise, perturbation training, functional ability

1. INTRODUCTION

1.1 Background

Osteoarthritis (OA) is a chronic degenerative joint disorder that occurs due to the response of the physiological changes of aging and usually occurs in large joints. Osteoarthritis usually occurs in older people which is estimated around 60%-70% cases at the age of 60 years. Osteoarthritis is a major cause of disability among elderly group. The prevalence of osteoarthritis in the worldwide around 9.6% in men and 18% in women (Mody and Wolf, 2003). The prevalence of OA increases with age. Gender has an influence on the prevalence of OA of the knee where the prevalence is greater in the female group than male group. Some countries in Asia, such as Indonesia have a very fast grow rate. The percentage of people aged over 65 will increase over the next two decades; from 6.8% in 2008 will increase to 16.2% in 2040 (Fransen, *et.al.*, 2011). This would be accompanied by an increase in the incidence of diseases suffered by the elderly, such as osteoarthritis disease.

Several research has studied the risk factors of knee osteoarthritis. Some of the most common risk factors which are includes: age, gender, obesity, history of knee surgery or a history of knee trauma, or some of working activity that requires the imposition such as a large-lift transport, kneeling, and squat (Jensen, 2008; Felson, 2004). The joint destruction occurs in the cartilage that lining the bone surface of the femur and tibia. It causes erosion of the cartilage surface which will lead to rub against the bone surfaces. Some of the signs and symptoms of osteoarthritis includes: pain of the knee, Range of Motion (ROM) limitation, crepitus, joint swelling, deformity of the joints, and stiffness (Goodman and Fuller, 2009). It may disturb the functional activities such as long standing, walking, sitting, squatting, and other activities. Research shows that more than 50% of the population who have knee osteoarthritis reported incidence of falls and 40% reported that the quality of life and functional ability were bad (Arnold and Gyurcsik, 2012). A cross-sectional study also indicates that there is a significant correlation between knee osteoarthritis incident and falls incident in elderly people (Vennu and Bindawas, 2014). It is caused by weaknesses of the muscles of the limbs, especially the muscles that stabilize the knee.

The functional abilities are defined as a person's abilities to perform specific tasks related to their activity daily living. The decreased in muscle strength of the people with knee osteoarthritis affects their muscle reaction times. The delay of reaction time will increase the risk of falling incidents in patients with knee osteoarthritis. The reduced forces in the contraction are accompanied by loss of functional muscle contractions that would produce a synergistic (non-physiological) movement. The non-physiological movement causes a yield stress of one contact surface of the joint, thereby increasing the progression of the degenerative process of the joints. Patients with knee osteoarthritis tend to limit the movements of the leg to avoid pain and discomfort felt (giving way) (Choudary and Kishor, 2013).

The treatments that can be given in osteoarthritis are pharmacological and non-pharmacological. Pharmacologic therapy such as a non-steroidal anti-inflammatory drug (NSAID) and steroids likes Glucocorticoid. However, the administrations of these drugs are only able to handle in terms of inflammation and reduce pain but do not improve the patient's functional capabilities in accordance with the International Classification of Functioning (ICF). It needs to be supported with non-pharmacological therapy modalities such as the electrotherapeutic therapy and exercise therapy. The standard physiotherapy modality in knee osteoarthritis is microwave diathermy treatment.

Exercises generally given to knee osteoarthritis patients are types of exercises aimed to improve the flexibility and strength of the muscles around the knee joint such as static stretching, isometric strengthening exercise and isotonic exercise (low, medium, and high intensity) (Benell and Hinmann, 2011). Research shows that it is important to involve a balance-recovery component reaction in the treatment of knee osteoarthritis. A balance-recovery component reaction is the ability or inability to respond the perturbation of balance (loss of balance due to changes in movement), which will determine whether the person will fall or not (Mansfield, Peters, and Liu, 2007). This reaction force should also occur at a low magnitude. It causes a person who experienced perturbation can react naturally and automatically (without orders or excessive leg effort) (Mansfield, Peters, Liu, and Maki, 2010).

6.1 Problem Statement

Based on the description of the background above, the problem statement of this research is how differences in the effectiveness of microwave diathermy treatment and isometric quadriceps muscle exercise compared with microwave diathermy treatment and perturbation training to improve the functional abilities in patients with knee osteoarthritis.

6.2 Research Purpose

This study aims to determine the differences of the combined effect of microwave diathermy treatment and isometric quadriceps muscle exercise compared with microwave diathermy treatment and perturbation training to improve the functional ability in patients with knee osteoarthritis.

7. METHODS

7.1 Research Design

This research is an experimental study with Pre-and Post-Test Control Group Design. The intervention is carried out by physiotherapists who have completed their professional education. The control group (group 1) was received intervention of microwave diathermy treatment and isometric quadriceps muscle exercise, while the treatment group (group 2) was received microwave diathermy treatment and perturbation training. Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score was used to measure the functional abilities.

7.2 Place and time of research

The study was conducted from July to September 2016 at Physiotherapy Clinic around Denpasar and Badung.

7.3 Population and sample

7.3.1 Population

The target populations in this study were all patients who are indicated suffer from knee osteoarthritis. The affordable populations in this study were all patients who are indicated suffer from knee osteoarthritis as many as 24 people who visited the Physiotherapy Clinic in Denpasar and Badung area from July to September 2016.

7.3.2 Sample

Sampling was done by doing a complete and systematically assessment to every patient with knee osteoarthritis pain syndrome. Physiotherapy assessment process is carried out systematically in patients with knee osteoarthritis. The sampling technique in this study is an accidental sampling technique and a consecutive sampling. Samples were taken from the population and adapted to the criteria during the specified time range.

a. The inclusion criteria as follows:
    1. Patient is willing to do as a research subject from beginning to the end of research study, by signing an informed consent letter.
    2. Patient has pain due to knee osteoarthritis which has been based on physiotherapy assessment procedures that have been established.
    3. Age around 45 until 69 years old.
    4. Body mass index patient must be in normal category (18.5 to 24.9 kg/m^2) or overweight (25.0 to 29.9 kg/m^2).
b. The exclusion criteria as follows:
    1. Subjects with a ligament injury.
    2. Subjects with meniscus lesions.
    3. Subject with knee arthroscopy.
    4. Subject with osteoporosis.
    5. Subjects with cancer and tumors in the knee.
    6. Subject with post knee surgery with intensive care.
    7. Body mass index of subject is around obese category (>25 kg/m^2)
    8. Subjects who received other modalities therapy within ten days earlier.
c. The drop out criteria as follows:
    1. Subjects did not attend during the research process.
    2. The patient's condition worsened after intervention.
    3. Subjects are resigning their self.

7.4 Data Measurement

At the time of the measurement of functional ability, the patients were given 24 questions that have been provided in the WOMAC index. Patients gave an answer to any parameter. The measurement of functional abilities was conducted before and after the intervention.

7.5 Data Analysis Method

7.5.1 Normality test

Normality test is done by using a saphirowilk normality test to determine the distribution of the data.

7.5.2 Test of Different Score of WOMAC before and after Treatment on Each Group

Analysis of the data to examine the differences in functional abilities based on an assessment by using a WOMAC, namely before and after treatment in both groups. If the data have a normal distribution we used a paired sample t-test, while if the data are not normally distributed then the comparison test is conducted by a Wilcoxon signed rank test.

7.5.3 Comparison Test of Difference WOMAC Score before and after Treatment between Two Groups

Analysis of the data to examine differences in improvement in functional ability between the two groups. If the data have a normal distribution we used an independent sample t-test, while if the data are not normally distributed then the comparison test is conducted by a mann whitney u test.

8. RESULTS

This research has been conducted in patients with knee osteoarthritis in Physiotherapy clinic around Denpasar and Badung area for 6 weeks. Each sample is given intervention as much as 12 times for group one and 12 times for group two. Twenty four subjects were divided into two groups, each group consisting of 12 people.

8.1 Sample Characteristics Data

These are descriptions of the characteristics of sample based on sex.

Table 3.1 Sample Data Distribution Based on Sex

Sex	Frequencies (%)	
	Group 1	Group 2
Male	3 (25%)	3 (25%)
Female	9 (75%)	9 (75%)
Total	12 (100%)	12 (100%)

Based on Table 3.1 shows that the subjects in group 1 consists of 3 males (25%) and 9 females (75%). The subjects in group 2 consists of 3 males (25%) and 9 females (75%).

Table 3.2 Sample Data Distribution Based on Age

Characteristics	Mean and Standard Deviation	
	Group 1	Group 2
Age	58.08±6.72	55.83±4.86

Based on Table 3.2 shows that the subjects in group 1 were in the age range (58.08 ± 6.72) years old and in Group 2 were in the age range (55.83 ± 4.86) years old.

8.2 Test of Normality and Homogeneity

As a precondition for determining the statistical test to be used then the test for normality and homogeneity test data before and after treatment had been done. The Shapiro Wilk was used to measure the normality of the data while the Levene's test was used to measure the

homogeneity of the data. The results of this analysis are listed in Table 3.3

Table 3.3 The results of Normality and Homogeneity Data in WOMAC scores before and after intervention

Data Group	Normality test using the *Shapiro Wilk Test*				Homogeneity Test (*Levene's Test*)
	Group 1		Group 2		
	Statistic	p	Statistic	P	
The WOMAC score before the intervention	0.910	0.213	0.971	0.916	0.458
The WOMAC score after the intervention	0.970	0.916	0.915	0.248	0.039

Based on Table 3.3 shows the p value of the data before the intervention in Group 1, p=0.213 (p>0.05) and after the intervention p=0916 (p>0.05), while in Group 2 the p value before the intervention p=0916 (p>0.05) and after the intervention p=0.248 (p>0.05). These results showed that group 1 and group 2 had normal distributed data.

On Homogeneity test using Levene's Test, p=0458 (p>0.05) for the WOMAC score before the intervention and after intervention for WOMAC score p=0.059 (p>0.05). It is indicating that the data before and after the intervention had homogeneous data.

Based on the results of normality and homogeneity test, then the test is used to test the hypothesis is parametric statistical tests.

8.3 Hypothesis testing

8.3.1 Test of Different Score of WOMAC before and after Treatment on Each Group

Paired Sample T-test was used to identify the differences between the mean of the improvement of functional ability before and after the intervention. The test results are listed in Table 3.4.

Table 3.4 Paired Sample t-test Results

	Before the intervention	After the intervention	Mean	P
Group 1	52.08	33.92	18.167±1.528	0,000
Group 2	52.50	31.25	21.250±1.712	0,000

Based on Table 5.4 shows the data in Group 1 with p value, p=0.000 (p<0.05), which means that there was a significant difference from a decrease in WOMAC score before and after the intervention of microwave diathermy treatment and isometric quadriceps muscle exercise in individual with knee osteoarthritis.

The p value in Group 2, p=0.000 (p<0.05), which means that there was a significant difference from a decrease in WOMAC scores before and after intervention of microwave diathermy treatment and perturbation training in individual with knee osteoarthritis.

8.3.2 Comparison Test of Difference WOMAC Score before and after Treatment between Two Groups

Independent t-test was used to test the comparison data of mean decreasing in WOMAC scores before and after treatment in both groups. The test results are listed in Table 3.5.

Table 3.5 Independent t-test result

	Group	N	Mean± SD	P
WOMAC score before the intervention	Group 1	12	52.08± 2.234	0.637
	Group 2	12	52.50± 2.023	
WOMAC score after the intervention	Group 1	12	33.92± 1.782	0.011
	Group 2	12	31.25± 2.800	
The differences of WOMAC score	Group 1	12	18.17± 1.528	0.000
	Group 2	12	21.25± 1.712	

Based on Table 3.5 shows the different calculation results mean in WOMAC score obtained p value of p=0.000 (p<0.05) on the difference between before and after treatment. This means that there are significant differences in intervention of microwave diathermy treatment and isometric quadriceps muscle exercise compared with microwave diathermy treatment and perturbation training to the decreasing in WOMAC scores.

9. DISCUSSION

9.1 The effectiveness of microwave diathermy treatment and isometric quadriceps muscle exercise in improving functional ability in individual with knee osteoarthritis

The effect of MWD treatment is to maximize deep heating resulting in an increased heat in body tissue, increase blood flow, improve filtration and diffusion in different membranes, increasing the metabolic rate of the tissue, reducing the stiffness of the joints, causing a relaxing effect on the muscles, and helps recovery after the injury. The temperature increases of 1^{o}C can reduce mild inflammation and increase metabolism. An increase of 2-3^{o}C will decrease pain and muscle pain. Increasing tissue temperatures more than 3-4^{o}C above baseline will increase tissue extensibility (Prentice, Quillen, and Underwood, 2002).

Isometric quadriceps muscle exercise as one of the modalities of physiotherapy can be used to improve muscle strength. Isometric exercises can improve the pumping action that helps in increasing intra-articular diffusion of nutrients and stimulate healing or repair of cartilage in the joint (Kisner and Colby, 2012). Isometric exercise will stimulate afferent fibers of type Ia and II, so that the activity of afferent fibers can reduce muscle spasms as well as improve the system of peripheral blood circulation and lymph by the pumping action and it will be decrease muscle spasm and it's able to reduce the pain at the level of sensory which can disturb with the movement and function of the joint, thereby to improve the strength and function of tissues around the joints and reduces the risk of chronic injury.This exercise is very useful in improving muscle strength, range of motion, proprioception, and feedback mechanism. The effect of the contraction also stimulates the reparation of peripheral arterial circulation due to the release of chemical substances that cause vasodilation. Regular and monitored exercise will improve nerve function, blood circulation and muscle flexibility, and those lead to increase muscle

strength and to improve the stability and mobility in patients with osteoarthritis of the knee joint, resulting in reduced disability.

This is supported by the study (Shakoor, *et.al.*, 2010) which states that isometric quadriceps muscle exercise in patients with chronic knee osteoarthritis can reduce pain, increase range of motion, and improve functional ability. In addition, a randomized controlled study from (Anwer and Alghadir, 2014) found that isometric quadriceps muscle exercise in individual with knee osteoarthritis can improve the quadriceps muscle strength, reduced the pain and WOMAC score index.

4.2 The effectiveness of microwave diathermy treatment and perturbation training in improving functional ability in individual with knee osteoarthritis

Diathermy is the application of high frequency electromagnetic waves that are used for deep thermal effect on the body. Diathermy has a better penetration than infrared. MWD has 2456 and 915 MHz frequencies. MWD has a higher frequency than SWD (Short Wave Diathermy). MWD more use electrical generator field. If the thickness of subcutaneous fat is 0.5 cm or less, the MWD can penetrate as deep as 5 cm on the body region (Prentice, Quillen, and Underwood, 2002).

Indications for using MWD includes post-acute musculoskeletal injuries, joint contracture, myofascial trigger points. MWD is used to improve vasodilation, increase metabolism, reduce joint stiffness, improve muscle relaxation, and increase the extensibility of collagen. A double-blind randomized clinical trial from (Rabini, *et.al.*, 2012) found that deep heating therapy via microwave diathermy can reduce the WOMAC score and pain and the benefit of deep hearing therapy were maintained over 12 months of follow up.

It is important to involve the balance-recovery component reaction in the concept of rehabilitation. The balance-recovery reaction is the ability or inability to respond effectively to the perturbation of balance (loss of balance due to movement) which will determine whether the person will fall or not (Mansfield, Peters, Liu, and Maki, 2007). Movement compensation (quick step and reaching for objects) is the only mechanism of defense or the protection of the body against the force of the reaction of the big magnitude of force. It should happen at a low magnitude and react naturally and automatically (without command or leg excessive effort) (Mansfield, Peters, Liu, and Maki, 2010).

Previous research conducted by (Kinandana, 2015) found that the combination between ultrasound therapy and perturbation training can improve the functional ability in individual with grade 2 knee osteoarthritis. The results of this study are strengthened by the results of research conducted by (Choudary and Kishor, 2013) and randomized clinical trials conducted by (Fitzgerald, et al., 2011). The results of both studies indicate a significant difference in functional enhancement as measured by using WOMAC score before and after giving perturbation training in grade 2 knee osteoarthritis. Perturbation training is a specific exercise designed to increase a balance-recovery component reaction.

Perturbation means disorder, not a type of exercise that is created with the aim to disrupt the balance of a patient, but from a disturbance in the form of this force to adapt to the patient is expected to give a specific response to force disturbance (perturbation) in order to retain the position remained static. In this exercise, the patients learn how to respond to any external forces from the outside environment (gravity, weight, etc.).

Perturbation training can improve knee function through knee-protective mechanism neuromuscular response. When doing perturbation training, the patient is trained to anticipate the potential to disrupt the force on the knee stability by increasing awareness and neuromuscular response. This can help facilitate selective muscle contraction reaction and adaptive to neutralize the force that occurs at the knee during functional movements.

10. CONCLUSION

Based on the results we can conclude several things, such as:

1. Microwave diathermy treatment and isometric quadriceps muscle exercise is effective in improving functional ability in individual with knee osteoarthritis.
2. Microwave diathermy treatment and perturbation training is effective in improving functional ability in individual with knee osteoarthritis.
3. Microwave diathermy treatment and perturbation training is more effective than microwave diathermy treatment and isometric quadriceps muscle exercise in improving functional ability in individual with knee osteoarthritis.

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SELF CARE MANAGEMENT IMPROVING QUALITY OF LIFE PATIENTS WITH HEART FAILURE

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ABSTRACT

Background: Heart failure is one of the chronic diseases that can lead to decreased quality of life. Self care management is an important part of the care of patients with heart failure, in which health professionals work together with patients with heart failure to recognize the need for more specific recommendations regarding the patient's lifestyle. To achieve a good quality of life, patients with heart failure need to implement good self-management management.

Objectives: This study aims to determine and analyze the influence of self care management on the quality of life of patients with heart failure.

Methods: This research uses quasi experimental design with pre test and post test design with control group. Respondents in this study were heart failure patients who control to polyclinic Integrated Heart Disease Sanglah Hospital Denpasar. Respondents in this study were divided into two groups (treatment group as much as 16 respondents and control group counted 16 respondents). Treatment group is taught about self care managemet 4 times in 1 month.

Results: The mean age of respondents in the treatment group and control group was 58.88 years and 56.81 years. The average quality of life of respondents in pretest and posttest treatment groups was 33.56 and 21.18 (p = 0.00). The average quality of life of respondents in the pretest and posttest control groups was 38.56 and 38.38 (p = 0.083). Based on statistical test by using unpaired t test, got value p = 0,00 so it can be concluded that there is influence giving self care management to quality of life of patient of heart failure. Based on the results of this study, it is hoped to patient with heart failure to apply self care management in everyday life so as to improve the quality of life.

Keywords: self care management, quality of life, heart failure

INTRODUCTION

Heart failure is one of the chronic diseases associated with severe morbidity and mortality, poor quality of life, and frequent hospitalization (Macabasco-O'Connell, 2011). Chronic heart failure patients often experience recurrent hospitalization that is not only due to the progression of underlying illness but more frequently due to non-compliance with medication, poor self-control and inadequate patient family support. Heart failure is challenging to treat because in the elderly patient population there is often undetectable decompensation onset and the complexity of lifestyle changes required, treatment regimens, laboratory monitoring and interactions with comorbid conditions (Sadiati, 2014). Various obstacles such as communication difficulties, lack of self-care management support, poverty, lack of health insurance, and poor access to appropriate health care can lead to poorer heart failure outcomes (Macabasco-O'Connell, 2011).

Heart failure can lead to decreased quality of life (Kaawoan, 2012). Self care management is an important part of the care of patients with heart failure, in which health professionals work together with patients with heart failure to recognize the need for more specific recommendations regarding the patient's lifestyle. To achieve a good quality of life, patients with heart failure need to implement good self-management management. This study aims to determine and analyze the influence of self care management on the quality of life of patients with heart failure (Lainscak, et al., 2011).

METHODS

This research uses quasi experimental design with pre test and post test design with control group. Respondents in this study were heart failure patients who control to cardiology outpatient service at Sanglah Hospital Denpasar. The inclusion criteria in this study are: aged 18-65 years (in the early adult and middle stage) and diagnosed heart failure at least 6 months. Exclusion criteria in this research are: patients with heart failure with other chronic diseases, which affect the quality of life such as: cancer, stroke and diabetic ulcers and uncooperative patients.

Respondents in this study were divided into two groups (treatment group as much as 16 respondents and control group as much as 16 respondents). Treatment group is taught about self care

managemet 4 times in 1 month. Determination of treatment group and control group was done randomly. The treatment group was then given the first self care management at the hospital and then the remaining 3 times was given in the patient's home every once a week and then measured again about the quality of life. The control group continues to receive standard treatment established by the hospital and after 4 weeks is also re-measured on the quality of life.

RESULT

Table 1. Characteristics of Respondents by Age and Sex

Characteristics	Treatment group		Control group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Age				
36-45	2	12.5	3	18.75
46-55	3	18.75	3	18.75
56-65	11	68.75	10	62.50
Sex				
Male	8	50.00	8	50.00
Female	8	50.00	8	50.00

The basic characteristics of the respondents are shown in Table 1. Most respondents are in the age range 56-65 years in both treatment and control group, each of which is 68.75% and 62.50% respectively. The sex of the respondents both in the treatment group and the control group had the same number of men and women ie 50% each.

Table 2. Quality of life of treatment group and control group

	Treatment group			Control group		
	Pretest	Posttest	Sig	Pretest	Posttest	Sig
Mean	33.56	21.18	0.00	38.56	38.38	0.083
Minimum	10	8		17	17	
Maximum	74	45		81	81	

The average quality of life of respondents in pretest and posttest treatment groups was 33.56 and 21.18 (p = 0.00). The average quality of life of respondents in the pretest and posttest control groups was 38.56 and 38.38 (p = 0.083).

Based on statistical test by using unpaired t test, got value p = 0,00, it can be concluded that self care management improving quality of life patients with heart failure. Based on the results of this study, it is hoped to pasein heart failure to apply self care management in everyday life so as to improve the quality of life.

DISCUSSION

The diagnosis of heart failure usually means long-term complex therapy and lifestyle adjustment for patients and their families. The goal of treatment is to achieve the ability to adapt independently to daily routines and to get the best quality of life. To achieve this goal, patients with heart failure need to acquire specialized personal care management skills, in addition to medical therapy. These skills include knowledge of the disease, the ability to identify health problems and develop and implement

problem-solving strategies (Bläuer, Frei, Schnepp, & Spirig, 2015).

Adequate self-care behavior related to heart failure reflects the actions that a patient undertakes to maintain healthy functioning and well being. This includes adherence to medication, diet and exercise, as well as monitoring and self-management of symptoms and daily weighing to assess fluid retention and seeking assistance when symptoms occur. Patients who are actively involved in their own care and treatment and adhere to the regimen have improved outcomes, in terms of improved survival and decreased readmissions (Lainscak et. al., 2011). The ability of self care acquired through the experience of suffering from chronic illness will have an impact on lifestyle changes and can directly affect the quality of life of the patients themselves (Smeltzer, Bare, Hinkle, & Cheever, 2008).

There are different strategies to improve self care capabilities, but it is not always clear which intervention is the most successful. Heart failure management programmes can reduce hospital readmission rates and mortality, but results are not always easy to interpret. Providing information alone might not be enough to give patients confidence to carry out self-care and thereby reduce hospital readmission. Identifying patients at highest risk for poor self-care and subsequent poor outcomes continues to challenge the health care community (Lainscak et. al., 2011). The results of this study are supported by Kaawoan (2012) study which states there is a correlation between self care and quality of life of patients with heart failure, where self care is one of the dominant factors related to the quality of life of heart failure paient.

CONCLUSION

There is an influence of self care management on the quality of life of patients with heart failure. Based on the results of this study, it is hoped to pasein heart failure to apply self care management in everyday life so as to improve the quality of life.

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Health Promoting Lifestyles Among Community Health Nurses Working in Community Health Centre in Denpasar Bali

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ABSTRACT

Health promotion (HP) provision is regarded as an integral component of the health professional's role, particularly for nurses working in a primary healthcare context. Nurses are considered to have a pivotal role in maximising the health of the general population, having sufficient knowledge, skills, positive attitudes and behaviours towards health-promoting lifestyles. The purpose of this study was to determine any significant differences between selected socio-demographic variables and the health-promoting lifestyles of nurses working in all *Puskesmas* in the Denpasar area, Bali. This study employed a quantitative research design using self-administered questionnaires contained several questions related to respondents' socio-demographic information and a 52 item Health-Promoting Lifestyle Profile II (HPLP-II) questionnaire. Nurses working across 1l *Puskesmas* in Denpasar area were selected using convenience sampling. Independent t-tests and one-way analysis of variance (ANOVA) were employed. One hundred questionnaires were included in data analysis. The results showed that the means of several HPLP-II subscales were significantly different, namely, in spiritual growth according to respondents' working experience ($F = 6.38$, $p = 0.00$), employment status ($t = 4.03$, $p = 0.02$), income ($F = 6.05$, $p = 0.01$) and general health status ($F = 3.46$, $p = 0.02$). Significant findings also found in nutrition subscale based on respondents' employment status ($t = 2.29$, $p = 0.02$) and income ($F = 6.37$, $p = 0.00$). A variation in stress management scale also showed in different income ($F = 4.00$, $p = 0.03$). Significant differences in total scale ($F = 3.15$; $p = 0.03$), health responsibility ($F = 4.19$, $p = 0.01$) and interpersonal relations ($F = 3.16$, $p = 0.03$) based on respondents' general health status were also revealed in this study. The means of several HPLP-II subscales were significantly different based on particular socio-demographic characteristics of the respondents. Findings from this study may promote nurses' health promotion practice by highlighting the need to develop health promotion strategies which take into account the targets' socio-demographic characteristics.

Keywords: health promotion, primary health care, community health centre, community health nurses

INTRODUCTION

Nurses working in a primary healthcare (PHC) context play an instrumental role in encouraging people to embrace healthy lifestyles. Nurses are appropriately positioned to promote healthy lifestyles (Kemppainen *et al*., 2012), as nurses interact with many people at key points in their lives (Kelley & Abraham, 2007). Nurses are also generally considered to have sufficient knowledge, skills, positive attitudes and behaviours towards health-promoting lifestyles (HPLs). Indeed, nurses are often regarded as role models by their clients and the wider community in many ways, but in particular, in the aspect of living a healthy lifestyle.

The notion of regarding nurses as role models in living healthy lifestyles has been articulated in the literature for a number of years (Borchardt, 2000; Kemppainen, Tossavainen & Turunen, 2012; Rosenstock, 1974; Valentine & Hadeka, 1986). A search of the literature on nurses as role models in HPLs yields two different perspectives. The first is that nurses' credibility as role models is exclusively based on whether or not they practise healthy behaviours (Esposito & Fitzpatrick, 2011; Fair *et al*., 2009; Zhu *et al*., 2011; Radsma & Bottorff, 2009; Slater *et al*., 2006). A second perspectives however is a critique of such studies for their narrow perspective, challenging '…the prevailing, narrow, healthy lifestyle definition of the health-promoting role model' (Rush *et al*., 2005).

In Indonesia, the implementation of health promotion (HP) is highly influenced by the government where the *Puskesmas* is regarded as the centre of the HP initiative (Kementerian Kesehatan Republik Indonesia, 2007). Unfortunately, despite the fact that HP has been considered the central tenet of routine nursing practice in Indonesia, there has been very little attention given to understanding how nurses experience their HP practice; thus warranting further exploration.

Aim

The purpose of this study was to determine any significant differences between selected socio-demographic variables and the health-promoting lifestyles of nurses working in all *Puskesmas* in the Denpasar area, Bali.

METHODS

Study Design

This study employed a quantitative research design. Nurses working across 1l *Puskesmas* in Denpasar area were selected using convenience sampling.

Setting and Participant

The study was carried out among nurses working in all *Puskesmas* within the Denpasar area. All nurses (n = 111) employed across all *Puskesmas* in Denpasar were eligible to be included in the quantitative arm of data collection.

Ethical Considerations

Access to the target population and permission to perform the study in Denpasar, Bali, was granted by the local authorities, namely, The Commission on National Unity and Politics of Denpasar District and Denpasar District Health Office.

Data Collection

This study employed a quantitative research design using self-administered questionnaires contained several questions related to respondents' socio-demographic information and a 52 item Health-Promoting Lifestyle Profile II (HPLP-II) questionnaire. Nurses working across 1l *Puskesmas* in Denpasar area were selected using convenience sampling.

The questionnaire in this study consisted of items asking the respondents' socio-demographic information and the Health-Promoting Lifestyle Profile II (HPLP-II) questionnaire. The HPLP-II consisted of 52 Likert-scale items with a four-point response format (1= never, 2= sometimes, 3 = often, and 4= routinely). The total score of the HPLP-II represents an individual's HPL pattern. A mean of ≥ 2.50 was considered a positive response, in line with previous studies (Al-Kandari *et al*., 2008; Wei *et al*., 2012).

Data Analysis

The data generated from the questionnaires was analysed using the Statistical Package for for Windows. Independent t-tests and one-way analysis of variance (ANOVA) were employed.

RESULTS

The majority of the participants were women (89%). A significant number of nurses aged 41 to 50 (34%) and above 50 (25%) years old. Most of the participants were married (89%). Almost similar percentages were found between participants who had a vocational degree (47%) and those who had a diploma degree (46%). Only 30% of participants

had been participating in HP training/courses.

This study also discovered that most of the participants were satisfied with their health status, where 18% rated their health as excellent and 66% perceived their general health status as good. While more than half of the participants (60%) had a normal BMI, 5% were considered underweight, 31% classified as overweight and 2% obese. Almost all of the participants were non-smokers (97%) (Table 1).

Tabel 1. Socio-Demographic Characteristics of the Participants

Characteristics	Number (%)
Gender	
Male	11 (11%)
Female	89 (89%)
Age	
≤ 20 years	2 (2%)
21–30 years	18 (18%)
31–40 years	21 (21%)
41–50 years	34 (34%)
> 50 years	25 (25%)
Marital status	
Single	8 (8%)
Married	89 (89%)
Divorced/widowed/separated	3 (3%)
Living arrangement	
Extended family	5 (5%)
Nuclear family	91 (91%)
Alone	4 (4%)
Education level	
Vocational degree	47 (47%)
Diploma	46 (46%)
Bachelor degree	7 (7%)
Working experience in *Puskesmas*	
< 1 years	6 (6%)
1–5 years	20 (20%)
6–10 years	14 (14%)
> 10 years	60 (60%)
Health promotion training/courses	
Ever	30 (30%)
Never	70 (70%)
Employment status	
Permanent	94 (94%)
Temporary	6 (6%)
Income (per month) in Indonesian Rupiah (IDR)	
< 1,500,000 IDR	5 (5%)
1,500,000 to 3,000,000 IDR	53 (53%)
> 3,000,000 IDR	42 (42%)
General health status	
Excellent	18 (18%)
Good	66 (66%)
Fair	15 (15%)
Poor	1 (1%)
Body Mass Index	
Underweight	5 (5%)
Normal	63 (63%)
Overweight	31 (31%)
Obese	2 (2%)
Smoking habit	
Yes	3 (3%)
No	97 (97%)

The HPLP-II scores across all categories (i.e., total scale and six subscales) ranged from 2.20 to 2.99. The six subscales included health responsibility (HR), physical activity (PA), nutrition (Nu), spiritual growth (SG), interpersonal relationships (IR) and stress management (SM). The total participants (N = 100) had an overall mean (M) of 2.66 (SD = 0.33). Among the six HPLP-II subscales, the highest score was for the SG subscale (M = 2.95, SD = 0.44) and the lowest score was shown by the PA subscale (M = 2.20, SD = 0.48).

The results showed that the means of several HPLP-II subscales were significantly different, namely, in spiritual growth according to respondents' working experience (F = 6.38, p = 0.00), employment status (t = 4.03, p = 0.02), income (F = 6.05, p = 0.01) and general health status (F = 3.46, p = 0.02). Significant findings also found in nutrition subscale based on respondents' employment status (t = 2.29, p = 0.02) and income (F = 6.37, p = 0.00). A variation in stress management scale also showed in different income (F = 4.00, p = 0.03). Significant differences in total scale (F = 3.15; p = 0.03), health responsibility (F = 4.19, p = 0.01) and interpersonal relations (F = 3.16, p = 0.03) based on respondents' general health status were also revealed in this study (see appendix).

DISCUSSION

In general, the participants in this study showed positive HPL patterns, except in the PA domain, which scored below the standard value (2.50). These findings are similar to those found in a study by Hensel (2011) in a sample of 131 rural hospital RNs and in a study by McElligott et al. (2009) concerning 149 acute care nurses, which concluded that SG and IR were the most frequent healthy lifestyles being practised by the nurses. The least domain of healthy lifestyles being practised by the *Puskesmas* nurses in the present study was PA; this is consistent with the two earlier studies (Hensel, 2011; McElligott *et al*., 2009).

Based on particular socio-demographic characteristics, the *Puskesmas* nurses' HPLP-II scores in several domains were significantly different, including in the spiritual growth subscale based on the respondents' working experience, employment status, income and general health status; the nutrition domain according to respondents' employment status and income; the stress management subscale based on their income status; and in the total scale, health responsibility and interpersonal relations according to respondents' general health status. It is obvious from these results that spiritual growth consistently appeared in all domains with significant findings.

Analysis on the employment status and monthly income variables resulted in significant differences in the respondents' nutrition score, where those who were temporary employees and had lower monthly income were found to have lower nutrition scores. Bourne et al.

(2010) also revealed that health practitioners with lower socio-economic status (lower income and working status) tend to adopt more unhealthy lifestyles compared with their fellows in better socio-demographic conditions. Similarly, Malik, Blake and Batt (2011) found that working experience, employment status, monthly income and perceived general health status contributed to healthy lifestyle pattern differences between registered and new nurses.

Perceived health status and working period were also revealed to be significantly correlated with Taiwanese nurses' personal healthy lifestyles (Yao 1997 cited in Carlson & Warne 2007). Likewise, Tucker et al. (2012) also concluded that the length of working experience was significantly associated with health promoting lifestyle scores among their study's participants.

No significant differences in the HPLP-II scores based on the respondents' socio-demographic variables (gender, age, marital status, living arrangement, education level, health promotion training, body mass index and smoking status) were found. The fact that there were no significant differences in the HPLP-II scores between participants who had been involved in specific health promotion training addressing *Puskesmas* nurses with those who did not, and between nurses with higher versus lower levels of education leads to questioning of the nature and effectiveness of the existing health promotion training and the nursing educational system.

CONCLUSION

It can be concluded that the means of several HPLP-II subscales were significantly different based on particular socio-demographic characteristics of the respondents. Findings from this study may promote nurses' health promotion practice by highlighting the need to develop health promotion strategies which take into account the targets' socio-demographic characteristics.

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DIFFERENCES OF STUDENT PERCEPTION BETWEEN THE INFLUENCE OF FLIPPED CLASSROOM LEARNING DESIGN TOWARDS THE CRITICAL THINKING AND LEARNING DEPENDENCE ABILITYF OF THE MENTAL HEALTH IN NURSING COURSE AT THE NURSING STUDY PROGRAM

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ABSTRACT

The background of the research is a phenomenon development rapidly to information and communication technology so that it implies the thrust for lecturers to improve the quality of learning through the innovative learning method of the internet-based model in this period. The method mentioned is Flipped Classroom Learning. The purpose of this research is to analyze the differences of student perception between the influence of flipped classroom learning design towards the critical thinking and learning dependence ability of the mental health in nursing course in the nursing study program. The research method is quantitative descriptive with comparative design. Data collection through questionnaires in Likert scale design, taken from total sampling for the students who took the Mental Healing Nursing course at the Nursing Study Program in Banten Province. The results were analyzed by using Wilcoxon Signed Rank Test, found a significant difference in student perception between design flipped Classroom Learning to the critical thinking and student learning independence ability with p value 0.0001. It was concluded that there was a significantly different perception of students between design flipped Classroom Learning on the critical thinking and student learning independence ability on mental health in nursing course at nursing undergraduate program at institution X. It was recommended to the lecturer to develop the learning method of Flipped Classroom Learning in the nursing course at the nursing undergraduate program.

Keywords: Flipped Classroom, critical thinking ability, learning independence, Mental-health in nursing, different test, Wilcoxon Signed Rank Test.

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INTRODUCTIONS

Science, information and communication technology is growing very fast. Thus, the experts interpret this phenomenon as a revolution. The implication of this situation is that there is a change in the direction of the quality perspective toward quality transparency as a benchmark of learning action. Therefore, lecturers need several efforts to improve the quality of the education process so that their commitment to assume responsibility for conducting quality education mandate that is holistic and comprehensive can be implemented.

The lecturers' spirit is in line with the Law no. 12 of 2012 on Higher Education emphasizes the understanding that Lecturers are professional educators and scientists with the main task of transforming, developing and disseminating of science and technology through education, research, and community services. Associated with the professional competence of lecturers in the classroom can be seen from the ability of lecturers in managing the classroom, teaching and learning or in determining the method of learning appropriately.

In the Law no. 12 of 2012 also mentioned that learning is the process of student interaction with lecturers and learning resources in a learning environment. Teaching and learning is a system consisting of several elements, namely input, process and results, then in the learning process also needs to get attention for lecturers. So, in relation to this learning process lecturers can initiate a learning method that is considered relevant to the demand of competency-based curriculum, that is innovative learning based on constructivist paradigm to assist students in internalizing, reshaping, or transforming new information through learning process (Istarani, 2011).

The view is also in line with the opinion of Miftahul (2013) which explains that innovative learning is a more student-centered learning. That is, more learning provides opportunities for students to construct knowledge independently (self directed) and mediated by peers (peer mediated instruction).

Referring to the above regulation, the best quality of learning should be designed in the form of innovative learning material development, analyzed and constructed in precise praxis learning, and implemented through instructional innovation with the utilization of information technology and communication. This means that the lecturer needs to consider several aspects while designing a study courseplan. Those significant aspects needed to be considered are teaching materials, the completeness of the learning facilities and infrastructure, the characteristics and readiness of the lecturer, the curriculum and learning materials, the circumstances in which the learning takes place, and the evaluation of the learning outcomes used as tools to measure the success of students in learning. However, it is also very important to define a learning method or strategy in accordance with the course and learning objectives.

Priority of quality process and learning outcomes improvement in a good course is not only measured from

the quantity of lecturers and student meetings, but also it must be measured from the quality of the learning process. The quality of the teaching process conducted by the lecturer includes the level of conformity between the material presented in the classroom by the method of learning, the effectiveness of the learning process can also be seen from the level of competence or learning that must be achieved by the students (Buchari, 2009).

It is undeniable that the rate of development following the popularity of educational issues is also touching on the world of nursing education in Indonesia. Not least the education in Nursing Science Program X in Banten Province. The lecturers at the institution are encouraged to initiate, initiate the improvement of the quality of learning through the approach of developing innovative learning model and active learning internet based in the form of Meode Flipped Classroom Learning as a form of accountability in carrying out its role and function as a facilitator in the Mental Health Nursing Course.

RESEARCH METHOD

The purpose of this study is to distinguish the perception of students between the influence of Flipped Classroom Learning on the learning independence and critical thinking ability in Mental Health Nursing course on nursing study program at institution X in Banten Province. The research method is quantitative descriptive comparative with data analysis using Wilcoxon Signed Rank Test Sources of data are given in total sampling from all students who take Mental health in nursing course on Nursing Study Program at Institution X of Banten Province.

Measurement device description of student perception to influence *Flipped Classroom Learning* Formulated from several theories among others: Hamdan. Noora (2013), Barse Aronson, N. & Arfstrom, K. M. (2013). Bergmann, J. & Sams, A. (2012), Berrett, D. (2012), And some other theories and concepts associated with Flipped Classroom Learning

Collecting data from primary data sources or original data where researchers collected researchers directly in the field. Data collected by giving questionnaires in the form of check list with Guttman scale through the answer "Yes" and "No" in the measuring tool then grouped in a strongitatif. Measurement of data using ordinal scale is by category of results arranged according to the level from the lowest range to the highest level or vice versa, ie from the range of "strong, moderate, weak".

The hypothesis of research is the significant difference in the study of the student's perception of the influence of learning Independent and chritical thinking ability in the Mental Health in Nursing Course at Nursing Study Program at Institution X in Banten Province.

The data were analyzed using Wilcoxon Signed Rank approach. This test is also known as Wilcoxon Match Pair Test is an alternative test of pairing t test or t paired test, ie nonparametric test to measure the significance of difference between 2 groups of ordinal or ordinal

pairs of data but not abnormal distribution (Hidayat, 2014). Researchers use the Wilcoxon Signed Rank Test because the results of the data do not meet the assumption of normality.

RESULT OF RESEARCH

The result analysed through computer system to description difference in the study of the student's perception of the influence of learning Independent and chritical thinking ability in the Mental Health in Nursing Course on Nursing Study Program at Institution X in Banten Province, obtained the following results:

Table 1: Result of Difference in The Study of The Student's Perception of the Influence of Learning Independent (IL) and Chritical Thinking ability (CT) in the Mental Health in Nursing Course on Nursing Study Program at Institution X in Banten Province

Variable Metode Flipped Classroom Learning Model	*LI*	*CT*	Incrasing*Mean*	Z value	Significance of value (p)
Siclus 1	59,22	69,56	10,333	-3,633	0,0001
Siclus 2	66,94	76,83	9,889	-3,686	0,0001
Siclus 3	59,22	69,56	10,333	-3,633	0,0001

In the table 1, the average student perception about the effect of Flipped Classroom Learning on learning independence in Mental Health Course in cycles 1 and 3 shows the same data, that is equal to 59.22. While the critical thinking ability showed a result of 69.56. This means that there is a rise in the mean of 10,333.

The value of Z arithmetic is obtained at -3.633 and smaller than -1.96 (-3.633 <-, 96). Because Z arithmetic is in area H0 rejected hence decision H0 can be rejected and H1 accepted or there is significant difference in influence Flipped Classroom Learning terhdap independence learn and critical thinking ability at cycle 1 and 3

The value of significance (p) is 0.0001, meaning the significance value (p) 0.0001 is less than 0.05 then H0 is rejected and H1 is accepted. Thus, there is a significant difference in the description between the influences of Flipped Classroom Learning on the independence of learning in Mental Health in Nursing Course.

The data analysis on student perception about the influence of Flipped Classroom on learning independence in cycle two shows the result of 66,94. While the perception of students about the influence of classroom learning fliiped against ability of critical thinking of 76.83. There is a rise in the mean of 9,889. The value of Z arithmetic is obtained at -3.686 and smaller than -1.96 (-3.686 <-1.96). Because Z arithmetic is in area H0 rejected hence, decision H0 can be rejected and H1 accepted or there is significant difference in perception of student about influence of Flipped Classroom Learning.

Furthermore, the significance value (p) was obtained at 0.001. Since the significant value (p) 0.0001 is less than 0.05 then H0 is rejected and H1 is accepted. Thus, there is a significant difference in the description of student perceptions between the influence of Flipped Classroom Learning on the independence of learning and critical thinking skills in Mental Health Nursing on nursing science courses at institution X in Banten Province.

DISCUSSION

Although students perceive differences between the effects of flipped classroom learning on learning independence and critical thinking ability, There are both show a positive influence. This shows that there is a suitability between learning model of flipped classroom learning as the application of innovative modern learning model based on technology, and considered relevant to the demand of competency-based curriculum implementation and technological development demands in the implementation of learning. This is in line with the exposure of Darling-Hammond (2010), Flumerfelt & Green (2013) which strongly supports the occurrence of educational policy reforms by changing the learning turning point towards creating a new world that allows learners to learn how they should.

The Flipped Classroom learning model creates a learning culture with a student-centered approach, and the design is created in such a way as to

encourage learners, set learning styles, develop a personalized learning experience, and construct relevant knowledge independently . Such designs of course will have implications for the independence of learning. Therefore, it is expressed in the second pillar *The Flipped Learning Network* (2014): *"Learning culture where a learner-centered approach that features student construction of personally-relevant knowledge is used".* Estes, Ingram, Liu (2014) Explains also that Flipped Classroom Learning to acquire foundational knowledge in the asynchronous environment, students must recognize and demonstrate self-directed learning skills to be success. This means that this learning process requires the independence of student learning in order to succees.

While the relation of flipped classroom learning with critical thinking ability is that the learning model of Flipped Class Learning students is formed to critically review what has been and is being studied outside the classroom to be further exploited and practiced in a collaborative classroom environment. This opinion is corroborated by Estes, Ingram, Liu (2014) who launched that: *"The role of students in the flipped classroom is to use self-directed learning methods to review and critically consider materials outside of class, and then actively apply what was learned in a collaborative class environment".*

CONCLUTIONS

Based on the results of data analysis on the results presented in Table 1 shows the differences in student perception between the influence of Flipped Classroom Learning on learning independence and critical thinking ability on mental health course with the increase of mean in Cycles 1, and 3 and by 10.333. In the second cclar of 9,889 with p value (p) 0.0001

RECOMMENDATION

Learning independence and critical thinking skills are the main objectives of innovative learning learning. Both important things must be a feature in the learning process Flipped Classroom learning. So that the lecturer should build a high commitment to continuously choose the learning method of learning that is more varied. This is to ensure that the Flipped Classroom Learning method is an innovative and relevant modern learning alternative to the Mental health course in nursing course.

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THE EFFECT OF EXCLUSIVE BREASTFEEDING EDUCATION ON THE COMMUNITY HEALTH VOLUNTEER'S KNOWLEDGE REGARDING EXCLUSIVE BREASTFEEDING

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ABSTRACT

Background: The exclusive breastfeeding (EBF) rate in Banyumas Regency is very low. Only 29% of mothers breastfeed exclusively in Banyumas Regency. The community health volunteers play an important role to promote exclusive breastfeeding and maintain the exclusive breastfeeding sustainability in a rural area. Health education was needed to improve the exclusive breastfeeding knowledge among community health volunteer.
Aim: This study aimed to examine the effect of exclusive breastfeeding education on the community health volunteer's knowledge regarding exclusive breastfeeding.
Method: This study was a pre-experiment one group only design. This study was conducted in Baturraden District, Banyumas Regency, Central Java Province on April 2017. The population was the community health volunteer. This study recruited 38 respondents using a convenience sampling method. The data were collected using a questionnaire and analyzed using a Wilcoxon test since the data were not normally distributed.
Results: The majority of the respondent's characteristics was 20-35 years old (47,4%), multiparous (68.4%), and graduated Senior High School (36,8%). The data normality was examined using a Shapiro-Wilk test. The pre-test scores were not normally distributing ($p < 0.05$), while the post-test score was normally distributing ($p > 0.05$). The mean differences between the pre and post-test scores were examined using a Wilcoxon test and the result showed that there was a significant difference between pre-test and post-test scores (Z - -4.779, $p < 0.001$).
Conclusion: A health education may improve the community health volunteer's knowledge regarding exclusive breastfeeding in Banyumas Regency.

Keywords: Health Education, Community Health Volunteer, Knowledge, Exclusive Breastfeeding

INTRODUCTION

Breastmilk is the best nutrition for an infant. World Health Organization ([WHO], 2015) suggested every mother breastfeed her infant particularly among mothers in the developing countries. The infant should only get breastmilk up to six months after birth which called exclusive breastfeeding (WHO, 2015). Exclusive breastfeeding provides several benefits for both mother and infant. There are benefits for the mother such as reduce the risk of breast cancer (Chang-Claude et al., 2000), ovarian cancer (Danforth et al., 2007), and diabetes type 2 (Lawrence & Lawrence, 2011). In addition, there are also benefits for infant such as preventing morbidity and mortality from diarrhea (Lamberti, Walker, Noiman, Victora, & Black, 2011) and candidiasis (Kadir, Uygun, & Akyus, 2005), reducing the risk of infection in upper respiratory tract and gastrointestinal tract infection (Oddy *et al*., 2006). Despite there are several evidence regarding the EBF benefits, the EBF rate among Indonesian mothers is low. Only 42% of Indonesian mothers breastfeed exclusively (UNICEF Indonesia, 2016). In addition, the EBF rate in Banyumas Regency was lower than the Provincial EBF rate (Central Java Province Ministry of Health, 2016).

