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EDITORIAL ADDRESS:
Faculty of Nursing Universitas Airlangga
Campus C Jln. Mulyorejo 60115 East Java, Indonesia
Phone/fax: (031) 5913257, 5913257, +62 812-5952-8787
E-mail: ners@journal.unair.ac.id
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Original Research

Relationship between Demographic Characteristics and Moral Sensitivity among Professional Nursing Students in Bali

Ni Putu Emy Darma Yanti and Komang Menik Sri Krisnawati

Program Studi Sarjana Keperawatan dan Keperawatan, Fakultas Kedokteran, Universitas Udayana

ABSTRACT

Introduction: Moral sensitivity is indispensably required in nurses for them to be aware of and be able to understand clients' needs. This study aimed to determine the relationship between demographic characteristics and moral sensitivity among professional nursing students in Bali.

Methods: The research used a descriptive-correlation method and a cross-sectional approach. The study population was all professional nursing students in Bali with 162 students as research respondents, sampled using the purposive sampling technique. The dependent variable is the moral sensitivity among professional nursing students and the independent variable is the demographic characteristics consisting of gender, age, religion, and number of siblings. Data were collected by means of a moral sensitivity questionnaire for nursing students developed by Lutzen in 1993 consisting of 27 statements.

Results: The results of this study show that there is a significant relationship between religion and moral sensitivity ($p=0.027$; $\alpha=0.05$), and that there is no relationship between sex, age, and number of siblings and moral sensitivity ($p>0.05$; $\alpha=0.05$).

Conclusion: The nursing students' level of faith and understanding of their respective religious teachings can increase their moral sensitivity in providing nursing care.

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demographic characteristics; moral sensitivity; nurse; nursing students

CONTACT

Ni Putu Emy Darma Yanti
✉ emydarmayanti@unud.ac.id
Program Studi Sarjana Keperawatan dan Keperawatan, Fakultas Kedokteran, Universitas Udayana

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INTRODUCTION

In providing nursing care to the clients, nurses must consider the ethical and moral aspects. They have the responsibility to apply the ethics of caring for every patient they are treating as part of their professional role. Law No. 38 of 2014 on Nursing mandates that the delivery of nursing services must be carried out responsibly, based on ethics and professionalism. Nevertheless, nurses are not always completely prepared to deliver optimum nursing services or they are not able to properly care for their patients (Woods, Rodgers, Towers, & La Grow, 2015).

In this case, sensitivity to address these problems, which is known as moral sensitivity, is required to respond to various ethical issues (Trobec & Starcic, 2015). Moral sensitivity is a fundamental personal attribute required in a nurse to be competent in identifying, interpreting, and appropriately responding to ethical issues in the nurse's relationship with the patient, in order to improve the patient's wellbeing (Kim, Kang, & Ahn, 2013). Moral sensitivity and consideration could improve the quality of relationship between the patient and the nurse (Heggestad, Nortvedt, & Slettebø, 2013). Improvement of moral sensitivity in nursing practice is needed to prepare nurses that are ethically competent in implementing nursing care and decision-making (Ohnishi et al., 2019).

Several studies found that the mean score of nurses' moral sensitivity was in the moderate category, which contributed to a decrease in the quality of services (Nora, Zoboli, & Vieira, 2017; Range & Rotherham, 2010). A study in Iran, Thailand, and South Korea also showed that nurses' moral sensitivity was in the moderate category (Boonyamanee, Suttharangsee, Chaowalit, & Parker, 2014; Borhani, Abbaszadeh, Mohamadi, Ghasemi, & Hoseinabad-Farahani, 2017; Han, Kim, Kim, & Ahn, 2010). Ethical and moral education for nursing

students in Indonesia is given since the first year of college students, so it is expected to increase moral sensitivity of students from the start of nursing education.

Moral sensitivity in nursing practice is expected to be applied starting from nursing school. A previous study regarding ethics in nursing practice revealed the importance of preparing nursing students to adjust themselves to the ethical challenges in their future role as a nurse (Muramatsu, Nakamura, Okada, Katayama, & Ojima, 2019). This requirement has to be met because newly-registered nurses will face different moral dilemmas occurring in every nursing care administration, which may cause nurses to experience stress and burnout (Fairchild, 2010). The level of moral sensitivity was influenced by a number of factors, such as socio-demographic factors and professional characteristics, including income, quality of work life, professional satisfaction, nurse's length of service, number of patients per day, and total number of nurses in the workplace (Öztürk, Şener, Koç, & Duran, 2019). Study on the description of the moral sensitivity and the determinant factor that influence the moral sensitivity among professional nursing students in Indonesia especially has never been done before.

Based on the problems described above, this study aimed to identify the relationship between demographic characteristics and moral sensitivity among professional nursing students in Bali by means of a quantitative approach.

MATERIALS AND METHODS

The present study is a correlative analytic study with a cross-sectional design. The dependent variable of the study is the moral sensitivity among professional nursing students and the independent variable is the demographic characteristics consisting of gender, age, religion, and number of siblings. A total of 162 professional nursing students in Bali were recruited as participants by using the purposive sampling technique from September to November 2018 with inclusion criteria: (1) professional nursing students in the regular program, (2) Students not on leave when the entire research process is carried out, (3) Students are willing to become respondents by signing the informed consent form as a participant. The 27-item moral sensitivity questionnaire developed by Lutzen (1993) and the participants' demographic data form were used to collect the data (gender, age, religion, and number of siblings). The questionnaire had been proven to have good validity and reliability (Park, 2012).

The procedure in this study began with organizing a research permit. Permission to conduct research was obtained from relevant institutions. The researcher then chose one lecturer in each nursing institution as an assistant in this study. Research assistants have the same role as researchers. This role is carried out when researchers cannot meet directly with students. The researcher provided guidance and understanding of the research assistant's about procedures and how to fill out the questionnaire. Determination of respondents was done by looking at the names of students who are registered as study populations. They were given an explanation of the objectives, benefits and procedures of the research conducted. The researcher or research assistant asked the respondent to fill in the consent form to become a respondent after agreeing to be a participant in the research conducted.

Univariate analysis was performed to examine the distribution frequency and mean value of the nursing students' demographic characteristics and moral sensitivity. Meanwhile, the relationship between gender and moral sensitivity among the nursing students was analyzed using an independent t test. In addition, the relationship between religion and moral sensitivity among the nursing students was analyzed using one-way ANOVA. Finally, a Spearman's Rank test was performed to analyze the relationship between the nursing students' age and number of siblings and their moral sensitivity with Confidence Interval at 95% ($\alpha = .05$).

This study was granted the approval of the Institutional Review Board of the Faculty of Medicine, Udayana University and Sanglah Hospital by virtue of Approval No. 1673/UN14.2.2/PD/KEP/2018. All of the participants voluntarily signed the informed consent as a participant in the present study.

RESULTS

The participants' demographic characteristics are presented in Table 1 and Table 2. Meanwhile, Table 3 presents the distribution frequency of the participants' moral sensitivity. The results showed that the majority of respondents were women (75.3%) and Hindu (92.6%). In addition, the average age of respondents in this study was 23 years. The age of the youngest respondent was 21 years and the oldest was 24 years. The average number of respondent siblings was two people with at least one person and at most eight people. The results of the normality test using the Kolmogorov Smirnov test showed that the moral sensitivity scores of students were normally distributed. Table 4 shows the data categories of moral sensitivity of students with mean scores as cut of points. Mean score $\geq$ 142.27 is good moral sensitivity and mean score <142.27 is student with low moral sensitivity.

The results show that there is a significant relationship between religion and moral sensitivity among the nursing students in Bali Province (p = .027). This means that there are differences in the mean score of moral sensitivity among the nursing students between Hindus, Muslims and Christians. However, there was no significant relationship between gender, age, and number of siblings and moral sensitivity among the nursing students (p > .05).