Low EBF rate was influenced by several factors. Evidence showed that lack of exclusive breastfeeding knowledge was a significant contributing factor of low exclusive breastfeeding in the Banyumas Regency (Anggraeni, 2015). Previous studies found that there was a significant correlation between exclusive breastfeeding knowledge and exclusive breastfeeding practice in the Banyumas Regency. Furthermore, exclusive breastfeeding knowledge predicted exclusive breastfeeding duration. Although the majority of mothers gave birth in a primary health care or a hospital, the postpartum visit among mothers was low (Ministry of Health, 2015). So, the postpartum mothers lack breastfeeding support from health care provider. This is a gap occurring in the Banyumas Regency currently. Needed a health promotion strategy to fill the gap.

Community health volunteer (CHV) has an important role in promoting health among mothers and infants. CHV also ensure the EBF promotion sustainability since they live in the same area with the target population. Previous studies revealed that health education by CHV might improve the mother's knowledge regarding breastfeeding and the exclusive breastfeeding duration (Haider, Ashworth, Kabir, & Huttly, 2000; Nankunda et al., 2006). Another study in Thailand also found that CHV empowerment may improve the perceived social support, breastfeeding intention, and breastfeeding duration (Supason, Vichitsukon, & Wichiencharoen, 2010).

The importance of CHV involvement in the Millennium Development Goals (MDGs) 4 and 5 was explained by Rosato, *et al* (2008). The MDGs produced no substantial change in maternal mortality in target countries because most intervention studies did not involve the community actively. The community was only a passive target. Increasing the community empowerment

leads mobilization of the community start from gaining information, skills, and confidence, then make consultation, collaboration, and take responsibility for decisions about their lives. Several evidence showed that the community participation was essential to change unhealthy behaviors and promote healthy behaviors.

The CHV empowerment may useful to improve the EBF rate among mothers in Banyumas Regency. The nurse may provide a health education to improve the CHV's knowledge regarding exclusive breastfeeding. According to Supason, Vichitsukon, & Wichiencharoen (2010), the scores of breastfeeding knowledge among CHV increased after provided a health education. Furthermore, the CHV may educate the mother's in the community to breastfeed exclusively and provide a continuously breastfeeding support for the mothers. An exclusive breastfeeding promotion by PHV was a useful strategy for promoting the EBF duration and for developing support systems for lactating mothers in the community (Qureshi, Oche, Sadiq, & Kabiru). This strategy may useful to ensure the sustainability of health promotion for the community in Indonesia. This study aimed to examine the effect of exclusive breastfeeding education on the community health volunteer's knowledge regarding exclusive breastfeeding.

METHODS

The design of this study was a pre experiment pre and post-test one group only study. This study was conducted in Baturraden District, Banyumas Regency, Central Java Province on April 2017. The population of the study was the CHV in the Baturraden District. This study recruited 38 respondents using a convenience sampling method. The inclusion criteria of this study were a community health volunteer, able to read and write, willingness to join the program and willingness to promote exclusive breastfeeding for the community. The researchers conducted a health education regarding exclusive breastfeeding for 40 minutes. The exclusive breastfeeding data were collected using a questionnaire. The questionnaire also collected demographic data including age, education, and occupation. The questionnaire consisted of 10 multiple choice questions. Each correct response was given a score of 1 and each incorrect response was given a score of 0. Correct responses were based on information provided during health education. The pre-test data was collected before the health education and the post-test data was collected after health education. Then, the data normality was analyzed using a Saphiro Wilk test and the result showed that the data did not distribute normally. Then, the mean differences between the pre and post-test data were analyzed using a Wilcoxon test.

RESULTS

The majority of the respondent's age was 20-35 years old (47,4%), parity was multiparous (68.4%), and education level was Senior High School (36,8%).

Tabel 1 The respondent's characteristics

Characteristics	Frequency	Percentage (%)
Age		
< 20	1	2.6
20-35	18	47.4
36-50	14	36.8
51-66	4	10.5
67-82	1	2.6
Parity		
Primiparous	12	31.6
Multiparous	26	68.4
Education level		
Elementary School	11	28.9
Junior High School	13	34.2
Senior High School	14	36.8

The data normality was examined using a Shapiro-Wilk test. The pre-test scores were not normally distributing ($p < 0.05$), while the post-test score was normally distributing ($p > 0.05$). The mean differences between the pre-test and post-test scores were examined using a Wilcoxon test and the result showed that there was a significant difference between pre-test and post-test scores (Z= -4.779, $p < 0.001$).

Score	Median (Min-Max)	*Z*	*p*
Pre-test	7 (3-10)	-4.779	0,000
Post-test	8 (5-10)		

DISCUSSION

The majority of the respondent's age was 20-35 years old (47,4%), parity was multiparous (68.4%), and education level was Senior High School (36,8%). The demographic characteristics of study participants are fairly typical of women in Banyumas Regency and previous study results. According to the Banyumas Regency Central Statistical Bureau (2015), the mean of years schooling among people living in Banyumas Regency was 7.18, so this study's respondents have studied at school longer than the average people in Banyumas Regency. The higher education increases awareness to practice a healthy lifestyle (Park & Kang, 2008). Since there is no salary from the Indonesian government to the CHV, so a highly motivated woman to be a CHV is needed. Having previous breastfeeding experience makes a CHV have higher knowledge, skill, attitude and confidence to promote breastfeeding (Brodribb, Fallon, Jackson, & Hegney, 2008).

The result of this study showed that the median of the post-test score was higher than the median of pre-test score. The Wilcoxon test result showed that there was a significant difference between the pre and post-test scores. It means that the exclusive breastfeeding education improves the exclusive breastfeeding knowledge among the CHV who recruited to be the study participant. According to Supason, Vichitsukon, & Wichiencharoen (2010), a training program improved the CHV's exclusive breastfeeding knowledge. Then, a trained CHV provided social support for the first time mothers. The study results revealed that there were a significant improvement in perceived social support, informational support, and intention to breastfeed exclusively (Supason, Vichitsukon, & Wichiencharoen, 2010).

An exclusive breastfeeding promotion by CHV in Nigeria resulted in a significant improvement of exclusive breastfeeding duration among mothers (Qureshi, Oche, Sadiq, & Kabiru, 2010). This study also revealed that breastfeeding support group in the community especially for teen mothers and mothers who perceived their breastmilk production were insufficient. The results of those study are appropriate for Banyumas Regency situation which the number of teen mothers was quite high (Latifah & Anggraeni, 2011) and perceived insufficient breastmilk was a significant predictor of low exclusive breastfeeding rate (Anggraeni, 2015). Furthermore, both of Nigeria and Indonesia were developing countries which the majority of people live in the rural area, lack of health facilities access, low income, and low education (Anggraeni, 2015; Qureshi, Oche, Sadiq, & Kabiru, 2010).

The CHV involved the key persons or community leaders in the community. A community leader is a person who may change the mother's perception regarding the breastfeeding myth which occurs in the community. According to Qureshi, Oche, Sadiq, & Kabiru (2010) the community leaders influenced the cultural beliefs regarding breastfeeding and empower the community. A study by Supason, Vichitsukon, & Wichiencharoen (2010) suggested that nurses may train the community health volunteers to establish a breastfeeding network between health care providers and the community and also empower mothers to exclusively breastfeed their infants for six months.

The community participation is essential for healthy population. Roseto, et al (2008) stated that by given the opportunity, communities can develop effective strategies to address their needs and reduce mortality and morbidity. These strategies are often highly innovative, practical, and culturally acceptable. What is scaled-up is not the solutions but a process to support communities to develop their own solutions. As a result, programs must be flexible enough to respond to variations between, and within, communities and must allow adequate time for this process of capacity building. Programs would successful if people communicate with the same belief system. This success can be achieved by seeking to understand and take into account the social norms and local cultural context around health, community participation, gender roles, use of health services, and household decision making

CONCLUSION

The health education may enhance the health community volunteer's knowledge regarding exclusive breastfeeding. Nurses may empower the health community volunteers to maintain the exclusive breastfeeding promotion sustainability.

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ANALYSIS CONFORMITY ORAL HEALTH ASSESSMENT INSTRUMENT: ORAL HEALTH ASSESSMENT TOOL (OHAT) AND ORAL ASSESSMENT SCALE (OAS) FOR ELDERLY IN PSTW WANA SERAYA DENPASAR

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ABSTRACT

Aging is a state that occurs in human life. Being old is part of the natural phase. One of the changes in body structure and function due to aging process is disorder of oral health. Elderly susceptible to changes in the mucosal epithelial layer of the mouth, thinning of the skin due to reduced collagen tissue, decreased the number of capillary blood vessels, and decreased blood supply. Therefore, regular oral health assessment is required, using adequate instruments. Some of them are Oral Health Assessment Tool (OHAT) and Oral Assessment Scale (OAS). This study is analytical observational study to identify interrater agreement between OHAT and OAS. The respondents were 40 elderly in PSTW Wana Seraya Denpasar, were gotten through total sampling technique. Data was collected through observation using OHAT and OAS checklist with two observers together. Data was analyzed with Kappa test. The result is most of respondents (85%) have mild disfunction of their oral health. Kappa test obtained p value = 0.000 with Kappa index of 0.793. It means there is a suitability of the results between OHAT and OAS for assessing the oral health status in elderly with a good level of conformity.

Oral health assessments should be done regularly, able to use spesific instrument, both OHAT and OAS.

Keywords: assessment, OAS, OHAT, oral health

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INTRODUCTION

Aging is a state that occurs in human life. Being old is part of a natural phase, which means a person has gone through three stages of life, that is children, adults, and old (Nugroho, 2008). Age is characterized by the gradual disappearance of the body's tissue ability to improve itself and maintain normal body structure and function (Darmojo, 2012).

The aging process looks at different age ranges. The age used as the standard for determining elderly criteria generally ranges from 60-65 years. According to the World Health Organization (WHO), the elderly stage begins at age 60. In Indonesia, the limit on elderly is ≥60 years. This is stated in Undang-Undang Nomor 13 Tahun 1998 (Kushariyadi, 2010). Based on the age guideline, Indonesia is one of the countries entering the era of aged structured population because it has an increasing number of population with age ≥60 years (Deputi I Menkokesra, 2006).

An increase in the number of elderly can cause health problems, one of which is disorder of oral health. This disorder can occur due to changes in body structure and function due to aging process. Some of these changes include loss of support on the periosteal and periodontal surfaces resulting in easily dated teeth, retraction of the tooth structure, decreased flavor bud on the tongue papilla resulting in reduced taste sensation and increased use of salt (Stanley & Beare, 2006).

The oral cavity is the most vulnerable because it is the entrance of many microorganisms, carcinogenic, and vulnerable to physical, mechanical, or chemical trauma (Marasabessy, 2013). One result of long-term carcinogenic accumulation is oral cancer. This occurs because of the accumulation of carcinogenic exposure to the oral mucosal epithelium layer. Oral health disorders are often found in elderly populations in India (Razak, Richard, Thankachan, Hafiz, Kumar, & Sameer, 2014).

The oral cavity has a physical and chemical defense system. This system protects the mouth from pathogenic microorganisms and carcinogenic substances. The physical defenses of the oral cavity are supported by oral mucous membranes (Stanley & Beare, 2006; Wu et al, 2008).

Oral mucous membrane layers can change in the elderly, in the form of reduced mucosal epithelial layer of the mouth, thinning of the skin due to reduced collagen tissue, decreased capillary blood vessels, and decreased blood supply (Nugroho, 2008). This causes dry mouth and may progress into a lesion (stomatitis).

The chemical defense mechanism of the oral cavity is aided by saliva. Saliva is a complex liquid composed of a mixture of major salivary and minor salivary glands present in the oral cavity, the submandibular, submaxile, and sublingual glands. Most saliva is produced at meals in response to stimuli in the form of tasting and mastication of food (Marasabessy, 2013, Guyton, 2009).

Aging process can cause atrophy in the salivary glands, often found in

submandibular glands (Wu et al, 2008). Atrophy of those gland causes decrease in the amount of saliva produced in the oral cavity. The research of Marasabessy (2013) on 30 elderly who have had a decrease in salivary volume followed by decreased salivary pH as they age. Reduced amount of saliva will cause dry mouth (xerostomia).

Based on the large impact of oral health for the elderly, oral health assessments need to be done regularly. Adequate oral health assessments can provide an information of the oral health status in elderly, so that the nurse can formulate oral nursing interventions and health education relevant to the elderly according to their oral health status (Potter & Perry, 2006).

Oral health can be assessed using multiple instruments. Some of them are Oral Health Assessment Tool (OHAT) and Oral Assessment Scale (OAS). Both of these instruments have been internationally recognized and can be used for the elderly. OHAT consists of eight indicators including the state of the lips, tongue, gums and tissues, saliva, teeth, oral hygiene, and denture pain. OAS consists of only 5 indicators, such as lips, gums and mucous membranes, tongue, teeth, saliva (Ames et al, 2011). OHAT and OAS instruments have not been applied in PSTW Wana Seraya Denpasar. Based on this fact, the researchers are interested to test and analyze the conformity of the results of oral health assessments using OHAT and OAS for elderly in PSTW Wana Seraya Denpasar.

METHODS

Study Design

This study is a non-experimental study. The design used was observational analytic.

Population and Sample

The population were all elderly in PSTW Wana Seraya Denpasar. The sampling technique used was total sampling. The number of respondents in this study was 40.

Instruments

The instruments in this study were OHAT observation checklist (8 indicators) and OAS observation checklist (5 indicators).

Data Collection

The data was collected for 2 months at PSTW Wana Seraya Denpasar. Previously, the researcher conducted a similar perception with the research assistant. Researchers and research assistants jointly conducted oral health observations of each respondent using OHAT and OAS observation checklist. Data analysis using Kappa test, to identify the conformity result between OHAT and OAS.

RESULT

The sample in this study is 40 elderly in PSTW Wana Seraya Denpasar. The results of the study are :

Table 1. Frequency Distribution

Variables	f	%
Age (years old)		
55-74	16	40
≥75	24	60
Gender		
Female	30	75
Male	10	25
Oral hygiene habbit		
Gargling	30	75
Tooth brushing	10	25

Table 1 showed most respondents are in the age range of very old elderly as much as 60%. Most of the respondents (75%) are female. Most respondents (75%) used to clean their mouth by gargling, either with warm water or cold water.

Table 2. Oral Health Status

Variables	f	%
Mild disfunction	34	85
Severe disfunction	6	15

Table 2 showed most respondents is 85%, have mild disfunction of their oral health.

Table 3. Result of Kappa Test

Instruments	Kappa coefficient	p value
OHAT-OAS	0.793	0.000

Table 3 shows the results of Kappa test, p value = 0.000 ($p<0.05$) and the coefficient Kappa is 0.793. It means the conformity level between this instrument is good.

DISCUSSION

The results showed most respondents is 60% in the very old elderly category. It contains an increase in life expectancy. This increase can be realized because of various activities of elderly health coaching such as elderly gymnastics, empowerment of nutritional status, and examination of elderly health in a manner. Increased age can cause some health problems. The health problems experienced in the elderly are more diverse. Researchers Andreas and Tobin introduced the "1% law" which states the function of organs will decrease by 1% every year after the age of 30 years (Darmojo, 2012).

In this study, there is also difference result between the number of male and female respondents, where most of the respondents are 75% female. This roughness of elderly women and men can occur because women's life expectancy is higher than men. Male life expectancy is shorter, ranging from four to six years shorter than women (Wahyudi, 2011). Men tend to perform activities that endanger their health, accustomed to living with unhealthy patterns, such as

alcohol, drugs, smoking, and no illness he suffered (Ministry of Health and Human Services, 2011; Wahyudi, 2011).

The results also showed most respondents that is 75%, usually clean the teeth and mouth with gargling, only 25% who have a habit of brushing teeth regularly. According Nirmaladewi (2008), several ways to maintain oral health is by brushing teeth and gargling. There is strong evidence to support the use of toothbrushes in an effective way to control dental plaque. Use of toothbrush as a means to help maintain oral health (Adibia, 2007).

The results also showed 85% respondents have mild disfunction of their oral health. Oral health status in elderly is influenced by several factors, such as dental plaque, oral microflora, and salivary secretion (Munro & Grap, 2004; Johnstone et al, 2010). The study of Marasabessy (2013) in 30 respondents also found that increased age was associated with decreased salivary secretion. The average salivary secretion was 1.09 mL/ minutes with a salivation pH of 5.46. Aging process also changes the epithelial layers of the oral mucosa, thinning of the skin due to reduced collagen tissue, decreased capillary blood vessels, reduced blood supply that causes the lips to appear pale and dry (Nugroho, 2008). In addition, in elderly also decreased the ability of oral hygiene and reduced the number of teeth that like to chew. The study of Ikebe et al (2011) found that chewing activity affected salivary secretion ($p = 0.003$) and dental residues ($p < 0.001$). Both of these components will present an oral health status, including the presence of mild and severe distress status.

The results of Kappa test found p value= 0,000 ($p < 0.05$) with Kappa index of 0.793. It means Ho is rejected which shows the conformity of the results between OHAT and OAS in assessing oral health status with a good level of conformity. The conformity of the results of the assessment produced by these two instruments can be due to these two instruments having similar indicators. OHAT was developed by Chalmers et al in 2004, used for long-term care, particularly in adult and elderly groups (Chalmer et al, 2005). The instrument consists of eight indicators covering the state of the lips, tongue, gums and tissues, saliva, teeth (natural and false), oral hygiene, and denture pain. Total score is in the range 0-16 (O'Connor, 2008). OHAT has been internationally with an interrater reliability of 0.80; intrarater reliability of 0.78; and Kappa test result between observer $p < 0,05$. OHAT is an instrument with complex assessment because it can observes the physical (objective) and respondent (subjective) complaints that are covered in pain assessment indicators, easy to use for conscious clients. OHAT is currently widely used in Australia and the Americas (Chalmer et al, 2005).

Oral Assessment Scale (OAS) is a modification of the Beck Oral Assessment Scale. OAS consists of five assessment domains, such as lips, gums and mucous membranes, tongue, teeth, saliva. Total score in range 5-20. OAS is able to assess oral health in pediatric patients to the elderly. The instrument is easy to use and objective (Kumari et al,

2013; Gollins & Yates, 2008). This instrument has an interaction reliability of 0.92 and that follows 0.84 (Barnason, 1998 in Ullman, 2009).

CONCLUSION

The result of data analysis shows p value (2-tailed) is 0.000 with α = 0,05 and the coefficient of conformity is 0.793 which means good. It means that there is a conformity results of oral health assessments using the Oral Health Assessment Tool (OHAT) and Oral Assessment Scale (OAS) for elderly in PSTW Wana Seraya Denpasar.

Based on this conclusion, the researchers recommend that oral health assessments be done regularly, can use the instrument, both OHAT and OAS. This assessment will serve the data basic for nurses providing oral care interventions for elderly. Right assessments provide concrete information about elderly conditions.

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PROFESSIONAL QUALITY OF LIFE IN NURSING EDUCATION

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ABSTRACT

Introduction
Professional quality of life (PQL) is defined as individuals' working quality as a helper that describe positive and negative aspects of a job as well as reflect individuals' stress level related to their work (Stamm, 2010; Shen, Yu, Zhang & Jiang, 2015). PQL is linked to life aspects of nurses or future nurses such as level of working difficulties, balance between effort and reward (Sanchez-Reilly et al., 2013; da Silva et al., 2014), psychosocial resilience, empathy response and clinical practice scope (Maytum et al., 2004; McGarry et al., 2013).

Aim
The aim of this study was to explore the professional quality of life of students.

Method
This study received an ethical approval from Mochtar Riady Institute for Nanotechnology/MRIN Ethics Committee (No.023/MRIN-EC/III/2016). This study applied a convergent parallel mixed method design which will collect and analyse both quantitative and qualitative data in the similar phase to combine interpretation of the findings (Creswell & Clark, 2011). The population of this study is all students (463 students) in a private faculty of nursing and applied a purposive sampling using criteria for choosing the sample (Polit & Beck, 2012).

Result
This study revealed that students and at FoN UPH have experienced positive and negative aspects of professional quality of life. The positive aspect was compassion satisfaction that has been experienced between averages to high levels. The positive aspects included enjoying work and feeling of being supported for self-development and career. The negative aspect was compassion fatigue that comprised of average levels of burnout and low levels of Secondary Trauma Stress/STS. The negative aspects included working overload and feeling of being treated unprofessionally.

Conclusion
Due to students' negative experiences in nursing education, it is important to address the negative experiences.

Keywords: professional quality of life, compassion fatigue, compassion satisfaction

INTRODUCTION

Nurse as profession has been identified as a caring profession that assist clients to promote their health status. However, this profession also known as a stressful profession due to a stressful working environment. Many nurses have experienced stress and withdrew from their profession (Hooper, Craig, Janvrin, Wetsel & Reimels, 2010).

Nursing students as future nurses might also felt stress since the students practice their skills in the clinical settings as part of their education process. A previous study revealed that a number of students dropped out from nursing education due to many reasons including workload and stressful clinical practice experiences (Mason & Juan, 2012).

Stamm (2010) argues that a helper profession could experience both satisfaction and fatigue experiences. The experiences can be seen as a professional quality of life (PQL). ProQoL (*Professional Quality of Life*) questionnaire developed by Stamn is a valid and reliable instrument to evaluate PQL (Cronbach Alpha 0.72-0.87). This instrument has been applied in 20 countries (Stamm, 2016), however, it has never been used and translated into Indonesian version. Therefore, there is a need for adapting the questionnaire into the Indonesian setting which can be used broadly in Indonesian nursing area, especially nursing education (Eka, Tahulending, Kinasih & Yuningsih, 2016).

This study aimed to identify the professional quality of life of nursing students. Therefore, this study provided discussions regarding the descriptions of the level of students' compassion satisfaction, burnout and secondary traumatic stress (STS). Moreover, this study provided themes regarding the students' experiences in their journey as nursing students.

METHOD

The ethical approval of this study was received from MRIN Ethical Committee (Mochtar Riyadi Institute of Nanotechnology) with a protocol number: 04.1602036. This study applied a mixed-method design with a convergent parallel design method (Creswell & Clark, 2011). The study collected and analysed both qualitative and quantitative data in the same phase that produced a combine interpretation result. The steps of the implementation of the convergent design are as follows:

	Quantitative descriptive design	**Qualitative descriptive design**
Step 1	• Explain the research question and specify type quantitative approach. **Collect Quantitative data** • Get permission • Identify quantitative sample • Collect data with instrument	• Explain the research question and specify type qualitative approach. **Collect Qualitative data** • Get permission • Identify qualitative sample • Collect data with opened question and diary

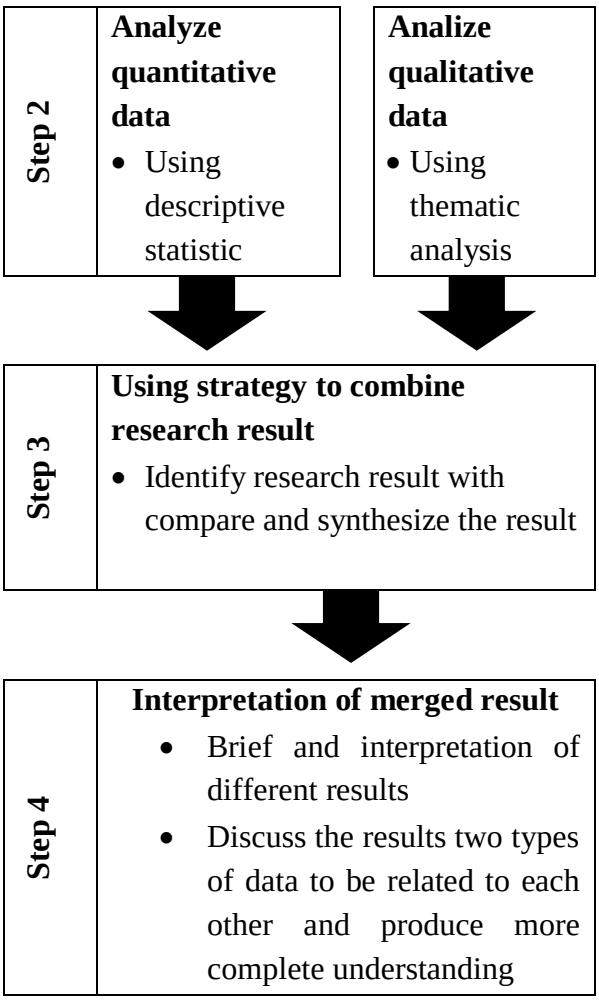

Figure 1. The phases of the study

This research was conducted from December 2015-November 2016 using the adapted and translated ProQoL questionnaire (Eka et al., 2016; Stamm, 2016) at a private university. There were 463 nursing students as respondents selected through a purposive sample with criterion sampling. The respondents consisted of three types of students as can be seen in the following table 1:

Table 1 Type of the respondents

Type of the respondents	N (%)
Third year students	258 (55.72)
Final year students	175 (37.79)
Fresh graduate	30 (6.49)
Total	463 (100)

RESULT

The respondents of this study came from various places in Indonesia and most of them were female with Bataknese and Javanese as their most ethnic backgrounds (Table 2).

Based on the ProQoL questionnaire, the professional quality of life of the students were divided into three criteria: compassion satisfaction, burnout and secondary traumatic stress/STS (Table 3).

Table 3 revealed that more than half of the students experienced an average level of compassion satisfaction. However, most of the students also had a burnout score of average and a low level of STS.

Table 2 Characteristics of the respondents

Student	Professional Quality of Life	N	Mean	SD	Level		
					Low (N/%)	Average (N/%)	High (N/%)
Third year	Compassion Satisfaction	258	39.44	5.01	0	172 (66.7)	86 (33.3)
	Burnout	258	23.10	4.66	116 (45)	142 (55)	0
	Secondary Trauma Stress	258	21.28	6.28	159 (61.6)	98 (38)	1 (0.4)
Final Year	Compassion Satisfaction	175	40.18	5.14	0	101 (57.7)	74 (42.3)
	Burnout	175	22.60	4.93	87 (49.7)	88 (50.3)	0
	Secondary Trauma Stress	175	21.39	5.66	99 (56.6)	76 (43.4)	0
Fresh graduate	Compassion Satisfaction	30	40.4	4.65	0	20(66.67)	10 (33.33)
	Burnout	30	4.44	4.44	12(40%)	18(60)	0
	Secondary Trauma Stress	30	5.01	5.01	10(33.33)	20(66.67)	0

Table 3. Professional Quality of Life of the respondents

Student	Age	N (%)	Sex	N (%)	Ethnic background or province origin	N (%)
Third year	18-19	41 (15.4)	Female	201(77.9)	Bataknese	55(21.3)
	20-21	198 (69.2)	**Male**	**57(22.1)**	Dayak	40(15.3)
	22-23	**19 (7.4)**			Javanese	49(19)
					Others (13)	114 (44.1)
Final year	20-21	142(81.1)	Female	145 (82.9)	Bataknese	41 (23.4)
	22-23	31 (17.7)	**Male**	**30 (17.1)**	Javanese	41 (23.4)
	24-26	**2 (1.2)**			Ambon	10 (5.7)
					Others (18)	83 (47.5)
Fresh **graduate**	22-23	24 (80)	Female	25(83.33)	Sumatera	7(23.33)
	24-25	6 (20	Male	5(16.67)	Sulawesi	7(23.33)
					Javan	4(13.33)
					Others (6)	12 (40)

In regard with the qualitative study, the respondents consisted of 212 third year students (75.98% response rate), 175 final year students (100% response rate) and 20 fresh graduated students (66.67% response rate). The qualitative data of this study provided several themes. The results of the open-ended questions of this study can be seen in the following table 4:

Table 4. Theme of the open-ended questions

Student	Theme	Sub theme
Third year	Positive aspect	Feeling of happiness
		Feeling of motivated
	Negative aspect	Feeling of burdened
		Feeling of unhappiness
Final year	Cause *Compassion Fatigue*	External factor
		Internal factor
	Experience related to *Compassion Satisfaction*	Satisfy experienced
		Getting benefit
	Coping strategy to resolve *Compassion Fatigue*	Focus on problem
		Focus on emotion
Fresh graduate	Negative experience	Feeling of depressed
		No motivation
		Challenge in the practical area
	Positive experience	Feeling of satisfaction
		Getting a lot of lessons
		The support of the facilities, faculty and colleagues

Table 4 showed that the third year and fresh graduate students had both positive and negative experiences in their study. In addition, the final year student felt satisfy of their study and provided the causes and coping strategies to address compassion fatigue. A student mentioned that she was overwhelmed with her assignments:

> "*Saya merasa selama saya menjadi mahasiswa terkadang cukup kewalahan dengan tugas-tugas kuliah dan kadang berpikir untuk tidak mengerjakan karena penat*"/ I feel that as long as I am a student sometimes it is quite overwhelmed with the tasks and sometimes that I think for not doing them because of the feeling of exhausted (Third year student, female, Lampung).

Other student in the final year also felt that the noisy in the classroom can influence his concentration for learning:

> "*Pengalaman tidak menyenangkan saya berkaitan dengan belajar yaitu situasi di kelas yang ribut dan gaduh dalam pembelajaran sehingga saya tidak bisa berkonsentrasi*"/ The unpleasant experience is related to learning in the classroom thus, I cannot concentrate (Final year student, male, Kupang).

In the clinical setting, a student further stated that some nurses were uncaring and indifferent:

> "*Hal yang tidak menyenangkan adalah saat saya berpraktik di beberapa rumah sakit dan saya melihat ada beberapa perawat yang tidak begitu peduli dengan kondisi pasien dan bersikap acuh tak acuh*"/ The unpleasant experience was when I was practicing in some hospitals and I noticed that there were some nurses who were not so concerned with the condition of the patients and being indifferent (Fresh graduate, female, Ambon).

In contrast, a student also satisfied with her study due to no obstacle in her study:

> "*Yang membuat saya puas ketika belajar dipendidikan keperawatan adalah saya dapat mengikuti setiap pembelajaran tanpa hambatan dan lancar sampai semester 6 ini, serta saya mendapatkan pengalaman dan kompetensi*"/ What makes me satisfied when I learn in the nursing education is that I can involve in every learning process without barriers and smoothly until this 6th semester, and I gain experiences and competencies (Third year student, Female, Jember).

A student in the final year also supported that she was satisfied with her education in nursing:

> "*Hal yang membuat saya merasa puas selama belajar di pendidikan keperawatan yaitu jika mendapat nilai bagus dan bisa menolong pasien saat di klinik serta pasien mengucapkan terima kasih pada saya dan manfaat yang didapat dari kegiatan belajar di pendidikan keperawatan yaitu saya mendapat banyak ilmu bagaimana menolong orang lain dengan belas kasih*"/ The thing that makes me feel satisfied while studying in nursing education is that if getting good grades and can help patients while in the clinical setting as well as when patients thank me and the benefits gained from the learning activities in nursing education is that I get a lot of knowledge how to help others with mercy (Final year student, female, Javanese)

A fresh graduate student further stated that her study was a valuable experience:

> *"Pengalaman yang sangat berharga dan menyenangkan ketika saya mampu menyelesaikan tugas dan tanggung jawab secara mandiri"/* A valuable and enjoyable experiences when I am able to complete my tasks and responsibilities independently (Fresh graduate, female, Dayak).

Moreover, ten final year students and five fresh graduate students were participated in this study by writing their experiences in the diary for 5-7 days. Both third year students and fresh graduate experienced advantage and disadvantage experiences. The results of the diary can be seen in table 5.

Table 5. Theme of the diary

The students expressed their feeling in their diary and stated that they felt both happy and unhappy in their study journey. A student in the third year wrote that *"Perasaan saya hari ini bahagia karena saya masih bisa mengikuti pelajaran dengn baik ..."*/ My feeling today is happy because I can still involve in the learning well (Third year student, female, Bataknese). However, other third year student also mentioned his unhappy situation by stating:

> "*Hal ini semualah yang membuat mahasiswa stress dan akibat mengalami tekanan yang berat dalam jangka waktu lama....*"/ This is all that makes students stress and the consequences of heavy pressure experiences will be in the long term (Third year student, Male, Manado).

A fresh graduate student further stated that "*Saya merasa beban akan pekerjaan lebih tinggi, namun saya merasa puas mampu melakukannya dengan baik*"/ I feel the burden of work more, but I feel satisfied to do well. In contrast, other fresh graduate felt of tired by stating:

> "*Banyak tindakan keperawatan kepada pasien yang saya rawat, bahkan sudah selesai jam dinas saya belum bisa menyelesaikan semua tugas dan ini membuat saya sangat lelah*"/ A lot of nursing interventions to the patients that I conducted, even until the end of my clinical practice hour, I have not been able to complete all the tasks and this makes me very tired.

In summary, both quantitative and qualitative data of this current study revealed that the students both experienced positive and negative situations in their study. The positive experiences could be their valuable motivation that influence their journey become professional nurses. In contrast, their negative experiences could be the obstacles for their journey. Thus, it is imperative to acknowledge and address the negative experiences of the students which could support student nurses to provide a positive quality of life as well as to pursue their professional degree.

Student	Theme	Sub-theme
Third year	Feeling of exhausted	Lots of burden Vulnerable Anxiety
	Feeling of satisfaction	Happiness Surrender
Fresh graduated	Pleasant experience	Positive fulfilled feeling in the work Persistent in the work
	Unpleasant experience	Tiredness in the work Lots of work responsibilities Unprofessional Negative feeling

DISCUSSION

The results of this study indicated that nursing students experienced both positive and negative aspects of their professional quality of life. In regard with positive aspect, most students were on the average to high level of compassion satisfaction. The positive aspects were related to enjoying the work or learning,

feeling of joy and feeling of being supported for self-development and career. On the other hand, the negative aspect of the professional quality of life was that most students experienced a moderate level of burnout. These negative aspects included lots of workload and encounter unprofessional behaviour in the clinical practice.

A previous study in South Africa by Mason & Nel (2012) supported this current study. The study revealed that most of the nursing students experienced high level of compassion satisfaction (61.25%). In contrast, a study in UK revealed that only 44.6% of the midwifery students were satisfied with their study. In regard with burnout, a study in Turkey by Neriman, Citak and Aysel (2012) further supported the result of this study. The study showed that students who both working and studying may experience burnout due to working environment situation.

Furthermore, a study in Saudi Arabia revealed a number of correlation regarding professional quality of life of the nursing students (Essmat, Essmat & Albarrak, 2016). Compassion satisfaction was significant positive related to burn out (r= 0.52, p = 0.0001) meaning that the more the compassion satisfaction the higher the risk for burn out. The authors (Essmat et al., 2016) also reported that there was a significant moderate positive correlation between burn out and compassion fatigue (r = 0.26, p = 0.002). This also indicated that the more the risk of the burn out, the more the compassion fatigue. However, there was a weak correlation between compassion satisfaction and compassion fatigue (r=0.15, p=0.073) which also being claimed by the authors that it was needed of larger sample to reveal a significant relationship.

It is noted that this current study was in line with the previous studies that concluded the students experienced both negative and positive aspects of PQL. However, lack of studies have examined the professional quality of life of nursing students. Therefore, further studies are needed to enlarge respondents in nursing education especially in Indonesia to achieve generalization (Essmat et al., 2016; Eka et al., 2016) as well as to hinder students for experiencing disadvantage situations in their study journey towards professional nursing life.

CONCLUSION

This study has reported the professional quality of life of the nursing students in three domains (compassion satisfaction, burnout and STS) in the nursing education scope including classroom and clinical setting using the ProQoL questionnaire. The results showed that most of the students were on a moderate-high level of compassion satisfaction, a moderate level of burnout and a low level of STS.

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THE CAUSES OF COMPASSION FATIGUE IN ONCOLOGY NURSING

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ABSTRACT

Introduction

The improving of quality health services is highly expected, especially the services provided by hospitals (Consultative Group on Indonesia, 2014). Nurse as the first line of healthcare services needs to be compassion in their job in the healthcare setting. According to Stamm (2010), the quality of professional life is the quality of a person's feelings and relationships with his work as a helper, both positive and negative aspects. Nurses who are unable to control mental health in providing health services will put them at risk of compassion fatigue (American Technology College of Healthcare, 2015). One of the nursing areas that has a risk for compassion fatigue experience is the oncology field. Potter et al. (2010) revealed that there were approximately 37% of inpatient oncology nurses experienced compassion fatigue and 35% for outpatient oncology nurses.

Aim

The aim of this research was to explore the factors that causes compassion fatigue in oncology nursing.

Method

This study applied a systematic literature review using a thematic data analysis method. The literature search strategy used some keywords including compassion fatigue, burnout, secondary traumatic stress, oncology, compassion, intervention, critical care nurse, workload, and quality of life. Moreover, this study used two databases: EBSCO and Proquest.

Result

This study found two main themes related to factors that causes compassion fatigue in oncology nursing were external and internal factors. The external factors consisted of ward condition, lack of social support, and the period of work. The internal factors included grief experience, education level, and age.

Conclusion

It is noted that the internal factors were more supported by previous studies than the external factors. Further studies were recommended related to external factors that causes compassion fatigue in nursing especially oncology nursing.

Keywords : burn out, compassion fatigue, oncology, and secondary traumatic stress

INTRODUCTION

Nurses are part of healthcare professions who cannot be separated in providing healthcare services. The profession of nurses occupies the highest number of health professionals as well as the leading provider of healthcare services (Asmadi, 2008).

Being a nurse is often faced with stress and fatigue, mostly due to the heavy workload. According to Stamm (2010), fatigue in work can also be caused by a very high workload and a non-supportive work environment. Work stress is stressful experienced by a person who involves both the problems experienced in the workplace and outside the workplace (Desima, 2007). Nurses who cannot manage their mental health issues while providing health care will put them at risk of compassion fatigue (AmeriTech College of Healthcare, 2015). Compassion fatigue in nursing is a condition where nurses feel tired in performing their duties and responsibilities. Moreover, these conditions lead to frustration due to the assumption of the useless work effort (Hidayat, 2016).

One of the nursing areas that has a risk for compassion fatigue experience is the oncology field. Potter et al. (2010) revealed that there were approximately 37% of inpatient oncology nurses experienced compassion fatigue and 35% for outpatient oncology nurses. Nurse Oncology has the vital role of patient's physical care and spiritual care while facing their terminal illness. Potter, (2010) also explains that oncology nursing tends to experience compassion fatigue especially nurses who work in the ward. Several factors that cause the high number of compassion fatigue in the nursing oncology including workload, mental burden, low self-esteem, and duration of work (Potter et al., 2010). Therefore, it is important to explore factors that cause compassion fatigue in the nursing oncology. In addition, it is an interesting topic since the study of compassion fatigue on nursing oncology is rare, especially in Indonesia.

METHOD

This study applied a systematic literature review method. According to Aveyard (2010), the systematic literature review aims to summarize the knowledge of a topic that can facilitate the reader to see the overall picture of the study. This research was conducted from June to July 2016. Some keywords were used including burnout, compassion, compassion fatigue, critical care nurse, intervention, oncology, quality of life, secondary traumatic stress, and workload.

Two databases were used such as EBSCO and ProQuest. The inclusion criteria were articles reviewed from 2009-2016, available in full text, and related to nursing oncology. The chosen articles were analyzed using a Critical Appraisal by Johanna Briggs Institute (2014).

This study further applied a thematic analysis method. The thematic analysis was divided into six steps including familiarization of data, data encoding, theme development, theme review, theme definition and producing the report (Braun & Clarke, 2006).

RESULT

Based on two databases: EBSCO and ProQuest using nine keywords, the

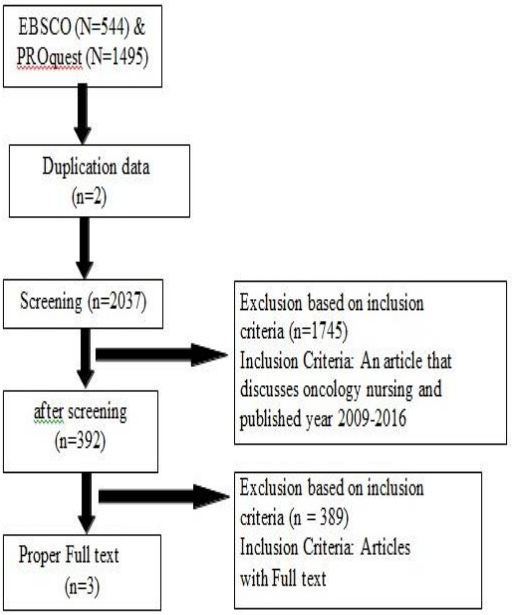

Figure 1. The description of the search strategy

The three chosen articles were criticized and summarized as can be seen in the following table 1.

Table 1. The summary of the research articles

Author	Title	Method	Sample	Group Target	Result
Aycock, N., dan Boyle, D. (2009)	Interventions to Manage Compassion Fatigue in Oncology Nursing.	Survey	(n=103)	Nurses working in the hospital, including nurses oncology.	There were many nurses who did not have the opportunity to counsel about the problems they faced in the hospital and do not get special retreats and education to overcome compassion fatigue
Potter, P.,Deshields, T., Divanbeigi, J., Berger, J., Cipriano, D., Norris, L., dan Olsen, S. (2010)	Compassion fatigue and burnout: prevalence among oncology nurse.	Descriptive	(n=448)	Staff working in oncology units, including RNS, patient care technicians, medical assistants, and radiation therapy staff.	Results found there were as many as 44% of inpatients staff experienced the risk of compassion fatigue, and 33% for the outpatient staff
Potter, P.,Deshields, T., Berger, J.A., Clarke, M., Olsen, S., Chen, L. (2013)	Evaluation of Compassion Fatigue Resiliency Program for Oncology Nursing. Oncology Nursing Forum.	Experimental	(n=42)	All the nurses in the hospital	The result showed that there was a relationship between the nurses' work stress on caring behavior. Found 61.90% Nurses who experienced stress and 71.43% nurses who experienced a decrease in caring

The three articles discussed the factors cause compassion fatigue that divided into two main factors, external and internal factors. All of the three articles explained about the internal factors, but only two articles discussed the external factors. The internal factors described in the articles including grief experience, education level, and age. Whereas the external factors included ward condition, lack of social support, and working period. The themes of this study can be seen in the following table 2.

Table 2. Theme of the study

Theme	Sub-theme
External Factors	1. Ward conditions 2. Lack of social support 3. Working period
Internal Factors	1. Grief experience 2. Education level 3. Age

DISCUSSION

Regarding the external factors, ward conditions in oncology nursing, in this case, nurses who work in the inpatient ward have experienced more compassion fatigue than nurses who work in the outpatient (Potter et al., 2010). These conditions were caused by the high workload, lots of patients and illness complications suffered by the patients. On the other hand, Aycock & Boyle (2009) discussed that nurses who

experienced compassion fatigue due to by the lack of social support. It was reported that nurses need of counseling session, developing of coping stress skills and spiritual support. Potter et al. (2010) further revealed that 11-20 years working experiences as nurses in the oncology ward have at risk of burnout (45%) and compassion fatigue (45%).

Grief experience as the internal factor further can cause compassion fatigue. A long-term nursing care for patients in the oncology wards leads to a long-term relationship between nurses and patients. This condition could influence nurses "bad" grief experience if the patient passed away (Potter et al., 2013; Aycock & Boyle, 2009). Interestingly, bachelor-degree nurses were nurses who had high risks of compassion fatigue (Potter et al., 2010). The reason was the bachelor-degree nurses have high-level expectations on their work. Thus, if their work often failed and repeating failed could lead to compassion fatigue experiences.

Not only education level, age is also one of the internal factors that might cause of compassion fatigue in the oncology nursing. A study by Potter et al. (2010) revealed that each range of age had a different percentage of risk for experiencing compassion fatigue such as nurses aged 21-35 years old (34%), 36-50 years old (43%), and 51-72 years old (30%). It seems that nurses who aged between 36-50 years old had experienced compassion fatigue more than others aged-range nurses. This condition could be also related to the working experiences as discussed previously that nurses who had worked for 11-20 years could have the risk of burnout and compassion fatigue experiences. However, it is further noted that nurses above 51 years old have less risk for compassion fatigue. This condition might be related to the more competence of nurses regarding stress management.

CONCLUSION

There are two main factors causes compassion fatigue in the oncology nursing even though the lack of supporting previous studies. The two main factors included external and internal factors. The external factors consisted of ward conditions, lack of social support, and period of work, whereas the internal factors comprised grief experience, education level, and age. Moreover, it is noted that the internal factors were more supported by previous studies than the external factors. Therefore, more studies were recommended to further explore the external factors that cause compassion fatigue in nursing especially oncology nursing.

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RELATIONSHIP OF KNOWLEDGE AND MOTIVATION WITH HAND WASHING COMPLIANCE LEVEL OF ASSOCIATE NURSES AT UDAYANA UNIVERSITY HOSPITAL

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ABSTRACT

Hand washing compliance is become one indicator of patient safety. The compliance of hand washing should be owned by health workers, especially nurses. Nurse's compliance while implementing standard operating procedures should be appropriated, a handwashing procedure becomes one of the successful factors in preventing nosocomial infections. This study aimed to determine the relationship of knowledge and motivation with the level of hand washing compliance in associate nurses of Udayana University Hospital. This research used an analytic descriptives design with cross-sectional approached with 30 samples of associate nurses who chosen by total sampling technique. Data collecting used questionnaire of knowledge and motivation and observation of hand washing compliance. The result of rank spearman statistical test showed correlation of knowledge and motivation with the level of hand washing compliance on associate nurses with positive correlation direction. Thus means that the higher level of knowledge and motivation the handwashing compliance will be increase. An advice given to the head nurses and hospital management to conduct supervisions regularly and a specific training about hand washing to improve the nurse's performances.

Keywords: associate nurses, handwashing compliance, knowledge, motivation.

INTRODUCTION

Nosocomial infection is one case often happened at hospital (Hughes, 2008 in Sutanto, 2014). It indicates that prevention and treatment should be implemented by health workers (Pinzon, 2008). Level of infection in developing country, included Indonesia is 9, 1% (Suroso, 2007).

Hand washing compliance is one indicator that decided safety of patient (Pinzon, 2008). It should be owned by health workers especially nurses (Masadeh & Jaran, 2009). Nurse's compliance in implementing standard operating procedures should be done properly; one of them is hand washing (Costy, 2013). The compliance of health workers in doing hand hygiene is in varying. According to Basic Health Research data in 2007, about 23, 2 % of health workers implement hand washing correctly. The compliance of hand washing can be influenced by some factors (Thoamik, 2006).

A study done by Setiawati (2009) explained that knowledge, motivation, attitude, education and duration of working experience were the factors of nurse were less comply in implementing hand washing. Tahir (2016) did the same study as well, stated that nurse's compliance in implementing hand washing procedure was brought over by knowledge and motivation.

Rikayanti (2014) showed about 71% of nurses had less knowledge in implementing hand washing. A study done by Sharma, Puri & Whig (2011) showed that 43, 2 % of nurses merely complied the correct hand washing procedure. Less motivation from the head of department is one factor result in the low level of hand washing compliance (Saydam, 2006). A study done by Marlena (2013) indicated low level of nurses in implementing hand washing, it is 58,5%.

Rabbani Inayatur (2014) stated that knowledge is really significant in leading nurses' compliance of hand washing. The importance of relationship between knowledge and hand washing compliance correspond to concept from Saragin & Rumapea (2012) which stated those who have knowledge is doing better that those who do not.

Motivation takes role in nurses' compliance to implement hand washing. Motivation is something that influences someone in doing his or her job (Hamzah, 2008).

A study was done previously on July 25th 2016 located at Udayana University hospital, observation techniques was

implemented which showed about 56% of respondents did not comply hand washing procedure, before doing contact with patient in particular.

Result of previous study done on March 23rd 2017 at Udayana University hospital toward associate nurse by using questionnaire showed that 55,5% of respondents had good knowledge of hand washing procedure, 44,5% was lack of knowledge. It showed that 23, 4% respondents had good motivation, 43, 3% was fair, and 33,3% was lack of motivation.

Based on the explanation, researcher would like to do a research about the relationship of knowledge and motivation with the level of hand washing compliance of associate nurse at Udayana University hospital.

RESEARCH METHOD

Quantitative method was used in this study with analytic descriptive analysis; cross-sectional design was used to knowing the relation between knowledge and motivation towards nurses' compliance in implementing hand washing. The object was 30 associate nurses at Udayana Univeristy hospital. Total sampling was applied.

Questionnaire of knowledge based on theory from Indonesian Health Ministry (2009) and motivation questionnaire based on theory from Herzberg and observation sheet about hand washing compliance were used. This study had been tested through ethical clearance from Research Ethics Commission of Medical Faculty Udayana University/Sanglah Hospital Denpasar. Data were collected through questionnaire and observation. After that, bivariat analysis was done by using rank spearman test with 95% level of accuracy.

RESULT OF STUDY

Based on gender, most of the respondents were women (63, 3%); based on age, the youngest was 25 year old and the eldest was 26. Based on experience was 5 years in average; based on education most of them were Ners bachelor (90%); based on work experience most of them already had it (53, 3%).

It was found that 70% of the nurses were lack of knowledge, 70% were lack of motivation and 70% did not comply hand washing procedure.

The result based on sprearman rank showed that there was relationship of knowledge and motivation with score $p<0,001$ for the level of the compliance.

DISCUSSION

Characteristic of respondents

Most of the respondents were women. It is suitable with the data from Indonesian Health Ministry which stated total amount of Indonesian nurses are 147.264 people and 103.379 or 70,1% are women. It relates to women are more careful in taking care of the patient (Bastale, 2002).

Most of the respondents were in their 26. It corresponds to research from Kumajas, Warouw, and Bawotong (2014) stated that most of the nurses are in 26-30 years old.

It showed Ners bachelors were found more than diploma. Notoatmodjo (2003) remarked that educations can wider someone's insight.

The longest period of working experience of the respondents was 5 years. Utami, Supratman and Kes (2016) stated that the longer someone working the more they will obtain experiences.

Most of the respondents had experience previously. Work experience is one factor results in nurse performance.

Knowledge of hand washing of associate nurse

The result of the study showed that 70% of respondents had less knowledge of hand washing. Knowledge is something got through observation. Nurses who know proper procedure of hand washing will do their job better. (Notoadmodjo, 2007).

Motivation of hand washing of associate nurse

The result showed that 70% of respondents were lack of motivation. Siagian (2009) stated that motivation is stimulus that causes someone has willingness to do his or her duty sincerely.

Hand washing compliance of associate nurse

Through this study, it was found that 70% of respondents did not comply the correct procedure, while 20% were less comply. Nurses have contact for 24 hours with the patient; therefore hand washing should be done to prevent nosocomial infection (Besman, 2009).

Relationship of Knowledge and Motivation with the Level of Hand Washing Compliance in Associate Nurses of Udayana University Hospital

This study showed that there was positive correlation between knowledge and hand washing compliance, means when someone has more knowledge of hand washing, the better they will get comprehension of it.

According to Setiawati (2009) factors that cause nurses are less comply to do proper hand washing are knowledge, motivation, attitude, education and duration of working. Tahir (2016) stated that hand washing compliance of nurses are influenced by their knowledge and motivation.

A study done by Rabbani (2014) showed most of the nurses still had less knowledge of proper hand washing that leaded to poor implementation. That indicates most of the nurses do have poor knowledge of proper hand washing procedure.

Suryoputri and Isbandrio (2011) did the same study using observation technique stated that hand hygiene compliance of nurses were still low. Another study done towards 200 nurses revealed only a few were aware that hand washing is kind of prevention from infection, meanwhile the level of complying was still low (Garber, Gross and Slonim, 2010).

Motivation is a role in nurse compliance to wash hands. Study done by Marlena (2013) explained that the motivation of nurse to do hand washing was still poor. Sumariyem (2015) did the same research stated that there was relationship between motivation and the level of hand washing compliance. The higher the motivation, the better the implementation and vice versa.

CONCLUSION

Result of this study showed that there was strong relationship of knowledge and motivation with the level of hand washing compliance. According to sprearman rank statistic there was strong relationship of knowledge and motivation with the level of hand washing compliance in associate nurse of Udayana University. The result was positive, means when nurses have more knowledge and motivation the level of hand washing compliance will get higher.

SUGGESTION

It is hoped that nurses can improve their compliance and do the standard operational procedure of hand washing because they do contact with the patient within 24 hours. They can attend seminar and training to improve their knowledge. Nurses should have motivation as well, they need to make a perception that implementing hand washing is important for the patient and themselves, because when they have motivation they will do a better job.

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THE EFFECT OF CARTOON AUDIOVISUAL TO SCHOOL-AGED CHILDREN SNACKS CONSUMPTION BEHAVIOR IN SEKOLAH DASAR NEGERI 13 KESIMAN

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ABSTRACT

Consumption behavior of unhealthy snacks in school-aged children was caused by the lack of their understanding about the snacks itself. Lack of understanding about snacks could affect the development of their attitude and positive behavior in choosing and consuming snacks. To improve their understanding about snacks could be done by health education using audiovisual cartoons. This study aimed to determine the effect of audiovisual cartoons on consumption behavior of healthy snacks in school-aged children. The research is a Quasi Experimental Design with Nonequivalent Control Group Design approach. The sampling technique used in this research was probability sampling with simple random sampling. The sample in this study is 68 fourth grade students who divided into two groups, in which the first group was treated with audiovisual cartoons and the second group was given no treatment. This study was conducted late December 2016 to early February 2017 and the data were collected in six weeks. Data on the control group were collected in the first three weeks and data on the treatment group were collected in the next three weeks. In the treatment group, audiovisual cartoons were given to students twice a week with duration of 30 minutes. Value p= 0.000 (p <0.05) obtained using Mann Whitney statistical test in both groups. This result indicate that there was a difference between the control groups to the treatment group on the level of consumption behavior of healthy snacks in school-age children. Through the research above, it can be concluded that the audiovisual cartoon is an effective and recommended media as one means of health promotion, especially in school-aged children.

Keywords: Audiovisual cartoon, snacks, consumption behavior of healthy snacks

INTRODUCTION

School-aged children are active and independent consumer in term of choosing their food. They spent one third of their time outside so they have higher chance to get their favorite snacks (WHO, 2015). Snacks have risk of contamination either biologically or chemically and it can cause health problem (Kindi, 2013). Some health problems that often found in children because of consuming snacks are decrease in appetite, gastrointestinal disorder, and in long term it can affect nutritional status of the children. One of the gastrointestinal disorder that often occur because of careless-snacking is diarrhea. Diarrhea often related with disease which spread through food contaminated by bacteria such as Escherichia coli.

Research by Badan Pengawas Obat dan Makanan (BPOM) indicate that school-aged snacks aren't fulfill food quality and safety standards. This can be caused by either poisonous microbes or illegal food additives (BPOM, 2012). Changes in behavior by health counseling using right media can be done to reduce diarrhea occurrence in children. Audiovisual media contain two types of media, *auditif* and *visual*, which makes it effective and interesting (Sanjaya,2008). Audiovisual involve the sense of hearing and seeing to receive and process information which results in higher chance of the information can be understood and remembered in mind. Cartoon is one kind of audiovisual media in form of daily figures that presented attractively to deliver a message. It is an educational media that easy to understand especially for children in elementary school. The author interested to research about health counseling using cartoon audiovisual to children consumption behavior. Sekolah Dasar Negeri 13 Kesiman was selected because there is no counseling using cartoon audiovisual given to the student yet about snacks in that school.

RESEARCH METHOD

This research is *Quasi Experimental* design with Nonequivalent *Control Group Design* approach. Subject divided into two groups, first group treated with cartoon audiovisual (treatment group) and second group without treatment (control group).

Respondents are 68 of 82 6th grade student that chosen using *Simple Random Sampling.* Data retrieval done using behavior of healthy snacks consumption questionnaire. Questionnaire consist of 71 questions which represent three aspects: knowledge, attitude, and action. The lowest score is 0 and the highest is 94. Knowledge and attitude aspect have score in the range of 0-1 and action aspect 0-2.

Data retrieval first done in the control group for first three weeks then continued in treatment group for the next three weeks. Students in the control group measured their consumption behavior before the research (*pretest*) using questionnaire in first week. Measurement will be conducted again after three weeks of research using the same questionnaire in the third week. Students in treatment group measured their behavior of healthy snacks consumption before intervention (*pretest*) using questionnaire in the 4th week. Treatment continued by giving cartoon audiovisual for three weeks, two times for each week in Tuesday and Thursday with

video duration of 30 minutes. By the end of 6th week, behavior of healthy snacks consumption measurement (*posttest*) will be conducted again using the same questionnaire.

Behavior criteria reviewed based on questionnaire total score: less behavior if correct answer <70%, fair behavior if correct answer 70-85%, and good behavior if correct answer >85%. Data processed using hypothesis testing. Effects of cartoon audiovisual analysis in treatment group and behavioral level of healthy snacks consumption in control group analyzed using comparison test with two-paired samples which is *Wilcoxon Signed Rank* with confidence level of 95%, $p \leq 0.05$. Comparative analysis in behavioral level of healthy snacks consumption in school-aged children through post-test in both groups conducted using comparison test with two unpaired samples which is *Mann Whitney* test with confidence level of 95%, $p \leq 0.05$.

RESULTS

This research indicates that there are significant changes in behavioral level of healthy snacks consumption in respondents before and after given cartoon audiovisual for the treatment group (Table 1). Before cartoon audiovisual is given, six respondents (17.6%) indicated with less behavior, 23 respondents (67.6%) indicated with fair behavior, and 5 respondents (14.7%) indicated with good behavior. After cartoon audiovisual is given, there are 1 respondent (2.9%) indicated with less behavior, 5 respondents (14.7%) indicated with fair behavior, and 28 respondents (82.4%) indicated with good behavior. Based on *Wilcoxon Signed Rank Test* for the treatment group, value $p=0.000$ ($p<0.05$) obtained which indicate that Ho rejected and Ha accepted. Results in control group indicate that there are insignificant changes in behavior of healthy snacks consumption before and after research (Table 2). Before research is conducted, 8 respondents (23.5%) indicated with less behavior, 23 (67.6%) respondents indicated with fair behavior, and 3 respondents (8.8%) indicated with good behavior. After research, there are 9 respondents (26.5%) indicated with less and good behavior along with 16 respondents (47.1%) indicated with fair behavior. Value $p=0.613$ ($p>0.05$) obtained using *Wilcoxon Signed Rank Test* for control group which is indicate Ho accepted and Ha rejected. *Mann Whitney* test for both groups resulting in value of $p=0.000$ ($p<0.05$). These results indicate that there are differences between control group without intervention and treatment group which is given cartoon audiovisual with behavioral level of healthy snacks consumption in school-aged children. In other words, audiovisual is one kind of media that can be used effectively in health counseling especially in improving the behavior of healthy snacks consumption in school-aged children.

Table 1. Behavioral Level of Healthy Snacks Consumption in School-aged Children in Sekolah Dasar Negeri 13 Kesiman Before and After Cartoon Audiovisual Being Given to the Treatment Group

Behavior Criteria	Pre		Post	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Less Behavior	6	17.6 %	1	2.9 %
Fair Behavior	23	67.6 %	5	14.7 %
Good Behavior	5	14.7 %	28	82.4 %
Total	34	100 %	34	100 %

Table 2. Behavioral Level of Healthy Snacks

Consumption in School-aged Children in Sekolah Dasar Negeri 13 Kesiman Before and After Research in the Control Group

Behavior Criteria	Pre		Post	
	Frequency (f)	Percentage (%)	Frequency (f)	Frequency (f)
Less Behavior	8	23.5 %	9	26.5 %
Fair Behavior	23	67.6 %	16	47.1 %
Good Behavior	3	8.8 %	9	26.5 %
Total	34	100 %	34	100 %

DISCUSSION

Based on this research, cartoon audiovisual influence the behavior change of healthy snacks consumption in school-aged children. Elementary school students usually have open mind and easy to accept new things, including in term of choosing new and healthy foods. To realize that purpose, school-aged children need to be given knowledge about nutritional and healthy food using method such as counseling (Wawan, 2010). In health counseling, media or message delivery aids are important factor that affect a health counseling. One kind of media that can be used in health counseling is audiovisual. Cartoon audiovisual that used in this research is Pompi animation serials. Counseling using this media involve two sense to receive and process information so the information can be understood and saved in mind. Memory improvement in children can affect their knowledge about healthy snacks. Good knowledge about snacks will form their attitude and action in choosing and consuming healthy snacks. These three domains will form behavior of healthy snacks consumption so it can improve children's degree of health (Notoatmodjo, 2010).

Pompi animation is cartoon which describe elementary school children habit in choosing and consuming snacks. This cartoon presented in form of attractive animation and easy to understand so it can creates a pleasant atmosphere and stimulate children interest to watch it. Besides, sense of sight and hearing involved when audiovisual is used. With health counseling held in school, it can help improving students' knowledge so positive attitude and action toward health can be formed especially in choosing and consuming snacks. It is one important factor for significant change in behavioral level of healthy snacks consumption in group that given cartoon audiovisual. Green and Kreuter in Notoarmodjo (2010) stated that there are 3 factors affecting someone's behavior: predisposing factor, enabling factor, and reinforcing factor. In this research, enabling and reinforcing factor in behavior change are available in school. Canteen that fulfilled healthy canteen standard and sell clean and nutritious food that available in school become one of the factor which can change respondents' behavior. School's rule about prohibition for students to buy snacks outside of school and whenever the school caught students that buy their snacks outside of school, that students will be punished to clean the school area also becoming reinforcing factor in behavior change of the respondents. Availability of enabling and reinforcing factor not accompanied by predisposing factor. Lack of effort by the school to improve students' knowledge and attitude toward health causing no change in behavioral level of healthy snacks consumption in control group. Health counseling using cartoon audiovisual toward treatment group can be a solution to improve students' knowledge and positive attitude toward health.

It can be concluded that there are differences in behavioral level of healthy snacks consumption in both groups that affected by the three factors. Control group doesn't experience significant changes because there are only two factors affecting that group. In treatment

group, three factors existed and affect respondents' behavior.

CONCLUSION AND RECOMMENDATIONS

Health counseling using cartoon audiovisual can affect student's behavioral level of healthy snacks consumption in Sekolah Dasar Negeri 13 Kesiman. There are changes in behavioral level of healthy snacks consumption in treatment group after cartoon audiovisual is given where most respondents are at good behavior. Statistic shown that there are significant differences between control group and treatment group in term of students' behavioral level of healthy snacks consumption. This means that audiovisual is an effective media that can be used in health counseling. The author suggest for the next researchers to conduct this research regularly in a longer time so significant result can be obtained. For teachers and society especially students' parents are expected to make this research as a consideration in using cartoon audiovisual as attractive and effective method to provide health education in school or at home. The school also expected to strictly oversee students whenever they buy snacks.

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EFFECT OF BALINESE MUSIC ON REDUCING ANXIETY FOR PATIENTS WITH MYOCARDIAL INFARCTION

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ABSTRACT

Research consistently demonstrates that Myocardial Infarction (MI) patients commonly experience anxiety. Music intervention has been suggested to have beneficial effect on psychological including anxiety. This study aimed to evaluate the effect of Balinese music on reducing anxiety for patients with first MI. In this quasi-experimental, pretest-posttest design, 61 first MI patients were assigned to either the music group or control group. The music group (n = 30) received 20-minute Balinese music intervention, whereas the participants in the control group (n = 31) received routine care with no music intervention. All the participants were assessed using the State-Trait Anxiety Inventory for adult 10 minutes before and after intervention. The mean anxiety scores were found significantly decreased in the music group ($p < .05$) after receiving Balinese music. The mean anxiety scores were also found significantly lower in the music group ($p < .05$) than the control group. These results indicated that Balinese music intervention has simply intervention to reduce anxiety among first MI patients.

Keywords: Balinese music, anxiety, First myocardial infarction

INTRODUCTION

Myocardial Infarction (MI) is one of the common cardiovascular diseases that has a high mortality rate (Murphy, Xu, & Kockanek, 2013). Patients with MI often suffer from anxiety (Larsen, Christensen, Nielsen, & Vestergaard, 2014). The prevalence of anxiety in MI patients has been related to increase the risk of re-stenosis, length of recovery, and doubled risk of death compared with MI patients without anxiety (Batty, Russ, Stamatakis, & Kivimäki, 2014; Russ et al., 2012).

MI patients with sustained anxiety showed it not only had a negative impact on physiological responses but also adversely affected the quality of life are due to increased rates of morbidity and mortality after infarction (Chapa et al., 2014). Therefore, the challenge for cardiac nurses is to maintain and prevent further complications from MI by the reducing anxiety in the patient.

Music has been investigated for its effectiveness in reducing anxiety (Alex, 2014; Bradt et al., 2013; Chan, 2007; Chlan, 2009). It has been studied and used in a variety of settings and populations, especially for reducing anxiety on the part of the patients (Covington, 2001; Hole, Hirsch, Ball, & Meads, 2015; Lai, 2004). However, research results of the effectiveness of music on anxiety are inconsistent. Some researchers argue that the difference in findings may be influenced by at least one limitation in each study such as small sample size, lack of a control group, non-randomized sampling, lack of exclusion criteria, or difference in types of music (Alex, 2014; Bradt et al., 2013; Schou, 2014).

Good et al. (2000) suggested that, with respect to the cultural aspect of music interventions, cultural intervention can be seen as an important factor that enhances the appropriateness and effectiveness of intervention. In Indonesia, especially in Bali, music is big a part of cultural. Balinese traditional music often uses to serve Hindu religious beliefs, accompanying dances or theaters (Sanger, 1988). Balinese music may be suitable for music intervention. Thus this present study was conducted to investigate effect Balinese music on anxiety in patients with first MI.

METHOD

Study Design and Participant

This study was a pretest and posttest quasi-experimental design and conducted between December 2015 – January 2016 in the ICCU of Sanglah

Hospital. A total sample of 61 patients with first MI were assigned either experimental or control group. The experimental group received Balinese music, while patients in the control group received usual care. The patients were selected using following inclusion criteria: have stable hemodynamic levels; had no hearing or cognitive impairment; and not receiving anti-anxiety agents. MI patients who had complications and had mental health problems were excluded.

Intervention

The intervention is 20 minutes of Balinese music with having flow rhythm 60-80 beat per minutes, low frequencies, regular, smooth, has relax melody, and has a simple and no lyric. The Balinese music was given twice a day in the morning (10.00 am) and evening (16.00 pm).

Instrument

Anxiety was measured using the 6-item State Anxiety Inventory (SAI) and Trait Anxiety Inventory (TAI). The 6-item SAI involves only presence and absence of anxiety. Both SAI and TAI are rated on a four-point Likert scale. Responses range from "not at all (1)" to "very much so (4)", higher score indicate high level of anxiety. This study used the Indonesian version of 6-item SAI and TAI (Suhartini, 2010) to test the reliability with the results of the Cronbach's alpha coefficient were .82 for the 6-item SAI and .84 for the TAI.

Data Analysis

All of the data were managed and analysed using computer program. Descriptive statistics were used to describe the characteristics of the participants. The independent-samples t tests were used for between-group comparisons. Moreover, the paired-samples t-test was used for within-group comparisons. The significance level was set at 0.05.

RESULT

Table 1
Demographic Characteristic of the Participants (N=61)

Variable	Experimental (30)		Control (31)	
	n	%	*n*	%
Age (year) (*M*±*SD*)	54.5±9.59		56.7±10.67	
***Trait Anxiety (*M*±*SD*)**	47.67± 12.55		49.43 ±13.30	
Gender				
Female	6	20.0	6	19.4
Male	24	60.0	25	80.6
Diagnosed				
STEMI	18	60.0	26	83.9
NSTEMI	12	40.0	5	16.1
Religion				
Islam	3	10.00	3	9.7
Christian	4	13.3	3	9.7
Hinduism	23	76.7	25	80.6

Education Level				
No schooling	-	-	2	6.5
Primary school	4	13.3	3	9.7
Secondary school	10	33.3	10	32.3
High school	9	30.0	7	22.6
Collage or higher	7	23.3	9	29.0
Smoking Status				
Smoking	20	66.7	18	58.1
Not Smoking	10	33.3	13	41.9

*independent t-test, $t = 0.76$, $p = 0.450$

Two participants from the control group (both patients because of developing bradycardia) and two participants from the experimental group (did not complete the intervention) were excluded from the study.

Table 1 shows the demographic characteristics of the two groups. The average ages were 54.5 years old for the experimental group group and 56.7years old for the control group. The majority of the participants in both groups were male and diagnosed with STEMI. The majority of participants practices Hinduism. The baseline mean trait anxiety scores were 47.67 (*SD*=12.55) for the experimental group and 49.43 (*SD*=13.30) for the control group, which mean both group have a moderate trait anxiety level. There were no statistically significant differences in the demographic variables and trait anxiety between the groups (Table 1).

Table 2
Effect of Balinese Music on State anxiety of the participants (N=61)

State Anxiety	Experimental (30)		Control (31)		***p***
	M± SD	p^1	*M± SD*	p^2	
Before	*15.97 ±4.28*	*.000*	*15.17± 3.28*	*.000*	*.000*
After	*8.07± 1.20*		*13.77± 2.90*		

*The p^1 was calculated by paired t-test to compare pre- and posttest in the intervention group. The p^2 was calculated by paired t-test to compare pre and posttest in the control group. The **p** calculated by Independent t-test to compare the difference in the posttest between the two groups*

There were not statistically difference in state anxiety and trait anxiety between experimental and control groups before starting the Balinese Music. Table 2 shows statistically significant decreases in state anxiety (p^1 *and* p^2 < 0.05) after the intervention either experimental and control group. There was statistically difference in state anxiety between experimental and control groups after the receiving Balinese music (p<0.05)

DISCUSSION

The aim of this study was to examine the effect of Balinese music on anxiety in patients with first MI. Study findings revealed that Balinese music had significant effects on patients' anxiety. However, despite receiving standard nursing care, patients in the control group also experience any significant change in

their anxiety level. Confirming similar findings in other population, Bally, Campbell, Chesni, and Tranmer (2003) have also found that music intervention can significantly reduce anxiety of patients with first time coronary angiography. In addition, a systematic review of randomized control trial reported anxiety reduced after music intervention in general MI (Bradt & Dileo, 2009).

Almerud and Petersson (2003) noted that music affects the brain, stimulates the generation of alpha brain waves and the secretion of endorphins, produces relaxation, and relieves fear and anxiety. Moreover, it alleviates patients' pain and anxiety through distracting them from the causes of anxiety (Chang & Chen, 2005). Accordingly, it seems that music intervention in the present study might also alleviated anxiety by distracting patients' attention from the environmental factors that caused anxiety.

This present study included cultural aspect in the intervention of Balinese music and found positive effect on anxiety of first MI patients. Previous study conducted by Dogan and Senturan (2012) performed traditional Turkish music in patients undergoing CAG and found reduction of anxiety after the intervention. Therefore, this study showed that the researchers used the music based on cultural aspect and dealing with the experience of first time for CAG which the patients may be familiar with. Similarly, in this present study Balinese music have a role to stimulate participant to deal with it by induced relaxation through contents of Balinese music.

The finding showed both of groups were found decrease in state anxiety scores after the program, but better reduction of state anxiety scores was found in the experimental group than control group. The decreasing anxiety in control group could relate with the result such us some of the participants in the control group were seen playing with their phone during the program. Moreover, control group also reported had no chest pain and dyspnea during the study.

These results cannot be generalized because all data were collected in only one hospital with a small sample of patients. Some factors such as psychological and personality characteristics, as well as their attitudes and beliefs about Balinese music might have affected our findings. Therefore,

further studies on larger sample sizes and with controlling the confounding variables can be suggested.

CONCLUSION

Anxiety remains a frequent psychological problem among first MI patients. Cultural factor is seen as important aspect to improve effectiveness intervention. Nurses can use music such Balinese music as simple intervention to reduce anxiety of first MI patients. The findings in present study may provide an evidence to support the use a traditional music in the management of anxiety in MI patients.

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ERGONOMIC PROGRAM AND NURSING INTERVENTION IN NURSING STUDENTS

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ABSTRACT

Ergonomics position is the position that should be implemented while working to improve work safety, work efficiency and reduce risk factors. Health workers are vulnerable individuals with various work-related risk factors, including improper work positions. Nurses are the health workers with the high exposure of risk factors. Performing nursing intervention such as patient lifting, transferring patients, wound care, performing intra venous infusion, inserting catheter and others are required standard ergonomic positions to avoid health risks. The ergonomic program is an activity to provide an understanding of the accurate working position while performing nursing interventions based on ergonomic standards.

This study aims to know the effect of comprehensive ergonomic program on ergonomic position of students when performing nursing interventions. This study was conducted at Nursing Science Program in Udayana University. The results of the preliminary study showed that more than 50 percent of the students are still doing the wrong position while performing nursing interventions. Additionally, more than 48 types of nursing interventions were studied by the students. The errors of working position practiced by students are potentially being applied until they are in the workforce.

This study was a *quasy experimental* design with action research application to analyze the effect of an ergonomic program on knowledge, attitude and behavior of nursing students while performing nursing interventions. There were 60 respondents selected using simple random sampling among nursing students of medical faculty Udayana University. Evaluation of this study was involved the readiness of institutions to apply specific programs regarding ergonomic position and modifications according to institutional conditions.

The results showed that there is a significant effect of ergonomic program on student's knowledge, attitude and behavior related to ergonomic standard in performing nursing interventions with statistic test result $p < 0,05$. Student behavior can be improved by enhancing the students' knowledge on the ergonomic position while performing nursing intervention. Based on the results of this study, the nursing study program Udayana University is expected to provide knowledge about the importance of ergonomics position to nursing students. The proper ergonomic position can be informed through counseling or by integrating into one of the subjects in the curriculum.

Keyword : Ergonomic program, Nursing student and Nursing intervention

INTRODUCTION

Standard ergonomic position is the position that should be applied while working or during implementing a procedure in order to improve safety, work efficiency, and reduce risk factors due to work (Bandeiraa et al, 2012). Health personnel are vulnerable for various work-related risk factors, including incorrect working positions; and nurses have the highest risk for the unergonomic working position. Various nursing procedures, such as wound care, manage fluid balace (infusion), inserting catheter and others, are procedures requiring standard ergonomic positions to prevent nurses from various health risks due to improper work positions(Smith et al., 2011., Bandeira et al., 2012).

In the United States nurses with musculoskeletal disorders incidence is 252 per 10,000 nurses, however, this number may not exactly depict the total incidence because the same person may experience the musculoskeletal disorders more than 7 times. The incidence of injury among nurses reached 56% in 2006 and 86% of those incidences were injury associated with excessive stretching positions (BLS, 2009). Rahayu (2004) explains on her research results at Serang Banten Hospital that nurses working with three working shiftness which are morning, afternoon and evening shift have a risk of MSDs. Nursing activities with the hightest risk of improper working positions are generaly applied during morning shift. Several nursing interventions with highest risk for MSDs are bathing, lifting, wound dressing, changing the patient's position, and collecting urine sample. A study conducted by Fathoni et al (2009) in Purbalingga Hospital showed that 31.2% of nurses are performing nursing procedures with non-ergonomic positions.

Nursing students learn the skills needed to become professional nurses. The learning process include academic and professional stage. There are more less 48 skills that nursing students learns during academic stage such as; wound care, catheter insertion, patient transfer, IV chateter insertion and others. These skills are learned using human dummy or peer practical partners.

Based on the results of preliminary study in Nursing Science Program, Faculty of Medicine Udayana University, 7 out of 10 students still bent during the practice of wound care. Moreover, there were 8 out of 10 students who were performing non-ergonomic postions during bandage intervention, which potentially risk on back problems. Six out of 10 students performed patient transfer used non ergonomic working positions. According to Gurgueira et al (2003), working positions and procedures, which are not applied with standar ergonomic, could potentially cause physical, psychological and psychosocial disorders to nurses. The improper positions, attitudes and work procedures which are becoming habit as students could be carried away until these nursing students becoming profesional nurses. Ergonomic positions are generally taught in Nursing Science Program, Faculty of Medicine Udayana University; however, the accurate ergonomic positions have not yet been thoroughly practiced and are less

empahised as important aspects during learning process of nursing skills.

Ergonomic program is an intervention applied to nursing students to improve the safety and work effectiveness, and to prevent various risks of health problems, more specifically musculoskeletal disorders. A study conducted by Garg and Kapellusch (2012) shows that the ergonomic program could reduce the risk factors for injury due to the improper position and incorrect work attitude from 24.4% to 9.8%.

Ergonomic program can be an effective primary prevention of physical and psychological health problems that may occur due to improper working positions, attitudes and working procedures. This program has been applied by developing technological innovations through audiovisual media as well as provision of facilities that support ergonomics standard application in working. This program is generally needed by various health professionals; such as nurses, doctors, physiotherapists, dentists, and others. Providing and modificating of work facilities and working procedures will support nurses and nursing students to perform safe, effective and efficient working procedures.

The aim of this research is to analyse the effect of standard ergonomic comprehensive intervention on implementation of ergonomic position among nursing students while performing nursing interventions. The specific purpose of this study is to discover the standard ergonomic description of the students while performing nursing procedures before comprehensive intervention, providing a comprehensive understanding of the importance of ergonomic position in performing nursing procedures on students as prospective nurses, to assess the description of standard ergonomic position applied by students after comprehensive intervention. The analysis was be conducted to assess the readiness of nursing students as prospective nurses in performing nursing procedures with standard ergonomic positions. The readiness of the Nursing Science Program Faculty of Medicine Udayana University is also assessed in supporting the implementation of ergonomic program as one of the technological innovation of the study program.

RESEARCH METHODS

This research is quasy experimental study with action research application to analyze the influence of ergonomic program to the knowledge, attitude and behavior of standard ergonomic of nursing students while performing nursing procedures. Evaluation involves the readiness of institutions in implementing the program, the provision of appropriate support facilities and environmental setting suitable for institutional conditions based on ergonomic standard. Subjects of this study are nursing students in Nursing Science Program Faculty of Medicine Udayana University. The instruments used on this study are questionnaire and observation sheet.

Researchers have considered ethical principles while conducting of any actions or interventions in this study,

and all activities performed on study subjects have been approved with clear informed consent. Prior to the research, ethical clearance was reviewed by research ethics committee of Faculty of Medicine Udayana University / Sanglah Hospital Denpasar.

RESEARCH RESULT

The study was conducted in September 2016. The data gathered in the treatment group and control group was collected at the nursing lab skill. Only 50 from 76 students can be analyzed using REBA both in the treatment group and in the control group. Based on the results of data collection in the treatment group and the control group found that the students do not have adequate understanding about the ergonomic position while performing nursing intervention. This study results are depicted below.

Respondent Characteristics

Respondent characteristics by age and gender can be seen in the following table.

Table 5.1.1 Respondent characteristics by age and gender

Data of treatment group			Data of control group		
Characteristics	∑	%	Characteristics	∑	%
Age			**Age**		
19	3	6.0	19	-	0
20	37	74.0	20	2	4.0
21	10	20.0	21	39	78.0
22	-	0	22	8	16.0
23	-	0	23	1	2.0
Total	50	100	Total	50	100
Gender			**Gender**		
Male	0	0	Male	9	18.0
Female	50	100	Female	41	82.0
Total	50	100	Total	50	100

Based on table 5.1.1, it can be seen that age of respondents of treatment group is mostly 20 years, which are 37 respondents (74%); while in the age control group most respondents were at the age of 21 years as many as 39 respondents (78%) and only 1 respondent (2 %) aged 23 years. The respondents' gender both in the treatment and the control group was dominated female. The number of female respondents in the treatment group were 50 respondents (100%), while in the control group the number of female respondents were 41 (82%).

Ergonomic Standard in the Treatment Group and Control Group

The ergonomics standard performed by the subjects when performing the nursing procedures assessed by REBA score in the treatment and control group can be seen in the following table:

Table 5.1.2 Ergonomic Standard based on REBA score

REBA score	Treatment group		Control group	
	value	%	value	%

1	3	6	0	0
2 – 3	17	34	0	0
4 – 7	20	40	7	14
8 – 10	8	16	28	56
11 – 15	2	4	15	30
	50	100	50	100

Based on table 5.1.2 can be seen that REBA scores of students while performing nursing procedures in the treatment group was mostly on the score of 4-7, which are 20 respondents (40%). In the control group most of the respondents are on the score of 8- 10 of 28 respondents (56%).

5.1.3 Different Test Results of REBA Score on Treatment Group and Control Group

Statistical analysis used is Man Whitney U Test

Table 5.1.3 Different Test Results REBA Score on Treatment Group and Control Group

Ergonomic Standar	Mean of REBA score	p-value
Treatment group	29.24	0.000
Control group	71.76	

Based on table 5.1.3 it can be seen that the value of p = 0.000, this value is smaller than 0.05 which means there is a significant difference of ergonomic standards in the treatment group and control. The mean REBA scores between the treatment and control groups were 29.24 and 71.76, respectively. These results suggest that providing a comprehensive information of the importance of ergonomic positions in performing nursing procedures to nursing students can improve students' knowledge and attitudes toward the application of ergonomic positions during nursing interventions.

DISCUSSION

5.2.1 Characteristics of Respondents by Age and Sex

On the characteristics of respondents by age, the average age of respondents in the treatment group and control group were 20 and 21 years respectively. The youngest age in the treatment group was 19 years and the oldest age was 21 years; while in the control group, the youngest age was 20 years and the oldest age was 23 years. Majority the treatment group is 20 year old, which is 37 respondents (74%); while the control group majority is 21 years, which is 39 respondents (78%). As subjects mostly are chategorised young adult, it means that their muscle are still psysichally good in flexibility, contraction, reflexes and excitatory excitability. The respondents' gender between both groups is mostly female. In the treatment group the number of female respondents were all 50 respondents (100%) while in the control group the number of female respondents was 41 (82%). Men and women have the same risk of low back pain (Nusdwinuringtyas, 2007), but in fact one's gender may experience different onset of back pain.

5.2.2 Ergonomic Standard of the Treatment Group and Control Group

Ergonomic standard is assessed between treatment and control group using REBA score. The REBA scores in the treatment group mostly on the score of 4-7 were as many as 20 respondents (40%) while in the control group most of the respondents were on score 8- as many as 28 respondents (56%). This result indicates that there are differences attitude when performing nursing procedures between the treatment group and the control group.

Center for Health and Occupational Safety of the Ministry of Health of the Republic of Indonesia (2008), states that the scope of ergonomics covers several aspects of science, namely: engineering, physical, anatomy, anthropometry, physiology and design. Techniques are important to be considered in performing nursing procedures, the supporting technique in performing nursing intervention could prevent health injuries. Another important thing to note is design, the setting of design workplace supports properly, safely and comfortably works.

Working attitude defines how the body position, head, hands and feet cooperation in working. The purpose of applying a good ergonomic behavior is improving the productivity of labor in a workplace. A monotonous work attitude such as sitting or standing can cause discomfort. Standing position for long periods tend to try to balance their body position, this may affect static workload on the back muscles and legs so that will increase blood retension on the lower limbs.

5.2.3 Different Test Results of REBA Score on Treatment Group and Control Group

Statistical analysis using Mann withney u test test resulted p = 0.000, this value is smaller than 0.05; thus, it can be concluded that there are significant difference of ergonomic standard in treatment group and control group. The mean REBA scores between the treatment and control groups were 29.24 and 71.76, respectively. These results suggest that providing a comprehensive understanding of the importance of ergonomic positions in performing nursing procedures in nursing students can improve students' knowledge and attitudes in the application of ergonomic positions during nursing interventions.

In line with a study conducted by Garg and Kapellusch (2012) shows that the ergonomics program can reduce the risk factors for injury due to improper working position and attitude. It is explained that the ergonomic program can improve the behavior of nurses while performing nursing procedures in accordance with standard ergonomics. Various studies have shown that nursing procedures performed with non-ergonomic positions are increasing the risk of injuries among nurses (Orsland, 2009, Lemo et al., 2012). Nursing procedures having risk of health problems include; monotonous positions, lifting patients, transferring patients, and performing wound care.

Granjean (in Santoso, 2004) recommends several workplace settings. His recommendation includes setting of working tables based on different type of works. The type of work that requires high precision in standing position, the height of the table is recommandably set

10 cm above the elbow. The height of the table is set parallel to the elbow height is recommended for light work; and for heavy work, the location of the height of the table is set 10 cm below the height of the elbow (Santoso, 2004). Wound care and chateter infusion insertion are the example of nursing interventions, which need high precision and performing by nurses in standing position. Based on Guardian study it is recommended that the hight of patient bed or the working table is 10 cm above the nurse's elbow hight while performing nursing interventions needed high concentration and standing position such as wound care and IV chateter insertion.

Working in a sitting position has advantages including reducing on foot loading, energy consumption and the blood circulation demand (Grandjean in Santoso, 2004). Sitting position can be recommended for several nursing procedures required long time concentration, such as vital signs observation, intra venous chateter insertion or other nursing procedures that can be performed by sitting. The benefit of working by sitting is reducing fatigue, avoiding unnatural attitudes, decreasing energy consumption, reducing blood circulation demand (Suma'ur, 1989). However, if the sitting position is not performed properly it can increase the pressure on the spine (Nurmianto, 2008).

Ergonomic program is a program that benefit on preventing health problems that may arise due to work and on helping nurses and nursing students in performing nursing procedures with ergonomic standard. Various ergonomic programs can be applied to prevent health problems on nurses. The Ergonomic programs can include workplace environment analysis, occupational hazards prevention and control, management of health services, education and training on standard ergonomic positions (OSHA, 2012). Moreover, the ergonomic program can also include training about methods of transfer of patients with standard ergonomic position and dissemination about using tools which can reduce musculoskeletal injuries in nurses (Charney, Simmons, Lary, & Metz, 2006; Engst, Chhokar, Miller, Tate , & Yassi, 2005).

CONCLUSION

Based on the results of this study, it can be concluded that the majority of respondents in the treatment group showed good working attitude and working position while performing nursing procedures. Additionally, there was a significant difference between treatment groups given a comprehensive understanding of the importance of ergonomic positions in performing nursing procedures compared to control group who were not exposed to information about the importance of ergonomic positions when performing nursing procedures.

RECOMMENDATION

Nursing interventions or procedures are extensively taught in nursing education; thus, it is highly considered about specific education of standard ergonomic program to support occupational health and safety.

Various significant educational facilities such as laboratoium can support in developing condusive and optimal educational environment. The nursing

laboratory setting including distance between beds, the bed table hight, and the adjustability of the bed table and students' hight is an imporatant factor to be considered during nursing laboratory practice learning and examinations. In addition, the provision of intensive information about ergonomic positions in performing nursing interventions is very important given to nursing students prior they start to practice nursing skills and interventions in the nursing laboratory.

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THE INFLUENCE OF SELF-HELP GROUP ON THE QUALITY OF LIFE OF DIABETES MELLITUS PATIENTS AT THE PUBLIC HEALTH CENTER II OF WEST DENPASAR.

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ABSTRACT

Diabetes mellitus is one of the serious health problems in modern society. Type 2 diabetes mellitus have a negative effect on the health status and quality of life of patients. Improving the quality of life of patients with diabetes mellitus can be done in groups through the Self-Help Group (SHG) program. This study aimed to assess the influence of self-help group on the quality of life which began with exploring the spesific problem of diabetes mellitus patients involved in the group. This study is a quasi experimental research with one group pre-test and post-test design. The sample consisted of 30 diabetic patients who joined in the diabetic community at the Public Health Center II of West Denpasar. Total sampling technique was used in this study. The data was collected by filling out the questionnaires of World Health Organization Quality of Life-BREF (WHOQOL-BREF). Result showed that the average value of the quality of life of patients with diabetes mellitus after a given intervention during three meetings was at 88.53. Based on the dependent t-test, it was obtained the p value (0.000)<α (0.05), which means there is influence of the Self-help Group on the quality of life of patients with diabetes mellitus in West Denpasar Public Health Center II. The implementation of SHG which is done on going basis can help improve the quality of life of diabetes mellitus patients.

Keywords: Diabetes Mellitus, Self-Help Group, Quality of Life

INTRODUCTION

Diabetes mellitus is one of the most progressive non-infectious diseases and becomes one of the most serious health problems in modern society (Spasić, Radovanovic, Dordevic, Stefanovic & Cvetkovic, 2015). The incidence of diabetes mellitus worldwide increases every year (IDF, 2004). According to the data from Health Department of Denpasar, the incidence of diabetes mellitus in 2015 reaches 3,473 people in Denpasar. The proportion of cases of diabetes mellitus in Public Health Center II of West Denpasar in 2015 reached 864 (about 25% of all cases in Denpasar). This is due to the lifestyle that is far from physical activity and socioeconomic factors that influence the eating behavior of urban people (Ministry of Health Republic of Indonesia, 2011).

Type 2 diabetes mellitus have a negative effect on the health status and quality of life of patients (Aguiar, Vieira, Carvalho & Junior, 2008). According to the study conducted by Grandy and Fox (2008), when compare with other chronic diseases, the quality of life of patients with diabetes mellitus is much worse. The World Health Organization (2004) emphasizes two important things that must be done to handle the problem of patients with diabetes mellitus, one of which is improving the quality of life of the individual. Kleefstra et al., (2008) suggests that the management of the quality of life of patients may have an impact on the prognosis of the disease, which will further improve patient's morbidity and mortality.

Chaveepojnkamjorn, Pichainarong, Schelp and Mahaweerawat (2009) mentioned that improving the quality of life of patients with diabetes mellitus can be done in groups through the Self-Help Group (SHG) program. Petrini, Vannucchi, Miraglia Raineri and Meringol (2012) said SHG can improve the quality of life and the welfare of patients by improving the ability toward the strategy of the problem solves and share experiences of fellow group members. According to the results of preliminary study, Public Health Center II of West Denpasar obtained information that there has been a community of diabetes mellitus but has not met the criteria as SHG. The activities that should be present in the SHG begin by exploring the client's issues to determine the quality of life of the patient, sharing information and helping to solve and find solutions to problems which is faced by members with similar diseases and problems (Spasić, Radovanovic, Dordevic, Stefanovic & Cvetkovic, 2015).

By those disperancy of the phenomenons, the new high cases of diabetes mellitus and the quality of life of diabetes patients is lower than other degenerative diseases, the researcher was intended to optimize the function of existing SHG so that the benefits can be more perceived by the patient and find out more related to the influence of SHG on the quality of life of diabetes mellitus patients. The innovation of SHG that was applied to this research was preceded by exploring the predominant problems experienced by patients with diabetes mellitus before providing intervention to fit the needs of patients and expected to improve the quality of life of patients.

RESEARCH METHOD

This study used quasi experimental research with one group pre-test and post-test design to observe the effect of SHG on the quality of life of diabetes mellitus patients at Public Health Center II of West Denpasar.

The sample of the study were 30 respondents with type 2 diabetes mellitus patients who joined in diabetic community (SHG) at Public Health Center II of West Denpasar. This research was used non-probability sampling technique with total sampling approach.

The instrument that used is WHOQOL-BREF Indonesian version which has been tested for the validity and reliability with validity test (r = 0,89-0,95) and reliability value (R = 0,66-0,87) used as data collecting instrument. The questionnaire used in this study consisted of 26 questions covering four domains of quality of life: physical health, psychological, social relationship (WHOQOL-BREF, 2004).

SHG activities were conducted during three meetings with duration of 120 minutes at each meeting that held every two weeks. The pre-test data were taken at the first meeting before the intervention is given. The SHG activities undertaken are described in Table 1.

Table 1. Activities in *SHG*

Meeting	Activity
1	Digging over the problems
2	Discussing about the solution of the problem that had been around
3	Evaluation that concerned the treatment which is done based on the discussion result.

After applying the intervention, post-test data collection was conducted at the third meeting to determine the quality of life of patients after the treatment.

The analysis test was used univariate and bivariate test. Univariate test that conducted had aim to know the distribution of data and characteristics of respondents such as age, education level,

gender and long time of suffering from diabetes. Bivariate test with t-Test dependent that is used in this study has significance level p <0.05.

RESULT OF THE RESEARCH

This study was conducted on 30 diabetes melitus respondents in Public Health Center II of West Denpasar. The results of this study indicated the characteristics of respondents, quality of life based on characteristics, quality of life before and after the intervention and the effect of intervention on quality of life.

Table 2. Characteristics of Respondent

Characteristic	F (n)	Percentage
Age		
60-74	22	73,3%
Education Level		
Elementary school	16	53,3%
Gender		
Male	15	50%
Female	15	50%
Long Time of Suffering DM		
5-10 years	22	73,3%

Table 2 shows the distribution of respondents based on the most age characteristics at the age of 60-74 years, the majority of education level of respondents were elementary school. Distribution between female and male was the same as well as the distribution based on the longest time of suffering DM in the group who had suffered DM for 5-10 years.

Table 3. Quality of Life Based on Characteristic

Characteristic	Quality of Life Mean ± SD
Age	
45-59	78,20 ± 9,36
60-74	80,40 ± 12,03
75-90	74,67 ± 5,50
Education Level	
Uneducated	77,00
Elementary School	83,56 ± 10,07
Junior High School	74,00 ± 12,92
Senior High School	75,60 ± 8,17
Gender	
Male	79,00 ± 12,75
Female	79,93 ± 9,49
Long Time of Suffering DM	
5-10 years	81,63 ± 9,84
>10 years	73,50 ± 12,66

Table 3 illustrates that the mean value of quality of life in the female is better when compared with the male (79.93> 79.00). Based on the level of education, the average value of the highest quality of life is on the respondents with elementary school education level of 83.56. Based on the average age, the highest quality of life was in the 60-74 age group with a score of 80.40. Based on the long time of suffering diabetes mellitus, the average quality of life of respondents who have had diabetes for 5-10 years is greater than those who have diabetes for > 10 years (81.63> 73.50).

Table 4. Analysis of Quality of Life's Level

Variable	Mean ± SD	*P*
're-test quality f life	79,46 ± 11,06	0,000
'ost-test quality f life	88,53 ± 9,31	

Table 4 shows that the value of p= 0.000 (p <0.05) which means there is a significant effect on the quality of life of diabetes mellitus patients before and after the SHG intervention.

DISCUSSION

The age-dependent characteristics of respondents were mostly in respondents in the 60-74 age group, as the incidence of diabetes mellitus increased by 50% in the age group over 60 years (Goldstein, 2007). The aging process that occurs leads to be decreasing function of pancreatic beta cells resulting in carbohydrate metabolism disorders and impact on the incidence of diabetes mellitus (Kurniawan, 2010).

The incidence of diabetes mellitus based on the level of education most often occurs at the elementary school level. This is due to lack of knowledge about health, especially diabetes mellitus, which affects the low awareness of a person to maintain health status so that the risk of diabetes mellitus increased (Trisnawati, 2012).