Table 1. Participants' Demographic Characteristics based on Gender and Religion (n = 162)

Variables	n	%
Gender		
Male	40	24.7
Female	122	75.3
Religion		
Hindu	150	92.6
Islam	10	6.2
Christianity	2	1.2

Table 2. Distribution Frequency of Age and Number of Siblings (n = 162)

Variables	Median (Min–Max)	95% CI
Age (years)	23 (21–24)	22.79; 23.85
Number of siblings (person)	2 (1–8)	2.04; 2.45

Table 3. Distribution Frequency of Participants' Moral Sensitivity (n =162)

Variable	Mean (SD)	95% CI
Moral sensitivity	142.27 (20.31)	139.12; 145.42

Table 4. Distribution Frequency of Participants' Moral Sensitivity Category (n =162)

Variable	Mean (SD)	95% CI
Moral sensitivity	142.27 (20.31)	139.12; 145.42
Moral sensitivity	n	%
Low	73	45.1
Good	89	54.9

Table 5. The Relationship between Demographic Characteristics and Moral Sensitivity among Professional Nursing Students in Bali (n = 162)

Variable	n	Mean (SD)	Median (Min–Max)	MD	r	P value
Age (years)	162	-	23 (21–24)	-	-0.026	0.745†
Number of sibling (person)	162	-	2 (1–8)	-	-0.18	0.818†
Gender				-2.651	-	0.224‡
Male	40	140.28 (22.69)	-			
Female	122	142.93 (19.52)	-			
Religion				-	-	0.027*
Hindu	150	143.39 (20.30)	-			
Islam	10	131.00 (14.30)	-			
Christianity	2	115.00 (14.14)	-			

† *Spearman's Rank test;* ‡ *T Independent t- test;* **One Way ANOVA test (α = .05)*

DISCUSSION

The majority of the participants in the present study have good moral sensitivity. The results of this study support previous studies which reported that moral sensitivity among nursing students or nurses was relatively high (Borhani, Abbaszadeh, & Hoseinabadi-Farahani, 2016; Kim, Park, You, Seo, & Han, 2005). Students who have good moral sensitivity have a better ability in identifying moral or ethical issues and determining an action, in doing which they tend to refer to moral principles (Reza, 2013).

Moral sensitivity is an ability to identify moral issues. Moral sensitivity is defined as an individual's ability to understand that a certain situation has a moral meaning when that situation is experienced by an individual (Kim, Kang, & Ahn, 2013). Moral sensitivity can be considered as a personal, intuitive concept, or even a competence and an essential dimension in daily decision-making that arises from a search for moral meaning of human acts (Kim Lützén & Ewalds-Kvist, 2013; Tuvesson & Lützén, 2017). Moral sensitivity comprises the experiences and personal development of an individual and the experiences of others. It is in a constant process of change and development throughout a professional's life (Baykara, Demir, & Yaman, 2015). The process of moral sensitivity takes place before an individual considers a moral decision. The components of moral sensitivity include showing kindness, developing a moral understanding, modifying autonomy, interpersonal orientation, moral conflict experiences, and using knowledge as health professionals (Lützén, 1993). Students' moral sensitivity is also influenced by their demographic characteristics, including age, gender, religion, and number of siblings (Park, 2012). However, this study shows different results. This can be caused by other factors that might influence the moral sensitivity of students, such as student practice

experience and culture or family environment, which need to be further investigated.

The present study reported that there was a significant relationship between religion and the nursing students' moral sensitivity. Religion is one factor that contributes to an individual's moral development. What makes people understand and implement moral principles in life can be linked with religion (Park, 2012). It is related to an individual's level of moral sensitivity (Han, Kim, Park, Ahn, Meng, & Kim, 2007). Thus, religion can shape people's mindset toward moral principles.

In addition, this result is also in congruence with a study that reported a strong significant positive correlation between religiosity and morality in adolescents (Reza, 2013). In other words, the higher the religiosity, the higher the adolescents' morality. Problem solving through religion had significant contributions in overcoming work stress (Safaria, 2012).

An individual who is mature in practicing her/his religion and routinely carries out religious rituals will always try to obey the teachings of her/his religion. Consequently, it has a positive effect on the person's behavior (Nashori, 1997). In addition, people will be more open to all facts and values and present moral and practical purposes in life while still adhering to the teachings of the religion that they believe in (Indrawati, 2006).

The present study also found that there was no significant correlation between age and gender and moral sensitivity in this study. These results are contrary to a previous study that reported that there was a significant difference between demographic characteristics, age, and gender and moral sensitivity (Tuvesson & Lützén, 2017). Students who were older and female had a higher level of moral burden and strength. In addition to this, a study also reported that there was a significant difference between age and moral sensitivity (Kim et al., 2005). Those who were aged 25–30 years had a higher score in moral sensitivity compared to those who were under 25 years old and over 30 years old. The different results between the present study and the previous ones could be caused by the fact that there was no big gap in the participants' age range, because all of the participants were professional nursing students. In addition, the frequency of the participants' gender was not the same.

Lastly, the present study reported that there was no significant correlation between the number of siblings and moral sensitivity. This result is in contrast to a study that reported that the difference in the number of siblings influenced an individual's level of moral sensitivity (Park, 2012). Some findings reported on siblings being positively impacted by their lived experiences, through the expression of positive social skills, increased empathy, and more caring personalities (Cox, Marshall, Mandleco, & Olsen, 2003). Researchers argue that the number of siblings is not related to moral sensitivity because students place different feelings between siblings and patients as other people. It is possible for students to feel a sense of belonging to their siblings due to their blood ties and growing up together since they were young in one family environment. Whereas, with patients, it is felt necessary to have a relationship over a longer time so that a sense of belonging or sensitivity arises like a brother.

This study has several limitations, although efforts have been made to overcome them. This research cannot involve all nursing institutions in Bali because the periods of practice between institutions are different. Students in some institutions were not in the practice period when the research is conducted. The researcher also cannot fully control and see directly when the respondent answers the questionnaire.

CONCLUSION

This study concludes that there is a significant relationship between religion and moral sensitivity among professional nursing students in Bali. However, gender, age, and number of siblings were found to be unrelated to the moral sensitivity. The majority of professional nursing students have good moral sensitivity.

Students are expected to increase their faith and understanding of the teachings of their respective religions. This will affect the moral sensitivity of students, especially in providing care to patients. Researchers also recommend that future researchers can identify more deeply about other factors that can influence the application of moral sensitivity, such as morality knowledge, practical experience, family culture, spirituality, and emotional intelligence. The results of the study are expected to provide appropriate interventions to improve the moral sensitivity of nursing students.

REFERENCES

Baykara, Z. G., Demir, S. G., & Yaman, S. (2015). The effect of ethics training on students recognizing ethical violations and developing moral sensitivity. *Nursing Ethics*. https://doi.org/10.1177/0969733014542673

Boonyamanee, B., Suttharangsee, W., Chaowalit, A., & Parker, M. E. (2014). Exploring moral sensitivity among Thai psychiatric nurses. *35 Songklanagarind Journal of Nursing Songklanagarind Journal of Nursing*.

Borhani, F., Abbaszadeh, A., & Hoseinabadi-Farahani, M. J. (2016). Moral sensitivity and its dimensions in Iranian nursing students. *Journal of Medical Ethics and History of Medicine*.

Borhani, F., Abbaszadeh, A., Mohamadi, E., Ghasemi, E., & Hoseinabad-Farahani, M. J. (2017). Moral sensitivity and moral distress in Iranian critical care nurses. *Nursing Ethics*. https://doi.org/10.1177/0969733015604700

Cox, A. H., Marshall, E. S., Mandleco, B., & Olsen, S. F. (2003). Coping responses to daily life stressors of children who have a sibling with a disability. In

Journal of Family Nursing. https://doi.org/10.1177/1074840703258328

Fairchild, R. M. (2010). Practical ethical theory for nurses responding to complexity in care. *Nursing Ethics*. https://doi.org/10.1177/0969733010361442

Han, S. S., Kim, Y. S., Park, J. H., Ahn, S. H., Meng, K. H., & Kim, J. H. (2007). A study of the moral sensitivity of nurses and nursing students in Korea. *Korean Journal of Medical Ethics Education*, *10*(2), 117–124.

Han, S. S., Kim, J., Kim, Y. S., & Ahn, S. (2010). Validation of a korean version of the moral sensitivity questionnaire. *Nursing Ethics*. https://doi.org/10.1177/0969733009349993

Heggestad, A. K. T., Nortvedt, P., & Slettebø, Å. (2013). The importance of moral sensitivity when including persons with dementia in qualitative research. *Nursing Ethics*. https://doi.org/10.1177/0969733012455564

Indrawati, E. (2006). Hubungan antara kematangan beragama dengan kecenderungan strategi coping. *Jurnal Psikologi Undip*. https://doi.org/10.14710/jpu.3.2.69

Kim, Y. S., Kang, S. W., & Ahn, J. A. (2013). Moral sensitivity relating to the application of the code of ethics. *Nursing Ethics*. https://doi.org/10.1177/0969733012455563

Kim, Y. S., Park, J. W., You, M. A., Seo, Y. S., & Han, S. S. (2005). Sensitivity to ethical issues confronted by Korean hospital staff nurses. *Nursing Ethics*. https://doi.org/10.1191/0969733005ne829oa

Lützén, K. (1993). *Moral sensitivity: A study of subjective aspects of the process of moral decision-making in psychiatric nursing*.