The number of diabetes mellitus in male and female are the same. Theoretically, it is explained that type 2 diabetes mellitus can occurs to everyone and most often determined by someone's lifestyle (Shamseddeen, Getty, Hamdallah & Ali, 2011). The distribution of respondents who have had diabetes for 5-10 years tends to be higher. This is because the need for health services is increasing in this group (Ramadhan & Marissa, 2015).

The average value of quality of life is at the age of 60-74 years. This is because this age group has a positive view of themselves that greatly affects the emotional health and ability to adapt positively to the aging process (Daatland & Hansen, 2007). In addition, based on the analysis that is conducted. the level of physical activity of this group tend to be better when compared to other age groups that affect the quality of life (WHOQOL-BREF, 2004).

Quality of life based on the highest level of education in this research is at the elementary school level group. The results can be explained because of the Balinese cultural factors that affect the social relations of individuals. Good social relationships are associated with the emotional support needed by individuals with chronic diseases and help improving their quality of life (Goldberg & King, 2007).

A person's gender is one of the determinants of the quality of life. This research shows that if it compared to male, the quality of life in female tends to be better. This is because social support gained by female tends to be better (Schwarzer & Knoll, 2010). Besides, Graue, Wentzel-Larzen, Bru, Hanestad and Sovik (2004) explained that woman tend to have coping better than man so

that stress management by woman tends to be better and affects the quality of life.

In addition to these factors, long time of suffering from diabetes mellitus also affects the quality of life of respondents. Respondents who have had diabetes mellitus for 5-10 years have better quality of life. Redekop, Koopmanschap, Stolk, Rutten, Wolffenbuttel and Niessen (2002) explained that the longer the diabetes mellitus, the risk of the incidence of complications will increase. The incidence of complications in patients with diabetes mellitus affects the quality of life of the patient.

The quality of life of diabetes mellitus patients at Public Health Center II of West Denpasar before being given intervention was 79.46. The results of the analysis have shown that the pre-test value of quality of life in a row from lowest to highest is the psychological, social, physical and environmental domains. Analysis of the questionnaire data obtained, the most common psychological problems that arise is the decreasing in the concentration that affects the quality of life of the respondents. Significant changes that occur after diagnosis of diabetes mellitus evoke emotional feelings that affect the psychological affects of patients (Ciechanowsk, Katon, Russo & Hirsch, 2003). Psychological problems caused by the management of diabetes mellitus run by individuals such as therapeutic regimens, lifestyle modifications and visits to healthcare personnel, conducted on a continuous basis contribute greatly to the deterioration of the psychological aspects of individuals with diabetes melitus (Speight, 2016).

Diabetes mellitus not only affects the psychological domain, but also the physical domain on the quality of life of the respondents. The obtained questionnaire data of quality of life showed that the most common problems in the respondents were sleep disorder. It is associated with glucose intolerance that causes the mechanism of sleep disorder (Sadosky, et al., 2013).

Enfermagem (2008) described the capitalist society that chronic disease is one aspect that can inhibit and reduce their social life. The incidence of diabetes mellitus makes the individual care about the stigma that will be obtained from the family and even the environment due to chronic illness (Browne, Ventura, Mosely & Speight, 2013). The fear of the stigma causes individuals with diabetes mellitus avoid contact with others, thus affecting the social aspects of the life of patient and quality of life (Zacks, Beavers, Theodore, 2006).

After given the intervention in the form of SHG, the quality of life of the respondents increased to 88.53. The highest increasing of mean value is in the social domain. Chaveepojnkamjorn, Pichainarong, Schelp and Mahaweerawat (2009) explained that technique in SHG can improves the relief of one to another patients that will be affecting each member's interpersonal relationships and increasing the social support that the respondent receives. Costa, Sa and Calheiros (2009) explained that the obtained social support has a buffer-effect that has the meaning that social support can improves the welfare and the health of the patient in a bad condition.

The average value of quality of life of patients with diabetes mellitus increases with SHG intervention that was conducted within 120 minutes for three meetings. The things that respondents get during SHG activities help improving the quality of life of respondents.

The SHG was formed on the assumption that someone with the same experience and problems could influences and help other individuals with similar problems (Mohalp, 1992 in Eliášová, Majerníková, Hudáková & Kaščáková, 2015).

Activities during SHG can improve the quality of life by increasing the social and psychological support to individuals. Chogahara, O'Brien and Wankel (2002) affirmed that social support has a positive relationship with physical activity and this affects the quality of life of respondents. Individuals who get good social support have less loneliness and depression than individuals who do not get good social support (Kahn, Hessling & Russell, 2003).

Lee (2005) asserted that the sense of loneliness that experienced by individuals can reduces the motivation to perform the positive activities that can improve the quality of life of patients. Based on the explanation, it can be concluded that SHG has a positive influence on all domains of patient's quality of life.

CONCLUSION AND SUGGESTION

SHG activities help improving the quality of life of diabetes mellitus patients. The t- test dependent that was performed shows the value of p 0.000 compared to the significance level of 0.05 (p-value <0.05). This shows that there is a effect of SHG toward the quality of life of diabetes mellitus patients after extracting problems individually on group members in Public Health Center II of West Denpasar.

To the next researchers are expected to analyze the complications that experienced by patients with diabetes

mellitus as one of the factors that affects the quality of life of respondents. In addition, the family participation in the intervention can be considered as one of the important components that can support social support that obtained by respondents so that can help improving the quality of life.

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THE CORRELATION OF NURSE KNOWLEDGE ON FALL RISK ASSESSMENT AND FUNCTION OF ROOM HEAD CONTROL WITH NURSE COMPLIANCE IN FALL RISK ASSESSMENT

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ABSTRACT

Fall risk assessment is the first step in the risk reduction program due to falling patients. The assessment of the risk of fall was performed by the nurse since the patient enter the hospital until the patient is discharged. This study aims to determine the relationship between nurse knowledge about risk assessment of falls and the controlling function of head of the room compliance in risk assessment fell at Badung Hospital. This research is a quantitative research with decriptive correlational method and using cross-sectional research design. The sample that in this research was 78 people selected through purposive sampling technique. Result of analysis test with Spearman's rho that there is a strong and positive relationship between nurse knowledge about risk assessment fall with nurse compliance in risk assessment falling p value <0,001 with value of Correlation Coefficient equal to 0,624. There is a very strong and positive relationship between the headroom control function and the nurse's compliance in risk assessment falling p value 0,001 with the value of Correlation Coefficient of 0.783. The conclusion of this study the better the knowledge and function of the head of the supervision of the room the more obedient the implementing nurses do risk assessment fall. Researchers expect management active to provide workshop related patient safety.

Keywords: controlling, compliance, fall, knowledge, nurse.

BACKGROUND

Good hospital services ideally suited to the expectations of patients and families of patients. Health workers are required to reduce the level of error, re-work, failure and dissatisfaction patients and their families (Virawan, 2012). Morse's 2008 survey of the incidence of falling patients in the United States showed that 2.3-7 / 1000 patients fell out of bed each day. Ganz, et al. (2013) states that there are 152,000 cases of patients falling in England and Wales each year.

The incidence of falling patients in Indonesia reflects the iceberg phenomenon. The XII Congress of the Indonesian Hospital Association (PERSI) said that the number of incidents of patients falling in Indonesia from January to September 2012 was 34 incidents. The incidence of falling patients is included in the three major hospital medical incidents in Indonesia after drug error and decubitus.

Fall events result in various types of physical disorders and psychological disorders. The most dreaded physical disorder is pelvic bone fracture. Other types of fractures that often occur due to falls include fractures of the wrist, upper arm fracture, and pelvic fracture and soft tissue damage. The psychological impacts often encountered in the event of falling include shock and fear will fall again (Stanley and Beare, 2006).Improvements continue to be intensified to reduce the incidence of falling patients.

Joint Commission International (JCI) requires all hospitals that are accredited by JCI or similar institutions to implement the International Patient Safety Goals (IPSG) program consisting of six focuses on patient safety objectives. One focus is to reduce the risk of injury from falling patients. Falling risk assessment is the first step in reducing the incidence of falling patients. (Darmojo, 2009). It takes nurse compliance to undertake risk assessment (Handayani, 2013). Compliance is influenced by several factors such as knowledge and function of headroom supervision (Setiadi, 2007; Asmadi, 2008).

Badung District General Hospital is a type B hospital and predicated by the Plenary Accreditation Commission of the Hospital in 2012 so that since 2013 Badung Hospital apply patient safety and targeting 0% incidence of falling patients. In fact, the nurse said that after the patient safety was applied there was a patient falling in Oleg room.

The researcher was interested in interviewing the nurses knowledge about risk assessment and the head room supervision function and the researcher conducted nursing care documentation to ten nurses in Janger room and Oleg knowledge. Most well-informed nurses are good about falling risk assessment and the function of the head of the room is perceived to run well. Based on the documentary study the researchers found that 30% of the patient's risk falling documentation form was not appropriate for the current patient's condition and 20% of the patients at risk did not use a high-risk marker to fall.

Based on the existing phenomenon in the field and similar research has never

been implemented in Badung Hospital makes the researcher interested to conduct research entitled "The relationship of nurse knowledge about risk assessment of fall and function of headroom supervision with nurse compliance in risk assessment fall".

RESEARCH METHODS

No.	Gender	Frequency (f)	Proportion (%)
1.	Male	12	15,4%
2.	Female	66	84,6%
	Total	**78**	**100%**

This research is a quantitative research with descriptive analytic and using cross-sectional research design. The population used in this study is all nurses in the inpatient ward in Badung Hospital, amounting to 101 people. The sampling technique used in this research is nonprobability sampling with purposive sampling technique to get sample of 78 housekeeper nurses.

Data collection was conducted on 19 - 23 May 2017 using a nurses' knowledge questionnaire on fall risk assessment, headroom control function, and observation sheet to measure nurse compliance in fall risk assessment which has been tested for validity and reliability at 30 implementing nurses in Cilinaya Room and Margapati Room Badung Hospital. This research has been through ethical test of Udayana University Medical Institute/Sangah Medical Faculty Ethics Committee.

Univariate analysis is done to know the description of distribution of value of each variable. Bivariate analysis using Spearman's rho correlation test. The confidence level used is 95% ($\alpha = 0.05$).

RESEARCH RESULT

Characteristics of Respondents Research

The characteristics of the respondents of this study distributed into the distribution table are as follows.

a. Age

Age categorization is based on age category according to Depkes RI (2009). Characteristics of respondents by age can be seen in table 1.

Table 1. Frequency Distribution of Respondents by Age

No.	Age (year)	Frequency (f)	Proportion (%)
1.	17-25	14	17,9%
2.	26-35	63	80,8%
3.	36-45	1	1,3%
	Total	**78**	**100%**

Table 1 shows that most respondents are in the range of 26-35 years or are in early adulthood

b. Gender

Characteristics of respondents by gender were mostly female (66,6%).

c. Level of Education.

Characteristics of study respondents by education level can be seen in table 2.

Table 2. Frequency Distribution of Respondents by Level of Education

No.	Level of Education	Frequency (f)	Proportion (%)

1.	DIII Nursing	61	78,2%
2.	Ners	17	21,8%
	Total	**78**	**100%**

Based on table 2 it can be seen that most of respondents of research are DIII nursing that is 61 people (78,2%).

d. Marital Status

Characteristics of study respondents by marital status can be seen in table 3.

Table 3. Frequency Distribution of Respondents by Marital Status

No.	Marital Status	Frequency (f)	Proportion (%)
1.	Married	56	71,8%
2.	Single	22	28,2%
	Total	**78**	**100%**

Based on table 4 it can be seen that most of the research respondents have married status with 56 people (71,8%).

e. Working Period

Characteristics of study respondents by working period can be seen in table 4.

Table 4 Distribution Description of Respondents by Working Period

Variable	Median	IQR	Minimum - maksimum
Working Period	5	4	1-25

Based on table 5, the working period of the shortest respondent was observed for one year and the longest for 25 years.

Research Results on Research Respondents Based on Research Variables

The results of research on respondents based on research variables described as follows.

a. Nursing Knowledge of Risk Assessment

The knowledge level of the implementing nurses on fall risk assessment can be seen in table 5.

Tabel 5 Distribution of Frequency of Nurses' Knowledge of Risk Assessment

No.	Knowledge Level	Frequency (f)	Proportion (%)
1.	Good	17	21,8%
2.	Pretty Good	39	50%
3.	Not Good	22	28,2%
	Total	**78**	**100%**

Based on Table 5 it can be seen that as many as 39 people (50%) of the implementing nurses have a good knowledge of fall risk assessment.

b. Head Room Control function

The frequency distribution of the headroom supervision function in the implementation of the fall risk assessment can be seen in table 6.

Table 6 Distribution of Frequency of Head Room Control Function in the Implementation of Risk Assessment

No.	Level of Controlling Function	Frequency (f)	Proportion (%)
1.	Good	36	46,2%
2.	Pretty Good	25	32,1%
3.	Not Good	17	21,8%
	Total	**78**	**100%**

Based on Table 6 can be seen that there are 17 people (21.8%) of nurses implementing the function of head supervision of the room is running poorly.

c. Nurse Compliance in Risk Assessment Fall

The frequency distribution of nurse compliance in fall risk assessment can be seen in table 7.

Table 7 The Frequency Distribution of Nursing Compliance in Risk Assessment

No.	Nurse Adherence Level	Frequency (f)	Proportion (%)
1.	Obedient	26	33,3%
2.	Fairly Compliant	28	35,9%
3.	Less Compliant	24	30,8
	Total	**78**	**100%**

Table 7 shows that as many as 24 people (30.8%) were less adherent in carrying out remote risk assessments.

Analyzed Nurses Knowledge Relations Data on Falling Risk Assessment with Nurse Compliance in Risk Assessment Falling

Data analysis using Spearman's rho obtained p-value <0.001 which means there is a relationship between nurse knowledge about risk assessment fall with nurse compliance in risk assessment fall. The strength of relationship and the direction of the relationship can be seen in the value of Correlation Coefficient is worth 0.624 which states the relationship strong and positive, so it can be concluded that the better the nurse knowledge about risk assessment fell then the more obedient nurses in risk assessment fell.

Data Analysis Relationship Function of Room Head Control with Nurse Compliance in Risk Assessment Fall

Test Data analysis using Spearman's rho obtained p-value value <0.001 which means there is a relationship between the function of headroom supervision with nurse compliance in risk assessment fall. The strength of relationship and direction of relationship can be seen on the value of Correlation Coefficient is worth 0.783 which states very strong and positive, so it can be concluded that the better the function of supervision of the head of the room the more obedient the implementing nurses in risk assessment fall.

DISCUSSION

Nursing Knowledge of Risk Assessment

The results of nurses' knowledge of risk assessment fell indicating that most of the implementing nurses had good knowledge of fall risk assessment. Some factors that influence the nurse's knowledge level about risk assessment fall among other levels of education, age, mass media / information, length of work, experience, and years of service (Notoatmodjo, 2007).

Most nurses are DIII nursing staff. Education is closely related to the intellectual property of the nurse (Muliono, 2007). The higher a person's education the easier the person will receive information (Notoatmodjo, 2007). Qaddumi and Khawaldeh (2014) stating that Ners nurse knowledge level is better than nurse DIII nursing about patient safety.

The majority of respondents are in the range of 26-35 years. The Central Bureau of Statistics stated that the human productive age is in the range of 15-64 years. This indicates that most of the implementing nurses are within the productive age range. Someone who is in the productive age range tends to have the ability to catch and a good mindset so that this period is the right time for someone to get information (Notoatmodjo, 2007).

Based on the results of interviews conducted by the researchers to the implementing nurses, the investigators found that the implementing nurses were never given any information related to the fall risk assessment that included definitions, objectives, indications, and fall risk assessment procedures. Lack of information related to risk assessment falls impacting on the knowledge level of nurses who are in fairly good categories about fall risk assessment (Widodo, 2013).

The working period of the executing nurses assigned in the Janger and Oleg rooms of Badung Hospital has a median of five years. Working period is closely related to experience. The longer a person's working period, the more experience he gets from the various cases he handles (Handoko, 2010). In this study the experience of the managing nurse did not affect the nurse's knowledge of risk assessment of falls.

Head Room Controlling Function

Most implementing nurses perceive supervisory functions to work well. Skills are the main factors affecting the function of headroom control (Susanti, 2009). Skills are skills that a person needs to perform some task that is the development of training outcomes and experience (Dunnette, 2012). Susanti (2009) states there is a relationship between the skill of the head room management function with the compliance of the nurses in applying patient safety. Skills in performing headroom supervision functions are obtained through training, work experience, and education (Soemarjadi in Dunnette 2012).

The head of a room with a high education has a large vocabulary, so the head of the room can influence the nurse's implementers to achieve the vision of the room by using effective communication techniques (Nursalam, 2011). The head of a highly educated room is also easy to receive information from the training provided related to the implementation of the head

room's supervisory function (Susanti, 2009). The work experience of the head of the room also affects the function of head control of the room. The head of the room who is experienced in performing the functions of the head control of the room understands the gaps in the shortcomings and the advantages of the nursing care actions provided by the nurses and has an image of appropriate action taken to prevent and deal with unwanted actions (Alviona, Siti, and Sofia, 2015) .

Nurse Compliance in Risk Assessment Fall

Most implementing nurses who are adherent in carrying out risk assessments fall under the SOP. Akrodhana (2004) mentions there are several factors that influence the level of compliance, among others, motivation, educational level, and headroom supervision function. Motivation is based on the level of human needs, self-actualization (Maslow, 2006). Self-actualization of an implementing nurse can be enhanced through the awarding of material and positive reinforcement of the things that have been done (Handoko, 2003). Based on the results of interview, to the executing nurses, the head of the room in Janger and Oleg space rarely gave the award of material or positive reinforcement to the implementing nurses who did risk assessment fell well and correctly. This has resulted in a lack of motivation for implementing nurses to comply with the SOP for risk assessment fall.

The Relationship of Nurses' Knowledge of Risk Assessment Falling with Nurse Compliance in Risk Assessment

Based on the analysis using Spearman's rho, it is known that there is a strong and positive relationship between nurse knowledge about risk assessment fall with nurse compliance in risk assessment of fall. That is, the better the nurse knowledge about risk assessment falls then the more obedient nurses in doing risk assessment fall. The incidence of falling patients results in a variety of physical and psychological disorders. Common physical disorders include pelvic fractures, wrist fractures, upper arm fractures and pelvic fractures. The psychological effects that are commonly encountered in post-event patients include shock and fear of falling again (Stanley and Beare, 2006). Nurses who know the impact of risk assessment fall will seek to reduce the incidence of falling patients so that nurses are encouraged to abide in doing risk assessment fall.

The Relationship of Head Room Control Function with Nurse Compliance in Risk Assessment

Analysis using Spearman's rho is known to have a very strong and positive relationship between the headroom control function with nurse compliance in risk assessment of fall. This means that the better the function of supervision of the head of the room the more obedient nurses in doing risk assessment fell.

The supervised nurse will work to work in accordance with the SOP in order to minimize the inequality that occurs between

the SOP and the thing done by the implementing nurse (Handoko, 2003). Headroom supervision can be done directly or indirectly, by making prior or unexpected agreements (Handoko, 2003).

The indirect, and suddenly, indirect headwaters will spur the executing nurses to adhere to risk assessment (Matteson, 2006). This is because the vigilant nurse will be assessed in carrying out the risk assessment to fall so that the nurses will continue to undertake risk assessment (Handoko, 2003). The habit of undertaking risk assessment fell to make the implementing nurses obedient in undertaking risk assessment (Asmadi, 2008).

CONCLUSIONS AND RECOMMENDATIONS

There is a strong and positive relationship between the nurse's knowledge of risk assessment falling with the nurse's compliance in fall risk assessment and there is a very strong and positive relationship between the headroom control function and the nurse's compliance in fall risk assessment. Most of the implementing nurses are female, 26 years old and married. The majority of nurses implementing end of DIII nursing with five years of service.

The researchers did not control other factors of the study. Researchers hope, researchers can further control other factors in the study. The factors that can be studied further are internal factors which include: (1) attitude, (2) ability, (3) motivation, (4) service period, and (5) education and external factors which include: (1) group characteristic, (2) job characteristics, and (3) environmental characteristics.

Completeness of the test factors affecting nurse compliance is expected to identify which factors have the highest level of influence, so that in improving adherence nurses can use the approach of one factor that has the level of influence on the highest compliance. All of these efforts are efforts to improve the human resources of health workers that will have implications for the improvement of health services in general.

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RELATIONSHIP BETWEEN NURSE CHARACTERISTICS AND NURSE PERCEPTIONS ABOUT THE SUPERVISION OF THE HEAD OF ROOM WITH PERCEPTION OF HANDOFF IN OLEG ROOM OF BADUNG HOSPITAL

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ABSTRACT

Increasing the quality of health services can be realized through effective communication between nurses, as well as with other health teams. One of the forms of communication that must be increased when handoff. Implementation of handoff at the hospital sometimes still not in accordance with the procedure so that will result in decreased quality of nursing care. This study aims to determine the relationship between nurse characteristics and nurse perceptions about the supervision of the head of the room with the perception of handoff in the Oleg Room of Badung Hospital. This research uses correlational study design with cross sectional approach. Sampling technique using total sampling with samples used amounted to 35 respondents. The data collection instrument is a questionnaire. The results showed that the median respondent was 28 years old, 30 (85,7%) respondents were female, 24 (68,6%) respondents with education level of DIII Nursing, median of respondent 3 years, 18 (51, 4%) respondents with good supervision perception, 19 (54,3%) of respondents have good handoff. Result of correlation test doesn't relate to age (*p value* = 0,186, r=0,229), sex (*p value* = 0,21, r=0,206) with perception of handoff. The correlation exists between educational level (*p value* = 0,027, r=0,374), working period (*p value* = 0,015, r=-0,410) and perception of head room supervision (*p value* = 0,028, r=0,370) with perception handoff. Good perceptions of room head supervision tend to produce good handoff perceptions. It is hope that nurses can improve their knowledge through education and training in relatiom to supervision and handoff .

Keyword: Handoff, Head Room Supervision, Nurse's Perception

INTRODUCTION

The increase of demand for health service need to be responded by nursing staffs and keep on trying to improve their professional performance (Mayasari, 2011). Professionalism in nursing can be achieved by optimizing roles and function of independence nurse. This can be realized well through as with other health team. One form of communications that must increased its effectiveness when handover (Nursalam, 2009).

Handover is a technique or a way to deliver and receive reports relating to the patient's condition (Nursalam,2009). Implementation of handover at the hospital sometimes still not in accordance with the procedure. There are few things that are found in nursing care in hospital associated with the handover activity asamely mis communication when handover that impacts misperception, communication content that does not focus on theproblem of the patient and the information is in complete (Alim, 2015).

Errors due to submitting handover will result in decrease of nursing service quality. Reports from Wellington Hospital in New Zealend, that a 50 year old man died from a communication failurewhen handover conducted (Wailis, 2010). In addition, a study in the operating room, it was mentioned that from 43% of communication error in nursing service, 2/3 of the errors are communication error due to handover (Friesen, White & Byers, 2008).

Activites in handover can be influenced by individual characteristics of the nurse. One of the factors that has relationship with the implementation of handover is the characteristic of gender and education level (Yudianto, 2005). In addition to the characteristics, handover also influenced by the implementation of management function of supervision. Supervision is the part of the function of directing the nursing management function that allow the head of the room to overcome various problem. Less than optimal supervision can lead to less maintenance than standard (Hurray, Lanchashire & Fasset, 2009), so that supervision should be considered in health service, one of them handover activities.

Implementation of an optimal handover will increase the quality of the nursing service. Blouin (2012) describe some solutions to improve handover, namely by standardizing the content of handover, improving information technology, education, training and strengthen leadership. Leadership activities can be realized through the

impelentation of supervision. Supervision can enhance individual awareness in interpersonal, professional and communicative skills.

RSUD Badung is one of B type hospital which has a total of 426 nursing personnel. The result of preliminary study in Room of Oleg RSUD Badung found that handover did not end with clarification of the result of handover. Some nurse did not do complete identification to patient. Oleg Room still has no documentation for the result of supervision, head of room rarely meetings that discuss Standard Operating Procedur (SOP) and weighing documentation received. Therefore, the researchers are interested to examine the relationship between nurse characteristics and nurse's perception of the room head supervision with handover perception in the Oleg Room of RSUD Badung.

METHODS

Research Design

This study is analytic with cross sectional approach that aims to determine the relationship between characteristics of nurses and nurse's perception of room head supervision with handover perception in Oleg Room of Badung Hospital.

Sample Population

All implementing nurses administrator work in Oleg Room of Badung Hospital in 2017 are the population in the study. In sampling uses total sampling technique.

Instruments

Research sample is given instrument in the form of questionarre of handover perception, room head supervisor perception and nurse characteristics (age, gender, education level and work period).

Data Collection and Data Analysis Procedures

The total sample of 35 nurses are given questionnaires in the form of handover perception, perceptions of room head supervision and nurse characteristics.

It's used Spearman rank test to examine the relationship between age, education level, employment, supervision of room head perception with the handover perception. While the gender variable relationship with the handover perception uses contingensi coefficient test with 95% confidence level (p value $\leq$ 0,05).

RESULT

The result of the analysis of the relationship between age and gender with handover perception obtained p value= 0,186 (age) and p value= 0,21 (gender), which means there is no relation advance

of age and gender with handover perception. Analysis of the relationship on the level of education (p value=0,027), and the work period (p value=0,015) with the perception correlation result obtained in the form of education level and years of service with the handover perception. In the perception varable relationship with the handover perception of room head supervision obtained (p value= 0,028), which means there is a relationship of perception of room head supervision with hand over perception of nurses in Oleg Room.

DISCUSSION

Characteristic Relations with Handover Perception

Age

Data obtained from study of median age of nurses in Oleg Room is 28 years. This indicates that most of the administrator nurses in Oleg Room are in the productive age. Similar to research by Saptorini (2016) who found that most of the nurses who served in RSUD Dr. Moewardi is a productive age nurse. At this age most people have been able to solve problems, so that it becomes emotionally stable and calm. Result of statistic analysis of the relationship of age with handover perception in Oleg Room obtained p value= 0,186, so there is no relationship between age and handover perception. The result of this study are in line with research by Yanti, Handiyani and Kuntarti(2015) which explain that there is no correlation between the characteristics of age and the perception of nurses in applying the principle of nursing ethics. Related to that matter, the increased of age has not been able to determine whether the handover perception is better than the younger one. This can happen due to factor of work culture. The work culture is a system of beliefs, values and norms developed within organizations that serve as a behavioral guideline for its members to address external adaptation problems and internal integration (Edgar in Mangkunegara 2005). One of the characteristics of work culture is the seniority among nurses. Seniority can lead to nurse who have ability become passive and frustration (Robbin, 2006). This can affect the performance of nurse who tend to make th nurse behave under pressure that can lead to lack of creativity and spirit of the nurse so that it can affect the perception of the nurse.

Satisfaction in the nurse can also be a trigger in the lack of of individual performance. This is because the young nurse has a satisfaction with the jpob that has not been feel significantly, because the problem of satisfaction is a sensitive issue and will affect the performance as a

nurs (Saleh, 2012). This illustrates that young nurses still need guidance and direction to be discipline and instilled a sense of responsibility so that the implementation can be a maximum of nursing care (Jackie & Warsito, 2013).

Gender

The result showed that most of the nurses who served in the Oleg Room of RSUD Badung are female from the total amount 30 people (85,7%). The same thing also happened in research by Winani (2012) at Gunung Jati Hospital that nurses who served in the room more nurses are female. This can happen because student nurses generated from collage average more women than men (Setyaningsih, Sukesi & Kusuma, 2013). Nurse professions are mentioned more identical with women because women have been prepared by their social environment to perform the function in care so that when involved in nursing does not experience significant difficult (Rusnawati, 2012). Research by psychologists ha also found that women are more willing to fulfill authority (Robbins, 2003). Edyana (2008) states that in human relationships, women have a higher sensitivity in interpreting signs of communication than men.

The result of the bivariate analysis between the sexes with handover perception in Oleg Room acquired no relationship between gender an handover perception (p value=0,21). This is similar to a study by Solihah (2014) who found that there was no relationship between sex and nurse perception in documentating nursing care.

Gender is not a characteristics that has a relationship to the hadover perception. This shows that there is no difference between men and women in relation to the perception of handover. Robbin (2003) explain that there is no consistent difference between women and men in problem solving skills, analytical skills, competitive encouragement. Motivation, social and learning ability.

Level of Education

Most of nurses assigned to the Oleg Room are nurses with nurse education of DIII Nursing are 24 people (68,6%). This can be due to the policy of the hospital in terms of recruitment of workers. As axplained in the study by Malik (2014) in RSD Kalisat staties that the policy of the Director of the hospital determines the compositions of DIII Nursing more than Ners because DIII Nursing are perceived to be more skilled and to save the hospital budget. Ihsan (2007) mentions that education is an important factor in influencing one's mind. Through education that involved a series of activities, then an individual will

acquire knowledge, understanding, expertise and insight. A person;s educational level can also influence communication, higher education nurses have abroad vocabulary and the ability to read and write compared to someone with low education, so the level of education is needed in determining the method of nursing care (Nursalam, 2011). The result of the bivariate analysis was obtained p value= 0,027, r=0,0374, which showed a significant relationship between the level of education and nurse's handover perception with wea correlation strength and positive correlation value. This research is in line with Kumajas, Warouw and Bawotong (2014) also found there is correlation between educational level characteristics with nurse's perception to individual performance.

Notoadmojo (2010), states that people who have higher education will have higher knowledge as well. A person's level of education will be closely related to other abilities alsi will indirectly affect a nurse in acting, thinking and behaving (Murtianingrum, 2015). This shows that nursing staff with higher education will have better perception because they already have wider knowledge and insight than lower educated nurse.

The weak correlation between the level of education with nurse's handover perception can be caused by the ratio of humber of nurses DIII Nursing more than Ners. Although there are more nurses of DIII Nursing who have a good handover perception (28,6%),the cross-tabulation result show that out of total 25=4 of DIII Nurses only 10 nurse have a good perception of handover. DIII Nursing is considered to focus on skills in nursing services while Ners is in professional nursing education so as to have higher knowledge and understanding (Malik, 2014). Such understanding or thinking power has attachment to one's perception (Mursidin, 2010).

Working Period

The working period of the urse who served in Oleg Room has a median of three years with minimum working period of one year and a maximum of six years. Most of the nurse work in Oleg Room fairly new. Working period is one form of individual development that is determined by experience factor (Notoadmojo, 2010). In realation to the majority of nurses in Oleg Room has fairly new term of employment, it require more experience that can be sourced from training or coaching.

Statistical test result shows that there is a significant correlation between working period with nurse's hadover

perception in Oleg Room with p value= 0,015. And r= 0,410. This study is similar with research by Andriani, Sahar and Uriani (2012) which mentions that there is a significant relationship between working period with the perceptiom of nurses related to performance.

In the research result, obtained a moderate correlation strength and negative correlation direction that illustrates that the longer working period of the nurse the less good the perception of handover. This is almost in accordance with Martoyo's theory in Yanti and Warsito (2013) says that the longer work period the more work motivation, because there is no challenge in her work. An inverse between working period with handover perception can becaused due to job burnout toward the work routine and handover habit. Symptons that can be shown by someone who experienced work saturation include feeling tired and tired everyday and stiff in thinking. The thingking process can be related to one's perception. As axpalined by Mursidin (2010) perception can be interpreted as the prower of thoudh and the prower of individual understanding of the various stimuli is come from outside. This shows that burnout can be a factrir that affect a persons in perceiving thinks

Nursing perception Relationship on Room Head Supervisiion with Handover Perception

The result of the analysis by obtaining p values=0,028 and r=0,370 indicates that there is a relation between nurse's perception of room head supervision and hand over to the weak correlation and positive direction correlation which means the better perception of room head supervision the better handover perception. In line with research by Hastuti (2014) which states there is a significant relationship between perceptions of nurse implementing the ablity of roomhead supervision with nurse performance. In addition, in study by Solihah (2014), also found a significant relation related to the implementation of supervision with the perception related to the quality of nursing care documentation.

The X theory of Mc Gregor in Winani (2012) mentions that humans basically prefer to be directed, because the average of human being is lazy or less like work and will avoid it whenever possible, because of these characteristics, one must be forced, directed or threatened with punishment so that they carry out the task to achieve organizational goals as in the implementation of handover.

The weak correlation between perception of room head supervision and handover can be caused by other factors that influence perception of handover. One of the other factor that can affect the handover perception is individual characteristic factor (Hidayat, 2009). As explained by Kozier (2004) are some things that play an important role and influence a person's perception, namely educational background, experienced and belief.

CONCLUSIONS AND SUGGESTIONS

Result of observation to characteristic of nurse in Oleg Room of RSUD Badung that is age of nurse have median 28 year, median of working period is 3 year, most of female gender and highest education level is DIII Nursing. The result of observation on the perception of executing nurses related to the supervision of the room head and handover in Oleg Room of RSUD Badung that most of the implementing nurses have good perception. There is relationship between nurse's characteristic that is work period and education level with handover perception. There was no correlation between age and gender with nurse's perception of handover. There is a significant relationship between the perception of nurses on the supervision of the head room with perception of handover.

The field of nursing management of RSUD Badung is expected to pay more attention to the characteristics of nurses in recruitment and to increase knowledge in the field of nursing through education and training related to handover and supervision. For further research is expected to develop research with larger sample and using direct observation.

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THE EFFECT OF GUIDED IMAGERY ON SLEEP QUALITY IN ELDERLY IN BANJAR BUAGAN DESA PEMECUTAN KELOD

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ABSTRACT

Sleep quality is an ability to maintain an adequate sleep which can provide a fit body after awaking. Guided imagery is one of the intervention that aims to improve sleep quality. This research aims to determine the effect of guided imagery on sleep quality of elderly in Banjar Buagan, Desa Pemecutan Kelod. This study uses a queasy-experimental design with pre-test and post-test with control group design conducted on 34 respondents, who were selected by purposive sampling differentiated by the intervention group 17 people and the control group of 17 people. The data collection conducted by giving The Pittsburgh Sleep Quality Index (PSQI) questionnaire before and after intervention. Based on Independent Sample's T-Test on analysis of differences in sleep quality in elderly's pre-test and post-test between the intervention group and the control group p value = 0.000, means that there is an influence of guided imagery on sleep quality of elderly in Banjar Buagan Desa Pemecutan Kelod. Based on the research, it is suggested to the elderly for implementing the usage of guided imagery techniques in order to improve sleep quality in elderly.

Keywords: elderly, guided imagery, sleep quality

BACKGROUND

Aging is an individual change which characterized by physical, psychological, social and spiritual setbacks (Azizah, 2011). The change is divided into three stages of life, which are: child, adult and old. A group of individuals who experience the old phase can be said as elderly. Elderly is a group of people who are > 60 years old (Nugroho, 2008).

The elderly population tends to increase from year to year. The United Nations estimates that Indonesia will have an elderly population of more than 50 million in 2050 (United Nations, 2009). The data from the National Socio-Economic Survey (2007) said that Bali is the third province after DI Yogyakarta and Central Java which has the largest percentage of elderly in Indonesia. Denpasar has an elderly population of 8.4%. The number of elderly population in Denpasar is as many as 17,154 people (Dinas Kesehatan Kota Denpasar, 2015).

The increasing number of elderly can be accompanied by the emergence of various health problems caused by the aging process. The data from the Ministry of Health stated that the elderly who experience sleep disturbance per year are about 750 people. Sleep disorders can reduce the independence of the elderly in performing daily activities, which lead to the decreasing quality of life (Maryam, Ekasari, Rosidawati, Jubaedi, & Batubara 2008).

Guided imagery is a relaxation technique by imaginating through the senses. Relaxation is done by guiding the elderly to form the preferred imagination until they are relax (Guyton & Hall, 2006). Guided imagery is useful for reducing anxiety, overcoming sleep difficulties, lowering blood pressure, reducing stress, reducing pain and improving disease recovery (Hart, 2008; Jacobson, 2006; Synder, 2006; Wanatabe, et al., 2006).

Some researches related to guided imagery has been done. Kamora (2012) found that there was a guided imagery effect on increasing the average hours of sleep fulfillment. In the research conducted by Listyarini and Faidah (2016) said that there also showed a significant difference between the needs of rest before and after sleep guided by the imagery techniques.

RESEARCH METHOD

This research is a quasy-experimental design with pre-test and

post-test design with control group design. This study has obtained ethical approval from the Research Ethics Committee of Udayana University, Medical Faculty / Sanglah General Hospital Denpasar. Data collection was conducted on April 1st - April 30th, 2017 in Banjar Buagan, Desa Pemecutan Kelod. The population of this study amounted to 61 elderlies. Samples were chosen by non-probability sampling technique which is purposive sampling. The sample of research is 34 elderlies who have fulfilled the criteria of the research.

The sample was divided into two groups: treatment group and control group. The treatment group received guided imagery intervention twice a day for three days while the control group was not given any guided imagery, however they still got the guided imagery after the data collection process was completed. Sleep quality in the elderly was measured before intervention at the first meeting and two days after the intervention at the 6th session. Sleep quality measurement was done using The Pittsburgh Sleep Quality Index (PSQI) questionnaire.

Research data were analyzed using univariate and bivariate analysis. Univariate analysis is used to explain the characteristics of each research variable. The results of this analysis are presented in terms of mean, standard deviation, median, minimum and maximum. Bivariate analysis in this study aims to determine the effect of guided imagery on the quality of sleep elderly. In analyzing the pre-post differences in treatment group, the reserach used Wilcoxon test. To analyze the pre-post differences in control group, the research used the Paired T-Test. To analyze the difference of pre-test and post-test between treatment group and control group, it used the Independent T-Test test.

RESULT

Table 1. Frequency Distribution by Age and Gender

Characteristics Respondents	Treatment Group		Control Group	
	Frequency (n)	Proportion (%)	Frequency (n)	Proportion (%)
Age				
60-74	11	64,7	9	52,9
75-90	6	35,3	8	47,1
Total	17	100,0	17	100,0
Gender				
Male	7	41,2	9	52,9
Female	10	58,8	8	47,1
Total	17	100,0	17	100,0

Based on table 1, it showed the characteristics of respondents by age and gender in the treatment group and the control group. Based on the characteristics of respondents in the treatment group, it was found that most respondents were in the age of 60-70 years old and most of the respondents are female. Based on the characteristics of respondents in the control group, it showed that most respondents were in the age of 60-70 years and most of the respondents were male.

Table 2. Analysis of Differences in Pre-test and Post-test of Quality of Elderly Sleep in the Treatment Group

Variable	N	Average ± SD	Mean Difference ± SD	p
Pre-test sleep quality	17	9,41±2,526	-3,41±-0,325	0,000
Post-test sleep quality	17	6±2,201		

Based on table 2 it can be explained that there is a significant difference between pre-test and post-test elderly sleep quality in the treatment group.

This indicates that guided imagery intervention may affect sleep quality in the elderly.

Table 3. Analysis of Pre-test and Post-test of Different Quality of Elderly Sleep in Control Group

Variable	N	Average ± SD	Mean Difference ± SD	p
Pre-test Sleep Quality	17	7,35±2,978	1,24±-0,126	0,001
Post-test Sleep Quality	17	8,59±3,104		

Based on table 3, it can be explained that there are differences in quality of pre-test and post-test in the control group. Even though there were differences in the quality of elderly sleep between pre-test and post-test in the control group, however the difference tends to lead to a decreasing in sleep quality of the elderly as indicated by an increasing in sleep quality with the score from 7.35 to 8.59.

Table 4. Analysis of Sleep Quality Differences between Treatment Group and Control Group

Difference between Sleep Quality Score between Treatment Group and Control Group	Avarage	p value
	-4,412	0,000

Based on table 4, it can be explained that there is a difference between the score of the elderly sleep quality score between the treatment group and the control group

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DISCUSSION

The increasing of a person's age will tend to change in terms of sleep quality. Based on interviews conducted with 34 respondents, it was found that most elderly people have the difficulties in falling asleep; often waking up at night to the bathroom; it is difficult to continue sleeping because of anxiety or nightmares; and wake up too early. The results showed that the mean score of pre-test elderly sleep quality was 9,41 in treatment group and 7,35 in control group.

There are several different factors that cause sleep quality in each elderly in Banjar Buagan. These factors include:

norepinephrine levels leads to a reduction in NREM four-stage sleep and REM sleep in the elderly (Kozier, 2008). During the study, elderly stopped the habit of consuming tea or coffee. This is in line with research conducted by Silviana (2012) which stated that some of the elderly with poor sleep quality (42.9%) have a poor lifestyle of tea and coffee habits. The stimulation of the environment affects the sleep, such as: air humidity, temperature, bedroom and other inanimate objects (Nurhidayah, Lukman, & Rakhmawati, 2007).

Sleep is beneficial in the process of restoring the performance of the brain, especially the cerebral cortex, the part of the aging process, the body's response to a disease, psychological state, lifestyle and environmental stimulus (Maas, 2011). Aging processes cause the morphological and biochemical changes in the central nervous system (Azizah, 2011). Potter & Perry (2005) said that any illness that causes pain and physical or psychological discomfort can cause trouble in falling asleep. This result is in accordance with the results of the research conducted by Silviana (2012) which stated that there is a difference of average poor quality of sleep between the healthy elderly with sick elderly.

Psychological conditions such as anxiety, stress or depression increase the brain that is used to remember, assess something and visualize and imagine something (Tarwoto & Wartonah, 2006). The mean score of post-test elderly sleep quality score in the treatment group was 6 while in the control group was 8.59. This happened because of the different treatment given to each group. In the treatment group were given guided imagery intervention twice for three days for 10 minutes. In the control group there was no guided imagery intervention to maintain and improve sleep quality. Carpenito (2009) stated that guided imagery is a technique to create a separate imagination that brings one to rest and silence. Provision of guided

imagery continuously in a short time or in a long time can improve the physiological and psychological condition of the body (Gorman, 2010).

The result of statistic test with Wilcoxon Test on 17 respondents of the treatment group gave the p value equal to 0.000, which showed that there was a significant difference between elderly sleep quality score before guided imagery and after guided imagery. The results of this study was supported by the results of research conducted by Dwi (2015) who obtained the result that there are differences in sleep quality score between before and after guided imagery in the elderly who experienced insomnia. Research from Nooner, Dwyer, DeShea, and Yeo (2016) also obtained similar results that guided imagery can facilitate rest and sleep of patients in the inpatient room. Guided imagery techniques can activated the parasympathetic nervous system (Smeltzer, Bare, Hinkle, & Cheever, 2008). Stimulation of the parasympathetic nervous system causes a decrease in breath frequency, pulse rate, muscle tension, blood pressure, and alpha waves in the brain causing a relaxed state (Guyton & Hall, 2006). Relaxed feelings will be passed on to the hypothalamus to produce Corticotropin Releasing Factor (CRF) that will stimulate the pituitary gland to increase the production of some hormones, such as endorphins, enkefalin and serotonin that can cause a person to fall asleep (Potter & Perry, 2005).

The result of statistic test with Paired T-Test on 17 control group respondents gave the p value of 0.000, which showed that there was difference between sleep quality score of elderly pre-test and post-test in control group. The differences in score leads to an avarage increasing score of sleep quality which means there was a decreasing quality of sleep in the elderly. Decreasing quality of sleep is associated with degenerative processes in the elderly (Vitiello, 2009). In this study, the elderly often wake up at night or sleep more during the day. This is in accordance with the opinion of Stanley and Beare (2006) which stated the elderly experience a change in the quantity and quality of sleep causing discomfort when sleeping.

Statistical test results with Independent T-Test on 34 respondents obtained the p value of 0.000 which means that there was a difference of score of the sleep quality of the elderly between treatment group and control group. This means that there was an influence of guided imagery on the quality of elderly sleep in Banjar Buagan, Pemecutan Kelod. The results of this study were supported by the results of Kamora (2012) which obtained results of an anvarage increasing in the fulfillment of sleep hours after

guided imagery for three days (three times a day).

CONCLUSIONS AND RECOMMENDATIONS

Guided imagery can improve the sleep quality of the elderly in Banjar Buagan, Pemecutan Kelod. Based in the conclusion that has been suggested, it can be advised to do guided imagery as one exercise to improve the quality of sleep in the elderly. For the family, it is expected to accompany the elderly on doing the guided imagery to improve the quality of sleep in the elderly. For the Community Health Centre, it is expected to give information about guided imagery to elderly who visit to health center. For educational institutions, it is expected to hold seminars related to guided imagery. For the next researcher, it is expected to do stricter control on confounding variables that may influence the follow-up results of the study.

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NURSES' PERCEPTIONS ON ETHIC OF CARE IMPLEMENTATION AT UDAYANA UNIVERSITY HOSPITAL

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ABSTRACT

The behavior of nurses in providing nursing care based on the principles of nursing ethics is influenced by nurses' perceptions on ethic of care and ethics of care implementation has not been implemented optimally. Element of care that is considered a fundamental need in demonstrating caring consists of competence, attentiveness, responsibility, and responsiveness of the care receiver. This study aims to describe the nurse's perception of the application of ethical principles of nursing. Descriptive, analitic, cross-sectional design was applied involved 30 nurses from hospital wards, emergency unit, and outpatient unit selected with total sampling. Data collecting used questionnaires, with univariate analyzes. The data analysis of nurses' perceptions on ethic of care implementation showed average score 145,13 (SD 10,53). The highest mean score was subvariable competence (47,15; SD 4,51). Competence is one of the indicators in care ethic that is important to apply because the nurse will show a sense of love and high responsibility in caring for the patient so as to increase the confidence of the patient to the nurse.

Keywords: Ethic of care, Nurses, Perceptions

INTRODUCTION

Ethics of care is based on an idea that caring is a foundation for human life and it also demonstrates humanism and equality principles for others. Gastman (2013) argue that persons who are in need of nursing care are vulnerable human beings. This vulnerability shapes the nursing care process from the beginning and transforms it into an ethical process. In nursing care, it becomes clear that ethics arises from the appeal to be susceptible to the vulnerability of the person who is in need of care.

Essentially, nursing care aims to lessen the vulnerability of a fellow human being or to deal with it in an appropriate way. As vulnerability is an essential component of nursing care processes, these care processes should always meet an ethical standard (Gastman, 2013). The Canadian Nurses Association in 2004 explains nursing ethics as a standard and guidelines for nurses in implementing nursing care to to improve patient welfare.

Some study show that ethics of care implementation has not been implemented optimally. Mohajjel-Aghdam, Hassankhani, Zamanzadeh, Khameneh, & Moghaddam (2013) from a patient perspective showed only 41,8% from 500 patients stated nurses behaving ethically. Adam & Miller (2001) found only half of the nurses used the code of ethics as a foundation in their daily practice. Hariharan, Jonnalagadda, Walrond, & Moseley (2006) in his study found more than 35% of nurses who experienced a weekly ethical dilemma that was half caused by the lack of awareness of nurses in applying nursing ethics.

Tronto (1993) explained four elements of the ethics of care, namely attentiveness, responsibility, competence, and responsiveness. Attentive can mean giving attention or being alert (Arvidson, 2006). Attentiveness also means respect (Bommarito, 2013). A caring person may give more outpouring of affection to please others or make others feel good (Klaver & Baart, 2011).

The second dimension of ethical care is the responsibility of providing care. Moral responsibility in nursing practice in a way to be human, to help others, and good effort from within or through the process of dialogue with others (Inga-Britt Lindh, Severinsson & Berg, 2007). Fakl-Rafael (2005) states nursing has a responsibility to care for humanity and the environment. Responsibility as a caring approach is a matter of cultural practice comparing rules or promises (Tronto, 1993). The component of responsibility that is used as an ethical

obligation and is one of the important things that builds nursing (Snellman & Gedda, 2012).

The third component of ethical care is the ability to provide care to the patient. Tronto (1993) describes the ability to obtain quality. Zarifian (1999) states his ability for the various knowledge and actions required to realize the task.

The last component of ethical care is responsive. Responsiveness occurs when the nurse becomes concerned to perceive the giving treatment. Dimensions of responsiveness to treatment ethics in the care done and the fulfillment of patient needs (Tronto, 1998). Responsive nurses should be vigilant about the possibility of doing countermeasures and actions that endanger the patient (Tronto, 1993). Gastmans (2006) describes responsiveness as a reciprocal practice that occurs within the context of the work of the relationship between the nurse as the service provider and the patient as the recipient of the service.

Nurses perceptions on ethic of care implementation at Udayana University Hospital have not been identified yet; thus, this study aims to identify the nurses' perceptions on ethic of care implementation at Udayana University Hospital.

METHODS

This is a descriptive analitic study. The study involved 30 nurses from hospital wards, emergency unit, and outpatient unit selected with total sampling. Data collected from the fourth week of April 2017 to the first week of May 2017. The study evaluated nurses' perceptions on ethics of care implementation developed based on a Tronto concept theory of ethics of care using questionnaires. The validity and reliability test of the questionnaire involved 30 nurses, and it resulted the Cronbach's alpha 0,957 and r table 0,361 . This study was ethically appraised by the ethical research committee of the Faculty of Medicine Udayana University and Sanglah Hospital. The univariate analysis aimed to evaluate the distribution and mean of each variable.

RESULT

Table 1. The distribution of nurses based on gender and level of education (n=30)

Variable	f	%
Gender		
- Male	12	40
- Female	18	60
Level of Education		
- Nursing diplome	2	6,7
- Ners	28	93,3

Table 2. The distribution of participants based on age and length of working experience (n=30)

Variable	Median	Min-Maks
Age	26	24-28
Length of working experience	24	8-36

Table 3. Mean score of nurses' perceptions on ethic of care implementation (n=30)

Variable	Total	Mean#
Nurses' perceptions on ethic of care implementation	42-168	145,13 (10,53)
- Attentiveness	10-40	33,00 (22-40)
- Responsibility	10-40	33,50 (24-40)
- Competence	14-56	47,15 (4,15)
- Responsiveness	8-32	26,21 (2,21)

#normal distributed: mean (SD), not normal: median (min-maks)

DISCUSSION

The data analysis of nurses' perceptions on ethic of care implementation showed average score 145,13 (SD 10,53). Care ethics is based on the idea that human life has special values (Gastmans & Vanlaere, 2005). Tschudin (2013) also expressed ethics in nursing over the last two decades more emphasis on duty, dignity, and caring. Memarian, Salsali, Vanaki, Ahmadi, and Hajizadeh (2007) emphasizes that ethical and moral behavior are significant personal characteristics that influence the responsibility, knowledge, and skills of nurses to improve clinical competence.

The highest mean score was subvariable competence (47,15; SD 4,51). Competence is a skill to develop knowledge and enhance professional practice in various ways. Competence can can be described as the ability to act effectively in certain situations supported by knowledge and based on experience and training (Faustino & Egry, 2002).

Competence is not just a skill in doing a certain procedure more than that. Tronto (1993 in Yanti, 2015) states that the application of ethical principles based on indicators of competence can be seen from how nurses give love, honesty, show calm, and high responsibility to their patients. The results of Rhodes, Morris, & Lazenby (2011) show that nurses require skill-related competence as a condition for building trust with patients.

Ability in practicing nursing practice is viewed from several perspectives. Zhang, Luk, Arther, & Wong (2001) describe basic skills in nursing consisting of: 1) clinical ability, covering assessment skills and providing interventions, clinical considerations, and engineering skills; 2) general ability, consisting of communication, critical thinking, and problem-solving skills; 3) moral ability which is an individual's ability to live in a consistent way based on personal moral code and role responsibility. ICN and the World Health Organization (WHO) formulated the core components of the general competencies that must be possessed as professional nurses including: communicating credible things in an effective way, knowing and managing themselves, showing results, moving forward for environmental change, developing integration and teamwork, respecting and taking into account individual and cultural differences, modeling, building and developing cooperation outside the organization, creating empowerment and a motivating environment, ensuring effective use of resources, and enhancing organizational innovation and learning (ICN, 2003; WHO, 2009).

Improved moral learning supports the development of the nurse's moral capacities. The development of moral ability is important for nurses because nursing practice depends not only on knowledge and technical skills but also on values, beliefs, and ethics that play a significant role in shaping nurse decision-making (Jormsri, Kunaviktikul, Ketefian, & Chaowalit, 2005). Wright (1987) stated that ethical ability is a part of caring quality from the main health worker of nurse. Jormsri, Kunaviktikul, Ketefian, & Chaowalit (2005) stated that moral abilities consist of eight attributes derived from personal values, social values, and professional values such as love, compassion, happiness, calmness, responsibility, discipline, honesty , respect for human dignity, values and rights.

CONCLUSION

Care ethic is the essence of nursing practice. Element of care that is considered a fundamental need in demonstrating caring consists of competence, attentiveness, responsibility, and responsiveness of the care receiver. Competence is one of the indicators in care ethic that is important to apply because the nurse will show a sense of love and high responsibility in caring for the

patient so as to increase the confidence of the patient to the nurse.

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THE EFFECT OF STATIC STRECTHING ON NURSES' FLEXIBILITY IN PRIMARY HEALTH CARE CENTER IN DENPASAR

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ABSTRACT

Sedentary lifestyle such as prolonged sitting can cause health problems. The minimum frequency of physical activities conducted by nurses can give bad impacts on the individuals. Thus, a simple strategy is needed to be chosen as an alternative of physical activities in the workplace. This study aimed at investigating the effect of static stretching on the nurses' flexibility in primary health care center in Denpasar. This study was a quasi-experimental research (One-Group Pretest-Posttest design). 30 samples were selected by using purposive sampling technique. The data were collected through the measurement of flexibility by using Goniometer and SRT box. There was no significant difference on flexibility level based on the subjects' characteristics, except on the gender category regarding to the flexibility of knee. The result of the study on the flexibility level, before the intervention, on neck, shoulder, elbow, knee, hamstring muscle and low back, respectively are 52,16^{o}; 156,5^{o}; 129,16^{o}; 123^{o} and 5,96 cm. The level of joint flexibility after the intervention, on neck, shoulder, elbow, knee, hamstring muscle and low back, respectively are 58,83^{o}; 163,33^{o}; 132,22^{o}; 127,50^{o} and 9,56 cm. Based on the result of Paired t-test and Wilcoxon Signed Rank Test, it was obtained that the p-value of the data was less than or equal to 0,0001 ($p \leq 0,0001$) which indicated that there was a significant effect of static stretching on the nurses' flexibility level in primary health care center in Denpasar. The result of the study indicates the need for conducting static stretching or other physical activities by nurses during their break time at work, so that their level of joint flexibility can be increased and physical injuries at work can be prevented.

Keywords: flexibility level, nurse of primary health care center, static stretching

INTRODUCTION

Occupational accident is the prominent issue among workers. Based on *International Labour Organization* (ILO) (2013), each year more than 250 million occupational accidents and more than 160 million workers suffer from disease due to hazardous factors arising in the workplace. The proactive management of safety and health in the workplace enhance the workers to work efficiently and effectively. Eng, Moy, & Bulgiba (2016) pointed out that regular activities in the workplace can affect someone's health. Unhealthy workplace habits like sedentary can lead to health problems (Inyang & Stella, 2015). In order to overcome a sedentary lifestyle, WHO developed effective workplace health promotion to improve the health and wellbeing of people at work (WHO, 2014). According to Kettunen, Vuorimaa & Vasankari (2014), a physical activity is a key factor contributing to the improvement of workers' health and work ability in the workplace.

Nevertheless, Rongen, Robroek, Ginkel, Lindeboom, Altink & Burdorf (2014) showed that it was not easy to implement the workplace health promotion in the workplace. It was due to the passive participation of the workers. It is similarly with the population of nurses group. According to Ellapen and Narsigan (2014), not all nurses obeyed the workplace health promotion program. It was because the nurses felt that there was not enough time to do physical activity in the workplace (Prentice, 2004). Generally, nurses work every day for about 8-12 hours, so that it does not provide enough time for them to do physical activity (Cameron, Armstrong-Stassen, Kane & Moro, 2008), including the nurses who work in primary health care centre. The study conducted by Damayanti (2013) showed that the level of physical activity of nurses in primary health care centre in Denpasar was in the lowest score comparing to healthy behavior and other aspects. Someone's physical activity can affect his or her flexibility. The declination in flexibility is a major risk leading to the musculoskeletal disorder (Kumar et al., 2014). The minimum frequency of physical activities conducted by nurses can lead to bad impacts on the individuals. It should be solved; otherwise it will lead to bad effects on nurses' health. The declination of nurses' health can influence their productivity to work in primary health care centre. Based on this problem, a simple strategy is needed to be chosen as an alternative of physical

activities in the workplace. This study has not been widely exposed because it focused on the effect of static stretching on the nurses' flexibility in primary health care centre. The static stretching program does not require any special equipment. It can be done in standing position and it does not need to change the uniform to do it in the workplace. Static stretching focuses on parts of body that have a greater risk for injury as the first step of prevention. The strategy of health promotion like static stretching on nurses can be implemented in work time. Regarding with this statement, the researcher aimed at investigating the effect of static stretching on the nurses' flexibility in primary health care center in Denpasar.

METHOD

This study was a quasi-experimental research (One-Group Pretest-Posttest design). The population of this study was all nurses in primary health care center in Denpasar and the 30 samples were selected through purposive sampling. The data were collected through the measurement of flexibility by using Goniometer and SRT box, in which the reliability of the data has been tested. The result of Intra Correlation Coefficient (ICC) test showed that neck (0.931), shoulders (0.986), elbow (0.8333), knees (0.885), and hamstring muscle and low back (0.941). Therefore, it shows that the test can be trusted, because the data are reliable.

The measurement on the flexibility level before intervention was done on neck, shoulder, elbow, knee, hamstring muscle and low back. The static stretching program was conducted every two weeks in six meetings before or after working. The duration was 10 minutes. Static stretching exercise was done by elongating the position of body on some parts like neck flexion, neck extension, quadriceps stretch, gastrocnemius stretch, arms and shoulder stretch, standing side stretch, overhead arm pull, and hamstring stretch for about 15 seconds and 5 times repetition for each movement. After 6 meetings accomplished, there was the measurement on the level of flexibility. The stretching posters were given to the subjects in order to make them easier to copy the movement.

Univariate analysis was used to analyze the demographic data, the flexibility of the data on pretest and posttest. Bivariate analysis was used to analyze the effect of static stretching on the level of flexibility. The Sharpiro Wilk normality test was used before statistical test. The difference obtained score on pre-post test were tested

by using Paired T-Test for the data with normal distribution (p>0.05) that was the level of flexibility on hamstring muscle and low back.

Wilcoxon Sign Rank Test was used to the obtained data which was non-normal distribution (p<0.05) for the level of flexibility on neck, shoulders, elbows, and knees. The level of reability was 95%, α=0.05. If p value ≤ α or 0.05, so Ha accepted.

FINDINGS

The majority of the subjects in this study were 26 females (86.7%). Moreover, the age of subjects was above 36 years old, in which the numbers of subjects in the age of 46-55 years old were 11 people (36.7%). Most of the subjects had been working for 6-24 years. 16 people (53.3 %) and 11 people (36.7%) used to do exercise once a week.

Table 1. The Result on the Level of Flexibility Before and After Intervention on Neck, Shoulders, Elbows, Knees, Hamstring Muscle, and Low Back

Variable	Mean±SD	The mean difference±SD	p value
Neck *Pretest* *Posttest*	52,16 ± 6,78 58,83 ± 6,52	6,66 ± 0,26	0,000
Shoulder *Pretest* *Posttest*	156.50 ± 6.58 163.33± 5.920	6,83 ± 0,65	0,000
Elbow *Pretest* *Posttest*	129,16 ± 5,73 132,33 ± 4,30	3,16 ± 1,43	0,001
Kness *Pretest* *Posttest*	123,00 ± 6,64 127, 50 ± 4,68	4,5 ±1,95	0,001
hamstring muscle and low back *Pretest* *Posttest*	5,96 ± 8,56 9.56 ± 8,06	3,60 ± 3,38	0,000

Table 1. shows that the average of joint neck flexibility before static stretching intervention was 52.16°. Meanwhile the shoulders' flexibility was 156.50°. The level of joint flexibility on elbow and knees were129,16° and 123°. The range that can be reached by the subjects was 5.96 cm from point 0 cm. Meanwhile, after intervention, it was found that the average of the level of flexibility on neck was 58.83°. Based on the measurement of shoulder' flexibility, it was found that most of subjects can reach the flexibility about 160°, the flexibility of elbow was 132.23°. The average level of knees' flexibility was 127.50°. About 18 people (60%) can do flexion up to 130°. The joint of waist including hamstring muscle and low back shows can extend about 9.56 cm. Based on the result of the test, it was found the difference between pretest and posttest by seeing the p value ≤0.00, which shows there was a significant effect of static

stretching on the level of flexibility on neck, shoulders, elbows, knees, hamstring muscle, and low back on nurse in primary health care center in Denpasar.

DISCUSSION

Based on the result of the test, it was found that the average level of flexibility of subjects' neck was 52.16^{o}. Washington State Department of Social & Health Science (2014) reveals that the average range of someone's neck when do flexion is about 50^{o}. The result of the measurement on the flexibility of joint neck was 58.83^{o} and it increased into 6.66^{o} before the measurement on the intervention. There was a significant effect of static stretching on joint neck (*p value*=0.000), in which it improved into 6.66^{o} compare to the measurement of the subject before static stretching program conducted. This result was quite similar to the study conducted by Chunha, Burke, Franca dan Marques (2008) who investigated the static stretching on neck about six weeks in 30 minutes duration. It was found that there was an improvement after posttest. The result of pretest when the flexion was 51.0^{o} and it increased into 60.5^{o} on the posttest (*p value* =0.000).

The level of flexibility on the joint shoulder before intervention was in the average 156.50^{o}. This value has passed the standard of flexion capability on the joint of the neck that was 150^{o} (Washington State Department of Social & Health Science, 2014). The measurement of the level of flexibility on shoulder after static stretching program was 163.33^{o} when doing flexion. There was a significant difference on the flexibility of shoulders (*p value* = 0.000). There was an extension on the angle of the shoulders after the static stretching was conducted. It was 6.83^{o}. This result was supported by the study conducted by Celik (2016) who investigated the acute effects of static stretching on shoulder flexibility, strength, and spike speed in volleyball players. Celik (2016) found that there was a significant difference on the flexibility of the shoulders after static stretching conducted in two days (*p value* = 0.001).

On the contrary, the measurement of the level of flexibility on elbows and knees were different in this study. The result of the measurement on elbows and knees were not appropriate with the standard of flexibility that commonly can be reached by people. Based on the Washington State Department of Social & Health Science (2014), the average angle that elbows and knees can be

formed is about 150°. However, in this study, it was found that the average level of the flexibility of the elbows was only 129.16°. It was quite the same as the level of flexibility on knees. The average was 123°. After the static stretching program conducted, it was found that the average of the elbows was 132°. The value of this measurement can be categorized as not good because it cannot reach the performance standard that is 150° (Washington State Department of Social & Health Science, 2014). This result was the same as the measurement before the intervention, which was not good. The level of flexibility on knees was 127° after the static stretching program. This result is not good because it is lower than 150°, which is the standard of the flexion degree on someone's knees (Washington State Department of Social & Health Science, 2014). The thickness of the muscle around the joint can affect someone's flexibility. Besides the structure of the muscle, the fat also affects on the tension of someone's movement. The percentage of the fat shows the positive relation among the joints. The positive relation between fat and several joints are caused by the physical obstruction of the fat tissue in the bone that built up the joint (Moromizato, Kimura, Fukase, Yamaguchi & Ishida, 2016). The minimal use of energy when static stretching conducted cannot reduce the fat proportion around the fat network. Thus, the tissue around the joint like muscle and fat tend to be the same. They also affect on the tension of the movement that were done by the nurses in primary health care. There was a significant difference in the level of flexibility on the knees (*p value* = 0.001) and there was an improvement until 4.5°.

The result of the measurement on the waist's flexibility including hamstring muscle (muscle on the low thighs) and the low back can reach the scale of the SRT box about 5.96 cm from the point 0 cm that has been set before. According to Australian College of Sport and Fitness (2013), females are reachable to attain the average category in the SRT box on the range of +1 cm to +10 cm from the point 0. Meanwhile, males can attain the average about 0 cm to +5 cm, which is categorized as the average standard. When conducting the measurement on the flexibility of the subjects, most of the subjects wore the uniform fit with their body to tights with their body either their top or their pants. During the measurement, the subjects were difficult to do flexion especially on the measurement of the waist' flexibility when

the body folded to reach the SRT box. It was because the tops and pants that were worn by the subjects make them not be able to straight their hands to reach the box. The tight pants that were worn by the subjects, which were smaller than the standard anthropometry, can impede the movement of waist and body during the work. (Anders, Scholle, Wagner, Puta, Grassme, & Petrovitch, 2005). Eungpinihpong, et al. (2013) figured out that the average range of the waist when wearing the tight pants during the flexion was 87^{o}, which was significantly smaller than the result of the subjects who wore the normal sized of pants that can reach the flexion about 103^{o} ($p=0.0002$). The level of flexibility on the waist was found the average 9.56 cm from the point 0 cm that has been set before. This result is categorized as good for males while for females were still in average category. There was a significance difference on the level of flexibility on waist including hamstring muscle and low back *(p value* = 0.000). The study conducted by Puentedura, Huijbregts dan Celeste (2011) showed the difference result, in which there was no significance difference on the level of muscle hamstring's flexibility (back thighs muscle) before and after intervention of static stretching. The distinction with the previous study is because several factors, namely, characteristics of the subjects, the duration, and the kinds of movements that the subjects done.

CONCLUSIONS AND SUGGESTIONS

The level of nurses' flexibility in primary health care before static stretching intervention on neck was 52.16^{o}; neck was 156.50^{o}; elbow was 129.16^{o}; knee was 123.00^{o}; hamstring muscle and low back were 5.96 cm. The level of nurses' flexibility in primary health care after intervention was improved. The level of flexibility on joint neck was 58.83^{o}, shoulders were 163.33^{o}, elbows 132.33^{o}; knee was 127.50^{o}, hamstring 9.56 cm. There was a significance difference on the level of nurses' flexibility before and after static stretching intervention. It was found $p \leq 0.001$, which means that there was a significant effect of static stretching on the level of flexibility on neck, shoulders, elbows, knees, hamstring muscle, and low back.

This finding suggests that in the future the other researchers need to arrange the schedule of the exercises with the nurses in primary health care. Thus, the interval of the stretching activities can be well-regulated. Moreover, the analysis of the IMT factors and the level of physical activity on the level

of the flexibility need to be conducted. It is also suggested that the nurses and other staffs in the primary health care can be implemented or integrated the static stretching program in the break time in order to prevent the musculoskeletal disorder on the workers in primary health care. Thus, it can improve the productivity of the workers, especially the nurses.

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HEALTH EDUCATION OF ERGONOMIC POSITION BASED ON *AUDIO VISUAL* IN IMPROVING KNOWLEDGE AND ATTITUDE OF STUDENTS MAJORING IN COMPUTER AT SMK PGRI 1 DENPASAR

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The use of computer that is too old and not ergonomic can cause health problems in musculoskeletal and vision. Implementation of an ergonomic attitude will cause pain in the neck, upper back, shoulders, arms, or hands. This study aims to determine health education of ergonomic position based on audio visual in improving knowledge and attitude of students majoring in computer. The design of this study using pre-experimental design is one group sample pretest-posttest. Respondents in this study are 33 students majoring in computer and selected by purposive sampling. Based on Wilcoxon test on knowledge and attitude after given health education based on Audio-visual obtained the value of p = 0,00 (p <0,05) it means that there is difference of knowledge and attitude before and after given the intervention of health education based on audio visual. Based on the result, it is recommended that students apply ergonomic position when using computer to prevent musculoskeletal disorders and impaired vision.

Keywords: audio visual, computer, ergonomic position, knowledge, attitude

INTRODUCTION

Nowadays, computer is familiar in community. Ease provided by the computer makes the community considering the computer as a basic requirement, especially in office; in addition, a lot of schools also use computer, especially vocational schools that have a multimedia major. This is because the existence of the computer gives a positive impact in the form of quality improvement, productivity and efficiency in work (Blehm, Vishnu, Khattak, Mitra, & Yee, 2005).

The increase in human interaction with computer is certainly very useful but also potentially improves health problems due to work. Occupational health problems that may arise are musculoskeletal disorders and impaired vision (Hendra and Oktaviani, 2007).

To prevent the occurrence of health problems is by health education and pay attention to the ergonomic position. Ergonomics is the study of the relationship between human beings with other elements in a system and work that apply theories, principles, data and methods to design an optimal system, viewed from the human side and its performance (Nurmianto, 2008).

Health education is any effort planned to influence other people, whether individuals, groups, or communities, thus they will do what the educator do. Health education has an important role to enhance knowledge, attitude and behavior (Mubarak and Chayatin, 2009). One of the most effective media used in health education is *audio visual* media. According to (Rohani in Haeratunisa 2011) *audio visual* is a visual tool that can be heard and seen thus the health education provided will be more easily understood.

This is also supported by Indriani's study (2015) on students class V at SD Negeri Sabrang 03 Jember. This study was conducted to determine the influence of *audio visual* media to the student learning outcomes in PKN learning, this activity was done for 10 days, three meetings with control group and 3 meetings with experimental group. The results show that there is a difference in the increase of learning outcomes and a significant positive influence between the control class and the experimental class given different treatment using *audio visual* media and without *audio visual* media.

Based on the result of interview with head master of SMK PGRI 1 Denpasar, said that there has never been

any research on the ergonomic position when using computer in the school. In addition, from the result of interview with 10 students majoring in computer at SMK PGRI 1 Denpasar, 6 of them do not know the ergonomic position when using computer.

RESEARCH METHOD

This is quantitative study using *pre-experimental* design. The design of this study is *one group sample pretest-posttest.* The data was taken from 08-15 of June 2017 at SMK PGRI 1 Denpasar. Respondents were selected using *non-probability sampling* technique that is

Data Characteristics		Frequency	Percentage (%)
Gender	Male	25	80,6
	Female	6	19,4
Age	15	2	6,5
	16	19	61,3
	17	10	32,3
Total			100

using *purposive sampling* technique. The respondents consist of 33 people who fulfill the inclusion and exclusion criteria and were willing to sign the *informed consent*. Inclusion criteria in this study are cooperative students and students who are willing to sign *informed consent* meanwhile, exclusion criteria are students who do not attend school and *drop out* criteria are students who do not follow health education more than two meetings.

Respondents were gathered on the first day for an explanation of the study and signed *informed consent*, after that, a questionnaire was given about students' knowledge and attitude about ergonomic position when using computer. Then was given an *audio-visual* based of health education for 15 minutes 3 times of meeting for one week. At the last meeting conducted *post-test* by filling out knowledge and attitude questionnaire about ergonomic position when using the computer.

RESULTS

Characteristics of respondents based on age and gender on students class X at SMK PGRI 1 Denpasar based on the result of data collection is presented in Table 5.1.

Table 5.1 Characteristics of respondents based on age and gender

Based on table 5.1 from 31 students of class X majoring in computer at SMK PGRI 1 Denpasar, dominant students are male that is 25 people (80.6%). Based on

the age, some students are 16-year-old students that are 19 people (61.3%) and some are 15-year-old students (6.5%).

The result of the students' knowledge before and after the intervention was given to the students class X at SMK PGRI 1 Denpasar based on the results of data collection is presented in Table 5.2.

Table 5.2 The result of the students' knowledge before and after given intervention

Knowledge	Good	Sufficient	Less
	N(%)	N(%)	%
Pre-test	6(19,4%)	23(74,2%)	2(6,5%)
Post-tes	25(80,6%)	6(19,4%)	0(0%)

Based on Table 5.2, the knowledge of the students before health education of ergonomic position was given, most of them have sufficient knowledge, that is 23 people (74,2%) and some have less knowledge that is 2 people (6,5%). The students' knowledge after giving the intervention found that most of the respondents have good knowledge, that is 25 people (80,6%) and there is no students have less knowledge.

The result of students' attitude before and after given intervention on students class X at SMK PGRI 1 Denpasar based on result of data collection is presented in Table 5.3.

Tabel 5.3 Students' attitude before and after given intervention

Attitude	Good	Enough	Less
	N (%)	N(%)	N(%)
Pre-test	6(19,4%)	22(71,0 %)	3(9,7%)
Post-test	23(74,2%)	8(25,8%)	0(0%)

Based on Table 5.3 most of the students have enough attitude, that is 22 people (71,0%) and some have less attitude, that is 2 person (9.7%). The students' attitude after given health education of ergonomic position mostly have good attitude, that is 23 people (74.2%) and there is no students have less attitude.

The result effect of health education of ergonomic position based on *audio visual* to the knowledge and attitude of students class X at SMK PGRI 1 Denpasar based on the result of data collection is presented in Table 5.4.

Tabel 5.4 effect of health education of ergonomic position based on audio visual to the knowledge and attitude of students

majoring in Computer Program at SMK PGRI 1 Denpasar

Variable	N	*P*
Students' knowledge *pre*	31	0.000
Students' knowledge *post*	31	
Students' attitude *pre*	31	0.000
Students' attitude *post*	31	

Based on Table 5.4, the results of data analysis using *Wilcoxon* test on *pre-test* and *post-test* of knowledge and attitude of students class X majoring in Computer at SMK PGRI 1 Denpasar obtained significance value of 0,000 (p <0,05) means that there is effect of health education of ergonomic position based on *Audio-visual* on students' knowledge and attitude after the intervention was given.

DISCUSSION

Knowledge of students class X majoring in computer at SMK PGRI 1 Denpasar before given intervention, most of student have enough knowledge 74,2%. This shows that students class X still do not understand about ergonomic position when using computer. Good knowledge and less can be influenced by several factors, one of them is information (Notoadmodjo,2007). After the intervention, students' knowledge increased to 80.6% with good knowledge. This shows that there is an increase in knowledge after being given health education based on *audio-visual*. The results are also supported by previous study conducted by Astuti, Hapsari and Rachmawati (2015) in which there is an increase of knowledge after the intervention was given with *audio visual* media. Health education with *audio-visual* media can improve students' knowledge because it uses the senses of eyes, ears and displays motion, picture and sound thus information is channeled more (Rusman, 2012). The students' attitude before being given the intervention mostly has a considerable attitude of 71.0%. This shows that most of students class X has not applied a good attitude about ergonomic position when using computer. This is because attitude is influenced by such things such as: information/mass media, personal experience, environment, and social-economic factors (Notoadmodjo, 2007). The attitudes of students' class X majoring in computer at SMK PGRI 1 Denpasar on the ergonomic position after being given of health education ergonomic position based on Audio-visual found that most respondents have good attitude that is equal to 74.2%. This shows that there is an improvement in attitude after being given

intervention and most of the students class X have applied good attitude about ergonomic position when using computer. The results are also supported by previous study conducted by Astuti, Hapsari and Rachmawati (2015) in which there is an increase in attitude after being given intervention with *audio visual* media.

Similar study was also conducted by Herlina (2015) who compared lecture method with *audio visual* media about adolescent girls attitude to the breast self-examination (BSE) and it was found that *audio visual* media more effectively used in health education and got p-value = 0,000.

CONCLUSION AND SUGGESTION

Knowledge and attitude of students majoring in computer increased after the health education of ergonomic position based on *audio visual* was given.

It is expected that students can apply health information provided by education researcher to minimize health risks due to computer usage.

For the future researcher is expected to control the factors that influence the knowledge and attitude of at least 2 of 5 factors that influence the knowledge and attitude and use the control group to know for sure whether there is influence of *audio visual* media to the improvement of knowledge and attitude.

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"Outcomes-based Education (OBE) Classroom Practices: Preferences and Paybacks on Teaching Strategies among Engaged Millennial Nursing Ethics Class"

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ABSTRACT

Background: The advent of globalization in healthcare challenges all sectors of society towards a shift in paradigm. Education in nursing is one among the areas to deal with particularly on the premise that curriculum is designed to produce a competent and a world class nurse ready to care for the world. Nurse preparation towards the ASEAN demands for nurses requires the practice of nursing according to established nursing standards across borders. OBE as a framework in Philippine Nursing landscape is determined to succeed.

Aim: This paper unraveled the Outcomes-based Education Classroom Practices: Preferences and Paybacks on Teaching Strategies among Engaged Millennial Nursing Ethics Class.

Method: This paper employed an action research geared on a course level evaluation at the end of the semester based on the free-willed written experiences of the forty Millennial Nursing students taking up Nursing Ethics subject under Bachelor of Science in Nursing Program offered by a State University in Southern Philippines. Qualitative summative content analysis was undertaken to draw experiences of millennial nursing ethics students. Verbatim transcriptions of the students' written claims as experienced all through the course were reviewed, summarized, themed, and text data analyzed to explicate findings.

Results: Almost all participants were able to express their constructive experiences in writing at their own will. Preferences were highlighted on the various student-managed teaching-learning strategies as experienced by the participants ow ing to a more meaningful learning experience such as debates, case presentations and case analysis. Paybacks were claimed as more engaging in active learning experiences facilitating moral development, allowing students to manage their own learning, skills development on collaboration, solving problems, thinking critically, making decisions, and boosting self confidence in public speaking and communicating.

Conclusion: Outcomes-based education classroom practices as evaluated by the millennial nursing students conveyed the expected learning outcomes generally attained in a more engaged and student-managed approach.

Keywords: nursing, students, experiences

Introduction

A. Background, Problem Statement and Research Purpose

The advent of globalization in healthcare challenges all sectors of society towards a shift in paradigm. Education in nursing is one among the areas to deal with particularly on the premise that curriculum is designed to produce a competent and a world class nurse ready to care for the world. Nurse preparation towards the ASEAN demands for nurses requires the practice of nursing according to established nursing standards across borders.

Outcomes-based Education (OBE) as a framework in Philippine Nursing landscape is determined to succeed with the premise that the Philippine Higher Education Institutions are positioning into a more competitive advantage in offering programs according to the mandate of the Commission on Higher Education Department (CHED). CHED Memorandum Order (CMO) No. 46, series 2012, entitled "Policy-Standard to Enhance Quality Assurance (QA) in Philippine Higher Education through an Outcomes-Based and Typology-Based QA" discussed the role of the state in providing quality education to its citizens. Moreover, it also discussed how quality in higher education has been defined in different ways, often as "excellence" or "fitness for purpose", but also as "transformation" of stakeholders, especially for mature institutions (CHED, 2014).

Cited in the foreword of the 2012 National Nursing Core Competency Standards (NNCCS), Professional Regulation Commission (PRC) Chair T.R. Manzala stated, "Out of this lengthy process emerged the Revised Nursing Core Competency Standards, emphasizing the three roles of the nurse: Beginning Nurses' Role on Client Care, Beginning Nurses' Role on Management and Leadership and Beginning Nurses' Role in Research as well as four types of clients of the nurse. With the promulgation of the 2012 NNCCS, the succeeding stage is its implementation and evaluation in both nursing education and nursing service in all setting, (ILO 2014). In this vein, a collective means of working towards the whole process in cascading and institutionalizing the standards that will determine the success of the (NNCCS) revisions.

The collaborative efforts of CHED and Professional Regulation Commission Board of Nursing (PRC-BON) steered the aspiration of breaking borders in education and professionals in the ASEAN and global context. Lifelong learning is inevitable and the 21st Century demands the millennial generation towards surviving the challenge in the real world of work. Preparing professionals like nurses of the Philippines is to align standards locally, regionally and globally.

In the light of the shift to OBE and the compliance of Higher Education Institutions (HEI) on the legal basis in redirecting approaches to education, the shift is geared to make the curriculum more relevant and significant to nation building. In effect, produce good citizens of the country. Thus, the study delved into the experiences of millennial nursing students unraveling the outcomes-based education classroom practices, preferences and paybacks on teaching strategies among a more engaged millennial Nursing Ethics class.

Methods

This paper employed an action research, a practice-oriented research to improve classroom practice by collecting data about daily activities, problems and outcomes experienced by the students for

the purpose of improving the teacher and the learners. Data collection was geared on a course level evaluation at the end of the semester based on the free-willed written experiences of the forty millennial nursing students taking up Nursing Ethics subject under the Bachelor of Science in Nursing Program offered by a State University in Southern Philippines First semester 2016.

The methodology is premised on Moch et al. (2016) having articulated that, "The use of action research methodology to improve or enrich student learning in nursing education ranged from the individual instructor to the class as a whole and from lecture content to facilitating professional development," with which the outcome is directed on the preferences and paybacks in the practice of OBE in the class.

Moch et al. (2016), moreover, conveyed that research within the classroom involved student feedback that shifted the focus of lectures from the instructor to the students; improved the structure and effectiveness of cooperative learning activities; refocused course content from family health policy to clinical ethics; incorporated artistic aspects of the humanities into two graduate-level nursing classes; and helped deepen nursing students' understanding of the challenges of living in poverty. As the need to conduct researches like action research that has been proven and established relevant to nursing, the use of the method is considered.

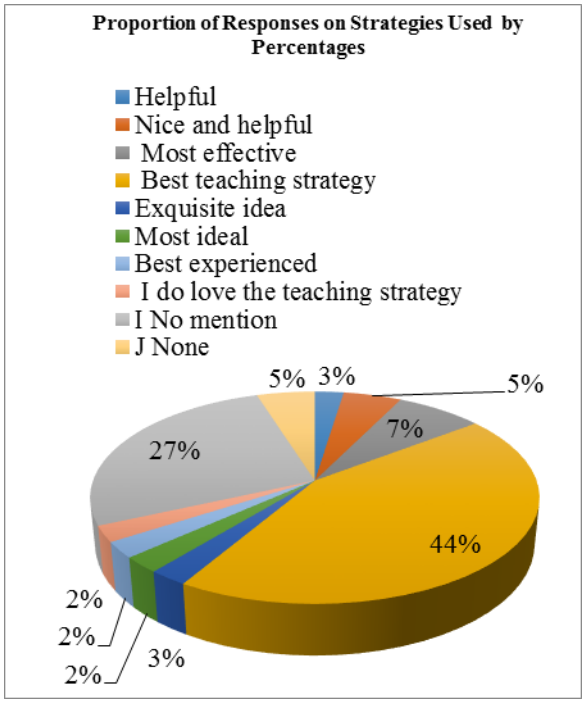
Qualitative summative content analysis was undertaken to draw experiences of millennial nursing ethics students in a form of a summative feedback. Verbatim transcriptions of the students' written claims as experienced all through the course were encoded by (2) encoders and research assistants, each takes turn at a time in validating correct entries by reviewing the encoded transcriptions against the original transcription from the written feedback of students in paper twice using Excel program and further subjected to the final review by the researcher. Verbatim transcriptions after three times validation for correctness of entries were summarized, themed, coded and text data analyzed to explicate findings.

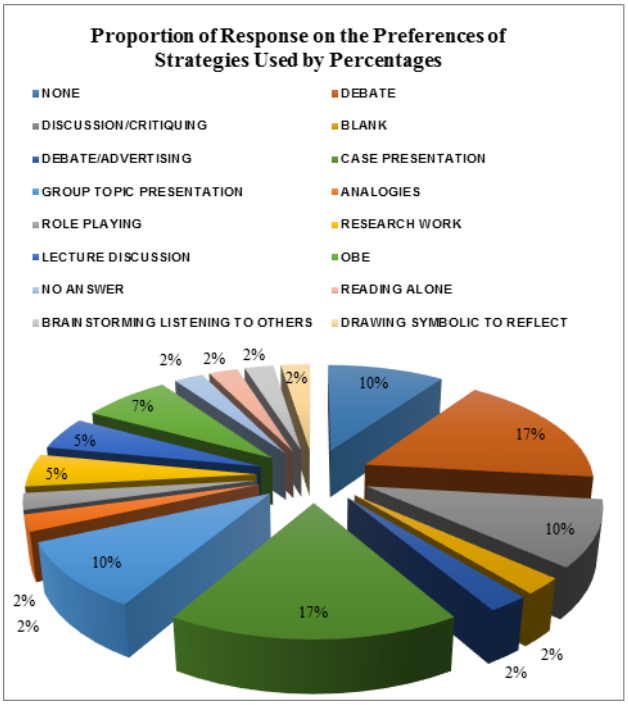
Results

Almost all participants were able to express their constructive experiences in writing at their own will. There were (2) major themes that emerged as the verbatim transcription of the students' feedback anchored on the main query "describe your experiences in the nursing ethics class taken during the whole semester," as reviewed, analyzed, summarized**,** themed, coded, text data analyzed and explicated findings.

Theme 1: Preferences

Preferences were highlighted on the various student-managed teaching-learning strategies conveyed positively as experienced by the participants owing to a more meaningful learning experiences during the whole semester such as debates, case presentations and case analysis.





The strategies used in the whole range of classroom contact with the teacher and learners in a semester were almost all expressed positively in the claims of the millennial nursing students in ethics class as best experienced, most effective, nice and helpful, exquisite idea, helpful, most ideal and "I love the teaching strategy," considering that analysis of narratives were noted to have a few participants did not mention any teaching strategy and some of the participants did not answer in any way that can be categorized on the preferred strategy. A bigger portion of the pie graph revealed "Best teaching strategy" (44%), No mention of preferences (27%), "Most effective" (7%), Equal scores were shown in "Nice and helpful" (5%) and None,(5%), Tied scores in "Helpful" (3%) and Exquisite idea (3%), and equal scores in "I do love the teaching strategy" (2%), "Best Experienced" (2%) and "Most Ideal" (2%) respectively.

Preferences of the participants can be gleaned from the pie graph on the strategies mentioned in the narratives. With tied score on case presentation and debate (17%), and on group presentation and discussion/critiquing (10%), and none that means no mention of a preferred strategy respectively. A few identified the strategy used as OBE (7%), with tied score on lecture discussion and research work (5%) respectively. Preferences on strategies used with equal percentages include the use of analogies (2%), roleplaying (2%), no answer (2%), brainstorming and listening to others (2%), reading alone (2%), drawing symbolic to reflect (2%) and debate/ advertising respectively.

The following narratives were highlighted to support the theme on Preferences on the strategies used as experienced by the participants.

Case presentation

Case presentation as conveyed by millennial nursing students taking up Nursing Ethics rank top most among the preferred teaching strategies used and experienced. A student participant articulated that the strategy aided students in class to work together as a group having been assigned to topics and gained more and detailed knowledge on the topics discussed by the instructor, "*Case presentation, since it will help us a group to work together and to have more detailed knowledge regarding the topic that will be discussed by our instructor"*(Participant 6).

Debate

The appreciation of millennial nursing students taking up Nursing Ethics conveyed debate, as top most preferred teaching strategy as experienced. A student participant expressed that, *"In our ethics class, the teaching strategies we have done is debating and saying critics after each of the report. This strategies have big impact to us because we are always doing brain storming during class and it help us more to understand the topic of the report because we are advised to critic one by one,"* (Participant 11).

Group presentation and discussion/critiquing

A student participant stated that Group presentation and discussion/critiquing were the most ideal strategies used in the subject taken. The students were challenged to critically think on how one ought to act in a given ethical issue, *"Among all the teaching strategies we used while studying Nursing Ethics the most ideal for me is the group reporting/presentation about certain topics that involves ethics. It was very useful and challenging because it exercise our critical thinking on how we should act in a certain situation"* (Participant 8).

OBE Strategy

As a strategy, outcome based education was recognized by millennial nursing ethics students being used and experienced along the course in a semester. OBE strategy allowed students to express their own views and not just the clinical instructor discussing in front, "*I like the experience teaching strategy is best for the subject like the OBE strategy the most because it lets the student express their own ideas not just the CI discussing in front"* (Participant 22).

Theme 2: Paybacks

Paybacks were claimed as more engaging in active learning experiences facilitating moral development, allowing students to manage their own learning, skills development on collaboration, solving problems, thinking critically, making decisions, and boosting self confidence in public speaking and communicating. The participant's claims were conveyed below to support the theme on Paybacks.

Decision-making

In the use of case analysis/presentation and critiquing by group, a student participant attributed the exercise as helpful having develop the skill in analyzing cases, sharing their own thoughts and in making decisions, *"The teaching strategy that was best experienced was when we are obliged and had an activity regarding depending the cases which helped us a lot. It taught us how to analyze cases, share our thoughts and make a decision morally"* (Participant 18).

Time Management

A student participant asserted that with OBE as a strategy employed in class for group work, students opted to study in advance especially on cases to defend in class, *"I think that the outcome-based education strategy really suits this subject as we are required to read and analyze various situations. We set to study ahead of time to defend our cases in the class"* (Participant 27).

Critical Thinking Skills and Self-confidence

Encompassed in the various skills interplaying with the use of various student-centered and teacher facilitated learning activities, a student participant linked the development of their critical thinking skills most especially when they were asked to determine covert ethical issues and further boosted their self-confidence, *"This helps us develop our critical thinking skills in determining covert ethical issues. And boosts/helps with our self-confidence*" (Participant 28).

Collaboration, listening skills and Reflection

A student participant emphasized that in the use of case presentation strategy, students are given the opportunity to enhance their skills in collaboration with others and allows them to make time in listening and reflecting on the presentation of the other groups and their own stand of the cases presented, "*Case presentation strategy benefit us students to collaborate with the other students and make time to listen and reflect to what the other group is presenting and their side regarding the topic"*(Participant 37).

Hard Work

The value of hard work in the claims of a student participant supports the impression that case analysis, group presentations and critiquing prods students to search and be able to prepare for great presentations, *"For me the best teaching strategy that I have experience so far is that when we present a case like the in vitro, abortion etc. It makes us search and work hard to have a great presentation"* (Participant 41).

Motivation and Cooperation

In a given scenario where in student-centered and teacher-facilitated strategy in class, espoused by a student participant is on the premise that brainstorming, sharing of ideas, provided them opportunity to listen to others, being motivated to cooperate in a particular issue tackled in class, *"The best or most effective teaching strategy was the brainstorming or the part where the students were able to share their ideas. It gave us an opportunity to listen to others and was exciting due to it motivated me to cooperate with the particular issue"* (Participant 34).

Understanding the Topic

Nursing Ethics as a concept that deals with the application of principles, standards and theories even the school of thoughts is regarded as abstract and could hardly be grasped. The challenge of concretizing these concepts to real life situations is at hand. A student participant communicated that with the use of the strategies in class is a big impact that students were able to understand more of the topics, *"In our ethics class, the teaching strategies we*

have done is debating and saying critics after each of the report. This strategies have big impact to us because we are always doing brain storming during class and it help us more to understand the topic of the report because we are advised to critic one by one" (Participant 11).

Discussion

The aim of this action research in classroom setting of a core subject matter in nursing education is to identify good practices and prevailing problems particularly in instruction component as the dynamics of a teacher-learner engagement every meeting for the whole semester is evaluated at the end of the semester. The participants of the study conveyed their experiences in Nursing Ethics class mostly on positive assertion as written and negligible negative contention were eminent.

As experienced by the participants top three strategies (case presentation, debate, group presentation and discussion/critiquing, and OBE were clustered as the most preferred with association of paybacks or benefits in the context of OBE classroom practices. Majority of the claims of participants highlights generally on the preferences on the teaching strategies experienced and paybacks. Paybacks were mostly expressed positively although a few were in contrary.

The analysis discloses that the interplay of teaching strategies employed in a manner classes are conditioned to be a student-centered learning environment is substantial.

There were a variety of teaching strategies employed all through out the semester in the nursing ethics class with the millennial nursing students. As experienced, these strategies were recognized as helpful in aid of the students' understanding of the subject matter and the processes of student-teacher interaction until the end of a semester. Among the many strategies, top three were mentioned according to rank namely: Case presentation, debate, group discussion/critiquing and OBE strategy.

Bonney, Kevin (2015) claimed that the case study teaching method is a highly adaptable style of teaching that involves problem-based learning and promotes the development of analytical skill. Furthermore, cited study on the use of case studies having shown to improve students' ability to synthesize complex analytical questions about the real-world issues associated with a scientific topic. In the case of the nursing ethics class, the use of a case study is affirmed to improve students higher order thinking skills brought about by the various skills being developed along the process of learning.

The core of learning is assumed to be the students and that the role of a teacher is a facilitator. Engaging the students in the delivery of classes assures life-long learning mechanisms whereby students take responsibility and accountability of their own learning. As, Dutra, Danette K (2013) concluded that all four participants emphasized their beliefs that simply lecturing, was not compatible with a learner-centered environment. The need to have students actively engaged during lengthy class was considered essential by the participants in this investigation. Furthermore, according to the participants within this investigation, it was the transfer of responsibility for learning from teacher to learner that was evident when case studies were implemented. The transfer of responsibility is what encourages and

enhances life-long learning for nursing students, thus allowing them to function adequately in the complex healthcare setting upon graduation. The reasons cited for this successful transfer were that student nurses learn to analyze systematically complex situations in a safe environment (classroom) and are able integrate the knowledge into their future practice as nurses with greater ease, which relates to the concepts of metacognition and critical thinking.

Interestingly, as students are provided with simple cases and prepares for a debate, such strategy offers students to introspect and be guided with the principles emphasized in class to arrive at a decision. "Debate can teach students to consider multiple perspectives on complex topics and reach some form of judgment, as opposed to retreating to familiar media that reinforce pre-existing belief, (Davis, et.al. 2016).

Moreover, when students are doing case presentations and or debate a controversy, students are honing their self-confidence and ability to articulate their thoughts and be able to profess their stand on the case or topic at hand. In the works of Laura Trujillo-Jenks PhD and Lisa Rosen PhD, (2015), both authorities published that one tactic that helps students feel comfortable enough to speak about controversial topics is through debates that are structured and promote students' preparedness in defending or opposing a particular stance on a topic. Moreover, students believed debates helped them recognize the real-world relevance of the course material, which helped them understand that emotions and biases can cloud one's perspective about a certain situation, topic, or story.

Undoubtedly, with UNSW Sydney (2015) report on group presentations and group writing, the said report allow the students to learn from the experience and findings of other groups by having them share the results of group work with the rest of the class. The students can share through group oral presentations, poster presentations and group reports. Presentations and reports might be about the key issues and findings associated with the group task or research project, or the processes of group work-what worked, what didn't work, and how the group could improve next time-or they might involve a combination of two. Such classroom dynamics is discernible and that learning as a process provides avenue for the students as well as teacher to improve and anticipate for another meaningful day ahead in the class.

With the top three strategies mentioned, millennial nursing students relied much on their learning as more engaging while having developed higher order thinking skills along the process and the attitude of working as a team to achieve outcomes expected in nursing ethics. It is presupposed that learning does not operate from the teacher alone rather from both the teacher and the learner as both are involved in the learning process.

Novotney, Amy (2010) confirms in a feature article that engaging the millennial learner as new research suggests that offering a variety maybe the best way to engage today's undergraduates. In this study, various strategies were conveyed and such assertion as to the student's experience brings immense payback.

A factor to attribute in the learning process is the student's whole. This means

that as students come to class with their uniqueness and diversity, the teacher is able to blend with each of the student's needs thus, the teacher is faced with every day challenge to be relevant and student friendly to all at all times. Powel (2013) declares, "Our students aren't so different. Expert teachers know how to give students choice and voice, finding ways to design learning experiences that tap into what student value. This isn't always easy, especially if our preparation experiences didn't frame learning this way."