Lützén, Kim, & Ewalds-Kvist, B. (2013). Moral Distress and its Interconnection with Moral Sensitivity and Moral Resilience: Viewed from the Philosophy of Viktor E. Frankl. *Journal of Bioethical Inquiry*. https://doi.org/10.1007/s11673-013-9469-0

Muramatsu, T., Nakamura, M., Okada, E., Katayama, H., & Ojima, T. (2019). The development and validation of the Ethical Sensitivity Questionnaire for Nursing Students. *BMC Medical Education*. https://doi.org/10.1186/s12909-019-1625-8

Nashori, F. (1997). *Psikologi island: Agenda Menuju aksi*. Penerbit Pustaka Pelajar.

Nora, C. R. D., Zoboli, E. L. C. P., & Vieira, M. M. (2017). Moral sensitivity in Primary Health Care nurses. *Revista Brasileira de Enfermagem*. https://doi.org/10.1590/0034-7167-2016-0453

Ohnishi, K., Kitaoka, K., Nakahara, J., Välimäki, M., Kontio, R., & Anttila, M. (2019). Impact of moral sensitivity on moral distress among psychiatric nurses. *Nursing Ethics*. https://doi.org/10.1177/0969733017751264

Öztürk, E. A., Şener, A., Koç, Z., & Duran, L. (2019). Factors influencing the ethical sensitivity of nurses working in a university hospital. *Eastern Journal of Medicine*, *24*(3), 257–264. https://doi.org/http://dx.doi.org/10.5505/ejm.2019.05025

Park, M. (2012). *The relationship of ethics education to moral sensitivity and moral reasoning of students in baccalaureate nursing programs of south korea*.

Range, L. M., & Rotherham, A. L. (2010). Moral distress among nursing and non-nursing students. *Nursing Ethics*. https://doi.org/10.1177/0969733009352071

Reza, I. F. (2013). Hubungan antara religiusitas dengan moralitas pada remaja di Madrasah Aliyah (MA). *HUBUNGAN ANTARA RELIGIUSITAS DENGAN MORALITAS PADA REMAJA DI MADRASAH ALIYAH (MA)*. https://doi.org/10.26555/humanitas.v10i2.335

Safaria, T. (2012). Peran religious coping sebagai moderator dari job insecurity terhadap stres kerja pada staf akademik. *HUMANITAS*. https://doi.org/10.26555/humanitas.v8i2.462

Trobec, I., & Starcic, A. I. (2015). Developing nursing ethical competences online versus in the traditional classroom. *Nursing Ethics*. https://doi.org/10.1177/0969733014533241

Tuvesson, H., & Lützén, K. (2017). Demographic factors associated with moral sensitivity among nursing students. *Nursing Ethics*. https://doi.org/10.1177/0969733015626602

Woods, M., Rodgers, V., Towers, A., & La Grow, S. (2015). Researching moral distress among New Zealand nurses: A national survey. *Nursing Ethics*. https://doi.org/10.1177/0969733014542679

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Original Research

The Study of Learning Outcomes under Thai Qualifications Frameworks for Higher Education (TQF: HEd) in Community Health Nursing Practicum Course of 4th Year Students, Faculty of Nursing, Naresuan University

Amaraporn Puraya, Somsak Thojampa, and Srisupha Jaisopha

Faculty of Nursing, Naresuan University, Phitsanulok, Thailand

ABSTRACT

Introduction: This was descriptive research which aimed to study the learning outcomes based on the Thai Qualifications Frameworks for Higher Education (TQF: HEd)) after completing community health nursing practicum of 4th year students, the Faculty of Nursing, Naresuan University.

Methods: The samples were 113 4th year nursing students. Data were collected using the evaluation form of opinions on learning outcomes in six areas, namely morals and ethics, knowledge, intellectual skills, interpersonal skills and responsibility, numerical analysis, communication and information technology skills and professional practice skills. Data were analyzed using frequency distribution, percentage, mean and standard deviation.

Results: The research results showed that the mean score of the opinions of the 4th year students, Faculty of Nursing, Naresuan University, toward their learning outcomes based on the TQF: HEd was quite high in all six areas. The overall score was at a high level ($\bar{X}$=4.36, S.D. =0.42). The area with the highest level was morals and ethics ($\bar{X}$ = 4.50, S.D = 0.39), followed by professional practice skills ($\bar{X}$ = 4.48, S.D. = 0.49), interpersonal skills and responsibility ($\bar{X}$ = 4.43, S.D. = 0.53), numerical analysis, communication and information technology skills ($\bar{X}$ = 4.31, S.D. = 0.55), intellectual skills ($\bar{X}$= 4.31, S.D. = 0.52) and knowledge ($\bar{X}$ = 4.11, S.D. = 0.55), respectively.

Conclusion: The research results can be used as the guidelines for the development of learning outcomes and assessment in accordance with the TQF: HEd.

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learning outcomes; thai qualifications frameworks for higher education (TQF: HEd), community health nursing practicum

CONTACT

Somsak Thojampa
somsakth@outlook.com
Faculty of Nursing, Naresuan University, Phitsanulok, Thailand

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INTRODUCTION

The Thai Qualification Framework for Higher Education (TQF: HEd) refers to the framework presenting the educational system of higher education in the country developed by the Office of the Higher Education Commission, which helps promote life-long learning. There are systems and mechanisms that assure the effectiveness of implementation of the TQF: HEd in producing graduates to achieve quality according to learning outcomes, consistent with the National Education Act and Amendments (Second National Education Act B.E. 2545), National Educational Standards, Higher Education Standards and Qualifications of Bachelor's Degree in Nursing Science Program B.E. 2560. According to the announcement of the Ministry of Education, learning outcomes have been established in accordance with the TQF: HEd and desirable graduate characteristics, covering six areas, namely morals and ethics, knowledge, intellectual skills, interpersonal skills and responsibility, numerical analysis, communication and information technology skills and professional practice skills. The objective is to produce graduates with knowledge, intellectual skills, responsibility, communication and interpersonal skills, and analytical skills who operate nursing practices with morals and ethics and adhere to professional ethics. Subsequently, the Office of the Higher Education Commission, the Ministry of Higher

Education, Science, Research and Innovation has committed to enhancing the quality of Thai education to be equal and accepted in the Association of Southeast Asian Nations (ASEAN) and at the international level. Therefore, the quality development tools that are recognized in ASEAN and at the international level as the effective tools in the development of the organization to excellence have been adopted. The policy of AUN-QA (Asean University Network Quality Assurance) has been adopted. It is the collaboration of the international higher education institutions in ASEAN and Education Criteria for Performance Excellence (EdPEx), which is the educational quality assurance in the European countries. Its objective is to establish the mechanisms for quality assurance and higher education standards of Thai higher education institutions in order to have quality and to be developed equivalent to the international standards. The administrators of each institution have to consider their institution's readiness and implement AUN-QA (Asean University Network Quality Assurance) or Education Criteria for Performance Excellence (EdPEx). However, the TQF: HEd must be implemented in every institution.

The main objective of the Community Health Nursing Practicum Course is to allow students to prepare their own learning plan and practice community health nursing. Management of teaching and learning to enhance students to think critically together with having nursing knowledge is important. Reflection should, therefore, be the teaching method used to promote critical thinking of students (Wichainate, 2014). For the management of teaching and learning focusing on practice, followed by reflection by the coach who gives advice, encouragement and suggestions for improvements (Panich, 2013), learning activities can be designed in many ways, such as conducting projects in groups so that group members are involved in analysis, determining objectives, planning and evaluating by themselves. From the literature review, it has been found that this type of teaching and learning can be applied in the management of nursing education as well as nursing teaching. It can be done by increasing abilities in practice which contribute to building nursing standards (Ahmed, Alostaz, & Al- Lateef Sammouri, 2016; Alotaibi, 2016; Fujino-Oyama, Maeda, Maru, & Inoue, 2016; Tao, Li, Xu, & Jiang, 2015). Therefore, in the Community Health Nursing Practicum Course the students are divided into a small group of 7-8 people. After that, they have to practice nursing practices in the training areas in rural and suburban communities. They will be trained to provide care for service recipients by focusing on promotion, prevention, treatment and rehabilitation of health at the individual, family, group and community levels. This gives the students the opportunity to learn on their own in the wider world by using the community health nursing process, including community assessment, diagnosis of community health problems, planning and practice in the form of project activities whereby students think together, and help each other conduct and evaluate project activities with the created tools (Intaranongpai & Kotchakot, 2017; Inthonhongpai, 2011). Previously, the Faculty of Nursing, Naresuan University realized the importance of educational management in response to Qualifications of Bachelor's Degree in Nursing Science Program B.E. 2560. The lecturers were promoted to integrate research into teaching and learning in the Community Health Nursing Practicum Course of the Bachelor of Nursing Science Program (Revised Curriculum, 2016), which is due for revision in the year 2020 in order to provide this course with information about improvements, new teaching methods that will make students achieve the learning outcomes defined in the learning outcomes of Community Health Nursing Practicum Course and to organize the teaching and learning process enhancing students to be able to integrate theoretical knowledge and relevant theoretical concepts in operation. The focus is on promoting students to learn and practice on their own; use critical thinking skills to solve problems systematically and be able to practice nursing practices in the community responding to the problems and needs of people in all levels. In the academic year 2019, the Community Nursing Academic Group, the Faculty of Nursing, Naresuan University, organized teaching and learning and expected that the obtained results would lead to the improvement of the Bachelor of Nursing Science Program in 2020.

For the course details, it was the course of practicum of the 4th year nursing students organized in the last semester of the Bachelor of Nursing Science Program, Academic Year 2019. It is about the community health nursing process which applies nursing science knowledge and focuses on nursing practices in family, schools, establishments, and communities. The Community Nursing Academic Group is responsible for the teaching and learning of this course. The 4th year students of the Faculty of Nursing will experience community survey, data collection, community diagnosis, health promotion projects in the community as well as health innovations focusing on strengthening families and communities by using appropriate resources and technology combined with local wisdom and self-care. In addition, students will gain experiences of occupational health nursing, family nursing, school health nursing and community health nursing. The Community Health Nursing Practicum Course of the Bachelor of Nursing Science Program in the academic year 2019 provided teaching and learning in accordance with the TQF: HEd. The results of the evaluation of teaching and learning of this course in the previous year obtained from the supervisor and the nurse mentor from each training area and the 4th Year nursing students revealed that the training duration was short. In addition, there were many assignments for professional practice, so the students had to quickly do these. This can reduce the quality of

assignments. Therefore, these issues were improved for the teaching and learning in the academic year 2020. The 4th year students of the Faculty of Nursing can search for knowledge from a variety of learning sources to respond to the learning outcomes according to the Qualifications of Bachelor's Degree in Nursing Science Program in terms of content, teaching methods, measurement and evaluation and to achieve learning outcomes as specified in the program learning outcomes of this course in all six areas. The student-centered learning process was more emphasized. There was an integration of theoretical knowledge which can be implemented. In addition, critical thinking skills and systematic problems solving skills responding to problems and needs of people at all levels were also enhanced. For these reasons, the researcher was interested in studying the opinions of the 4th year nursing students after finishing the Community Health Nursing Practicum Course of the Bachelor of Nursing Science Program (Revised Curriculum, 2016) regarding the learning outcomes in accordance with the Qualifications of Bachelor's Degree in Nursing Science Program in all six areas. The research findings were expected to be the guidelines for development of teaching and learning management to meet the learning standards as specified in the Thai Qualifications Frameworks for Higher Education and desirable characteristics of nursing students.

To study the levels of the learning outcomes in accordance with the TQF: HEd after completing the community health nursing practicum based on the perception of by 4th year students of the Faculty of Nursing, Naresuan University.

MATERIALS AND METHODS

This was descriptive research which aimed to study the learning outcomes based on the TQF: HEd) after completing the Community Health Nursing Practicum of the 4th year students of the Faculty of Nursing, Naresuan University. The data were collected in October 2019 and February 2020.

The population included 113 4th year nursing students in the academic year 2019 who completed the community health nursing practicum from Tambon Health Promoting Hospital in Bang Rakam District and Bang Krathum District, Phitsanulok Province. They were selected by a purposive sampling method. All 4th year students were asked to consider the results of the use of the TQF: HEd in six areas in teaching on the Community Health Nursing Practicum Course.

Inclusion criteria: 113 4th year students of the Faculty of Nursing, academic year 2019 who completed community health nursing practicum in Tambon Health Promoting Hospitals in Bang Rakam District and Bang Krathum District, Phitsanulok Province and agreed to participate in the study.

Exclusion criterion: 4th year students of the Faculty of Nursing, academic year 2019 who were sick and unable to respond to the questionnaire during the data collection period.

The researcher constructed the instruments, including the general information questionnaire consisting of five questions asking about gender, age, GPA, group of students, Tambon Health Promoting Hospitals where the students practiced community health nursing, and the questionnaire assessing the opinions, consisting of 36 questions based on the TQF: HEd of Community Health Nursing Practicum Course of the Bachelor of Nursing Science Program (Revised Curriculum, 2016), covering six areas, namely morals and ethics, knowledge, intellectual skills, interpersonal skills and responsibility, numerical analysis, communication and information technology skills and professional practice skills. It was adapted from the nursing practice evaluation form of the Faculty of Nursing, Naresuan University, 2016. The answers were 5-point rating scales where 5 means the highest level; 4 means high level; 3 means moderate level; 2 means low level and 1 means the lowest level. The reliability of the instruments was tested by the Cronbach's alpha coefficient which was 0.94.

The mean score criteria of Prakong Krannasoot (Krannasoot, 1995) were employed for interpretation. The interpretation was divided into five levels as follows. 4.50 - 5.00 = the highest level; 3.50 - 4.49 = high level; 2.50 – 3.49 = moderate level; 1.50 – 2.49 = low level; 1.00 – 1.49 = the lowest level.

After the research had been approved by the Human Research Ethics Committee, Naresuan University, the researcher collected data on her own. The data were collected in October 2019 and February 2020. The researcher distributed the questionnaires to the population and explained to the population the research objective and the details in answering the questionnaires. The population returned the questionnaires to the researcher after completing them. The researcher checked the completeness of all questionnaires. The responses were obtained from all 113 people, accounting 100%.

Data were analyzed by using a statistical package program and descriptive statistics to find out mean and standard deviation.

The researcher protected the rights of the population by explaining the details of the research objective, data collection process, research methodology and benefits from the research; asking for cooperation in answering the questionnaires and clarifying the rights of the population in accepting or denying participating in this research, which would not affect the evaluation of the course. The researcher kept the information confidential and only an overview of the data would be presented. First and last names of the population would not be revealed. Once the population accepted to participate in the study, they had to sign the consent form. This study was approved by the Human Ethics Committee of Sciences, Technology and Human Sciences Program, Naresuan University. Code of Ethics was NU-IRB 4452.

Table 1. Personal characteristics of 4th year nursing students (n = 113)

Status	n	%
Sex		
Male	8	7.1
Female	105	92.9
Age		
18 years	1	0.9
19 years	1	0.9
21 years	26	23.0
22 years	56	49.6
>23 years	29	25.6
GPA		
2.00-2.50	1	0.9
2.51-3.00	37	32.7
3.01-3.50	64	56.7
3.51-4.00	11	9.7

RESULTS

General information: 113 samples aged between 21-23 years. The cumulative GPA of most of the population was between 3.01-3.50 (56.6%), followed by the cumulative GPA of between 2.51 - 3.50 (32.7 %), the cumulative GPA of between 3.51 - 4.00 (9.7%) and the cumulative GPA of between 2.00 - 2.51 (0.9%) as shown in Table 1.

The learning outcomes of the students according to the TQF: HEd: The students' score toward their learning outcomes in the Community Health Nursing Practicum Course was at the highest level. The area with the highest score was morals and ethics ($\bar{X}$ = 4.50, S.D. = 0.39). The other five areas rated in the high level were knowledge ($\bar{X}$ = 4.11, S.D. = **0.55**), intellectual skills ($\bar{X}$= 4.31, S.D. = 0.52), interpersonal skills and responsibility ($\bar{X}$ = 4.43, S.D. = 0.53), numerical analysis, communication and information technology skills ($\bar{X}$ = 4.31, S.D. = 0.55) and professional practice skills ($\bar{X}$ = 4.48, S.D. = 0.49), as shown in Table 2.