An OBE curriculum means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instruction and assessment to make sure this learning ultimately happens. The four basic principles are (Spady, 1994):

Clarity of focus

This means that everything teachers do must be clearly focused on what they want students to know, understand and be able to do. In other words, teachers should focus on helping students to develop the knowledge, skills and personalities that will enable them to achieve the intended outcomes that have been clearly articulated.

Designing down

It means that the curriculum design must start with a clear definition of the intended outcomes that students are to achieve by the end of the program. Once this has been done, all instructional decisions are then made to ensure achieve this desired end result.

High expectations

It means that teachers should establish high, challenging standards of performance in order to encourage students to engage deeply in what they are learning. Helping students to achieve high standards is linked very closely with the idea that successful learning promotes more successful learning.

Expanded opportunities

Teachers must strive to provide expanded opportunities for all students. This principle is based on the idea that not all learners can learn the same thing in the same way and in the same time. However, most students can achieve high standards if they are given appropriate opportunities.

With Spady (1994) four basic principles, OBE embodies the idea that the best way to learn is to first determine what needs to be achieved. In as much as the study is premised, the nursing ethics class with the millennial nursing students accorded the desired changes along the course as communicated in the evaluation of each student participant.

Although, from among the dominant positive declaration suffice to investigate further negligible yet pronounced individual student problems to address as conveyed:

Resource Material

A student participant declared preference on lecture rather than debate with the guidance of the instructor considering that there were no books and power point slides available to copy. Nevertheless, a realization was stated that students are more focused on the moral

issues debated in class, "For me, the best teaching strategy was by lecturing the subject rather have student debate on some ethical issues that may be guided by the instructors. It was hard without a book and with no slides to copy so I guess that was the best teaching strategy since it makes us student to be more concentrated about the moral issues debated" (Participant 21). The absence of textbooks in the library and the power point presentations for reference was denied from randomly picked students of nursing ethics thus constant follow-through and open communication is needed and immediate intervention will be carried out. A friendly reminder to use the materials available in the library and notes from the teacher is made available all the time.

Course Guide

A student participant articulated apology of not passing the major examination given and thus was pleading to consider thorough discussion first by the teacher then the tests, quizzes and group activities follow, "Out-come based education, topics should be discussed thoroughly by the teacher and then after she/he will give test, quizzes or group activities to the student, so that the students grade will not only rely on major exams" (Participant 25). Furthermore, a student participant expressed, "Best teaching strategy for this subject matter is to widen the discussion and also some activities and it is much better to discuss our topic from you Sir than us. Sorry Sir I did not pass your exam Sir" (Participant 4). It is pre-supposed that in the first day of class a course guide or syllabus and other materials serving as contract between the teacher and the students are made available with orientation and leveling-off. Perhaps, the concerned student missed this very important day. Expected efforts to update one's self as absentee could have failed. Moreover, at all times, both student and teacher must be ready according to the agreed plan as to the flow of the class all through-out the semester. Group activities are counted as performance tasks and must be rated more often than daily quizzes and summative examination is called for. There is a need to reinforce the information and that students must be alerted every now and then.

Learning Styles

A student stated that reading alone is more beneficial, "In my opinion, I can learn this subject better when I read to think harder and broaden my views or even perspectives on a subject matter" (Participant 40). One's uniqueness and diversity is reckoned with in the understanding of a student learning style. However, as OBE implementation is concerned, the need to individually address specific needs of students is into the development of a variety of skills like collaboration. Collaboration cannot be fulfilled alone. Pre-assessment and getting to know a student's need, can be done better early on.

Rubrics

Ambivalence of a student participant was shared in the narratives having loved the strategy on debate yet is feeling anxious when forced to ask or say a comment, "As for me, I love the part when everyone is throwing ideas or having a debate on a subject matter. But I don't like how it gets me anxious every time I was forced to ask or say something" (Participant 32). Debate is most challenging even when groups are prepared. How much more for those not prepared? The need to do a lot of preparation and anticipation is not done overnight. Anxiety as a stimulus can be healthy and creates a drive to do

something. Perhaps ample time is needed for the student to consolidate and organize thoughts and a supportive atmosphere of acceptance in terms of opinion shared and even the readiness to articulate this thoughts during debate. A clear, brief and concise guideline or rubrics for debate and other group activities is made available to all for the class to prepare ahead of time.

The payback among students on the subject matter as to development of decision-making skills, time management, critical-thinking skills, self-confidence, collaboration, listening skills and reflection, hard work, motivation and cooperation and more understanding of the topics were embodied in the valuation of student participants. The holistic phenomenon in a student as achieved in the course offering is noteworthy in preparing the millennial nursing students for the 21st century challenge in global healthcare.

Moderatum Generalization

Outcomes-based education classroom practices as evaluated by the millennial nursing students brought the expected learning outcomes generally attained in a more engaged and student-managed approach however OBE as an approach is a work in progress.

Limitations

The small sample size may not be conclusive and may only be applicable to the group mentioned and those groups having similar attributes as to the millennial nursing students taking nursing ethics in the ASEAN region. The findings may tend to overstate or devalue the claims of the student participants and its implications however a broader range of settings and participants shall be determined.

Implications

Higher Education Institutions (HEI's) shall keep abreast with the latest trends in the conduct of curricular implementation amidst a vast challenge on 21st century driven curricula. A responsive and relevant lifelong learning opportunity translated into the uniqueness and diversity of students as well as teachers posits a promising world for the incoming largest millennial workforce irrespective of discipline.

Reflections

Creating a permissive learning environment among the millennial nursing students in Nursing Ethics Class allows responsible and accountable learning whereby the teacher serves as facilitator.

Starting the class right means defining clear learning outcomes expected for a student to have in mind as the end in view of the course by providing orientation, syllabus, learning materials to allow full engagement thus empowering millennial nursing students to be morally, ethically and legally adept in every nursing action carried out with lesser supervision in classroom and clinical practice sessions.

By understanding the way millennial nursing students learn and their preferred teaching strategies, they will be prepared for the 21st century challenges e.g. global health reforms, achieving sustainable community. The honing of competencies meantime do not depart from classroom settings yet, the challenge remains to becoming move creative in designing a borderless classroom as the outcomes

define the learner of the 21st century fully empowered and greatly engaged. Budget, policy and infrastructure can be hurdled if everyone is fitting in towards "Education for All," vision. All are takers of the challenges and no one is an exemption, even the teacher. Worse scenario is to depart from the conventional way of life and become eclectic. Diversity is ultimate in unity, molding millennial minds.

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SEXUAL BEHAVIOR EXPERIENCE OF ADOLESCENTS AND WILLINGNESS TO VOLUNTARY COUNSELING AND TESTING IN DENPASAR CITY

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ABSTRACT

Sexual behavior is uncontrolled and unsafe among adolescents will lead to sexually transmitted infections, one of which is HIV/AIDS. AIDS Commission in Bali has cumulative data is frequent adolescent age group (of childbearing age) who have been affected by HIV/AIDS. It is not explicitly proceed with preventive measures, one of which did VCT, particularly in adolescents in urban areas such as Denpasar City, the highest data of adolescents with HIV and AIDS in Bali. The purpose of this study to describe, explore and uncover sexual behavior in adolescents and willingness to VCT in Denpasar. Five participants aged 20-24 years on this study with the research method used is a qualitative phenomenological approach. Participants were found with purposive sampling up to the saturation level data. Results of the study found that most adolescents have sexual intercourse at the instigation of curiosity, wanting to try new things, and not being able to control the passions. Condom use behavior is not regularly used during intercourse. All the participants have not VCT yet by reason of fear and do not know where VCT clinic. Conclusion of this study shows that sexual behavior among adolescents is not in line with willingness to VCT in Denpasar City.

Keywords: sexual behavior, adolescent, HIV, AIDS, VCT

INTRODUCTION

Sexuality is one component of adolescent behavior and is still considered taboo to be discussed, while its phenomenon has been widely prevalent. Health issues related to teenage sexuality include unplanned early marriage due to unwanted pregnancy and sexually transmitted infections (STIs). According to Mosher, Chandra, and Jones (2005) estimates that more than half of adolescents have at least one sexual experience after completing high school with a friend of the opposite sex or similar friends (Hockenberry & David, 2009). Such behavior may pose a risk of sexual health problems in adolescents, if the adolescent engages in unsafe sexual behavior and/or does not perform a clean treatment process in the reproductive organs. One of the sexual health problems that arise from unsafe sex is the Human Immunodeficiency Virus/ Acquired Immuno Deficiency Syndrome (HIV/AIDS).

HIV/AIDS is one part of the STI that is a global health problem. According to the United Nations Program on HIV AIDS (UNAIDS) World Health Organization (WHO) in 2014 reported an increase in cases from 2010 of 34 million people by the end of 2013 there were an average of 35 million (33.2-37.2 million) people living with HIV worldwide. New cases of HIV in 2013 are estimated to reach 2.1 million cases (1.9-2.4 million). People who have received antiretroviral therapy (ARV) by June 2014 only reached 13.6 million people (UNAIDS, 2014).

Cumulatively, the number of AIDS cases from 1 April 1987 to 30 September 2014 reported by the Director General of Disease Control and Environmental Health (DG of Disease and Environmental Health), the Ministry of Health of the Republic of Indonesia as many as 150,296 cases of HIV, 55,799 AIDS cases and 9,796 death cases, the top five provinces with the highest number of AIDS cases are Papua 10,184 cases, East Java 8,976 cases, Jakarta 7,477 cases, Bali 4,261 cases, and West Java 4,191 cases (DG of Disease Control and Environmental Health MOH RI, 2014).

Cumulative data of KPA Bali Province until June 2014 presented the spread of HIV/AIDS cases based on age and gender of adolescents included in the following age group, i.e. age 5-14 years there were 8 men and 13 women had AIDS with 20 men and 12 women have HIV. Aged 15-19 years there were 31 men and 45 women with AIDS with 32 men and 82 women having HIV. Aged 20-29 years there were 997 men and 553 women had AIDS with 1,127 men and 969 women had HIV (KPA Bali, 2014). These data suggest that HIV/AIDS cases among adolescents are high and there is not much data on adolescents performing Voluntary Counseling Testing (VCT).

VCT is considered important for adolescents who are actively engaged in sexual intercourse and have sexual intercourse, because VCT can be a reference to the process of prevention and subsequent treatment. The results of the study of 1,038 adolescents with 13-17 year-olds on sexual intercourse showed that 16% of adolescents agreed with

sexual intercourse, 43% said they disagreed with sexual intercourse, and 41% said it was no matter to have sex (Planned Parenthood Federation of America Inc, 2004). Preliminary study with observation and gathering of some information from adolescent in January 2016 in Denpasar City, found that openness in telling experience of sexual behavior tend to adolescent boys than in adolescent girls. From the results of observation also found that adolescents do not really understand about the relationship of sex with VCT. The purpose of this study to determine the phenomena, explores, and reveals sexual behavior in adolescents and the desire to do VCT in the city of Denpasar.

METHOD

The design in this study used a qualitative research with approach phenomenology approach. The population in this study was the adolescents who live and work in Denpasar City. The sample in this study was called participant and taken five people. The ages of participants were between 20-24 years old. Retrieval method of participant was purposive sampling. Preparation phase was developed to guidelines for interviews, field notes, and do license with related parties. Implementation phase was done by the introduction of participants and followed by in-depth interviews. Termination phase was done after all the participants validated the results of the interview transcripts.

Analysis of the data was using an inductive process starting point the findings conclusions on the data collected, then concluded in general. Processing data were using thematic analysis, further verified and presented in descriptive form. Stages of data analysis were: 1) the period of data collection, 2) data reduction; 3) presentation of data; 4) conclusion/verification data. Theme selection was determined based on the topics that appear in research, and then the similar topics are grouped in a single theme. Validity of the study was divided into two, namely internal validity and external validity. Internal validation would be done by implementing the principle researcher credibility, dependability, and conformability for the validity of the data. Transferability was often called external validity. External validity was indicated the degree of accuracy or applicability of research results to the population in which the sample could be drawn.

RESULT AND DISCUSSION

Youth knowledge about HIV/AIDS and VCT (Theme: Cognitive HIV and Cognitive VCT)

The study gained cognitive themes as part of adolescent knowledge about HIV/AIDS and VCT. According to Piaget Theory at the formal stage of operations that generally occur at the age of 11-15 years, adolescents experience the process of developing abstract reasoning. Abstract reasoning involves both inductive and deductive reasoning, the ability to connect separate events, and the ability to understand the consequences. Manifestations of operational formal thinking in

adolescents include idealism and egocentrism (Muscari, 2005).

In this study found the theme of cognitive HIV with sub themes that are covered include definition, causes, mode of transmission, prevention, people at risk, and insights about HIV/AIDS. Statement from participant experience based on codes found that not all participants understand about HIV-AIDS, except participants who have health education background. This study also obtained results that not all participants understand about VCT and the process of stages of doing VCT. Most participants who know VCT know only VCT as a blood-taking process for HIV testing. Some participants also said that VCT should be done counseling.

"The first there is sexual intercourse, then for the way of transmission can also pass blood, then from mother to child too, like so" (P1)

"VCT process, given counseling first, I think. Like giving, risky or not, like that. If you are willing to be examined later told the result, his VCT" (P4)

Research on Basic Health Research (Riskesdas) in 2010 presented the result that the knowledge of Indonesian youth on HIV/AIDS transmission knowledge was categorized less by 62.1% and HIV/AIDS prevention knowledge was categorized less by 46.9% (Sudikno, 2011). Informants with lower levels of education also have good knowledge on matters related to VCT, HIV and AIDS (Fatmala, 2016). The level of education is a human learning ability is a very basic stock (Notoatmodjo, 2010). The higher the education is, the higher the level of knowledge that a person possesses.

Sexual Behavior at Risk of HIV/AIDS (Theme: sexual behavior, sexual relationship, and sexual position)

Sexual behavior in the participants of this study more states that sexual intercourse in couples more to the opposite sex couples and sexual behavior is most often done is penetration of the genitals, namely inserting the penis into the vagina. The other sexual behavior found in this study was oral sex and none of the participants admitted having had anal sex. The most common position during sexual intercourse is the supine position, where the woman is at the bottom and the male is on the top, but sometimes the position can be otherwise depending on the needs of the couples.

"If sexual behavior is the easiest it holds hands already sex too, continue for example hugs, kisses, until intimate relationship that already included into sexual behavior" (P3)

"The desire to have sexual relations like that (laughs), how the pleasure of having sex" (P5)

Studies on risky sexual behavior in adolescents include 1) early sex behavior with penetration at a young age, of which 6% of junior and senior high school students have penetrated in the United States at an average age of 13 years, 2) having sexual intercourse with more than one partner (multi-partner), and 3) having vaginal sex, oral sex, and anal sex without using condoms or condoms used improperly (Schantz, 2012). Based on the Centers for Disease

Control and Prevention (CDC) data from the Youth Risk Behavior Survey (YRBS) it was reported that 34% of students were active in sexual intercourse and 40% were sexually active by not using condoms during their last penetration in the United States (CDC, 2012).

Use of Condoms during Sexual Intercourse (Theme: always, sometimes, and never use condom)

The themes gained in the phenomenon of condom use during sexual intercourse in adolescents from this study were divided into three parts, i.e. always, occasionally, and never. Two male participants explained their commitment to continue using condoms every time they had sex with a partner after learning about the benefits of condoms, but three female participants were more likely to use condoms. Female participants prefer a calendar and intercourse system to be cut off if their male partners do not want to use condoms. All participants never used a condom type of female condom and did not use a condom during the first sexual intercourse because it was not planned.

"Rarely. If for example use a condom if (silent) rarely if the new fertile period, I am wearing a condom (laugh)" (P2)

Research on adolescents in Israel about sexual behavior and condom use in 410 respondents found that 18.3% already have sexual experience with always available condom only 14.6% of all respondents. Some of the respondents explained that condoms are useful for preventing HIV, but some of them also suggest that condoms are difficult to use (Shito & Mor, 2015).

Motivating Factors (Theme: want to know and trust each other) and Inhibiting Factors (Theme: fear and no chance) Sexual Behavior

Factors that encourage adolescents in this study to behave sexually, is divided into two themes of curiosity and mutual trust. Curiosity driven by lust and curiosity, while mutual trust is expressed by the participants because of affection and feel worthy of sexual intercourse. The inhibiting factors that make teens delay doing sexual behavior are summarized in the theme of fear and no chance. Fear of not being ready for pregnancy and other unwanted things, and fear of infectious diseases. Theme no chance because the time is not appropriate between the two partners and there is no place to conduct sexual behavior, especially in penetration.

"Sexual appetite is normal (laugh). So because of that and there begins by the couple, eventually it happens" (P1)

"If there's an infection in the future, it's scared." (P4)

Another study on contraceptive use in adolescents with age ranges of 15-24 respondents found data of 40.8% agreed that boys had sex with boyfriends using condoms to avoid pregnancy, 32.7% of male adolescents came to the place of prostitution using condoms in order to avoid sexually transmitted diseases and HIV, 41.8% are neutral about intercourse being interrupted in adolescence to prevent pregnancy (Musafaah, 2007).

Motivating Factors (Theme: high risk people) and Inhibiting Factors (Theme: fear and lack information)

All adolescent participants in this study have not done VCT with the reason that the inhibiting factor of doing VCT is fear and lack of information. Participants are afraid because they feel themselves at high risk of having had sexual intercourse and fear ostracized if it turns out positive results. The theme was lack of information because some participants do not understand about VCT, VCT process, location, and other mechanisms about VCT. All participants claimed to want to do VCT with pushing factors in the theme of people at risk. The reason to do VCT because of having sexual intercourse, aware of health status and status as an adolescent, and participants claim to still have dream, if they know the status of HIV early on.

"Want to know also the process is really like that" (P1)

"Besides the time, I am afraid too." (P5)

The study of 788 adolescents in Harar Town, Ethipoia received data of 70.9% had had sexual intercourse and had done VCT and 29.1% had had sexual intercourse but had not done VCT (Dirar, 2013). The study was inversely related to this study because all participants in this study had not done VCT despite having sexual intercourse penetration. Factors that prevent adolescents from doing VCT include concerns about confidentiality (82.9%), concerns of outcomes will be notified to parents or partners without consent (67.8%), inaccurate results (98%), fear of stigma by the family and its community (89.8%). Whereas, factors that support adolescent do VCT among them to know health status (89,9%) and want to marry (3,8%) (Dirar, 2013).

CONCLUSION

The level of knowledge of adolescents against HIV/AIDS and VCT was still not maximally proven by not being able to adequately mention the prevention and transmission of HIV, as well as the process of VCT that is known to be limited to counseling. Participants assume that sexual behavior at risk of having sex enters the genitals to each partner without using a condom. Participants conveyed that the first experience of sexual penetration did not use condoms because they were not planned.

Factors that encourage adolescents to behave sexually, the theme of curiosity on the basis of lust and curiosity, then the theme of mutual trust because of affection and feel it is appropriate. The inhibiting factor delaying sexual behavior was summarized in the theme of fear because it was not ready to conceive and the presence of infectious diseases, as well as the theme of no chance because there was no time and place to have sexual intercourse. All participants admitted to do VCT by pushing factors in the theme of people at risk, because they had sexual intercourse penetration, want to know the health status, and still have the future. The inhibiting factor of VCT was fear of outcome and ostracism, as well as insufficient information, especially regarding the VCT process.

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Telehealth as An Effort to Prevent Non-Communicable Diseases

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ABSTRACT

Background
Non-communicable disease is a disease that cannot be curable but can be controlled. The best therapy for this disease is prevention. There are three types of prevention for non-communicable disease such are; primary prevention, secondary prevention and tertiary prevention. The primary prevention can be done by modified behavioral risk factors, such as tobacco use, unhealthy diet and physical inactivity and intermediate risk factors, such as elevated blood lipids, diabetes, high blood pressure and overweight/obesity. One of prevention methods that can help the health care provider for preventing the non communicable disease is telehelath. This method provides an opportunity to increase access and improve the current health care system. The American Occupational Therapy Association (AOTA) defines a Telehealth as an intervention to evaluate, prevent, consultation tools and therapeutic interventions delivered through information and communication technology
Aim
The aim of this study is to determine the effect of telehealth as the effort of primary prevention of non communicable disease in terms of physical activity, nutrition and healthy behavior
Method
This study was quasi experiment whereas the subjects were given phone calls and message as telehealth during six weeks. The contain of telehealth were the information about the physical activity, nutrition and healthy behavior. Those information were evaluated before and after intervention.
Result
The Wilcoxon test shows there are the significant effect of telehealth to the physical activity, healthy behavior and nutritional status with p value < 0,05 within CI 0,95.
Conclusion
Telehealth is capable of being a nurse's tool to provide a variety of personalized management information in patients with non communicable disease such as; physical activity, healthy behavior and nutritional status

Keywords: telehealth, non-communicable diseases prevention

BACKGROUND

Non-communicable diseases is a condition in which individuals suffer from an incurable illness but can be controlled. According to WHO (2010) which includes Non-communicable diseases are heart disease, stroke, Chronic Obstructive Pulmonary Disease (COPD), cancer, hypertension, diabetes and kidney disease. This disease has various influences on physical, psychological, economic, social and spiritual functions. This disease is generally followed by various conditions that include: pain, disability, and limited function and psychosocial problems that affect the quality of life (CDC, 2006).

According to WHO (2010) non-communicable diseases caused 36 million (63%) deaths from 57 million deaths worldwide in 2008. Based on data from the Ministry of Health of Indonesia (2008), in Indonesia the proportion of deaths from non communicable diseases increased from 41 , 7% in 1995 to 49.9% in 2001 and 59.5% in 2007. Problems in non communicable diseases affect individuals throughout their lives. This disease occurs in early, middle and late adult individuals along with age and many individuals who suffer from more than one chronic disease. Most of non communicable diseases have the same characteristics associated with symptoms such as fatigue and pain that interfere with the activities of individuals in everyday life and demand changes in individual lifestyles. Psychological and emotional reactions to the disease may include depression, anger, anxiety and stress (Mart & Livneh, 2007; Smeltzer, Bare, Hinkle, Cheever, 2010).

Based on the results of Basic Health Research in 2007, chronic disease is still the top 10 most diseases in Indonesia. The health profile of the province of Bali in 2014 shows that non communicable diseases are still included in the top 10 visits to hospitals and health centers in both outpatient and inpatient settings. Bali Province is one of the provinces with dense population in Indonesia so that the competition of life and healthy life habits need to be applied as society culture to prevent various non communicable diseases.

The role of health care providers in the treatment of non communicable diseases can be on primary, secondary and tertiary prevention. Primary prevention of chronic disease is done to prevent the disease by modifying risk factors through lifestyle changes. Secondary prevention is done to help patients who already suffer from non communicable diseases to be able to adapt to disability, loss of independence and decreased quality of life due to illness. Tertiary prevention is done to help individuals with non communicable diseases rehabilitate both physically and mentally (Pierce, 2007; Watts, et.al, 2009; Chouinard, et.al, 2013).

Non communicable diseases risk factors can be divided into two modifiable risk factors such as weight, blood pressure, smoking, drinking alcohol, lack of exercise and diet and risk factors that can not be modified such as age, gender and genetic factors. Risk factors that can be modified need to be recognized early on by individuals to be able to prevent non communicable diseases. This prevention can reduce up to 80% cost to be spent for the treatment of disease. Early prevention and detection of various non communicable diseases is an ongoing effort and effort in various countries as an effort to reduce mortality and morbidity for non

communicable diseases (Smeltzer et al 2010, WHO, 2010).

A telehealth is one of the modification methods of telenursing. The forms of telenursing include the use of websites, social media, telephones, mobile phones and interactive videos in providing care to patients (Lee, Chen, Haiso, 2007; Locsin, 2005). The development of information technology in Indonesia today requires people to use the means of communication in meeting their survival. Healthy phones will be conducted for monitoring and providing health education to individuals at risk of non-communicable diseases by working with primary health care and community empowerment.

Telehealth method utilizes Balinese culture which is very consumptive towards communication technology like telephone. Individuals who are screened at risk for non-communicable diseases are monitored by health personnel and obtain access to services as desired through long distance communication using the phone. These individuals will be able to control the risk factors they have in order not to manifest into chronic illness. Various controls required such as regular exercise, knowledge of healthy food, stress management, lifestyle changes such as quitting smoking and others according to the patient's risk factors.

Method

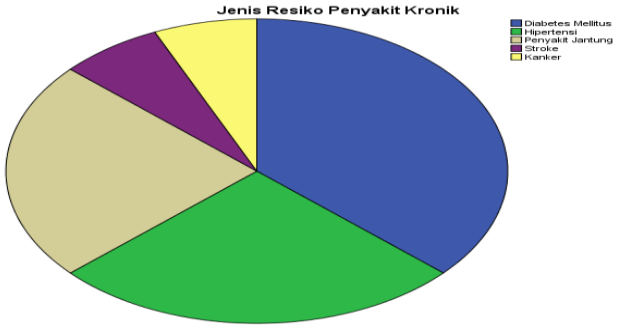
The Assumption of the non communicable risk were come from a biological parent both father or mother, could use the phone as a communication tool, minimum education was Junior High School. The parameter that were measured are physical activity, healthy behavior and nutritional status that were measured before and after 6 weeks of telehealth. The Wilcoxon test within 95% confidence level was used in this research analysis

Result

Description of the risk of non-communicable diseases are 23 (57.5%) subject obtained the disease from the father while 17 (42.5%) subject obtained from the mother.

The most common type of infectious disease risk is Diabetes Mellitus and the least is cancer

Risk	Number	%
Father	23	57.5
Mother	17	42.5
	40	100



The Wilxocon test shows there are the significant effect of telehealth to the Physical activity, healthy behavior and nutritional status. The p value is less than 0,05 within Confident Interval 0,95

Discussion

The Sharma and Clark Research (2014) shows that service delivery with telehealth has received positive support for nurses who provide care to patients with chronic diseases as new methods of nursing care. Telenursing is a method that can help nurses to provide patient information to help patients Do self-care. Research conducted by Solomon

(2008), Knight & Shea (2014) shows that there is a significant relationship between self-management, patient characteristics and the use of technology. Telenursing is capable of being a nurse's tool to provide a variety of personalized management information in patients with chronic diseases such as; Nutrition management, therapeutic protocols, and social support . Various forms of telenursing media that can be used by nurses is the internet with all the facilities offered social media, telephone, SMS and other social media (Lamb & Shea, 2006; Locsin, 2005).

Conclusion

There are the significant effect of telehealth to the Physical activity, healthy behavior and nutritional status as the effort components to prevent non-communicable disease

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THE EFFECT OF *BRISK WALKING EXERCISE* ON WEIGHT AND CHOLESTEROL LEVEL ALTERATION IN OVERWEIGHT FEMALE ADOLESCENT

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Abstract

Most of adolescent whom live in the urban area, especially in Denpasar tend to consume fast food that can be increasing the risk for overweight. Overweight in adolescent can be managed by brisk walking exercise. The aim of this study was to determine the effect of brisk walking exercise on weight and cholesterol level alteration in overweight female adolescent. This was a *quasi-experimental* design with nonequivalent control group design. Sample size consist of 26 people chosen by purposive sampling method which were divided into intervention and control group. Brisk walking exercise within 30 minutes every five times in four weeks were given to the intervention, and the control group did not get any intervention. The weight and the cholesterol level of the sample were measuring before and in the last of intervention. Based on *mann-whitney* statistic, there was a significant between the two group on the last intervention ($p<0,001$ ($p<0,05$). In conclusion, brisk walking exercise has a significant effect on weight and cholesterol level alteration in overweight female adolescent.

Keywords: brisk walking exercise, cholesterol, weight

INTRODUCTION

Overweight is a condition of nutritional abnormalities or the excessive fat accumulation in someone's body that can adversely affect both physical and psychological health. Overweight can be experienced by people across all ages, one of them is adolescent (Ottova, Erhart, Rajmil, 2012).

The prevalence of overweight in Indonesia according to Basic Health Research (2013) data, explained that female adolescent have relatively higher percentage compared to male adolescent, that is 1,5% in female adolescent and 1,3% in male adolescent.

A female adolescent will experience weight gain during the growth spurt period. This weight gain is estimated up to 8,3 kg per year experienced in the age of 12,5 years and the weight gain of about 6,3 kg when entering late adolescence (Kurnianingsih, 2009). In this period, if female adolescent cannot apply a balanced lifestyle, it will increase the risk of experiencing overweight problem.

The overweight adolescent can be said to be at risk of having high cholesterol level due to eating food containing saturated fat and high cholesterol such as fried foods, fatty meats, butter, cheese, cream, milk and egg yolk (Bull & Morrell, 2007). Consumption of high saturated fat foods in adolescent can lead to fat deposit in liver thus, the element of acetyl-coA to produce cholesterol in liver is increased. This can lead to the increasing level of plasma cholesterol in the body by as much as 15% to 25% (Guyton & Hall, 2006).

The management of overweight in adolescent can be done by applying proper diet, physical exercise and behavioral changes to reduce the risk of overweight. One of the physical exercises that easy-to-apply is *brisk walking exercise*, a technique for running faster than normal speed for 20-30 minutes with an average speed of 4-6 km per hour (Sukarmin, 2014).

Brisk walking exercise can be a choice for overweight adolescent to exercise because it is beneficial to burn 90 to 200 calories, strengthens the heart and lungs, improves fitness, helps control weight, reduces cholesterol and to lower blood pressure (Robinson, 2014).

Until now, research on the effect of *brisk walking exercise* for overweight problem still limited in Indonesia thus, the researcher wants to determine the effect of *brisk walking exercise* on weight and cholesterol level alteration in overweight female adolescent in SMA Negeri 7 Denpasar.

RESEARCH METHOD

This research was a *quasi-experimental* with *non-equivalent control group* research design. Respondents are grouped by listing the names that have been obtained first, and then the respondents with the odd serial number grouped into the treatment group meanwhile, the respondents with the even serial number grouped into the control group thus, the number of each group is 13 respondents.

Population in this research is overweight adolescents in SMA Negeri 7 Denpasar. The sample consisted of 26 people determined by *purposive sampling* technique then adjusted to the research criteria (inclusion and exclusion).

In this research, the instrument of data collection is manual or analog scale to measure weight and *cholesterol meter* used to measure total cholesterol. The analog weighing scale is calibrated at zero for starter and has a precision of 0,1 kg meanwhile, *cholesterol meter* is equipped with a calibration *chip* helps the researcher to get the exact measurement result.

The selected respondents were given an explanation of the objectives, benefits, research procedures, and the rights and responsibilities of the respondent, then asked to sign the *informed consent* sheet if they were willing. Research respondents in the treatment and control group were informed fasting for 12 hours in order not to affect the result of the measurement of body weight and total cholesterol before and after the intervention. Research respondents in the treatment group were given *brisk walking exercise* five times a week for four weeks with duration of 30 minutes (speed 6 km per hour) or two rounds of Niti Mandala Renon field, while the control group was not given intervention.

The collected weight and cholesterol data were tested for normality using the *Saphiro-wilk* test with trust level of 95%. After the normality test, the result of weight and cholesterol data in the treatment and control group obtained normal data distribution with $p > 0.05$, thus using parametric *dependent t-test*, meanwhile the result of normality data test of the difference of body weight and cholesterol in treatment and control group obtained abnormal data distribution with $p < 0,05$ thus using *mann-whitney* non parametric test.

RESULT

This research shows the identification results of respondent characteristics based on the age and body mass index

(BMI), identification of *pre-test* and *post-test* on body weight and cholesterol in treatment and control group, analysis of *pre-test* and *post-test* differences on body weight and cholesterol in the treatment and control group and also analysis of *pre-test* and *post-test* differences on body weight and cholesterol between treatment and control group.

Table 1. Respondents characteristics based on the age

	Median (Minimum-maximum)	Mean±SD
Age of the Treatment Group	15,0 (15,0-16,0)	15,38±0,506
Age of the Control Group	15,0 (15,0-16,0)	15,23±0,439

Table 1 shows that in the treatment group the mean value and standard intersection of the respondent age is 15,38 and 0,506; Control group is 15,23 and 0,439. Ranges of the age in the respondent's distribution indicated by the minimum and maximum age of 15 years and 16 years in each group.

Table 2. Respondents characteristics based on BMI

	Mean±SD
BMI of treatment group	26,27±1,582
BMI of control group	26,04±0,884

Table 2 shows that respondents characteristics based on Body Mass Index (BMI) have mean value and standard intersection in treatment group is 26,27 and 1,582; in the control group is 26,04 and 0,884.

Table 3. *Dependent t-test* results on body weight

Groups	Mean±SD	*p*
Pre-test in treatment group	66230,77±5540,064	0,0001
Post-test in treatment group	63538,46±5569,491	
Pre-test in control group	67307,69±5735,629	0,104
Post-test in control group	67461,54±5735,349	

Table 3 shows that *dependent t-test* results on body weight before and after intervention in treatment group was obtained p=0,0001 (p<0,05), it means that there was significant mean difference of weight before and after four weeks of doing *brisk walking exercise*, in control group was obtained p=0,104 (p>0,05), means that there was no significant mean difference in body weight before and after four weeks of doing *brisk walking exercise* in treatment group.

Tabel 4. *Dependent t-test* results on cholesterol

Groups	Mean±SD	*p*
Pre-test in treatment group	184,77±27,344	0,0001
Post-test in treatment group	141,69±18,856	
Pre-test in control group	185,85±13,422	0,078
Post-test in control group	187,54±13,470	

Table 4 shows that *dependent t-test* results on cholesterol level in treatment group was obtained *p*=0,0001 (*p*<0,05), it means that there is a significant difference in mean of total cholesterol level before and after four weeks of

doing *brisk walking exercise*, in control group was obtained the result of *p*=0,078 (*p*>0,05), means that there is no significant difference in mean of total cholesterol level before and after four weeks of doing *brisk walking exercise* in treatment group.

Table 5. *mann-whitney* test result on body weight

	Median (Minimum-maximum)	*P*
Weight difference in treatment group	3000,00 (1500-3500)	0,0001
Weight difference in control group	0,00 (-1000-0,00)	

Table 5 shows that the result of weight difference analysis between the treatment and control group using the *mann-whitney* test was obtained p= 0,0001 (p<0,05), thus, it can be concluded that there is a significant difference between weight difference in treatment and control group.

Table 6. *mann-whitney* test result on cholesterol

	Median (minimum-maximum)	*P*
Difference of cholesterol level in treatment group	45,00 (25,00-81,00)	0,0001
Difference of cholesterol level in control group	-2,00 (-6,00-2,00)	

Table 6 shows that the result of difference of cholesterol between treatment and control group using *mann-whitney* test was obtained *p*=0,0001 (*p*<0,05), means that there is a significant difference between the difference of cholesterol level in treatment group and difference of cholesterol level in control group.

DISCUSSION

In this research, respondents are female adolescents who have overweight status. There are several factors that influence the nutritional status of respondents, such as: proper diet, proper physical activity pattern and behavior modification (Sjarif, 2006).

The intervention of *brisk walking exercise* given to the respondent of treatment group had an impact on weight loss, while the control group who were not given intervention did not lose weight or tend to increase. The mean of weight loss in treatment group is 2692,31 gram for four weeks, accordance with the characteristics of weight loss diet in adolescents which states that within a week the maximum weight loss is 907,184 gram or within four weeks of the maximum weight loss is 3628,736 gram (Sizer & Whitney, 2006).

Regular physical exercise and combination of energy reduction performed by the treatment group will lead to the greater weight loss than

dietary regulation without any exercise (Sjarif, 2006). When performing physical exercise, energy savings in the treatment group such as carbohydrates (blood glucose, muscle and liver glycogen) and fat deposit in form of triglyceride will contribute to the rate of aerobic energy production in someone's body. The production of energy depends on the intensity of the exercise performed thus give different amount of contribution. The use of body fat during physical exercise with moderate intensity will cause a decrease in fat that will lead to the overall weight loss (Pratiwi, 2015).

Besides affecting on weight loss, *brisk walking exercise* also has an effect in decreasing cholesterol level of respondents in treatment group, meanwhile, there is no significant changes or tend to increase in control group.

The results were supported by other studies of Tai chi modification intervention and heart healthy gymnastics on lipid profiles and pre-elderly fitness shows that respondents who were given Tai chi modification intervention and heart healthy gymnastics had significant lower cholesterol level than those who were not given intervention (Arifin, Hartono, Yuanita, 2014).

After doing *brisk walking exercise*, the desire of research respondents in treatment group for snacking of fatty foods became reduced and consuming more mineral water. This is in accordance with research from Ledochowski and his team, that *brisk walking exercise* can reduce the desire of overweight respondents to eat foods containing sugar and reduce the desire for snacking when the respondent stressed (Ledochowski, Ruedl, Taylor, Kopp, 2015).

Physical exercise performed by the treatment group will result in an energy expenditure that is proportional to muscle work and related to the health benefits. The more physical activity done every day, the greater daily energy expenditure thus, there will be reduction of weight and fat. Reduction of energy and fat also help to reduce the amount of blood cholesterol that changes the transfer of cholesterol in blood (Durstine, 2012), thus, *brisk walking* physical exercise performed by the treatment group can decrease and control the cholesterol of research respondents.

Brisk walking exercise is a form of exercise in moderate intensity. Exercise in moderate intensity for 30 minutes or more will burn fat as source of energy thus will affect the blood lipid profile or affect fatty acids that are used as energy will minimize the chances of nuclear

sterol synthesis, thus cholesterol in body will not be formed redundant.

Physical exercise performed with mild to moderate intensity, the energy intake obtained comes from carbohydrate and fat with the same amount. The use of fat as a source of energy will increase when someone doing exercise for an hour or more while the use of carbohydrate begins to decrease. This condition leads to an active fat degradation experienced when someone performs an exercise in moderate intensity continuously with more than an hour. This condition occurs due to the release of epinephrine and norepinephrine by the adrenal medulla during the activity (Guyton & Hall, 2007).

CONCLUSION

The conclusion of this research is *brisk walking exercise* effect on weight and cholesterol level alteration in overweight female adolescent.

SUGGESTION

Researcher appealed for the next researcher to restriction on factors that may affect the weight and cholesterol of respondents, controlling and calculating the feeding quantity of respondents and see if there are genetic factors of respondents.

Researcher suggested doing routine physical exercise such as *brisk walking exercise* to reduce and control weight and cholesterol. For maximum result can consider the achievement of training intensity to reach 70-79% of maximum heart rate / pulse.

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THE EFFECT OF CREATIVE ARTS THERAPY TO ELDERLY STRESS MANAGEMENT WITH HYPERTENSION

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ABSTRACT

Introduction. Hypertension in the elderly can caused by stress due to aging, role adjustment, socioeconomic conditions and the emergence of degenerative diseases. Non-pharmacological stress management that can lead to relaxation is creative arts therapy that is singing, drawing, and stories telling.
Aim. This study is want to determine the effect of creative arts therapy on the stress management of elderly with hypertension in Kesiman Kertalangu Village East Denpasar.
Method: The type of study used pre-test and post-test design. Samples used were 63 elderly hypertensive patients with mild and moderate stress using purposive sampling technique divided into three groups of treatment with the amount 21 elderly of each groups.
Result: The results showed there was a decrease in stress level as many as 46 elderly people. Test statistic using Wilcoxon test obtained p value 0.000 <0.05 means there is effect of creative arts therapy to stress level of elderly with hypertension. The mean systolic blood pressure of elderly decreased 5.87 mmHg and diastolic 3.81 mmHg. Test statistic using Paired t test obtained p value 0.000 <0.05 means there is effect of creative arts therapy to elderly blood pressure with hypertension. The combination of creative arts therapy can be a therapy to promote health intervention for stress management in elderly with hypertension.
Conclusion*:* Improving elderly coping for managing elderly stress using creative arts therapy can be developed and implemented through monitoring by families with assistance from community nurses.

Keywords: elderly, creative arts therapy, singing, drawing, story telling

INTRODUCTION

Elderly are vulnerable to experiencing health problems due to the decline in body functions physiologically especially degenerative diseases (Maryam et al., 2008; Kementerian Kesehatan Republik Indonesia, 2013). Degenerative diseases that often occur in the elderly due to the aging process is hypertension (Kementerian Kesehatan Republik Indonesia, 2014). The prevalence of hypertension in elderly is already increase from year to year. Risk factors for hypertension can caused by stress and activity physical goddess. Adria (2013) states that there is a relationship of stress with events hypertension in elderly, where equal to 63,55% elderly hypertension experience stress. Astri (2012) describes the threat or demands that can not be overcome can interfere with one's psychological well-being.

The results of Riskesdas (2013), showed that the prevalence of emotional mental disorders in Indonesia at 11.6%. Emotional mental disorders are more prevalent in urban areas than in the villages. The highest prevalence of emotional mental disorders by group age occurs at age 65 years and over. Besides causing mental problems, stress too raises symptoms on physical function such as headache, muscle tension, pain in joints, indigestion, and increased heart problems (Departemen Kesehatan Republik Indonesia, 2006).

Stress management can be divided into pharmacological therapy with drugs, and nonpharmacology with distraction, as well as relaxation (Potter & Perry, 2009). However, non-pharmacological stress management is preferred over because there is no serious side effect, especially relaxation therapy. Relaxation therapy that can developed to resolve stress is art therapy. Art therapy is an intervention that supports mental health, facilitated by art therapists which uses the media of art, the creative process, and the artwork that it produces for exploring client feelings, reducing anxiety, and increasing self-esteem (American Art Therapy Association, 2013). Type of art therapy that is able to develop creativity and comfort is a creative arts therapy that includes therapy singing, drawing therapy and storytelling therapy.

Singing therapy is a form of art activity to express the mind and feeling through the tone of voice. Cassol & Bos (2015) research results said the elderly who followed the singing therapy can more enjoy his life, able to perform daily physical activities and feel happier. Beck, Cesari, Yousefi, et al. (2000), Kuhn (2002) and Kreutz, et al. (2004) mentions that singing therapy can improve the immune system and lower the hormone cortisol when the individual is stressed. While, Wylie (2007) describes drawing as therapy can encourage individuals to create works of art that involve thought processes as well his feelings. Every artwork creates more and more individual awareness develops on life experiences that are emotional reactions to every life event traversed, so it will be useful in increasing the potential of himself in preventing problems. Another case with storytelling therapy, Qudsyi (2011) states that storytelling therapy has an effect to stimulate emotions relaxation, develop morale to know good and bad deeds and increase motivation.

Unresolved stress can lead to more serious emotional problems, therefore need to be overcome. The management of stress by using creative arts therapy, involve the elements of elderly everyday life and the culture inherent in his life can facilitate the elderly to explore feelings and improve comfort. The aim of this study is to determine the effect of creative arts therapy on stress management (stress and blood pressure) of elderly with hypertension in Kesiman Kertalangu Village, East Denpasar.

METHOD

Research design is one group pre-test and post-test design. Samples totaled 63 elderly hypertension in Kesiman Kertalangu Village with mild and moderate stress using purposive sampling technique divided into three treatment groups with 21 each. Place of study in Banjar Tohpati, Banjar Tangtu and Banjar Biaung Kesiman Village Kertalangu East Denpasar. Data collection using blood pressure measurement observation sheets, Questionnaire Physical symptoms of stress National Safety Council and questionnaire Stress Assessment Questionnaire (SAQ). The analysis used Paired Sample t Test on normal distributed data and Wilcoxon Test on non-distributed data (95% confidence level).

HASIL PENELITIAN

Tabel 1. Analysis the effect of creative arts therapy on the level of stress of the elderly

Creative Arts Therapy	Level of stress						Wilcoxon test	
	Before			After			Neg. Rank	P value
	No stres	Low	Medium	No stres	Low	Medium	N	
Singing therapy	0	7	14	4	13	4	46	0,000
Story telling therapy	0	8	13	6	13	2		
Drawing therapy	0	6	15	9	11	1		
Total (N)	63			63				

Tabel 2. Analysis the effect of creative arts therapy on blood pressure of the elderly

Creative Arts Therapy	Paired Samples Test			
		Mean	N	P value
Blood Pressure	Pretest sistole	159,68	63	0.000
	Posttest sistole	153,81		
	Pretest diastole	88,41	63	0.000
	Posttest diastole	84,60		

DISCUSSION

The effect of singing therapy on stress management of elderly with hypertension in Banjar Tohpati

The results obtained physical symptoms of stress that many experienced in elderly are pain in joints (52.4%), tension headaches (42.9%) and tension in the neck muscles and shoulder (38.1%). Frequency of stress level of elderly who get singing therapy decrease. Before therapy, elderly stress showed in moderate and mild levels, but after singing therapy there are 19% elderly people not stressed. Statistical test results obtained p value 0.000 <0.05 which means there is the effect of singing therapy on the elderly stress level with hypertension. Singing has an excellent benefit for psychological and psychological health somebody. By singing, the feelings will become expressed, became more relieved, and more enthusiastic. Singing is stimulating and lowered the stress level through the work of our body's endocrine system. Singing is able to make feelings more

comfort and relax because the release of endorphins throughout the body when we sing (Beck, Cesari, Yousefi , et al. (2000), Kuhn (2002) dan Kreutz, et al. (2004).

The effect of story telling therapy on stress management of elderly with hypertension in Banjar Tangtu.

The results obtained physical symptoms of stress experienced by many older are tense in neck and shoulder muscles (42.9%), joint pain (23.8%), and abdominal pain (19%). Frequency of stress level of elderly who get the storytelling therapy are decreased. After the storytelling therapy there are 29% elderly who not experiencing stress. Statistical test results obtained p value 0.000 <0.05 which means there the effect of storytelling therapy on stress level of the elderly with hypertension. The results of analysis of elderly blood pressure who experience stress after therapy got the value p 0.000 <0.05 which means there is effect of storytelling therapy against elderly blood pressure with hypertension.

Asfandiyar (2007) stated that storytelling therapy is useful to stimulate emotion. Storytelling has the power to encourage openness because it involves imagination and emotion and the development of cognitive, affective, social, and spek aspects conative (Asfandiyar, 2007; Hilder, 2005). Listening and telling stories helps individuals understand themselves and others (Bishop & Kimball, 2006). Asfandiyar (2007) and Musfiroh (2008) in Kusumastuti (2010) stated that storytelling therapy provide benefits for value planting, increase in motivation behave, and train the power of concentration and develop positive emotions. Giving storytelling therapy for elderly can develop emotions and psychological conditions becomes more positive. Submission of information through the storyline making the elderly easier to understand the moral role that contained in each story to motivate the elderly enjoying his old age with calm and prosperous.

The effect of drawing therapy on stress management of elderly with hypertension in Banjar Biaung.

The results obtained physical symptoms of stress experienced by many older are tense in the neck and shoulder muscles (42.9%), abdominal pain (33.3%), tension headache, joint pain and diarrhea respectively 28.6%). Frequency of elderly stress levels get drawing treatment has decreased where before given therapy. After drawing therapy there were 43% of elderly who did not experience stress. Test results statistics obtained p value 0.000 <0.05 which means there is effect of drawing therapy against the elderly stress level with hypertension. In addition, blood pressure analysis results elderly who experience stress after given the drawing therapy obtained p value 0.000 <0.05 which means there is effect of drawing therapy against blood pressure elderly with hypertension.

Art therapy in the form of drawing gives creative expression to someone. Creative expressions help overcome personal, especially psychological, limitations that help one to express feelings that can not be conveyed verbally, increasing trust, problem-solving abilities greater, less anxiety, and the ability to form oneself active (Fatmawati, 2015). Drawing

therapy also has other benefits, namely as a medium of imagination, as a media of emotional arrangement where therapy draws provide a multisensory experience in the creation of artwork that can improve memory, feeling free, and increase activity levels, as media life review, as well as recreational media (Johnson & Sullivan-Max, 2006; Martin, 2009).