DISCUSSION

The overall perceived learning outcomes based on the TQF of 4th year students of the Faculty of Nursing, Naresuan University, after completing community health nursing practice was at a high level ($\bar{X}$ = 4.36, S.D.= 0.42). This was consistent with previous studies (Intaranongpai & Kotchakot, 2017; Janjaroen, 2011; Wattanatornnan & Sangsongrit, 2017). The Community Nursing Academic Group, the Faculty of Nursing, Naresuan University, used the assessment results from the supervisors, the mentors and the students to improve the teaching and learning management, knowledge management and preparation of nursing students before starting to practice in the training areas. In addition, morals and ethics were included in lessons. The students were encouraged to adhere to the principles of the sufficiency economy and search for new knowledge. There were supervisors and nurse mentors in the training areas. There was the availability of training resources and evaluation tools consistent with learning outcomes. There was support of the use of information technology in searching for health information and continuous self-development. There was an increase of the use of online media while practicing for communication. The students were encouraged to think and solve problems creatively. Therefore, the students had skills in collaboration with local health teams and were able to adapt themselves by being open to new things. For these reasons, the students' learning outcomes were in accordance with the TQF: HEd after practicing nursing practices at a high level. This is in line with the integrated teaching and learning in accordance with the educational management and learning process specified in the National Education Act. The integrated learning process focuses on being student-centered and relies on transfer of learning. The students understand content in a holistic way, see the relationship between subjects and reduce duplication of content in each subject. They can also learn from real experience. Knowledge, moral process and desirable characteristics are combined to increase the potential of the students unlimitedly because they have learned how to proceed lifelong learning.

When each aspect had been considered, the highest level of the students' opinions on learning outcomes was on morals and ethics ($\bar{X}$ = 4.50 S.D. = 0.39). In addition, the sub-competencies that were at the highest level were as follows. 1) Being able to distinguish rightness, goodness and badness ($\bar{X}$ = 4.74, SD = 0.44): The example of behaviors was that the students learned that, when working in every community, everyone must be good, honest, scarified and not steal things. 2) Respecting human value and dignity ($\bar{X}$ = 4.85, S.D. = 0.36): The example of behaviors included respecting service recipients in the community, not disclosing service recipients' information, not lying to service recipients while working in the community, being a good role model in terms of both self-care and community nursing practices for service recipients at all levels, such as practicing community health nursing with intention

Table 2: Learning outcomes according to the Thai Qualifications Frameworks for Higher Education of Community Health Nursing Practicum Course, the Faculty of Nursing, Naresuan University (n=113)

Learning Outcomes: LO	Opinions toward learning outcomes		
	$\bar{x}$	S.D	Level of learning outcomes
Morals and ethnics			
Having knowledge and understanding of religion, ethics and professional ethics	4.28	0.73	High
Being able to distinguish rightness, goodness and badness	4.74	0.44	Highest
Respecting for human value and dignity	4.85	0.36	Highest
Being responsible for own actions, having morals and ethics in living life	4.55	0.56	Highest
Being disciplined and honest, sacrificed, patient and diligent	4.39	0.62	High
Complying with professional ethics and being capable of dealing with ethical problems in daily life and in working in the nursing profession	4.48	0.60	High
Being a good role model for others in living life and working	4.16	0.68	High
Encouraging patients / service recipients to know and understand their rights in order to protect their rights that might be violated	4.56	0.57	Highest
Being aware and conscious of being Thai	4.44	0.60	High
Overall of morals and ethnics	4.50	0.39	Highest
Knowledge			
Having broad and systematic knowledge and understanding of the principles and the theories of the essence of science which is the basis of life and health science	3.97	0.67	High
Having knowledge and understanding of the essence of nursing science, health system and factors affecting social change and health system	4.05	0.65	High
Having knowledge and understanding of the essence of the process of community health nursing and its implementation	4.19	0.70	High
Having knowledge and understanding of the essence of the knowledge acquisition process and knowledge management	4.04	0.68	High
Having knowledge and understanding of the essence of nursing information technology	4.12	0.69	High
Having knowledge and understanding of culture, changing situations of the country and the world society	4.28	0.71	High
Overall of knowledge	4.11	0.55	High
Intellectual skills			
Recognizing self-potential and weaknesses in order to proceed self-development	4.43	0.65	High
Being able to search and analyze data from a variety of data sources	4.40	0.67	High
Being able to use information and evidence as references and to solve problems critically	4.44	0.61	High
Being able to analyze and think systematically by using professional and related knowledge	4.22	0.65	High
Being able to use appropriate scientific and research processes and innovations	4.18	0.69	High
Being able to develop effective methods for solving problems in accordance with the changing health situations and contexts	4.17	0.73	High
Overall of intellectual skills	4.31	0.52	High
Interpersonal skills and responsibility			
Having the ability in professional adjustment and creative interaction / relations	4.44	0.68	High
Being able to work in a team as a leader and team member	4.50	0.62	Highest
Being able to express leadership in driving positive change in the organization	4.21	0.68	High
Having social responsibility and responsibility for professional development	4.56	0.55	Highest
Having skills to learn in an intercultural or multicultural society	4.44	0.68	High
Overall of interpersonal skills and responsibility	4.43	0.53	High
Numerical analysis, communication and information technology skills			
Appropriately applying logic, mathematical and statistical techniques in nursing	4.09	0.71	High
Converting information to quality news and being able to read, analyze, and transmit data	4.27	0.68	High
Effectively communicating in Thai language, including speaking, listening, reading, writing and presenting	4.36	0.72	High
Using basic computer programs	4.35	0.73	High
Selecting and using information presentation format	4.47	0.69	High
Overall of numerical analysis, communication and information technology skills	4.31	0.55	High
Professional practice skills			
Practicing nursing skills in a holistic manner by applying science and art in nursing	4.31	0.66	High

Learning Outcomes: LO	Opinions toward learning outcomes		
	x̄	S.D	Level of learning outcomes
Practicing health promotion, disease prevention, medical treatment, symptom relief and rehabilitation	4.32	0.60	High
Practicing nursing with kindness and generosity by adhering to morals, ethics, law and patients' rights.	4.72	0.50	Highest
Practicing community health nursing with consideration of individual and cultural diversity	4.66	0.52	Highest
Showing leadership in operations and management of nursing team and multidisciplinary team and working in the community and in the community health service unit with a volunteer spirit and a human heart	4.47	0.74	High
Overall of professional practice skills	4.48	0.49	High

and diligence and behaving appropriately while working in the community. 3) Being responsible for own actions, having morals and ethics in living life (X̄=4.55, S.D. = 0.56). The findings of this study were consistent with the studies of Janjaroen (2000) and Chanchareun and Amphansirirat (2012) which found that the nursing students' opinions on learning outcomes in morals and ethics were at the highest level (X̄=4.38, S.D.= 0.46).

The overall knowledge was at a high level (X̄ = 4.11, S.D. = 0.55), and all sub-competencies of the learning outcomes were rated at a high level, such as having knowledge and understanding of culture, changing situations of the country and global society (X̄ = 4.28, S.D. = 0.71). For example, they could understand the social and cultural context of each area and the situation of health changes at both a global level and in Thailand. In addition, the Community Nursing Academic Group had prepared the students and organized orientation for them before they went to practice in the community. So, the perceived knowledge of the students was a high level. This was consistent with the study by Wattanatornnan (2017) on the effect of skill-enhancing activities on knowledge and the confidence of the students of Thai Red Cross College of Nursing, enrolling in Nursing Care of Adult and Aging Practicum II. It was found that in terms of knowledge, most of the students perceived that skill- enhancing activities allowed them to be able to apply knowledge before starting practicum.

The overall intellectual skills were at a high level (X̄ = 4.31, S.D. = 0.52). The competency with the highest level was being able to use information and evidence as references and to solve problems critically (X̄ = 4.44, S.D. = 0.61). For the teaching and learning management of the Community Health Nursing Practicum Course, activities were organized for the students to apply knowledge from nursing science and other fields of science by using the nursing processes in individual, family, and community nursing, covering physical and psychosocial aspects in health promotion, disease prevention, medical treatment and rehabilitation because community health nursing practicum is practice in a real area. A project for human health was also organized for the students, so that they could apply scientific processes and create appropriate innovations for searching and analyzing data in various sources in order to find out the solutions to health problems that change according to socio-cultural context. Therefore, the learning outcomes of the students on knowledge and intellectual skills were at a high level.

The overall interpersonal skills and responsibility were at a high level (X̄ = 4.43, S.D. = 0.53). The competency with the highest level in this area was having social responsibility and responsibility for professional development (X̄ = 4.56, S.D. = 0.55) and being able to work in a team as a leader and team member (X̄ = 4.50, S.D. = 0.62). For the community health nursing practicum, it must be operated as teamwork. The students had to collaborate with the multidisciplinary team, community leaders, Tambon Health Promoting Hospitals, village health volunteers and the public sector. For this reason, the students could build relationships and adapt themselves to the socio-cultural context of the area in order to be able to work together with others. While practicing, the students were divided into 7-8 people per group. The roles and responsibilities were shared to all students. They had to play the roles of both leaders and followers, which might not be in accordance with their abilities. However, everyone could perform the assigned tasks. They were developed by themselves. Reflection with the lecturers and the group members was also organized. In addition, the students also lived together in the community throughout the practice period. Therefore, the learning outcome of interpersonal skills and responsibility was at a high level.

The overall of numerical analysis, communication and information technology skills was at a high level (X̄=4.31, S.D. =0.55), and all sub-competencies of the learning outcomes were rated at a high level. This might be because the students had the skills in searching for information and using information technology. They were also able to manage information, communication, and presentation using electronic media. They also had skills in using basic computer programs. This was in accordance with Kungvon and Suksaen (2014) who found that the students assessed themselves on the learning outcomes in numerical analysis skills, communication

and the use of information technology at a high level (X̄=3.79, S.D. =0.71).

In terms of professional practice skills, the students' opinions on learning outcomes in this aspect were at a high level (X̄=4.48, S.D. =0.49). Also, the first two learning performance aspects rated with the highest level were as follows. 1) Practicing nursing with kindness and generosity by adhering to morals, ethics, law and patients' rights (X̄=4.72, S.D= 0.50): The example of behaviors included expressing concern for service recipients, talking to service recipients in a friendly manner and providing consistent care for patients. 2) Practicing community health nursing with consideration of individual and cultural diversity (X̄=4.66, S.D= 0.52): The example of behaviors included not violating privacy of patients, not revealing information of patients, doing activities based on the differences of each service recipient, organizing health promotion activities in the community, providing health knowledge and demonstrating health care practices. These results were in accordance with Janjaroen (2011) and Kungvon and Suksaen (2014) who found that graduate quality based on the TQF: HEd n terms of professional practice skills was at a high level (X̄=3.95, S.D.= 0.42).

CONCLUSION

The research results can be used as the guidelines for the development of learning outcomes and assessment in accordance with the Thai Qualifications Frameworks for Higher Education (TQF: HEd).

Recommendations for application of research findings in teaching and learning management are as follows. 1) Teaching strategies and learning evaluation should be developed in accordance with the context of the course. 2) The research findings should be used as the guidelines for improving learning outcomes and evaluation in accordance with the TQF: HEd in order to improve the curriculum efficiently.

Recommendations for further research: The comparative study on learning outcomes of the Community Health Nursing Practicum Course perceived by nursing students, mentors and supervisors should be conducted.

REFERENCES

Aunban P. Evaluation of teaching in family and community nursing practicum. Journal of Nursing and Education 2559; 9(1):113 - 126. (In Thai)

Ahmed, W. A. M., Alostaz, Z. M. Y., & Al-Lateef Sammouri, G. A. (2016). Effect of self-directed learning on knowledge acquisition of undergraduate nursing students in Albaha University, Saudi Medical Science Arabia. AIMS, 3(3), 237-247.

Alotaibi, K. N. (2016). The learning environment as a mediating variable between self-directed learning readiness and academic performance of a sample of Saudi nursing and medical emergency students. Nurse Education Today, 36, 249–254.

Chanchareun K, Amphansirirat K, Characteristic Thai qualifications framework for higher education of the graduate of the bachelor of nursing science programmed from Boromarajonani College of Nursing Songkhla. Songkhla:Boromarajanani College of Nursing Songkhla, 2012. (In Thai)

Fujino-Oyama, Y., Maeda, R., Maru, M., & Inoue, T. (2016). Validating the Japanese self-directed learning readiness scale for nursing education. Journal of Nursing Education, 55(2), 65–71.

Hiemstra, R. (1996). Self-directed learning. In A. C. Tuijnman (Ed.), International encyclopedia of adult education and training (pp.472-433). Oxford: Pergamum.

Hiemstra, R., & Brockett, R. G. (1994). From behaviorism to humanism: Incorporating self-direction in learning concepts into the instructional design process. In H. B. Long, and Associates, New ideas about self-directed learning. Oklahoma Research Center for Continuing Professional and Higher Education of the University of Oklahoma.

Inthonhongpai, S. (2011). Nursing process: a tool for holistic health managers to evolve and improve primary health (5thed). Maha Sarakham: Mahasarakham University Press.

Intaranongpai S, Kotchakot J. The learning outcomes under the qualifications framework for higher education (TQF) in community nursing practicum subject, Bachelor of nursing science. Journal of the Police Nurses 2017; 9 (2):105-115. (in Thai)

Janjaroen, K. (2011). Characteristic Thai qualifications framework for higher education of the graduate of the bachelor of nursing science programme from Boromarajonani Bollege of Nursing Songkhla. Retrieved from http://tdc.thailis.or.th/tdc.browse.pbh

Kungvon. J., & Suksaen, N. (2014). The relationship between satisfaction towards teaching- learning process and learning outcomes of Thailand quality framework in maternal- newborn and midwifery nursing practice 2, third year Air Force Student Nurses. Journal of the Police Nurses, 16(2), 134–143.

Krannasoot, P. (1995). Statistics for Behavioral Science Research (2nd ed). Bangkok: Chulalongkorn University.

Office of Higher Education Commission. (2009) Thai Qualifications Framework for Higher Education B.E. 2552 (2009). Document for the workshop on the qualifications framework: quality development of curriculum and course syllabus, September 30 - October 2, 2009 at the Radisson Hotel, Bangkok.

Panich, V. (2013). How does learning occur? Bangkok: S. R. Printing Massproduction Company Limited.

Thailand Nursing and Midwifery Council. Regulations of Thailand Nursing and Midwifery Council on Knowledge Ex̄amination for Registration and Licenses of Nursing Profession, Midwifery or Nursing and Midwife (Version 2) B.E. 2551 (2008).

The Higher Education Committee. (2017). The announcement of the Ministry of Education:Qualifications bachelor's degree in nursing 2017. Bangkok: Ministry of Education. (In Thai)

The Higher Education Commission. Thai Qualifications Framework for Higher Education (Version 2) B.E. 2554 (2011). Government Gazette. August 31, 2019.

Srisa-ard B.(2013). Fundamental Research. Bangkok: Suviriyasarn. (In Thai)

Sirisomboon P. Characteristics of graduates according to Thai qualifications framework for higher education (TOF:HEd) in Southeast Bangkok College, 2013-2014 (Batch 15). Southeast Bangkok Journal 2016; 2(2): 55-67. (in Thai)

Tao, Y., Li L., X̌u, Q., & Jiang, A. (2015). Development of a nursing education program for improving Chinese undergraduates' self-directed learning: A mix̌ed-method study. Nurse Education Today, 35(11), 1119–1124

Wichainate, K. (2014). Reflective Thinking: Teaching Students to Develop Critical Thinking. Journal of the Police Nurses, 16(2), 187-199.

Wattanatornnan S., Sangsongrit N. Effect of a nursing skills enhancement program on knowledge and confidence in nursing students enrolling in nursing care of adult and aging practicum II. Journal of the Royal Thai Army Nurses 2017; 18(1): 157-166.

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Original Research

How Do People Living with HIV Acquire HIV Related Information: A Qualitative Evaluation of Jakarta Setting

Mahathir Mahathir[1], Wiwin Wiarsih[2], and Henny Permatasari[2]

[1]Faculty of Nursing Universitas Andalas, West Sumatra, Indonesia
[2]Faculty of Nursing, Universitas Indonesia, West Java, Indonesia

ABSTRACT

Introduction: People living with HIV are fully aware of their risk behavior and future threats that might arise. The rapid progress of HIV serves the population with many options of healthcare services and treatments. Insufficient knowledge and information will only lower the outcomes of HIV eradication efforts. The ultimate goals to eradicate HIV are to upscale status notification and treat all with appropriate antiretroviral and viral suppression, but it needs sufficient information to administer. Programs and interventions have already been proposed, but an inquiry is needed to ensure all the information is actually there. The study aimed to explore the experience of people living with HIV acquiring HIV-related information.

Methods: This study used phenomenological qualitative study and in-depth interviews were conducted to 12 people living with HIV. Semi-structured questions were delivered to all participants which explored their tangible experience in terms of nurturing sufficient HIV-related information.

Results: The study found four consequential themes: non-government organizations play a major role in HIV education, peers are a comfortable platform to discuss, it is all over the media and healthcare personnel are a source of knowledge.

Conclusion: The distribution of HIV information and knowledge is now widespread. This situation marks part of the success in fighting HIV. Remarkable attempts can be maintained by optimizing the viable option of information delivery.