Drawing therapy is a therapy that uses images as natural communication in expressing feelings and thoughts. The subject is drawing a realistic look in everyday life or a picture emphasize image style (Malchiodi, 2013). Drawing can be given on clients with various problems, such as someone who is under pressure, work stress, children and adolescents who have difficulty learning and experiencing problems emotional, elderly people who experience stress as a means of expressing feelings, ideas, and emotions, adults who are unable or unwilling to speak about thoughts and feelings, patients with schizophrenia, as well as patients who experience autism, and dementia (Setyoadi & Kushariyadi, in Fatmawati, 2015, American Art Therapy Association, 2013).

Effect of creative arts therapy on stress management of elderly with hypertension in Kesiman Kertalangu Village East Denpasar.

Physical symptoms of stress experienced by many older are tense in neck and shoulder muscles (41.3%), joint pain (34.9%) and tension headache (28.6%). The results showed decrease of stress level before and after creative arts therapy by 46 elderly. Statistical test using Wilcoxon test (alpha 5%) obtained p value 0.000 <0.05 means there is effect of creative arts therapy to stress level of elderly with hypertension. The mean systolic blood pressure of elderly decreased 5.87 mmHg and diastolic 3.81 mmHg. Test statistic using Paired t test obtained p value 0.000 <0.05 means there is effect of creative arts therapy to elderly blood pressure with hypertension.

Creative arts therapy provides a relaxing effect while performing art activities so that feeling calms down and stimulates the healing process (Malchiodi, 2013). The results showed that there was a decrease of stress level before and after creative arts therapy was done as many as 46 elderly people. Creative Art therapy provides creative expression to elderly to help overcome personal, especially psychological, limitations that help one to express feelings that can not be verbally conveyed, increase trust, greater problem-solving skills, less anxiety, and the ability to form self actively (Fatmawati, 2015).

The mean systolic blood pressure of elderly decreased 5.87 mmHg and diastolic 3.81 mmHg. Test statistic using Paired t test obtained p value 0.000 <0.05 means there is influence of creative arts therapy to elderly blood pressure with hypertension. Creative arts therapy can facilitate the client to express internal feelings and the resulting art product reflects the internal capabilities and conflicts experienced by the client (Buchalter, 2011). Malchiodi (2013) states creative arts therapy provides a relaxing effect while performing art activities so that feeling calms down and stimulates the healing process.

CONCLUSION

Elderly at risk of health problems due to decreased physical function and psychological adaptation, changes in the role and social relationships environment. These health problems can cause stress that can aggravate the health conditions of the elderly. The use of creative arts therapy is cheap and easy to do at home can contribute to overcome the stress of elderly in his old age.

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INFLUENTIAL FACTORS OF SAFETY RIDING ON ELDERLY IN DENPASAR

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ABSTRACT

Traffic accidents are an unexpected and accidental incident on the road involving a vehicle that can happen to anyone one of whom is the elderly. Safety driving is an action that can minimize an accident. This study aims to determine the factors associated with driving safety in elderly. This study is *correlational descriptive* research with *cross sectional* design, the sample consisted of 80 elderly with *cluster sampling* technique. The data was collected by filling out the questionnaire of the safety of the vehicle. The result showed that some riders are elderly (97.5%), sex is mostly male (68.8%), the education level is mostly secondary education (68.8%), mostly have a good knowledge (30,0%), positive attitude (53,8%) and most of the respondents has SIM C (88,8%). Based on Spearman Rank test, it was obtained the p value of age (p = 0,831> 0,05), gender (p = 0,857> 0,05), education level (p = 0,006 <0,05), SIM C (p = 0,000 <0, 05), knowledge (p = 0,001 <0,05), and attitude (p = 0,006 <0,05). There is a relationship between education level, ownership of SIM C, knowledge, and attitude with safety driving. There is no relationship between age and gender with safety driving. Elderly can do driving, but they have to pay attention on safety standards such as helmets, jackets, gloves, and foot protector.

Keywords: elderly, safety driving

INTRODUCTION

Traffic accident is incident happened suddenly in highway between or among vehicles result in victim and loss of property (Act no. 22 of 2009). Traffic accident happened because of human, vehicle, situation of the road and environment. DKTD (2006) stated that 91% of the accidents were caused by human. WHO predicts traffic accident can rank in third position for causing death after heart disease and depression in 2020. Since 2003-2007, there were 258,274 traffic accidents in Indonesia, placed Bali in the ninth position with traffic accidents occurrence among other provinces.

Traffic accidents can be happened to everybody included senior citizen, since they are also capable in riding vehicle (Klavora & Heslegrave, 2002). Transportation is a need for senior citizen among 10 other necessities (Darmojo and Martono, 2004). Regression of physical and psychic can interfere their motion, include how they ride in highway (Djamin, 2010). Their capability in riding will decrease by time, leads in taking risk not only for themselves but also pedestrian and other riders (Talley, 2011).

Based on data from Bali Regional Police, in 2013, percentage of traffic accident occurred to senior citizen was 16, 68%, in 2014 was 15, 1%, in 2015 was 3, 92% and from January to October 2016 was 20, 61%. Martono and Pranaka (2010) stated if there is no action to increase welfare of senior citizen including their safety on the road, it can cause something greater in the future.

Data of this study were collected by interviewing 18 senior citizens who are still capable riding vehicle in Denpasar. Their age were between 65-75 years old, dominated by men, 14 people still rode vehicle for recreation, looking for other activities or only because they did not want to disturb their children. Those 14 people said that they always brought license and vehicle registration certificate when riding vehicle. They merely wore helmet when going away. The vehicle was never been checked before being used, it would be brought to mechanic only if it was broke. Senior citizens' speed was in the average between 40-60km/hour. It shows that their safety riding is still low.

Safety riding is an effort to reduce or minimize traffic accident. In Act no 22 of 2009 article 20 section 2 about traffic stated that one national program of traffic safety and road transport is safety riding. It is how road users ride their vehicle safely to prevent traffic accident; those are included good etiquette in riding, proper equipment and condition of the vehicle. Safety riding is made to increase the awareness of riders (Sumiyanto, Mahawati, and Hartini 2013).

A study done by Colle, Asfian, and Andisiri (2016) showed that characteristic of the ownership of riding license, knowledge, and attitude contributed to safety riding and attitude did not influence safety riding. Hidayah (2016), showed that knowledge, gender, license ownership were factors related to safety riding. Same result obtained by Ariwibowo (2013), Khakim, Nurullita, and Meikawati (2016). Those studies showed that age, education, knowledge and attitude were factors that influenced safety riding. Based on statement above,

researcher eager to do a research to find out factors related to safety riding of senior citizen in Denpasar, aim to acknowledge factors related to safety riding of senior citizen.

RESEARCH METHOD

Analytic quantitative with cross sectional approach correlation descriptive design was used in this study. The research done on 31st May-05th June 2017. Population of this study were senior citizen with vehicle in Denpasar. There were 80 senior citizens as sampling that had chosen based on criteria, among others: senior citizens who were ≥ 60 years old, still able to ride motorcycle, cooperative and literate.

Questionnaire was used covered demography, knowledge, attitude, and behaviour during riding motorcycle with 70 questions in a whole that had been tested for its validity and reliability.

The data were taken by using two methods, those were by visiting senior citizens at their house or when they had exercise activities.

Univariate and bivariate tested were applied for the analysis. Univariate analysis was done on characteristic, knowledge, attitude and act in riding of senior citizen. Bivariate analysis was done to acknowledge the relation of safety riding. In this study normality test was not implemented since the data were in form of category, therefore Rank Spearman test was used with 95% of accuracy level (p≤0,05).

RESULT OF RESEARCH

Table 1. Characteristics of senior citizen

Characteristic of research	nple Frequency	Percentage)
Age		
Elderly (60-74 years old)		97,5
Old elderly (75-90 years old)		
Total		),0
Gender		
Male	8	
Female	3	
Total		),0
Level of education		
Diploma/Bachelor		5
Senior High School		5
Junior High School		8
Elementary School		5
Do not graduate from Elementary School		
Total		),0

Table 2. Description of knowledge, attitude, riding license ownership, and safety riding of senior citizen

Description of respondent	nple Research Frequency	rcentage)
Knowledge		
Less		31,3
Fair	8	
Total		),0
Attitude		
Positive	8	
Negative	3	
Total		),0
Riding license ownership		
Have	8	
Do not have	3	
Total		),0

Safety Riding	
Good	7
Bad	5
Total	),0

Table 3. Relationship of age, gender, level of education, knowledge, attitude, and riding license ownership with safety riding

Variable Independent	Safety Riding	
	P	r
Old	0,831	
Gender	0,857	
Level of Education	0,006	0,308
Knowledge	0,001	0,374
Riding Lincese Ownership	0,000	0,459

Based on table no 3, there was no significant relationship between age and safety riding on the respondents with score 0,831. There was no relationship between gender and safety riding. However, there was significant relationship between level of education and safety riding about 0,006 (p=0,006<0, 05) with low score 0,308 and showed positive direction. There was significant relationship between riding license and safety riding for 0,000 (p=0,000<0, 05) with moderate score 0,459 and showed positive direction. There was significant relationship between knowledge and safety riding 0,001 (p=0,001<0, 05) with low score 0,374 and showed positive direction. There was relationship between attitude and safety riding 0,016 (p=0,016<0, 05) with low score 0,268 and showed positive direction.

DISCUSSION

Chianiago (2002), explained that age is total amount of days starting from birthday until recent day which counted by year. In this study the amount of elderly was more than old elderly. Total of elderly was 78 people (97, 5%). Male were more than female. Total of male was 55 people (68, 8%). Level of education of the respondents was senior high school in major with total 28 people (33,8%).

Most of the respondents had good knowledge about safety riding with total 24 people (30, 0%). Most of them showed positive attitude with total 43 people (53, 8%). Total of respondents who owned riding license was 71 people (88, 8%). While respondents who had safety riding awareness were 46 people (57, 7%).

Based on the analysis using Rank Spearman there was no relationship between age and safety riding on the respondents 0,831 (p=0,831>0, 05). This is the same as result of study done by Khakim (2016), stated that there was no relationship between age and safety riding. Langford, et al (2008) stated that senior citizen tend to riding based on their capability. A study done in America showed that most of the senior citizens avoid riding in the evening or during rush hour.

There was no significant relationship between gender and safety riding 0,857 (p=0857>0, 05). A study done by Puspitasari and Hendrati (2013) stated the same result as well. Man and woman have different capability in understanding something, influenced by each experience including how to

minimize traffic accident and maximize their safety.

There was significant relationship between level of education and safety riding 0,006 (p=0,006<0, 05) with low score 0,308 and showed positive direction. Indicating the better the education, the higher the safety riding. Khakim, Nurullita, and Meikawati (2016) stated the same in their study. Theory from Notoatmodjo stated that education is a process to develop skill, attitude, and behaviour.

There was significant relationship between knowledge and safety riding 0,001 (p=0,001<0, 05) with low score 0,374 and showed positive direction, means when someone has higher education then the better is the safety riding. The same result obtained by Cole, Asfian, and Andisiri (2016).

There was significant relationship between attitude and safety riding 0,006 (p=0,006<0, 05) with low score 0,308 and showed positive direction. Indicating when someone shows good attitude during riding, hence their safety will increase. Riyan (2013) stated that there is relationship between attitude and safety.

CONSLUSION AND SUGGESTION

There was significant relationship of education, knowledge, attitude, riding license ownership with safety riding. While there was no relationship between gender and age with safety riding.

Senior citizen can take care of their safety riding by noticing the condition and wearing personal protective equipment. Family can check condition and equipment for the senior citizen in riding but it is better if family can accompany them, so it will be safer. It can be done by remaindering senior citizen to wear personal protective equipment such as helmet with Indonesian standard, light coloured jacket, mask, and glove. It will be better if Integrated Health Posts, health workers and police can collaborate to inform the importance of safety riding to senior citizen by giving counselling or leaflet.

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Undang-Undang Republik Indonesia Nomor 22 Tahun 2009 tentang Lalu Lintas dan Angkutan Jalan.

EFFECT OF *CONTRAST BATH* FOR RECOVERY OF FARMER FATIGUE IN BANJAR DINAS SENGANAN KAWAN, PENEBEL SUB-DISTRICT, TABANAN REGENCY

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Abstract

Fatigue is a mechanism of body protection to prevent the body from further damage resulting in recovery after rest. One of the causes of fatigue is a non-ergonomic working attitude over a long time period. Fatigue is often experienced by farmers. One of the interventions that can be done is contrast bath. This study aimed to determine the effect of contrast bath for recovery of farmer fatigue. This study is quasi experimental research design with pretest-posttest control group design. In this study, the respondents consist of 34 people were selected through purposive sampling technique then was divided into two groups; treatment and control group. Treatment group was given intervention of contrast bath in the morning and afternoon for 5 days successively, meanwhile, in the control group was not given the intervention. Fatigue was measured by Subjective Self Rating Test questionnaire before and after the intervention of contrast bath was given. The result of Independent T-Test statistic test shows that there is a significant difference in fatigue score after contrast bath was given in the treatment and control group ($t = -3,40$; $p \leq 0,05$). It is suggested for farmer to be able to perform contrast bath therapy in the morning before start working and in the afternoon after finishing work.

Keywords: Fatigue, contrast bath

INTRODUCTION

Someone who works indoor or outdoor have different physical conditions. Physical condition experienced can affect the work being cultivated. The most common physical condition experienced by workers is body aches and fatigue.

Fatigue is a mechanism of body protection to prevent the body from further damage and needed rest for recovery (Tarwaka, 2010). One of the professions that experience fatigue is farmers.

Farmers work with a standing position while bending over and using the back as the main support (Soedarjatmi, 2003). A non-ergonomic working attitude over a long time period will lead to fatigue, complaints of pain in the body, and disability (Pangaribuan, 2009).

The fatigue that is not immediately treated will result in accumulation of fatigue which can impact on the decrease of work motivation, performance, work quality, work productivity, mistakes, work stress, occupational diseases, and injury (Tarwaka, 2010). In addition, the more severe impact caused by fatigue is work accident (Setyawati, 2010). Data from the *International Labour Organitation* (ILO), mention that every year as many as two million workers died due to work accident caused by fatigue factor.

Based on the consequences of fatigue, an intervention is required to reduce fatigue is *contrast bath*. This intervention is given because it is easily to do by everyone, does not require expensive fees, and has no harmful side effect (Potter & Perry, 2006).

Contrast bath is a form of therapeutic modality that immerses body parts or whole body in warm water temperature of 38 ^{0}C to 44 ^{0}C and cold water temperature of 10 ^{0}C to 18 ^{0}C (Cameron, 2013). The benefits of *contrast bath* are to increase the supply of oxygen, nutrients in the tissues, muscle elasticity to reduce muscle stiffness by expanding the blood vessels (Arovah, 2010). In addition, the benefits of *contrast bath* are can eliminate edema, reduce inflammation, and reduce muscle spasm by reducing blood flow (DeLaune & Ladner, 2011).

According to the Central Bureau of Statistics (BPS) data of Bali Province, Tabanan regency has a total of 38.822 farmers, which is in Penebel sub-district with 11.300 people (the Central Bureau of Statistics, Tabanan regency, 2013). The village in Penebel that has the highest number of farmers is in Senganan Village about 803 people. Senganan village has 12 *banjar dinas*, and which has the largest number of farmers is *Banjar Dinas* Senganan Kawan is about 301 people.

The survey was conducted on February 18, 2017 on five farmers in *Banjar Dinas* Senganan Kawan, Penebel Sub-district, Tabanan Regency by giving *Subjective Self Rating Test* (SST) questionnaire which contained 30 items of statement. The results obtained in the survey are 60% of farmers experience mild fatigue and 40% of farmers experience middle fatigue. The results of interviews on farmers located in *Banjar Dinas* Senganan Kawan, when farmers experience fatigue, farmers usually do massage with warm oil, adequate rest, drink plenty of water. After farmers do that, there is no change to fatigue. Based on the description, the researcher is interested in conducting research entitle "Effect of Contrast Bath For Recovery of Farmer Fatigue in *Banjar Dinas* Senganan Kawan, Penebel Sub-district, Tabanan Regency".

RESEARCH METHOD

The research design used was *quasi experimental* with *nonequivalent control group design*. Respondents were chosen based on the *setting* of the designated place that is *Banjar Dinas* Senganan Kawan Kaja as the treatment group and *Banjar Dinas* Senganan Kawan Kelod as the control group, thus the number of each group is 17 people.

The population in this study is all farmers in *Banjar Dinas* Senganan Kawan. The sample consists of 34 people selected by *purposive sampling* technique, then adjusted to the research criteria (inclusion and exclusion). The data collection instrument used in this study is the fatigue questionnaire (*Subjective Self Rating Test*).

The selected respondents were given an explanation of the objectives, benefits, research procedures, and the rights and obligations to be respondents, and

then asked to sign *informed consent* if they were willing.

Treatment group respondents were given *contrast bath* interventions for five consecutive days in the morning and afternoon while control group respondents were not given *contrast bath* intervention, but only conducted conventional method.

Accumulated fatigue data was performed by normality test using *Saphiro-wilk* test with trust level of 95%. After normality test, the result of fatigue data in the treatment group and the normal distributed control group with p> 0,05 thus, using parametric *independent t-test*.

RESULTS

The results are described as follows:

Table 1. Characteristics of research subjects

Variable	Treatment		Control		*P*
	Frequency	**%**	**Frequency**	**%**	
Age Range (40-50)	(Mean= 46.76, *SD*= 3.78)		(Mean=47.18, *SD*=2.60)		0.7
Sex					
Male	15	88.2	16	94.1	0.6
Female	2	11.8	1	5.9	
Education					
Elementary school	4	23.5	8	47.1	0.2
Junior high school	5	29.4	4	23.5	
Senior/vocational high school	8	47.1	5	29.4	
Long as farmer					
1-5 years	4	23.5	0	0	0.3
5-10 years	3	17.6	7	41.2	
>10 years	10	58.8	10	58.8	
Working hours					
07.00-17.00	8	47.1	8	47.1	0.8
08.00-17.00	8	47.1	9	52.9	
09.00-17.00	1	5.9	0	0	
Duration of work (working period)					
3-5 hours	3	17.6	7	41.2	0.0
6-8 hours	14	82.4	10	58.8	
Physical Condition 1 (history of mild and severe illness)					
No	13	76.5	16	94.1	0.2
Yes	4	23.5	1	5.9	
Physical Condition 2 (history of feeling unwell)					0.4

No	4	23.5	2	11.8	
Yes	13	76.5	15	88.2	
Physical Condition 3 (Physical Ability)					
No	7	41.2	4	23.5	0.3
Yes	10	58.8	13	76.5	
Rest time 1 (working rest)					
<1 hour	3	17.6	1	5.9	
1-2 hours	9	52.9	9	52.9	0.2
3-4 hours	4	23.5	3	17.6	
>4 hours	1	5.9	4	23.5	
Rest time 2 (Farmer's Perception of Rest Time)					
No	3	17.6	1	5.9	0.3
Yes	14	82.4	16	94.1	

Note: SD= Standard deviation

Table 1 shows most of the characteristic divisions in the treatment group and control group are similar. It was proved on hypothesis test $p > 0,05$.

Table 2. Fatigue identification before and after *contrast bath* treatment in the treatment group and control group

Fatigue Score	Group	Mean	Max	Min	SD
Before *Contrast Bath*	Treatment	60,59	86	42	11,55
	Control	60,24	80	49	9,16
After *Contrast Bath*	Treatment	46,88	72	30	11,59
	Control	58,47	77	48	7,93

Note: max = maximum, min = minimum, SD = standard deviation

Table 2 describes the results of fatigue measurements before and after *contrast bath* treatment in the treatment group and control group.

Table 3. Analysis of fatigue differences before *contrast bath* was given in the treatment group and control group

	Treatment	**Control**		
	N = 17	**N = 17**	**t**	***p***
Fatigue	**Mean (SD)**	**Mean (SD)**		
	60.59 (11.55)	60.24 (9.16)	0.09	0.92

Note: SD = standard deviation

Table 3 describes there is no significant difference in fatigue before *contrast bath* in treatment and control group with $p > 0,05$.

Table 4. Analysis of fatigue differences after *contrast bath* was given in the treatment group and control group

	Treatment	**Control**		
Fatigue	**N = 17**	**N = 17**	**t**	***p***
	Mean	**Mean**		

	(SD)	(SD)		
	46.88 (11.59)	58.47 (7.93)	-3.40	0.00

Note: SD = standard deviation

Table 4 describes there is significant difference in fatigue after *contrast bath* in treatment and control group with *p*> 0,05.

DISCUSSION

The results showed fatigue before given *contrast bath* in treatment group and control group there was no significant difference. This is because respondents only answer the questionnaire that has been given. There are several factors that influence fatigue on each respondent in *Banjar Dinas* Senganan Kawan.

Some factors affecting fatigue consist of age, sex, nutritional status, history of disease, psychological condition, working period, vibration, work climate, and physical workload (Suma'mur, 2009). In the study which affect the fatigue of respondents is the working period with a value of p <0.05. This is because farmers work every day for 6-8 hours per day. Farmers do not think that they have to work for 5 days or 6 working days a week, because farmers should always see the conditions around the crops such as irrigation, pests, and others. Working hours or period in accordance with Labor Law No. 13 (2003) Article 7 paragraph (2) stated that 6 working days with working time of 7 hours in per day and 40 hours per week. Working time of 5 working days is 8 hours per day and 40 hours per week.

After giving *contrast bath* intervention in the morning and afternoon for five consecutive days on the treatment group respondents, the mean result obtained after fatigue was 46.88. Based on the result that has been described, it can be seen that there is a change in fatigue after the intervention of contrast bath was given, which is characterized by the mean of fatigue in the treatment group decreased from 60.59 to 46.88. Obtained t value = -3.40 and p <0.05 stated that there are significant differences.

When warm water immersion, occurs an increase in the tissues temperature that cause vasodilation in the blood vessels resulting in increased blood flow and peripheral circulation. This can increase oxygen supply to cells, tissue nutrition, and muscle elasticity to reduce muscle stiffness (Arovah, 2010). Increased oxygen supply in cells can help the circulation of lactic acid in the body

into a source of energy. The return of energy derived from lactic acid will restore fatigue (DeLaune & Ladner, 2011). Meanwhile when cold water immersion, occurs a decrease in skin temperature, subcutaneous and intramuscular that can cause vasoconstriction of arterial blood vessels that can reduce muscle spasm, reduce swelling through slowing metabolic production in the body, and reduce pain (Cochrane, 2004).

Contrast bath is a form of therapeutic modality that immerses body parts or whole body in warm water temperature of 38 ^{0}C to 44 ^{0}C and cold water temperature of 10 ^{0}C to 18 ^{0}C (Cameron, 2012). This procedure is repeated several times alternately between warm and cold with an interval of 25 to 30 minutes (Bieuzen, Francois, Bleakley, Chris, Costello, Joseph, 2013). This was supported by research conducted by Rajalaxmi, Mohankumar, Ramanathan, Kumar, Chitra and Anusiya (2016) states that *contrast bath* procedure was carried out in warm water at 42 ^{0}C for 3 minutes and cold water at 15 ^{0}C for 1 minute was repeated around 5 times.

Contrast bath on specific limbs or body parts such as back, neck, hands, buttocks, thighs, knees and calves can be done using a towel that is first soaked in warm water and soaked in cold water, then a towel that has been soaked in warm water squeezed and laid on specific limbs for a few minutes and replaced with a towel soaked in cold water that has been squeezed alternately (Way, 2007; Wardle, 2013). This is supported by research conducted by Shehata and Fareed (2013) states that the *contrast bath* method used is laying a towel around the knee pain. This is in line with research that researchers do is to immerse the warm water and cold water on the legs. While on other body parts such as back, hands, buttocks, thighs, knees that experience fatigue do not allow soaking, thus the researcher uses a towel that has been soaked in warm water and cold water, then squeezed and placed on the body parts (back, hands, buttocks, thighs, knees) which experience fatigue, starting with a towel soaked in warm water, then replaced with a towel soaked in cold water, done alternately with an interval of 25 minutes.

This study is different from other studies because other studies only do soaking on the limbs or the whole body with warm water and cold water or just doing compressing on the limbs with a layer of towel. Meanwhile, this study using a combination of compression on the back, hands, buttocks, thighs, and knees with a towel previously soaked in warm water and cold water also do

soaking done on feet with warm and cold water. This combination is done because of the situation and environmental condition used as research place/location.

The result after fatigue in control group respondents obtained the mean of 58.47. The control group respondents were not given *contrast bath* intervention. There was a change of fatigue value on the control group respondents from the mean of 60.24 to 58.47. This is because respondents overcome fatigue by using massage oil and take a rest. In addition, caused by farmers who have long been farmers for about > 10 years has a lot of experience gained in overcoming fatigue. This statement is supported by Hartanti's research (2006), the working period of respondents dominantly > 10 years (58.8%). The longer a person works, they will be more experienced in doing the job and able to adapt to the work and environment. This is because the worker has known a comfortable working position for theirself, thus the productivity is also maintained (Sutjana, 2006).

The respondents fatigue in the treatment group and control group changed. It can be seen from changes in the physical condition of respondents and the respondents fatigue before and after giving *contrast bath*.

CONCLUSION AND SUGGESTION

The conclusion of this research is *contrast bath* effect on the recovery of farmer fatigue.

The researcher suggested to the health service in Puskesmas 1 Penebel expected to do counseling related to *contrast bath* therapy in effort for recovery of farmer fatigue.

Researcher suggest to farmers to be able to perform *contrast bath* therapy in the morning before starting work and evening after work. It is also expected that farmers can share this information to other farmers who do not get *contrast bath* intervention.

Researcher also suggest for the next researcher in order to control confounding variables such as age, sex, long as farmer, working period, physical work load that can influence the research result.

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PATIENTS AT OUTPATIENT DEPARTMENT AND COMMUNITY SETTING

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ABSTRACT

Higher life expectancy contributes to increased number of older people. Various body functions decline as one ages, affecting quality of life of older people. Quality of life is the perception of the individuals in the context of the culture and value systems in which they live. The purpose of this study was to compare quality of life of older people between patients in outpatient department and community. This was a quantitative descriptive study involving 199 elder people. Sampling was collected using purposive sampling with inclusion criteria: 60 years old or over, able to communicate and understand Indonesian language, willingness to become respondents, and not having hearing or visual loss that hinders participation. Quality of life was measured by the World Health Organisation Quality of Life-BREF questionnaire (WHOQOL-BREF) which consisted of four domains (physical health, psychological aspect, social relationships and environment). Ethical approval for this study was received from the Mochtar Riady Research Institute and Nanotechnology. Data was analyzed with descriptive analysis. The number of repondents in both settings were comparable (99 vs 100 respondents). In each domain in both settings, there were more respondents were in good/satisifactory/active/adequate category than in bad/unstable/inactive/inadaquate category. Nearly half of the respondents in the community (48.4%) and in the outpatient department (50%) were unstable psychologically. Further research is warranted on association of quality of life of older people between both settings.

Keywords: *Quality of life, Elderly, Older People, WHOQOL-BREF, Outpatient Department, Community*

INTRODUCTION

Economy and human development in Indonesia has enhanced tremendously over the last three decades, leading to better health and longer life expectancy (HelpAge International, 2014). By 2100, the world population life expectancy is expected to be 82 years and the Indonesian life expectancy will be 85 years (United Nations Population Division, 2012). Higher life expectancy leads to higher number of older people. It is predicted that by 2050 the total number of older people in Indonesia would reach 74,703,000 which is 25.5% of the entire population, with life expectancy predicted at 68 years old for males and 72 years old for females (HelpAge International, 2014).

Indonesia is among the top five countries with highest proportion of elderly people in the world, reaching 5,300,000 (7.4%) of the total population in 2000, while in 2010 the number of elderly was 24,000,000 (9.77%) of the total population, and by 2020 it is estimated to reach 28,800,000 (11.34%) of the total population. This trend is predicted to continue to rise until doubled in 2025 (Ministry of Health of Republic of Indonesia, 2013). In Banten province, since 2010 the number of elderly people has increased from 488,202 to 599,090 in 2014 (Central Bureau of Statistic Banten Province, 2016).

Quality of life is defined as the perception of the individual both males or females in the context of the culture and value systems in which they live, and relate to their living standards, hopes, pleasures, and attention (The World Health Organization, 1994). Quality of life may consist of physical, psychological, social relationships and environment domains (WHOQOL Group, 1998). Quality of life may shift as one physical health declines because of age. The immune system of older people diminishes, putting them at increased risk of acute and chronic diseases. The situation may get worse when elderly people live in poor financial conditions. About 11% of the Indonesian population live in poverty and 13.55% live in rural areas (Indonesia Statistic Bureau, 2010).

Most of the Indonesian population work in the non-formal sectors, making them unlikely to receive old age pension. Only 75% of the population work in non-formal sectors (HelpAge International, 2014), leaving only 25% likely to receive an old age pension. The large percentage of older people in Indonesia, especially those living in villages, may rely on their children for living. Short schooling years of many older people in Indonesia might be a contributing factor to this situation, affecting quality of life of the elderly in general. The government has actively implemented various programs in reducing poverty; however, 32.5 million Indonesians, including older people, are still in needs (HelpAge International, 2014). Thus, it is important to identify the quality of life of older people in both settings.

Banten province has a total of 636,590 elderly population aged 60-74 in 2016 (Central Bureau of Statistics Banten Province, 2016). Some of the elderly living in this area are still actively working. Some of them are working in non-formal sectors such as construction

works, small scale trading, household assistants to support their lives; others rely on their children for a living. Neither situations is a guarantee for a secure living arrangement in old age. Several contributing factors such as declining energy level of the elderly, inadequate personal health care, distance from health care facilities and insufficient financial resources, the quality of life of the elderly may be threatened.

METHODOLOGY

The purpose of this study was to compare quality of life of older people between patients in outpatient department and the community. This was a descriptive quantitative study took place in the outpatient department of a private hospital in Banten and in Cijengir, Tangerang. Data from both settings was collected July to September 2016. This was a quantitative descriptive study with purposive sampling, involving 199 elderly patients (100 respondents living in the community and 99 elderly patients in the outpatient department). Inclusion criteria consisted of 60 years old or over, ability to communicate and understand Indonesian language, willingness to become respondents, and not having hearing or visual loss that hinders participation such as shortness of breathing or physical infirmity.

Quality of life was measured by the Indonesian version of WHOQOL-BREF consisting of four broad domains: physical health, psychological aspect, social relationships and environment. Consisting of 26 questions, the WHOQOL-BREF was a shorter version of the original instrument (WHOQOL-100) which was developed by WHO aimed at assessing quality of life across culture. The Indonesian version of WHOQOL-BREF has proven valid (r = 0.89 to 0.95) and reliable (R = 0.66 to 0.87) with good internal consistency of the item domain were Cronbach alpha of 0.74, 0.66, 0.41, 00.77 for psysical health, psychology, social relationship and environment respectively (Salim et al, 2007). WHOQOL-BREF was adapted to various languages including Indonesian language by Salim et al in 2007. WHOQOL-BREF uses a Likert scale with scores of 1-5 from which the raw scores for every answer were transformed into a 0-100 scale with reference to the transformation table provided on the questionnaire instructions. At the time of filling out the questionnaire, respondents were accompanied by a family member. Ethical approval for this study was received from the Mochtar Riady Research Institute and Nanotechnology. Data was analyzed with descriptive analysis.

RESULTS

Table 1 Distribution of frequency characteristics of the elderly

Outpatient Department (n = 100)			Community (n = 99)		
Category	Frequency	Percentage (%)	Category	Frequency	Percentage (%)
Gender					
Male	50	50.0	Male	56	56.6
Female	50	50.0	Female	43	43.4
Age					
60-70	64	64.0	60-64	45	45.5%
71-90	33	33.0	65-69	37	37.4%
>90	3	3.0	70-74	17	17.2%
Total	100	100		99	100

Table 2 Distribution fo quality of life (QoL) of elderly

	Outpatient Department (n=100)								**Community (n=99)**							
Domain	**Age**						**Total**		**Age**						**Total**	
	60-70		**71-90**		**> 90**				**60-64**		**65-69**		**70-74**			
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Physical Health																
Good	43	43.0	15	15.0	0	0.0	**58**	**58**	31	31.3	23	23.2	9	0.09	**63**	**63.6**
Bad	21	21.0	18	18.0	3	3.0	**42**	**42**	14	14.1	14	14.1	8	0.08	**36**	**36.3**
Psychological																
Stable	37	37.0	13	13.0	0	0.0	**50**	**50**	21	21.2	19	19.1	8	0.08	**48**	**48.4**
Unstable	27	27.0	20	20.0	3	3.0	**50**	**50**	24	24.2	18	18.1	9	0.09	**51**	**51.5**
Social Relationship																
Active	35	35.0	14	14.0	1	1.0	**50**	**50**	28	28.2	22	22.2	11	0.11	**61**	**61.6**
Inactive	29	29.0	19	19.0	2	2.0	**50**	**50**	17	17.1	15	15.1	6	0.06	**38**	**42.2**
Environment																
Adequate	50	50.0	12	12.0	1	1.0	**63**	**63**	22	22.2	20	20.2	11	0.11	**53**	**53.3**
Inadequate	14	14.0	21	21.0	2	2.0	**37**	**37**	23	23.2	17	17.1	6	0.06	**46**	**46.4**

The number of repondents in both settings were comparable (99 and 100 respondents). In each domain of both settings, there were more respondents in good / satisifactory / active / adequate category than in bad / unstable / inactive / inadaquate category. However, Elderly in the community setting with stable psychological was slightly fewer than those in unstable state.

In the outpatient department, WHOQOL-BREF scores were higher on physical health (63.6%) and environment (63%), whereas in the community, WHOQOL-BREF scores were higher on physical health (63.6%) and social relationship domain (61.6%). Nearly half of the respondents in the community (48.4%) and in the outpatient department (50%) were unstable psychologically.

DISCUSSION

This study showed that the overall WHOQOL-BREF scores in each domains of quality of life (physical health, psychological, social relationships, and environment) in the outpatient department generally were good. These findings were contrary to previous study findings which reported lower quality of life particularly in physical health on patients with certain health conditions, namely glaucoma and macular degeneration (Kocak et al., 2013) and cardiovascular, muscoloskeletal, endocrine and neurological diseases (Cancovic, 2016). Previous study involving 200 elderly aged 60 and over using the same measurement instruments (the WHOQOL-BREF) in Serbia reported lower quality of life in elderly with cardiovascular, muscoloskeletal, endocrine, and neurological diseases in a retirement home in Serbia, particularly on physical, psychological and environment domain (Cancovic et al., 2016). However, it should be noted that the respondents in the present study were attendees of an outpatient department who might come only for regular medical visits.

Therefore, overall good scores on physical health in this study should be interpreted carefully as there might be other factors which could affecting responses to the questions being asked, which potentially affected bias the study results. Some factors hindering accurate comprehension when completing questionnaires may consists of lower education level, short administration time, other distractions such as noisy or disorganized environment, and cultural beliefs.

It is common that elderly in the Indonesian community abide to certain cultural beliefs. The questions were asked for physical health consisted of “How much do you need any medical treatment to function in your daily life? How much do you enjoy life? To what extent do you feel your life to be meaningful?” while living a simple life and suffering from certain age related health conditions, the elderly respondents in this area where this study took place have a strong rooted belief to always surrender their lives to God, enabling them to accept whatever life situations they may face.

Further, elderly in the community seemed to associate good quality of life with physical health and social relationship, whereas elderly in the outpatient department referred to physical health and environment. Since the

respondents were in the outpatient department in a hospital, their perception of the environment might have been influenced by their observation over the hospital-organized surroundings. Environment has a considerable influence on the health status of individuals and it supports the ease, comfort and security in which a person resides (Dewi, 2014). If these needs are unfulfilled, there may become problems in the life of the elderly that will lower their quality of life (Ratna, 2008).

On the other hand, elderly people who live in the community seemed to associate their general sense of wellness to social relationship. Older people in the village embrace value of mutual cooperation where good and bad times are shared together through activities such as praying together or local community groups.

The low scores on psychological domains in both settings were in line with a previous study by Marya et al. (2008) which pointed out how aging process affected the psychology of the elderly causing short-term memory, frustration, loneliness, feeling loss of freedom, fear of facing death, changes in desire, depression and anxiety (Marya et al, 2008). In her study, Kocak et al (2013) also found lower quality of life on elderly with glaucoma and age-related macular degeneration (AMD), particularly the latter caused depression and anxiety on the elderly.

The age category of the respondents in the two settings were not the same, making comparison more difficult. Other limitation of this study was the absence of a relevant sociodemographic data, such as marital status of the respondents and types of diseases, which may affect the elderly quality of life. Thus, future study need to incorporate health status of the respondents to be able to identify the elderly quality of life at different health levels.

CONCLUSION

This study has reported the quality of life of the elderly in four domains (physical, psychological, environmental and social relations) in the outpatient department as compared to the community on the WHOQOL-BREF scale. The results showed that the overall quality of life of elderly patients both in the outpatient department and in the community was good.

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The Effects of Glaucoma and Age-Related Macular Degeneration on Quality of Life DOI: 10.4274/tjo.13471 83 Nilüfer Koçak, Behice Elif Onur*, Mahmut Kaya, Hüseyin Aslankara, Hasan Can Cimilli*, Süleyman Kaynak

NURSING INTERVENTIONS USED IN PROMOTING SPIRITUAL HEALTH FOR PATIENTS WITH LIFE THREATENING ILLNESS IN HOSPITAL SETTINGS
A LITERATURE REVIEW

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ABSTRACT

Background
Spiritual health is one of the essential components of health, where patients search for meaning and purpose in life. Patients with life threatening illness experience distress, physically and spiritually. There are studies which found that nurses did not regularly integrate spiritual care into their daily routine, due to lack of time and knowledge. It is important to discover existing evidences of spiritual interventions which help the nurses promote spiritual health as regards to patients' need in hospital settings.
Aim
The aim of this study was to describe nursing interventions applied in promoting spiritual health for patients with life threatening illness in hospital settings.
Method
A literature review of sixteen articles was carried out, articles were retrieved from CINAHL and MEDLINE databases to answer the study's objective. A process of re-reading and finding the similar categories was being used to develop themes in analyzing the data.
Result
Results were categorized into three themes: person-centred communication, adapting a team approach, and modifying the physical environment. It was found that the nurses conducted a deeper level of communication which covered topics about patients' wishes and hopes, and being there for patients as major interventions. The nurses also assessed patients' spiritual needs prior to interventions, and were promoting patients and family belief and value in a respectful way. Family and referrals were also included in the intervention given by the palliative care team; moreover the nurses were providing privacy with regards to supporting a healing environment.
Conclusions
Acknowledgement of dying is essential in providing appropriate care. It is important for the nurses to be prepared adequately through education, to conduct spiritual care interventions within a person-centred care approach. Recommendation from this study may improve the quality of delivering spiritual care for patients with various cultures.

Keywords: nursing intervention, spiritual health, life threatening illness, hospital

BACKGROUND

Palliative Care

The European Association of Palliative Care ([EAPC], 2010) defines palliative care as an active, total care from an interdisciplinary approach intended for patients whose disease are not responsive to curative treatment, control of pain, of other symptoms, and of social, psychological and spiritual; the palliative approach integrates patient, family and community, for providing the needs of the patient whether at home or hospital setting, affirms life and regards dying as a normal process, to preserve the best possible quality of life until death. Gamondi, Larkinand, and Payne (2013) in EAPC white paper report describe ten core competencies in palliative care, one of them is meeting patients' spiritual needs.

The main goal of palliative care are to promote and to improve the quality of life both for the patients and their families throughout the disease trajectory. Care is mainly based on the physical, psychological, social, and spiritual dimension of the individual (Radbruch, et al., 2009). The objectives of palliative care services include optimization in quality of life and dignity in dying, recognizing patients' choice and autonomy, and recognizing both patients' and families' needs in any care setting (Ahmedzai et al., 2004).

Palliative Care Settings

Palliative care can be applied in a number of settings. The services itself are coordinated through different settings of home, hospital, inpatient hospice, nursing home and other institutions (EAPC, 2010). Patients, who have problematic symptoms such as recurrent pain and other symptoms from the diseases and medication side effects, also fear about condition and future which cannot be controlled (Ahmedzai et al., 2004).

Palliative care in hospital settings are frequently provided together with life-prolonging care, regardless of the patient's diagnosis or prognosis, and is an integral component of comprehensive care for critically ill patients (Aslakson, Curtis, & Nelson, 2014). Hospitals are part of healthcare institution facilities whose main goal is to deliver effective and efficient patient care. The hospital characteristics are in-patient beds, medical staff, nursing services, and other various specialties (Ferenc, 2013). Palliative care is expected to be routine delivered by the nurses or other health care providers in hospital settings (Weissman & Meier, 2008).

Approximately one in five deaths in the United States occurs during or shortly after admittance to Intensive Care Unit (ICU). There are more deaths that occur in the ICU than any other settings in the hospital (Aslakson et al., 2014). In addition, palliative care is an important component of comprehensive care for patients with life threatening illness, even from the period of ICU admission, it is neither an exclusive alternative, nor consequences to unsuccessful efforts at life prolonging care (Aslakson et al., 2014).

Life threatening illness

The need for palliative care is increasing not only for patients with cancer, but also for other patients with

non-communicable diseases as well as life-threatening illness (Worldwide Palliative Care Alliance [WPCA], 2014). The term life threatening illness (LTI) refers to illness with significant threat to life (Sheilds et al., 2014). LTI means that there is no cure, and it might be highly distressing for patients and family, and have consequences not only to physical and financial states, but also social and spiritual conditions (Johnston, Miligan, Foster, & Kearney, 2012). According to Sheilds et al. (2014) the term critical illness also refers to a life threatening illness, a concept that also refers to illness with significant threat to life, with extensive variety of diseases, which require palliative care approaches.

Some examples of patients with LTI that require palliative care services for adults are; Alzheimer's disease and other Dementias, Cancer, Cardiovascular diseases (excluding sudden deaths), Cirrhosis of the liver, Chronic Obstructive Pulmonary Diseases, Diabetes, HIV/AIDS, Kidney failure, Multiple Sclerosis, Parkinson's disease, Rheumatoid Arthritis, Drug-resistant Tuberculosis (WPCA, 2014). According to WPCA (2014), in 2011 the expected number of adults need palliative care was more than 19 million, with majority died from cardiovascular diseases (38.5 percent) and cancer (34 percent).

Since LTI can provoke questions about deeper existential issues, such as the meaning of life, spiritual care should be integrated to palliative care provision. It is important for nurses to be able to raise spiritual issues in a supportive and caring environment (Gamondi et al., 2013).

Spirituality

Based on EAPC (2010), spirituality is a part of dynamic dimension of life that relates to the way patients both as individuals and community members, express themselves and/or seek meaning, purpose of life and transcendence. Meeting patients' spiritual needs is one of the core competences in palliative care (Gamondi et al., 2013). According to EAPC (2010), it is the way to connect at a particular moment, to self, others, nature, the significant and/or the sacred. Spirituality is also a transcendent dimension of belief in a higher being and with more material and humanistic pursuits along a horizontal dimension (Ormsby & Harrington, 2003).

Some patients are longing for religious or spiritual care providers to help answer the question about why they experience the disease (Mueller, 2001). Moreover, describes by Mueller (2001), they might also seek answers to existential question when they consult with a physician to determine the cause and treatment of an illness. Puchalski (2002) notes that spiritual care needs for patients with LTI includes: having a warm relationship with their caregiver, being listened to, having someone to be trusted to share their fears and hopes, having someone with them when they are dying, being able to pray, and having others pray for them if required. Spiritual needs in general include the need to give and receive love; to have meaning, purpose, hope, values, and faith; and to experience transcendence, beauty, and so forth. When spiritual needs are not satisfied, spiritual suffering or distress occurs (Mueller, 2001).

Some studies found that nurses do not regularly incorporate spiritual care into their daily routine, and lack time to explore the patient's spiritual needs (Ellis & Narayanasamy, 2009). The nurses might feel they lack the essential skills to individually provide spiritual support to patients (Ellis & Narayanasamy, 2009). Spirituality in nursing is a part of holistic nursing care, yet many nurses are unprepared for spiritual care, which is a neglected area of practice (Pesut, 2008). There is a lack of education on spirituality within nurse training programs. Moreover, even though spirituality is discussed within nursing education, it is neglected in practice (Narayanasamy, 2006b).

Spiritual health

Spiritual health is part of human health, as well as physical, and mental health, this means that a person is able to deal with everyday life, in a way that lead to insight of potential, meaning and purpose of life, and satisfaction (Dhar, Chaturvedi, & Nandan, 2011). Therefore, every health care provider is obliged to provide spiritual support, as Driscoll (2001) mentions that spiritual care is beyond religious care; it includes respect for meaning and value of a human being. In addition, as mentioned by Scottish Executive (2002, as cited in Lugton & McIntyre, 2005), spiritual care is completely person-centred without any assumptions about personal belief or life orientation, and is usually given within the context of a personal relationship.

Person-Centred Care Framework

McCormack and McCance (2006) developed the Person-Centred Care (PCC) framework for use in the intervention that focused on measuring the effectiveness of the implementation of PCC in hospital settings. Person-centred processes focus on providing care through various activities, which operationalize PCC nursing and including working with patient's beliefs and values, engagement, having sympathetic presence, sharing decision-making. McCormack & McCance (2006) describe the framework that includes four constructs, such as prerequisites, which include attributes of nurses, caring environment, person-centred process, and expected outcomes.

The importance of PCC in palliative care context in hospital settings, leads advanced practitioner nurses' decision making from traditional nursing roles towards advanced communication, counseling, and care planning (McCormack et al., 2011b). Further in this study, the term patients' will be used refer to a person who is receiving care in a hospitals settings.

Nursing in Palliative Care

Meleis (2012) describes the domain of nursing, which fundamental to nursing are: nurse-patient relationship, transitions, interaction, nursing process, environment, nursing therapeutics and health (Meleis, 2012). In addition, by the International Council of Nurses ([ICN], 2012), stated that in providing care, the nurse promotes an environment in which human rights, values, customs and spiritual beliefs of the individual, family and community are respected.

Palliative care nurses' major responsibilities are caring for dying patients and families, providing an empathetic relationship, being there and

acting on the patient's behalf, fostering hope, supporting and helping them to live with the psychological, social, physical, and spiritual consequences of their illness (Johnston in Lugton & McIntyre, 2005).

The nurses are expected to play a significant role in improving patients' and families' quality of life during a tough period (Murray, 2007). Some nurses hold very positive views about spiritual care and consider that they have a role to play in addressing patients' spiritual needs, however they need to have more education in order to provide spiritual care (Timmins et al., 2016).

Nurses are members of a team within palliative care and in hospital settings the team consists of doctors and nurses, including chaplain. The team provides support and advice of pain and symptoms control, management of pain, psychosocial and spiritual support, and bereavement support (Johnston in Lugton & McIntyre, 2005). Palliative care teams, especially nurses are expected to be able to provide opportunities for patients and families to express their spiritual and existential dimensions in a respectful manner, to integrate their spiritual, existential and religious needs in the care plan, respect their decisions, and be aware of the limitations and respect of cultural taboos, values and choices (Gamondi et al., 2013).

PROBLEM STATEMENT

Considering the magnitude of vast increments of life-threatening illnesses globally, in 2011 the estimated number of adults in need of palliative care at the end of life was over 19 million, with majority died from cardiovascular diseases (38.5%) and cancer (34%). Despite 'meeting spiritual needs of patients' with life threatening illness being as one of core competencies of palliative care, several studies have stated that nurses do not habitually integrate spiritual care to their routine care plan. These might be attributed to feeling of nurses lacking the essential skills to individually provide spiritual support to patients, lack of education on spirituality within nurse training programs and lack of time which makes spiritual care seem to be neglected. Therefore this literature review is emphasizing to determine the existing evidence of spiritual interventions that could help the nurses promote spiritual health according to patients need in clinical setting, specifically hospital.

AIM

The aim of this study was to describe nursing interventions applied in promoting spiritual health for patients with life threatening illness in hospital settings.

METHOD

Design

The research design in this study was systematic literature review. A systematic review is a design to identify comprehensively and discover all the available literature on a topic, with a comprehensive methodology, and well-focused searching strategy (Aveyard, 2010). In addition according to Aveyard (2010), inclusion and exclusion criteria are developed in order to assess which information to retrieve, and ensure included only studies that are relevant to the aim were addressed by the literature review. A literature review was used to carry out this study. A literature review is a critical summary of research on a topic

of interest, frequently prepared with placed a research problem in the framework (Polit & Beck, 2012). In addition according to Garrard (2011), this method is done by reading, analyzing, accumulating knowledge about the topic studied, and writing scholarly materials about a specific subject or area of interest; the author must focus on the scientific methods, results, strengths, weakness, analysis and conclusions. The author was choose the literature review in order to find summary of topics to initiate research in spirituality and nursing interventions.

Data Collection

The electronic health-related databases used to gather articles were from Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Medical Literature On-Line (MEDLINE). CINAHL is an important electronic database which covers references to all English-language nursing and allied health journals, books, dissertations, and selected conference proceedings in nursing and allied health fields (Polit & Beck, 2012). MEDLINE database accessed for free through PubMed website, it is cover mostly the biomedical literature, it used the controlled vocabulary called MeSH (Medical Subject Headings) to index articles (Polit & Beck, 2012).

The search words used by MeSH term in MEDLINE were palliative care, nursing, nurse, spirituality, terminal care, critical illness, acute, and emergency. The free text search words were hospital, life threatening illness, spiritual care, and spiritual health. The author used similar terms for search process in CINAHI, the difference was option for MeSH term was changed by MW word which included subject heading and subheadings. In both databases, the Boolean operators used "AND" and "OR" to connect words together to either narrow or broaden results.

Only peer-reviewed and primary research articles were included after being assessed to establish significance and trustworthiness (Richardson, 2011). According to Garrard (2011), a peer-reviewed paper is the one which has gone through one or more scientific experts. Primary research or primary source materials are original research papers written by the authors who essentially conducted the study. The primary source includes the purpose, methods, and results section of a research paper in a scientific journal (Garrard, 2011).

The author chose matrix method according to Garrard (2011), as the articles presented in a matrix includes author, year, and country, title, aim, method, sample, results, type, and quality. In order to collect the documents, all titles from hits displayed were reviewed, then the author read the abstract to determine relevance to the aim. When the abstract's objective and results seemed to be relevant to the study aim, then the entire article was read. Finally, the author decided which articles to be used in this review. Each article was read several times, and a few articles were eliminated if they did not include nursing interventions. The analysis process started when sixteen articles were found relevant to the aim, and data saturations have been reached.

Inclusion and Exclusion Criteria

Inclusion criteria for the research focused on original studies or primary research which used either qualitative or quantitative, and mixed methods. The articles sources would be within ten years between 2006 and 2016, published in English, peer reviewed, related to palliative care, nursing interventions were included, and the population were adult patients. On the other hand, articles published prior to 2006, used language other than English, focused in home care setting, and articles which involved infant, children, and adolescent were not used. All reports, review articles, and grey literature were also excluded.

Ancestry Search

The author was carried out an ancestry search, which involved using citations from related studies to discover earlier research on the same topic (Polit & Beck, 2012). The author did the search by examined links suggested in the databases, and searched in references list from chosen articles. Five articles were included from the ancestry search in this literature review.

Data Analysis

Sixteen articles were included in this literature review. The assessment and analysis of the articles were done by using the matrix method, and steps used were organized in the documents in an Excel spreadsheet to set up the review matrix on computer and the documents were ordered in alphabetical order, prior to finding the themes (Garrard, 2011).

According to Polit & Beck (2012), a convenient method to display information clearly and analyzing the data from a literature review is using matrix, as the information can be sorted chronologically, with author's names, time of publication from oldest to recent, or common terms.

The result matrix contains information about findings of each research study that answered the aim of the literature review (Polit & Beck, 2012). Articles analysis used thematic analysis, which is the most common method for summarizing and synthesizing findings in a descriptive methods, and applicable for mixed literature, qualitative and quantitative studies (Coughlan, Cronin, & Ryan, 2013). Further, Coughlan et al. (2013) explained that the first step in thematic analysis is identifying codes, and labels to classify results from the findings of the research, PCC framework (McCormack & McCance, 2006) was used as guidelines for constructing themes in results.

ETHICAL CONSIDERATIONS

The term 'ethics' in the research context refers to the principles, rules and standards of conduct that apply to investigations (Wager & Wiffen, 2011). Ethical consideration is applied when one discusses data, articles, and research accurately, objectively, and honestly. It should be interpreted carefully to prevent misrepresentation, misinformation, and/or intentional misinterpretation (Polit & Beck, 2012).

In this literature review ethical consideration did not emphasize on the protection of human and animal subjects, but rather, focused on respecting the public trust. Thus, the author paid attention in research misconduct. Research misconduct refers to fabrication, falsification and plagiarism. Plagiarism is a form of misconduct and

intentional representation of another person's own work (Wager & Wiffen, 2011). Falsification is manipulating data, or distorting results not as accurately represented as in reports. Fabrication involves making up data or study results (Polit & Beck, 2012). The author avoided plagiarism by fully admitting all data used and giving appropriate credit when using other researchers' work.

Fabrication and falsification were avoided by writing whatever the results were in the articles without any distortion.

Articles selected for the review must take into consideration ethical principles in accordance with the World Medical Association's (WMA) Declaration of Helsinki, Ethical Principles for medical research, which stated that in research involving human subject, each participant must be adequately informed of the aims, methods, the anticipated benefits, and potential risk of the study (WMA, 2013).

In this literature review, risk and benefit to participants have been assessed by the authors of the investigated studies. The author made sure that all participants included in the investigated study were given informed consent, and had the rights to refuse or withdraw consent to participate without reprisal. The author also made sure that the studies included privacy, confidentiality, and received approval from an ethical review board. In regards of professionals' code of ethics when undertaking a literature review, nurses have to consider their responsibility to care for people. In research context, the research should be used to improve nursing practice (ICN, 2012).

RESULTS

The results in this study are presented under three main themes; Person-centred communication, Adapting a team approach, and Modifying the physical environment. Sub-themes were included under the main themes.

Person-centred communication

Communicating on a deeper level

The nurses' facilitated communication in a deeper level found as one of the most frequently reported interventions. The nurses explored efforts on finding sense and meaning in life (Baldacchino, 2006; Kisvetrová et al., 2016). Baldacchino (2006) found that nurses did the communication about accepting the limitation and identifying the positive aspects of the current situation, assisting in finding sense and purpose in life. This was supported by Kisvetrová et al. (2016) that stated the nurses explored patients' hope and wishes for the future, moreover deeper into their wish for funeral arrangements. Coenen, Doorenbos, and Wilson (2007) also found that nurses in India were maintaining hope or faith, accepting clients' feelings helping and trying to fulfill patients' last wishes, while in Ethiopia the nurses and giving psychological reassurance.

Besides hope and wishes, the nurses' also explored patients' distresses by listening to patients' deep concerns (Giske & Cone, 2015; McBrien, 2010). Nursing intervention which explored patients' distress can also be a creative

way, such as using pictures to help patients talk about spiritual aspects (van Leeuwen et al., 2006), and a storytelling method which allowed patients to share their personal experiences and achieved a sense of connectedness and intimacy (Tuck et al., 2012).

Active listening and being present

Nurses build nurse-patient trust relationship with active listening and being present with patients. Active listening can promote patient self-reflection (Burkhart & Hogan, 2008; Tanyi, et al., 2009; Tuck et al., 2012). Nurses attitudes in performing active listening demonstrated respects when talking to patients in order to support patients' coping with illness (Hanson et al., 2008), to communicate with empathy (Baldacchino, 2006; McBrien, 2010), to listen to patient expressing their feeling (Kisvetrová, Klugar, & Kabelka, 2013), to listen with interest, to be careful, and to listen deeply to patients story, to act with honesty, compassion (Coenen et al., 2007), and also to show gestures such as smiling and giving therapeutic touch by holding hand, and hand shaking (Coenen et al., 2007; Giske & Cone, 2015; McBrien, 2010).

Nurses also being present for patients and families in promoting spiritual health, by staying with patients at the bedside and also being with patient and family (Coenen et al., 2007; Gallison, Xu, Jurgens, & Boyle, 2013; McBrien, 2010; Smyth & Allen, 2011; Tuck et al., 2012). Nurses intervention of being present is described by Tuck et al. (2012) as therapeutic presence, while Giske and Cone (2015) called it as attentive engaging.

Assessing spiritual needs

Assessments of patients' spiritual needs were carried out by the nurses prior to interventions. Assessments were done by listening to patients' complaints about their current condition, by assessing privacy, and nonverbal cues shown by patients (Baldacchino, 2006), by assessing spiritual needs (Burkhart & Hogan, 2008; Lundberg & Kerdonfag, 2010; Smyth & Allen, 2011), by assessing patient's comfort level with the spiritual topic (Tanyi, McKenzie, & Chapek, 2009), and by assessing whether patients belong to a religious community and patients spiritual view, and how patients handled previous situations (Hanson et al., 2008; van Leeuwen, Tiesinga, Post, & Jochemsen, 2006).

Promoting patients' belief and values

Nursing interventions in promoting patients' value and belief is manifested by treating patients with respect and dignity. This was found consistently in two studies (Kisvetrová et al., 2013; Kisvetrová et al., 2016). Nurses were facilitating patients religious coping (Baldacchino, 2006), allowing patients doing yoga or meditation (Coenen et al., 2007; Tanyi et al., 2013). Nurses allowed patients to conduct spiritual practices and religious rituals for instance praying in chapels (Lundberg & Kerdonfag, 2010).

Respecting patients' belief is demonstrated by respecting patient's belief about existential issues and connectedness with higher power (Burkhart & Hogan, 2008), and for Christian patients, nurses in USA and Ethiopia respected them to have assurance of belief from the Word of God (Coenen et al., 2007). Several articles

stated that nurses prayed with patients, if only they were asked (Burkhart & Hogan, 2008; Gallison et al., 2013; Giske & Cone, 2015; Hanson et al., 2008; Kisvetrová et al., 2013; McBrien, 2010; van Leeuwen, et al., 2006).

In order to support culturally based spiritual practices, Coenen et al. (2007) found that nurses in India allowed patients to use Tulsi Patra leaves and water from Gangga river, or chanting prayers (Bhajams and shlokas) for preparing self to have a peaceful death. McBrien (2010) supported this by stating that nurses respected patients' and families' cultural belief and practices.

Adapting a team approach

Facilitating referrals to other team members

As part of health care providers and palliative care team, nurses collaborated in promoting patients' spiritual health. For more specific and detailed intervention in spiritual care, nurses collaborated by referring patients to hospital chaplains (Baldacchino, 2006; Gallison et al., 2013; Giske & Cone, 2015; McBrien, 2010), and calling religious ministers (Smyth & Allen, 2011).

Patients were also allowed to have their own spiritual advisors, as it had already been discussed with patient, family, and palliative care team (Kisvetrová et al., 2016). Another spiritual mentors such as priests, pastors, members of the clergy, or other spiritual leaders, were also facilitated by nurses for being with patients (Coenen et al., 2007).

Family and significant others

Nurses' support in promoting spiritual health was for patients as well as their families. Nurses showed respect and facilitated families' participation in the teamwork for spiritual care (Lundberg & Kerdonfag, 2010). Families' participation in caring patients can strengthen patient-family relationship (Baldacchino, 2006), as Kisvetrová et al. (2016) found that families were being involved by the nurses in giving spiritual support for patients, in order to promote connectedness between patients and families (Burkhart & Hogan, 2008).

Similarities in facilitating family members' presence were found in three studies (Baumhover & Hughes, 2009; Bloomer et al., 2013; Coenen et al., 2007). A study by Baumhover and Hughes (2009) addressed patients' and families' wishes to allow them together during critical and difficult situation, during invasive procedures and resuscitation in critical care unit and emergency department. In a palliative ward, nurses also cared for families by simply giving them cups of tea and offering chair to sit, and allowing visitors to stay as long as they like (Bloomer et al., 2013). Coenen et al. (2007) in their research found in four countries (Ethiopia, India, Kenya, and USA) that nurses were encouraged families to be with patients. In addition, Coenen et al. (2007) added that nurses supported, reassured, and involved families in the care to promote patients dying with dignity.

Furthermore, interventions for spiritual health for patients were not only given when patients were still alive, but also when patients had already passed

away, as Smyth and Allen (2011) addressed that nursing care in providing spiritual care was demonstrated by nurses giving care after the patient died, including washing the body, placing flowers on the body, and letting family or partners to be involved in after death care. In Ethiopia, nurses helped family members in acceptance of death and the belief in life after death (Coenen et al., 2007).

Modifying the physical environment

Facilitating privacy

In two countries, United Kingdom and Czech Republic, nursing intervention includes environmental modifications which provide privacy and allow patients to have quiet time for spiritual activities (Giske & Cone, 2015; Kisvetrová et al., 2016). It is supported in a study in USA by Coenen et al. (2007), that nurses offered privacy, a homelike environment, a quiet room, and soft music and lighting. Coenen et al. (2007) added that nurses in India provided peaceful environment and allowed patients and family to sing their favorite songs. A support in spiritual health can also come from domestic animals visit, this was covered in study in Australia (Smyth & Allen, 2011) and USA (Coenen et al., 2007).

A study has shown that modified ward design in a quiet and peaceful environment can support spiritual health (Baldacchino, 2006). On the other hand, Bloomer et al. (2013) argued from their findings, that end-of-life care in a single room could have negative consequences for the dying. It caused patients to feel scared and alone, and could be forgotten by the nurses, even though nurses modified the room by putting some tissue and a vase of flowers, and provided comfortable chairs for family and visitors.

DISCUSSION

Method Discussion

The method used to answer the aim in this study was a literature review. This method was considered suitable as the aim of the study was to describe narratively available published research (Aveyard, 2010). A qualitative study with semi structured interview or focus group discussion could have been an alternative method to carry out this research. The method, however, is time consuming for daily practice (Polit & Beck, 2012). Moreover, since the subjects are patients with LTI and spiritual health, this topic could have been as high risk for patients as vulnerable group in their critical situation.

The strength of a literature review method was the feasible and convenient method to answer the aim of the review (Polit & Beck, 2012; Garrard, 2011). Literature review is important because there was an increasing amount of studies that cannot be expected to be reviewed and assimilated in only one topic (Aveyard, 2010). Aveyards (2010) added in order to update the information, that it is one of suitable ways for practitioners to assimilate, decide, and implement all this information in their professional lives. Articles gathered within the past ten years, were taken from several countries, and used various methods such as qualitative, quantitative and mixed methods, recognized by the author as strength from this study.

According to Aveyard (2010), the weakness of literature review includes language issues and time limitation. At that point, the author was aware of time limitation and insufficient English language proficiency required to carry out an empirical study, thus the author decided to perform the study by using a literature review.

Researcher subjectivity is one of the biases that can occur in a research, where researcher may search findings within their expectations or their own experiences (Polit & Beck, 2012). This bias was avoided by the author by trying to explore various articles until data saturation was found. Data saturation in the literature review is similar to a qualitative study, which means pursuing information until saturation is achieved, and the analysis of data typically contains similar themes (Polit & Beck, 2012). Data saturation in this study were achieved when the findings contains similar topics and showed reappearance within the themes.

Validity and reliability in this study was obtained by evaluating and assessing the quality of the selected papers. Studies which do not meet the inclusion criteria, are excluded from the study. This is to ensure that only high-quality papers that are relevant to the aim are included (Aveyard, 2010). A comprehensive and systematic search was conducted in two databases (CINAHL and MEDLINE) in different times, and also an ancestry search was obtained. Exploration was within the aim in this study, which included nursing interventions, palliative care, and spiritual as the main contexts.

The author firstly focused on the general health and medical database (MEDLINE) to have a global picture of potential findings using search terms “palliative care”, “nursing”, and “hospital” which yield a great number of articles. Then the author continued the search in CINAHL, which covered subjects in nursing and allied health. There were duplicates of articles found both in MEDLINE and CINAHL. In order to gather specific articles according to the study aim, the author modified the search by using the MeSH terms in MEDLINE, and MW word in CINAHL, to be more specific in studies searched.
The search process was restricted by year between 2006 and 2016, the oldest article found was from 2006, and the most recent was 2016, most studies were published between 2008 to 2013. The articles covered several countries across the world, in which most articles are from United States of America (USA) seven articles, followed by two studies from Australia. There were also articles from Czech Republic, Norway, the Netherlands, Ireland, and Malta are taken as representatives from the European region. Other articles were from Ethiopia, Kenya, Thailand, and India.

The following results offer a large spectrum of findings from different countries and cultures. This picture offers information regarding palliative care in several countries and nurses as the subject of interest. It was surprising that the findings have shown similarities, even though they were conducted in different countries within ten years. However, a weakness of this literature review is that it is not truly representative

of a global perspective with only two studies done in Asia: in India (Coenen et al., 2007) and Thailand (Lundberg & Kerdonfag, 2010). This could be due to the fact that palliative care is still developing in Asia, According to WPCA (2014) this group of countries are still in the development stage of palliative care due to funding issues, morphine limitation, and a small number of hospice-palliative care services compared to the size of the population.

Various settings in hospitals were found in the findings, such as medical surgical wards, palliative care wards, intensive care unit, and emergency department. Initially the author expected to find greater amount of research studies in acute settings as relevant settings to most patients with life threatening illness. However, the search process showed that there were only a few articles that published specifically about spirituality in acute care settings. One main reason is in acute or emergency settings in which there were great responsibilities, as a result the nurses not having time to conduct spiritual assessments in order to facilitate patients' spiritual needs (Ellis & Narayanasamy, 2009). On the other hand, this insufficiency of research in particular settings could be an opportunity to develop further research on how nurses may promote a spiritual care in acute care settings.

With the intention of articles evaluation and analysis, the author first read the titles, then abstracts, and then the entire text of each chosen article. Some articles that have no relevance to the aim were excluded. Likewise, the articles that more highlighted the nurses' or patients' perception and experience, and not included nursing interventions were excluded. There were articles by chaplains and physicians researchers that were excluded, as they were not really addressing nursing roles and interventions.

Findings of this review were based on the results of the included sixteen articles, which used different methods, eight articles used a qualitative method, five articles used a quantitative method, and three articles used mixed method both quantitative and qualitative approaches. Some articles displayed their results in tables, and other articles include the quotes from the participants' response. Having a variety of study methods is one of the strengths and might contribute to the validity of this literature review (Aveyard, 2010).

To avoid the risk of misinterpretation of the findings, the author read the articles several times, in addition, the author also discussed them with the advisor to double check the findings. The author sought to avoid falsification, misinterpretations or research misconduct (Polit & Beck, 2012). For ethical consideration, the author carefully searched and read for ethical approval in each article. Since the studies involved human as participants, ethical concerns in each study were examined to make sure participants get adequate information about the aim, method, benefit and risk of the study, and each study contributed to the improvement in nursing practice (WMA, 2013; ICN, 2012).

The author documented essential evaluation of methods used in each study

which included sampling, setting, and data collection sections. The majority of studies used purposive sampling approach with convenience sample, where the researcher selected participants based on specific criteria such as which ones will be most informative (Polit & Beck, 2012). Only one study by Badalacchino (2006) used stratified random sampling for male and female nurses, it was where the participants were randomly selected from two or more strata of the population independently (Polit & Beck, 2012).

There were three studies which used enormous samples in data collection. Coenen et al. (2007) included 560 nurses within four countries (Ethiopia, Kenya, India, and USA). However the attrition rate was also plentiful 44 percent, as regards to emailed survey on the internet (USA) and at that time in Ethiopia there was political incident which caused many people including the participants, out of the country. Kisvetrova et al. (2013), conducted a research involving 750 nurses who had cared for patients with LTI, and several years later Kisvetrova et al. (2016) conducted a research with 450 ICU nurses, both in Czech Republic. Even though there were also a high attrition rate (38 percent), the internal consistency of the structured questionnaire was considered acceptable because Cronbach's α coefficient was 0.92 for the entire questionnaire (Kisvetrova et al., 2016).

In contrast, studies with small numbers of participants were represented by four studies. Smyth and Allen (2011) were doing research to 16 nurses from acute medical wards in a hospital in Australia. In spite of small numbers of participants and in one hospital, they did an unstructured focus group interview to explore more information from participants, and did triangulation in data analysis to strengthen the generalizability of the study. In the study by Tuck et al. (2016), there were 5 out of 18 participants dropped from the study, due to worsened condition and no longer being able to communicate. It was one of the conditions that could occur in research within palliative care settings.

Another study with a small sample size was from Tanyi et al. (2009), which studied only ten participants with inclusion criteria of those who have lived the experiences in incorporating spiritual care in their practices as regards to phenomenological research methodology. Last study was from Thailand by Lundberg and Kerdofag (2010) that were obtained from a relatively small number of registered nurses who are not representative of the whole population of nurses in Thailand, consequently results obtained should not be generalized to Thailand registered nurses in general.

The author was constructing the results findings according to theme. This review captured wide range of themes but most of the studies had similar findings. The author used different colors in order to highlight the recurrent sections relevant to each theme, while considering PCC as framework.

Results Discussion

The result of this literature review were displayed in themes according to nursing interventions in promoting spiritual health for patients with LTI in

hospitals settings. The main theme focuses on patients, which is person-centred communication, the nurses also adapting a team approach by including family and chaplain in the team work, and in addition modifying physical environment to support patients and family privacy during their critical moments.

According to McCormack and McCance (2006), the primary stage in PCC approach is focus on the nurses' attributes, whereas professional competence focuses on the knowledge and skills to make decisions and prioritize care, and include competencies in taking assessments. This first step of caring was shown in several articles, due to the nurses taking assessments in patients' spiritual needs prior to interventions in order to recognize patients spiritual needs, spiritual history, and religious views (Baldacchino, 2006; Burkhart & Hogan, 2008; Hanson et al., 2008; Lundberg & Kerdonfag, 2010; Smyth & Allen, 2011; Tanyi et al., 2009; van Leeuwen et al., 2006).

Simply taking a spiritual history may honor the patient's need to be seen as more than a physical being, and health care providers can learn this skill (Hanson et al., 2008). In addition, Baldacchino (2006) stated that the nursing assessment might influence the patients to confide their inner self to nurses as a trustful nurse–patient relationship.

An early identification and holistic assessments related to physical, psychosocial needs, and spiritual needs are major parts in palliative care (WHO, 2002). Therefore, when the healthcare professionals address patients' spiritual needs to promote spiritual health; they provide spiritual care (Taylor, 2006). Spiritual care is closely tied up with dignity in care, holistic care, and respect patient's perspective (Cockel & McShery, 2012).

A person-centred communication conducted by nurses leads to a deeper level communications, such as explored patients sense, meaning, hope, and purpose in life (Badalacchino, 2006; Kisvetrova et al. 2016; Coenen et al., 2007). When discovering about patients' wishes, the nurses also gain more information about patients' distress and deep concerns (Giske & Cone, 2015; McBrien, 2010). Such approaches conducted by the nurses to allow patients to talk about their personal experiences include using pictures (van Leeuwen et al., 2006) and storytelling (Tuck et al., 2012).

There was finding that uncovered that the nurses did not only communicate about patients' hope and last wishes, but also talked further about funeral arrangements requests (Kisvetrová et al., 2016). Nursing interventions supported patient dignity in their last moments. Interventions identified by nurses to promote dignified dying reflected a holistic approach to caring for patients and their families (Coenen et al., 2007). As it is according to EAPC (2010), which stated that all people have the right to receive high quality care during serious illness and to a dignified death free of overwhelming pain and in line with their spiritual and religious needs.

In order to perform communication on a deeper level, an

active listening and being present for patients are important. More than half of the total articles results discussed these evidences. Active listening promoted patients' self-reflection (Burkhart & Hogan, 2008; Tanyi, et al., 2009; Tuck et al., 2012) and supported patients' coping with illness (Hanson et al., 2008). Listening to patients feeling required several approaches such as listening with interest, honesty, and compassion (Coenen et al., 2007), empathy (Baldacchino, 2006), and giving therapeutic touch like holding hands (Coenen et al., 2007; Giske & Cone, 2015; McBrien, 2010).

According to Tuck et al. (2012), when listening to a patient, the nurse pays attention not only to the patient's words, but also voice tone and body language. In addition, therapeutic touch was also described as positive affective and comforting touch. It is supported by Pesut (2008), that stated that nurses managed therapeutic use of self includes interventions such as presence, listening, touch, respect, in order to help patients to find meaning, purpose, hope, values, connection, and forgiveness.

Nurse presence for patients and families implies therapeutic presence, a special way of being with the other that recognizes other's values and priorities (Tuck et al., 2012) and attentive engaging (Giske & Cone, 2015). These results are in line with Pesut (2008), which described that nurses' caring presence as important to patients and has the potential to make a significant difference for patients to understand their circumstances.

Several studies addressed nursing interventions in promoting spiritual health by respecting patients' belief and values, by treating patients respect and dignity (Kisvetrová et al., 2013; Kisvetrová et al., 2016), facilitated religious coping Baldacchino, 2006) such as praying in chapel (Lundberg & Kerdonfag, 2010), or through yoga and meditation (Coenen et al., 2007; Tanyi et al., 2013). Nurses also prayed with patients if they were asked (Burkhart & Hogan, 2008; Gallison et al., 2013; Giske & Cone, 2015; Hanson et al., 2008; Kisvetrová et al., 2013; McBrien, 2010; van Leeuwen, et al., 2006). These results have important implications for developing a PCC focus on providing care through various activities including working with patient's beliefs and values (McCormack & McCance, 2006).

There is only one study by Coenen et al. (2007) that showed spesifically how nurses supported cultural based spiritual practices in India, nurses allowed patients and family used Tulsi Patra leaves and Gangga's river water, or doing specific chanting prayers (Bhajams and Shlokas) for preparing self to have a peaceful death. Even though it is only found in a particular study, this is an important issue for future research for nurses to conduct further research with regards to supporting spiritual practices in various cultures. According to the author's previous experience working in ICU ward in Indonesia, where there were plenty of traditional cultural diversities. The nurses there respected patients and families spiritual practices in the ICU ward, for example families asked the nurses to give the patients specific water

with paper containing arabic prayer, with the purpose of cleaning from sin, and for drinking and bathing. One of the issues emerging from these findings is in accordance with the study by Gamondi et al. (2013), which stated nurses as a part of palliative care teams. Nurses provided opportunities for patients and families to express their spiritual and existential dimensions in a respectful manner.

Another important finding is including others in a teamwork, families and significant others, and also referrals to hospital chaplain. More than one studies shown that nurses included families, relatives, visitors to participate in giving spiritual support to patients with LTI whether it was in a palliative care ward (Bloomer et al., 2013; Coenen et al., 2007) or during resuscitation and invasive procedure in ICU and emergency ward (Baumhover & Hughes, 2009). Furthermore, involving family in nursing care was also encouraged when patients had already passed away (Smyth & Allen, 2011; Coenen et al., 2007). According to EAPC, it is one of palliative care nursing competencies for practicing an interdisciplinary teamwork and providing comprehensive care co-ordination throughout all settings where palliative care is offered (Gamondi et al., 2013).

Collaboration with other team members was represented with nurses refer patients to hospital chaplains (Baldacchino, 2006; Gallison et al., 2013; Giske & Cone, 2015; McBrien, 2010), religious ministers (Smyth & Allen, 2011), spiritual advisors (Kisvetrová et al., 2016), and other spiritual mentors such as priests, pastors, members of the clergy, or other spiritual leaders (Coenen et al., 2007). These findings may help us to understand that nurses are members of a team within palliative care, who provide support not only for reducing pain and other symptoms, but also for promoting psychosocial, spiritual support, bereavement support (Johnston in Lugton & McIntyre, 2005). In addition, these results are in agreement with nurse's responsibilities to not only listen to the patient and assess any spiritual need, but also to make referrals to others who have the essential skills and experience to help (McCormack et al., 2011b).

Besides caring for patients and family, nurses should also caring for the physical environment (McCormack & McCance, 2006). The study also uncovered that by providing privacy and allowed patients to have quiet time for spiritual activity should be made possible (Giske & Cone, 2015; Kisvetrová et al., 2016). Although this may be true that a single room helps promote patients' privacy, surprisingly in contrast to the findings, Bloomer et al. (2013) found that care for patients with LTI in a single room could have negative consequences for patients who are dying, because they might feel alone and scared, and could be neglected by the nurses.

To emphasize PCC approach according to McCormack and McCance (2006), the care within environment should be a major impact on the implications of person-centred approach, it is involving the potential of innovation and risk taking. In line to the statement, the results found that creating a homelike environment in hospital settings (Coenen

et al., 2007) supports patients' spiritual health, the same condition also relates to allowing domestic animals visit (Smyth & Allen, 2011; Coenen et al., 2007). From the author's experience working in Indonesia, there was a regulation that prohibits taking domestic animals into the hospitals, for hygiene and infection control reasons. In contrast, while the author conducted field studies in several hospitals in Stockholm, Sweden, the nurses allowed the patients in palliative wards to take their domestic animals in the room. It showed that the nurses carried out PCC approach in taking care of patients with LTI in their end of life condition.

There is a concept of environment that was expanded from Nightingale's primary focus about hygiene and sanitation, it also includes concerns about the social, psychological, and spiritual environments (Shaner, 2006, as cited in Small & Small, 2011). As a matter of facts,most hospitals and healthcare faciliti es have been constructed with clinical efficiency and not yet a person-centred approach. Infection control in many countries may be added to depersonalization, for instance no flower, plants of paintings are permitted in some clinical settings (McCormack et al., 2011b). Therefore, future study in evidence based care needs to consider PCC approach in environment modification in supporting patients' spiritual health.

CONCLUSION

Acknowledgement of dying is essential in providing appropriate care. The nurses need to be adequately prepared, educationally, socially and emotionally, to provide such care. The most common nursing interventions in promoting patients' spiritual health in hospitals settings within a PCC approach was a person-centred communication, which was built from a nurse-patient trust relationship and from a communication in deeper level. It is also important to realize that therapeutic communication was developed by active listening and being present for patients. Another point to address is that the nurses should respect patients' belief and values in the context of their cultural diversity. Nursing assessments on spiritual needs is conducted prior to interventions.

Nurses which work in a team, should also involve families in promoting spiritual care, and making referrals to hospitals chaplains or other religious leaders. Facilitating patients' privacy and creating homelike environments should also be addressed in nursing interventions. As a result by addressing patients' spiritual needs sensitively and wisely, nurses certainly will promote not only spiritual health, but also holistic healing (EAPC, 2004).

CLINICAL SIGNIFICANCE

The information from this study may improve the delivery of spiritual care in hospital settings for patients with LTI. Application from this study is to enable nurses' use of available evidences available to improve quality of care and implement best practice in spiritual care in a PCC approach. Training and workshop about how to conduct interventions with regards to spiritual health might be needed in addition to

regular nurses' education. Further recommendation for future research is to explore deeper about various spiritual nursing interventions from a culturally diverse perspective.

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FACTORS ASSOCIATED WITH PREFERENTIAL PLACE OF DEATH FOR PATIENTS WITH CANCER RECEIVING PALLIATIVE CARE
A Literature Review

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ABSTRACT

Background
Cancer is a disease caused by uncontrolled growth of abnormal cells. Cancer is often related to a need for palliative care. Palliative care is an approach and treatment provided to improve quality of life for patients with life threatening illness, such as cancer. Dying patients at the end of their life may lose their autonomy towards themselves especially related to their desires and preference. Patients' preference towards place of death may be influenced by many factors. Patients with cancer require support from their family members as well as health care professionals, especially nurses. Therefore, through the support given, patients' might be able to express their desires.

Aim
To describe factors associated with preferential place of death for cancer patients receiving palliative care.

Method
A literature review of 12 scientific articles that met the inclusion criteria was carried out. The articles were collected using two electronic database searches: PubMed and CINAHL.

Result
Demographic factors such as, gender, age, marital status, economic status, country of birth and place of residence were found to be the most influential factors regarding the preference of home as place of death. The wishes related to place of death of both patients and family caregivers were expected to be recorded in the first meeting. Nurses in providing support for patients with cancer should have to empower patients express their desires.

Conclusions
This literature review showed that promoting autonomy and decision making are challenging for nurses. There are many factors that contribute to the decision of location of death. Therefore, it is important for nurses to empower patients' autonomy and to respect their values in order to provide support for patients with cancer in making decision related to place of death.

Keywords: Place of death, Cancer, Palliative care

INTRODUCTION

Palliative care is an approach to improve patients' and families' quality of life in facing problems related to life threatening illness, through prevention and release of suffering by early identification and assessment as well as implementation of treatment of pain and other consequences of the illness and its treatment including physical, psychosocial and spiritual (World Health Organization [WHO], 2005). National Cancer Institute ([NCI], 2010) described palliative care as a treatment given to improve the quality of life of patients who have life threatening illness such as cancer. Cancer is a disease caused by uncontrolled growth of cells in the body (World Health Organization (WHO), 2015). Based on WHO (2015), cancer is the leading cause of mortality all over the world, with around 14 million of new cases and about 8.2 million cancer related deaths in 2012. According to International Agency for Research and Control (IARC) there were 32.6 million people living with cancer worldwide in 2012 (Ferlay et al., 2013). Ferlay et al (2013) assumed that the number of people with cancer will increase up to 24 million by 2035.

For many people, cancer cannot be controlled and it can affect the body and spreads to other organs or can be called metastatic (NCI, 2010). Stoppelenburg, Philipsen & Van der Heide (2015) explain that patients with life threatening illness may develop problems and symptoms which affect their quality of life. Furthermore, Cogo & Lunardi (2015), explain that patients may also experience suffering when there are inadequate resources that may lead to disregard of dignity and autonomy during the end of life decision making process. These conditions make patients need palliative care at the end of their life (NCI, 2010; Visser, Hadley & Wee, 2015). As mentioned by Stoppelenburg et al., (2015), palliative care treatment can be given to minimize both patients' and families' suffering as well as to improve their quality of life. Therefore, according to Izumi, Nagae, Sakurai & Imamura (2012), suggest that palliative care should be offered at the first time someone is diagnosed until the end of their life.

Dying patients often lose their autonomy (Wheatley & Baker, 2007). This is because patients find it difficult to express their end of life preferences and sometimes they miss the opportunity to express it (Abba et al. 2013). These conditions constitute complex situations which also involve family and health care providers. Therefore, it is necessary to discuss each plan of care and to make decisions together with patients in order to maintain person-centered care (Lugton & McIntyre, 2005).

Person centered care focuses on providing care through a variety of activities that operationalize person-centered nursing, including working with patients' values and beliefs, having a compassionate presence, shared decision making and providing care for physical needs of patients (McCormack & McCance, 2006). Person centered care is associated with patients' autonomy. Autonomy is respecting an individual uniqueness for what beliefs, choices, and values they hold on (Lugton & McIntyre, 2005; Wheatley & Baker, 2007).

In palliative care, ethical dilemma may arise and may be difficult to solve especially when related to choices, preferences and demands of the patients (Balducci, 2012). Thus, it is important to have patients' desires expressed before the end of life, and patients' autonomy is supported so that patients' values are respected (Balducci, 2012).

Preferential place of death is multifaceted. Munday et al. (2009) explain that there were some patients who very clearly expressed their preference for place of death, however, that preference usually changed in the last hours of their life. Moreover, Munday et al. (2009) state that the experience of relatives of home death may affect patient's preferential place of death. Therefore, this preference is less expressed when death is approaching (Munday et al., 2009). This is supported by Abba et al. (2013), many home care residents in the UK recognized that the decision of place of death during end of life was not made by the patient. This is because patients do not have choices when it comes to an end of life care decision because preferences were not recognized by family or health care professionals, especially regarding preferential place of death. It is crucial for nurses to know possible factors associated with preferential place of death in order to support patients and families in decision making.

METHODOLOGY

The purpose of this study was to describe factors associated with preferential place of death for patients with cancer receiving palliative care. The method used for this study was a literature review. A literature review is a systematic summary of a chosen topic from available research resources which include the research problem (Polit & Beck, 2012). This study used relevant articles that reported studies previously carried out by other researchers and the articles chosen were analyzed and reviewed. Articles included in this literature review were collected using the databases PubMed and CINAHL (Cumulative Index to Nursing and Allied Health Literature) and manual searching. Articles included were peer reviewed within ten years from 2006-2016 and focusing on adult patients with cancer. Articles that focused on children with cancer, non-peer reviewed or more than ten years old were not included in this study.

Articles were initially screened by the article title, then by reading the abstract of seemingly relevant articles including background, aim, method and results. The author used Boolean operators such as AND and OR to limit or expand the search results (Polit & Bcek, 2012). Besides that, a truncation symbol (use asterisk*) was also applied. Keywords used are cancer OR neoplasm, place of death OR location of death, preferential OR preference AND decision making AND autonomy AND nurses role. Fourteen articles were selected and included.

Analyses was done by reading all the articles and re-reading several times. The author used a thematic analysis. According to Braun & Clarke (2006), thematic analysis is "a method for identifying, analyzing and reporting

patterns (themes) within data" (p.6). In this study, themes were categorized based on the research questions on preferential place of death for cancer patients, factors associated with place of death, how patients' autonomy affecting decision making and how nurses provide support for patients in decision making. All articles included in this study were ethically approved and included measures to protect privacy.

RESULTS

Preferential place of death.

There were several places of death mentioned in the articles such as home, hospital, hospice and nursing homes. Home was the most preferable place of death chosen by patients and their relatives as described in more than half articles included. Two studies showed that more than 40% adults patients chose home as their place of death (Fukui, 2011a; Agar et al., 2008). Six others articles mentioned that there were 60% patients with cancers preferred home as their location of death (Foreman et al. 2006; Schou et al., 2015; Choi et al., 2010; Gomes et al., 2015; De Graaf et al., 2016). However, hospital was also discussed to be the chosen place of death by 70 – 90 percent patients as mentioned in two studies (Howet et al., 2007; Hyun et al., 2013). Foreman et al. (2006), report that about 10 percent patients chose hospice while only one percent preferred nursing home. Moreover, study by De Graaf et al. (2016) explain about 20 percent chose hospice.

Factors associated with preferential place of death.

Gender. There were some factors that linked with preferential place of death. Gender was mentioned in four articles. It reported that male patients were more likely selected home compared to women (Choi et al., 2010; Foreman et al., 2006; Howat, Veitch & Cairns, 2007; Loucka, Payne & Brearley, 2014; Schou-Anderson et al., 2015). Men would prefer their spouse or wife to look after them during terminal illness (Choi et al. 2010). This is because women have more caring role compared to men, thus women preferred hospice as their place of death (Foreman et al., 2006).

Age. Young adult wished to die at home compared to older people (Foreman et al., 2006; Howat et al., 2007). Young people was reported to choose home because they have a younger and healthy spouse who they believe able to help them with the care and will be committed as their carer (Howat et al., 2007). On the other hand, older people may not having help with the care due to a deceased spouse or frail spouse (Foreman et al. (2006)

Marital status. Married men would prefer to be at home at the end of their life compared to married women. This is because they have spouse who had committed to be their carer to support them in the end of their life (Howat et al., 2007). Additionally, patients that are married usually have their daughter or daughter in law as their caregiver (Fukui et al., 2011a).

Education. According to Hyun et al. (2013), higher education of the caregiver was one of the factors of

hospital death. In the contrast, Loucka et al. (2014), stated that people in Czech Republic with higher education were more commonly chose home as their location of death than people in Slovakia. Loucka et al. (2014) explained that people with higher education used to move to a small flat which made them less likely to access informal care at their home while nowadays educated people moved to the city so they were more possible to access care.

Economic status. Patients with cancer prefer home as their place of death when they have high income or well economic status (Schou-Andersen et al., 2015). While, patients with low income would choose hospital as their place of death (Foreman et al., 2006). Moreover, Choi et al. (2010) explained that length of stay in hospice might be one factor that can influence patients to choose home as their place of death due to payment or the cost of the care.

Residence and country of birth. Other demographic factors that were mentioned, which influence patients' choice about place of death is residence and country of birth. People who lived in a smaller community tend to die at home (Foreman et al., 2006; Schou-Andersen et al., 2015). Schou-Andersen et al. (2015) added that metropolitan people preferred hospice as a place to die. This can be related to the fact that cancer patients preferred to die at home because they feel more peace at their end of life compared to cancer patients who died in hospital (Gomes et al., 2015). Foreman et al. (2006) in their study also added that people who were born in Australia, UK and Ireland were more common to die in hospice.

Other factors associated with preferential place of death

A strong preference from both patients and caregiver were reported to be the reason of choosing home as place of death (Nakamura et al., 2010; Fukui et al., 2011a). Nakamura et al. (2010) and Gomes et al. (2015) explained that home was selected if health care professionals are able to do home visit at least more than three times. Fukui et al. (2011b) reported if nurses and physician gives 24 hours support for patients, there was also a higher chance of a home death Moreover, Choi et al. (2010) state that when someone have a higher concept of good or peaceful death, then they prefer home as their place of death.

Home visit experience in collaboration with the caregiver was also considered as factor that associated home death (Sasao et al, 2015). Being hospitalized for more than a month in the last three months was a risk factor that leads to hospital death (Gomes et al., 2015). Another factors of hospital death was when someone does not have caregiver to look after them (Foreman et al., 2006). Alonso-Babbaro et al. (2011), found in their study that caregiver burden was the main reason of hospice admission.

Patients' autonomy affect decision making with regards preferential place of death.

Four studies report that strong preference from both patients and their caregiver affect their decision making to choose where they would like to die (Nakamura et al. (2010); Fukui et al.

(2011a). However, De Graaf et al. (2016) explained that some of the patients were found less likely to express their preferences and even denied their own choice. Choi et al. (2010) explained that many patients were worried of being a burden to their family.

Nurses' support in patients decision making related to preferential place of death

Preferential place of death can be very challenging at the end of life. Discussing preferences of dying is not easy, nevertheless, it is vital to discuss patients' preference to their carers (Holdsworth & King, 2011). In a study done by Holdsworth & King (2011), around 90 percent of cancer patients' have their preferential place of care and place of death recorded. They also stated that preferences needed to be discussed in the first meeting to help patients make consideration. This is supported by Agar et al., (2008) and Holdsworth & King, (2011) who informed that preferences of both family and patients related to place of care and place of death was essential.

Agar et al. (2008) stated that discussion about preferences of location of death are very crucial. Therefore, support from palliative care services related to place of death is required to help patients verbalize their preferences (De Graaf et al., 2016). As well as mentioned by Sasao et al. (2015) that nurses should be able to support patients' desire when selecting place of death.

DISCUSSION

This study showed that most of the articles reported that home was the most preferred place of death chosen by patients with cancer. Home was explained to be the most comfortable place with the presence of the family members and that patients can enjoy their day by day life with their loved ones (Gomes & Higginson, 2006). The articles also mentioned that demographic aspects were one of the factors that connected to the preferential place of death.

If seen from marital status, married men were prefer home as their place of death because they have their spouse as their caregiver (Howat et al., 2007; Choi et al., 2010; Foreman et al., 2006; Loucka et al., 2014; Schou et al., 2015). This can indicate that men express their own feelings more easily as compared to women. While women are reluctant to express their wishes or wants and more careful in making decisions. Women were thinking more in making decision and they were more likely to be in hospice rather than at home, even though they may actually prefer to be at home when they die (Foreman et al., 2006). This has implications on autonomy, where patients' right to choice is not respected.

Regarding marital status, men would like to die at home because they believe that their family member can be with them to look after them (Choi et al., 2010). It can be seen that the patient use their right in choosing a place where they want to stay at the end of their life. This was also related to the age, where younger patients preferred home because they have a healthy and young spouse who can provide care for them at home (Howat et al., 2007). The decision of stay in a place for younger age possibly affected by their parents where they may

be considered as young adult who are under their parents' responsibility and cannot make decision for themselves. Whereas, older people have their own right to choose where they would like to die as they are mature enough to decide their own choice.

The strong preference of patient is showing how patient would like to be heard in regards of the option of place of death (Nakamura et al., 2010; Fukui et al., 2011a). These factors are common founded in many articles. It is evident that younger patients, men and married preferred home as their place of death because they have their family to look after them and can support them during their disease phases. Overall, the availability of caregiver affects patients with cancer to choose home as their last place to die as the family/caregiver can look after them (Choi et al., 2010; Nakamura et al., 2010).

Autonomy is considered as a very important part in medical setting especially while planning treatments (Kinoshita, 2007). It is necessary to discuss each plan and decision with the patients in order to maintain person centered care, therefore, it is nurses' role to promote the patients' autonomy (Lugton & McIntyre, 2005). In palliative care, it is crucial to have patients' wishes expressed and their autonomy is supported so that patients' values and desires are respected. However, the fact remains that many patients with terminal disease such as cancer were not able to make their own decision. Hyun et al. (2013) done a survey used death certificate related to place of death. They report that there were 191 out of 463 patients with cancer wanted to die at home but unfortunately only 26 patients died in home. It is clearly seen that patient's wish was not supported.

A study by Cohen et al. (2006) who reported that physician tend to discuss end of life decision with family because when patients are in hospital, they are regarded not capable to participate in decision making. Furthermore, reporting that patients and relatives are the decision maker for patients in home setting but when in hospitals, doctors are most often decision makers for patients.

Patients were seen as having no rights for themselves and perhaps afraid that they would be a burden for the family (Choi et al., 2010). This can be related to other study by Tang, Hui-Chen, Tang & Wu Liu (2010) that Taiwanese families preferred their loved ones died in home due to cultural norms, "the fallen leaves can return to their roots". This idiom means returning someone to their hometown or their family. Moreover, Taiwanese people are often influenced by Confucius' idea of caregiving by repaying their parents or family members. This example highlights the importance of nurses being aware of patients' preferences related to the place of death and how to accommodate the needs, especially if associated with cultural diversity (Pollock, 2015).

Nurses are responsible in providing support for patients physically, socially, spiritually and psychologically (Lugton & McIntyre, 2005). Based on Neuman's theory (1982), a main point is that caring patients should not only be seen from their illness, treatment and

care, but also as individuals in a holistic perspective. Even though, discussing the preference of place of death is not easy, it is very important that both patients and families' preferences are recorded (Holdsworth & King, 2011). Communication between patients, family members and health care professionals are seen as a key primary care to patients. In providing support for patients in decision making, nurses also need support from others in the health care team (Klarare, Lundh Hagelin, Fürst & Fossum, 2013).

It is essential for nurses to empower patients' autonomy in decision making related to preferential location of death. As a result of empowering patients' autonomy, health care professionals can support patients to express their wants and needs (Kuhl, Stanbrook & Hebert, 2010).

CONCLUSION

At the end of life, patients may have their own desires towards place of death. It is important for nurses to provide support for patients with cancer in making decision related to preferential place of death. Preferential place of death is mostly affected by demographic factors such as age, gender, marital status, residence, economic status and country of birth. Nurses are frequently in contact with the patients; therefore they must be aware of patients' autonomy in order to be able to provide support for patients with cancer in making decisions related to place of death.

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