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CONTACT

Mahathir Mahathir
mahathirmahat@nrs.unand.ac.i
Faculty of Nursing Universitas Andalas, West Sumatra, Indonesia

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INTRODUCTION

As of today, at least 32 million people have died as devastating consequences of HIV and AIDS since the start of the epidemic (UNAIDS, 2019). In order to achieve the 2030 target urgent pressing needs have to be fulfilled (UNAIDS, 2020). Various strategies will be provided with global solidarity, evidence-based action and multi stakeholders' partnerships in order to attain HIV treatment for all (UNAIDS, 2014). The progress toward sustainable development goals of health and wellbeing reported that there is strong and steady national and global financial commitment, the acceleration of evidence-based HIV prevention, testing and treatment programs availability among different countries. The total incidence rate of HIV incidence has declined by 22% since 2010 (UN, 2019). Mortality caused by AIDS-related disease is also declining globally, but both of those achievements are far away from the target. HIV prevention, testing and treatment needs to be accelerated and focus on analyzing the gap of implementation (World Health Organization, 2019).

The HIV burden is still haunting most of countries worldwide, particularly for low and middle income countries (Haakenstad et al., 2019). The HIV global statistic data show 37.9 million people are now living with HIV, 1.7 million people are newly infected with the virus and 770.000 of them died caused by HIV-related illness. It expected around 24.5 million people living with HIV are accessing antiretroviral therapy (UNAIDS, 2019). There are 13 million numerical gaps

of people living with HIV not possessing antiretroviral treatment. Indonesia has been known as the fourth largest number of HIV new infections per year. Indonesia is the only country in the Asia Pacific region which has rapid increasing of HIV prevalence (Januraga et al., 2018). In the HIV statistics, Indonesia alone recorded 640,000 people affected by the virus, at least 46,000 people who are newly infected in the most recent year, and 38,000 of them have died of AIDS-related disease (UNAIDS, 2018a).

The 90-90-90 target demands to end HIV by achieving 90% population knowing their status, 90% HIV positive persons engaging in antiretroviral and 90% people living with HIV on antiretroviral treatment virally suppressed. It is not easy to achieve; the target needs to improve knowledge and reduce stigma by inserting sufficient knowledge (Maddali, Gupta, & Shah, 2016). The programs focused specifically for key populations are aimed to provide evidence-based recommendation and increasing awareness of the HIV issues and needs (WHO, 2017). In most studies it was reported there was a wide variety of HIV-related intervention types (Faust & Yaya, 2018). Health education of HIV-related information has been recognized to deliver remarkable outcomes in improving HIV knowledge, diagnosis and treatment (Martínez Sanz et al., 2019), also contributing in reducing stigma (Nyblade et al., 2019).

It has been noticed that the state of HIV knowledge improvement is growing, but the trend is still minimal. A study in Sub-Saharan Africa found only close to half of the research population retained comprehensive HIV knowledge (Chan & Tsai, 2018). In accessing HIV-related information, key populations often face a complex challenge. The lack of guidance and follow-up of information, discriminatory acts among information providers, uncomfortable services and inadequacy of privacy insurance are the common reasons for key populations to ignore HIV-related information seeking (Liu et al., 2016). In Indonesia, HIV knowledge is considered low with only 11.37 per 1000 population among aged 15-24 (UNAIDS, 2018b). It is crucial to assess the implementation gap in providing HIV-related information to boost the reach of key population in its acquisition. The evaluation of data is important to guide the HIV response in providing comprehensive and high quality performance of information providers (Hakim et al., 2018).

HIV-specific health literacy also contributes as important marking in the HIV behavior and decision of the key populations. Interventions are improving the health literacy of people living with HIV with low health literacy and bringing up better health behavior and outcomes (Wawrzyniak, Ownby, McCoy, & Waldrop-Valverde, 2013). Health literacy drives health cognition, decision and behavior; poor health literacy will lead to lack of access to healthcare services and appropriate treatments, deriving from poor health education (Palumbo, 2015). The role of HIV health education is vital in terms of developing the health literacy of the people living with HIV. HIV health literacy is an important mediator between HIV-related information and the outcomes (Tique et al., 2017). One of the notable HIV specific health literacy interventions is health education by using technology, known as e-health literacy. It is proven to promote HIV-related knowledge, medication adherence and individual self-management of the people living with HIV (Perazzo, Reyes, & Webel, 2017).

In the current time, there are various new and innovative ways to confront the HIV epidemic. These interventions have been developed and implemented with the focus to increase individual knowledge, risk perception and motivation to avoid risky behavior. HIV health education has been conducted by using various methods to contribute to antiretroviral adherence and viral suppression (Wawrzyniak et al., 2013). Evaluation is necessary to build better capacity of the healthcare system in providing information and care for the populations. Evaluation also criticized the learning focus of the community development (Phillips et al., 2019). Evaluation of HIV health education interventions is crucial to drive better understanding in facing the challenges and to redesign more effective strategies in the future. Evaluation also creates better capture of complex information (Iskarpatyoti, Lebov, Hart, Thomas, & Mandal, 2018). The comprehensive tools to record HIV knowledge remain lacking and there is a need to design comprehensive assessment (Hooshyar et al., 2017). Evaluation of the interventions to boost HIV-related knowledge and literacy is an important measure to break through the obstacles. This study aimed to evaluate the experience of people living with HIV in acquiring HIV-related information.

MATERIALS AND METHODS

The design of the study was using qualitative study with phenomenological approach. This type of research design provides thick description of the phenomenon experienced by the people living with HIV in acquiring HIV-related information. This study interpreted the narrative situation of the information access for people living with HIV. This design was used to fully understand the uniqueness and concreteness of the representation of the HIV information access situation in the healthcare system according to the subjects' perspective. It will illustrate and individualize the genuine life experience of the people living with HIV in acquiring HIV related information. This study aimed to explore the complex and varied life experiences of people living with HIV in acquiring HIV-related information. It is expected to describe the particular form of interaction between people living with HIV and the healthcare system available regarding to HIV-related information.

Table 1. Participant Characteristic

Participant Code	Age (years old)	Education	Length of Disease (in years)	Risk Population	Gender
P1	29	High School	10	IDU	Male
P2	30	Elementary	9	IDU	Male
P3	31	Junior High	7	Heterosexual	Male
P4	32	Junior High	7	IDU	Male
P5	34	High School	7	Prisoner	Male
P6	34	High School	7	IDU	Male
P7	34	High School	5	Prisoner	Male
P8	34	Bachelor	5	Heterosexual	Female
P9	39	High School	7	IDU	Male
P10	41	Bachelor	2	IDU	Male
P11	22	High School	1	MSM	Male
P12	31	Diploma	1	MSM	Male

*IDU= Injecting Drug User
*MSM= Men Who Have Sex with Men

The study was conducted in Jakarta, Indonesia, by involving a non-government organization in HIV activism. Jakarta has 38 active non-government organizations and foundations, which entail to the HIV movement arrangement. Two notable non-government organizations were enlisted as prospective participants for the study. This qualitative study used purposive sampling method to choose participants to contribute in the research. The participants were considered as commonly knowing the research situation and providing an overview of life experiences in acquiring HIV-related information. Qualitative research does not require a rigid standard in terms of a minimum sample, but the number participants depends on the repetitive information presented. Data saturation examines the maximum participants that could be used for the research. The participants' criteria of the study were people living with HIV who have experienced healthcare service utilization, obtained HIV-related information, be willing to tell and consent to the research issue. The study used 12 participants whom provided narrative data of how people living with HIV acquire HIV-related information.

The data collection in this study used in depth interviews with open-ended and semi-structured questions to all participants by the primary author. All data were recorded to tape recorder for verbal data and field notes for non-verbal expressions. The conversation took 30-45 minutes for each participant with a comfortable atmosphere in a dedicated room, open posture, private one-on-one interview and appropriate tone of speech. The questioning was triggered by asking how do people living with HIV acquire HIV-related information. The interview terminated when the data attained the information depth justified by the researcher as the instrument itself. The conversation ended by ensuring the physical and psychological condition of the participant. The data saturation marked by the repetition of information at 12 participants. The recorded data were then transferred into a soft computer file and saved in a specific and secured folder. Afterwards, the data were listened to repeatedly and shifted into a verbatim transcript. The transcripts and field notes were combined to complement the suitability of the data collected.

The transcripts were then sorted to find significant statements of the participants. These were then classified into categories, which were grouped into themes and subthemes. The themes were written in a thoughtful and representative narrative form, to make it easy to understand the experience. At the end, the research concluded four consequential themes. The analysis and the results were obliged to the qualitative data validities by ensure credibility, transferability, dependability, and conformability. This study was committed to the ethical guidelines and consideration in all research activities. Ensuring that no one was harmed or obtained negative impacts was crucial. This research strictly provides autonomy, beneficence, non-maleficence, confidentiality and justice. This study also committed to protect the participants involved. This study was reviewed by the Universitas Indonesia Ethical Council Committee and declared as ethically feasible to be conducted. The study concluded four consequential themes describing how people living with HIV acquire HIV-related information.

RESULTS

The participants in this study were 12 people living with HIV using healthcare services in Jakarta, Indonesia. The 12 participants participated voluntarily in in-depth interviews conducted during the research process. The 12 participants acknowledged their positive status and performed openness to be involved in the study and in

cooperatively answering the questions during interview. Participants did not express objections or unwillingness in providing information in semi-structured questions. All quoted texts in the manuscript were originally in Bahasa Indonesia and translated into English to fulfill publication requirements. The characteristics of the participants are displayed in Table 1 below (attached at the last page of the manuscript).

The study found four consequential themes: non-government organizations play a major role in HIV education, peers are a comfortable platform to discuss, it is all over the media and healthcare personnel are a source of knowledge. The details of each theme are explained as follows:

Theme 1: Non-government Organizations Play a Major Role in HIV Education

A bon-government organizations (NGO) was recognized as a platform which contributed in HIV-related information for the most participants. They realized their risky behavior and what would be the consequences for them. Non-government organization provided them with essential information and knowledge related to HIV. The NGO interacted with participants through HIV seminars conducted by the organization. Also, the organization actively came to participants to deliver the message and information. The organization activists offered strong advice to prevent disease transmission and pointed out the importance of HIV testing to get knowledge of the participants' serostatus. One participant admitted that he was persuaded to go for a voluntary counselling test after the organization member approached him and made him understand the potential threat of the disease. The statement of the participant is documented below:

"At that time, as I remember there was a foundation, I guess, which I didn't really know the details, but I was sure it was related to the HIV activism movement. They came to us and explained everything about the risks and the importance of 'VCT' (Voluntary Counselling Test). They said they also provided it and asked us to do the check. Afterwards I was found to be positive." (P1)

Another participant told that he was really aware of the situation because one member of the organization came to him and explained the details of HIV. Then, with a gentle smile and rounded eyes, he recommended him to access the VCT in the healthcare facility nearby, as, recalling his expression, the participant commented as follows:

"So, this member of the organization was explaining it (HIV-related information) completely to me. It made me understand quite a bit though about the disease. He recommended me to check my status by accessing the VCT in the nearby healthcare facility. He gave me the contact and I went for a status check." (P2)

Another participant also shared the same experience. This participant said that he went to a HIV seminar held by the organization. Of his own volition, he decided to gain more knowledge about the disease and got to know the risks that he might have. He explained:

"I saw there was a free Seminar about HIV disease in a flyer back then conducted by a HIV NGO. It had been my curiosity at that time, I guess I had the risk, but I was not sure. So, I went to the seminar and got a full understanding that my risks were real." (P7)

Theme 2: Peers are a Comfortable Platform to Discuss

Four participants in this study stated that they acquired HIV related information from their peers. They affirmed that peers were an important circle in HIV-related information distribution. Peers optimally constructed their understanding of the disease and acknowledged them as a person with a wide spectrum. They felt accepted in considering themselves as an alter ego of their peers. Peer provided them with palpable experience and information so they felt connected to each other. Peers are a platform that allows them to express what they feel freely and without boundaries. The participants may discuss the hidden situation and information that often make them shy to tell others in terms of the secrecy. Peers also become an important role model for the participants to see the whole truth of the disease and the intricacy of HIV-related knowledge. Below is the statement of a participant:

"Back then, I had a friend, a childhood friend. Eventually he came with his secret story, which shocked me. He told me that he had HIV, after that I could not resist my own situation. I asked him so many things and he tried to make me understand by explaining all the information and then I realized I should have a check. He convinced and accompanied me to the Public Health Center nearby." (P1).

Another participant also told the same experience. He knew the information from his friend, who told him of a place to get a check. "…My friend told me don't be afraid, just go to 'Pro' (name of a notable private laboratory) they often not bother our lives that much…" (P5). Another participant also said the same thing. He knew a friend that might have sufficient information about HIV. He felt free to speak about the situation and curiosity that he had. He admitted that he never got a negative judgment from his friend, which made him very relieved. Through his friend's experience, the information he provided was also easy and comprehensive to understand. Passionately speaking, the participant said as follows:

"I heard one of my friends had the same thing, and he must know many more things than. I approached him and he told me everything I needed to know. I hid nothing, then I went to the hospital that he also went to." (P4).

Theme 3: It is All Over the Media

All of the participants disclosed that the media also gives them information insight about HIV. Even though it was not enough information to convince them, they acknowledged it was quite helpful in transmitting HIV-related information. The media

provided them brief and straightforward information that led them to access more HIV knowledge and information. Printed media, such as posters, flyers, newspapers and magazines, were the resources to get the information. Online media and website based made it easier for them to obtain such information. One participant states that he got the information from printed media such as poster and billboard. It briefly gave him the essential information about HIV.

"When I walked around, sometimes I found a printed poster on the wall that told about HIV. I stopped for a while and read. I could feel the risks in me, I knew it. Also, on the billboard they also put the information there, not much but enough for a basic understanding." (P2)

Another participant affirmed that he got the information online from the electronic media on the internet. He tried to surf the information and there are very many resources if you want to seek HIV-related Information. With a smirking smile, the participant told as follows:

"There are so many of them (HI- related information) on the internet, you could just click and you will find it easily. There are websites that completely tell you about the disease and I guess it is also provided by the NGO." (P3)

Theme 4: Healthcare Personnel as Source of Knowledge

Four of the participants also commented that they got the HIV-related information from the healthcare personnel. Healthcare personnel actively came to them directly and distributed the knowledge by themselves. They approached the participants at their 'hot spot' group gathering places. They realized that it might be a regular program made by the healthcare providers to reach out to the key populations. The healthcare personnel convinced the participants because they had sufficient knowledge and knew everything about HIV. They felt that they were the experts. Healthcare personnel also knew them appropriately because had been interacting with them for quite some time. One of the participants said:

"The healthcare personnel came to us at that time. They explained about the risks and the disease. They seemed very expert about this. We got convinced, eventually and they also provided VCT and then we tried. That time, I then knew my status was positive." (P8)

Another participant told that ,after all the risks that they have been taking it was useful to have relevant information from other sources. They believed that the doctor and nurses convinced them to take a test and they obtained all the important and relevant information.

"I went to the doctor and asked more about myself. He explained many things to me and I got convinced. He asked me to get tested, and I did." (P11)

"I met the nurse; he told me anything that he knew about HIV. I believed in him, He explained it in such detail. Every information I've got from anywhere, I always cross-check on him. It feels relieving when I talk to him to justify any information I've got." (P12).

DISCUSSION

The study tells us the access of HIV-related information is now broadened and well-provided. Key populations may reach all necessary information by addressing various choices. The active or non-active delivery ways used by the providers have equipped high-risk behavior population with basic essential knowledge. It is expected that, with certain knowledge, this will lead to better-desired outcomes of the disease prevention, treatment and care. Finer understanding of a population's perspective on HIV health education is important to get to know which are the best ways of delivery to improve HIV knowledge (Stonbraker et al., 2018). The participants on the study acknowledge HIV non-government organizations contribute in a large scale. Non-government organizations focusing on HIV are recognized as outstanding community lead groups to respond to health challenges and gaps (Lo, 2018). Non-government organizations have contributed in HIV progressive changes till the current time (Wang et al., 2016). The struggles that have been proved by this institution are undoubted. Study acknowledges that non-government organizations implement a holistic approach in all program activities, ensuring confidentiality, nurturing professionals and cultural competence, and strictly preserving equality and empathy. Non-government organizations focus their work by maintaining preventive implementation through a progressive empowerment health education approach (Berenguera et al., 2011).

The participants in this study realizes that peers are a safe space to gain more information. Peer-led HIV programs and activities are also a key step to improve access to information that leads to HIV eradication desired outcomes. A peer HIV knowledge delivery program significantly enriches key populations' knowledge. A study in highly stigmatized male sex workers in Africa proved a significant improvement of the knowledge of prevention behaviors. Peers also improve HIV prevention initiative coverage among key populations (Geibel, King'ola, Temmerman, & Luchters, 2012). The essential knowledge provided by peers will influence key populations' decision and behavior. It also notably known that peer led programs increase significantly the degree of HIV testing among key populations. Previous study highlighted the changing numbers of key population engaging in HIV testing (Shangani et al., 2017). Peer education assigns key population with sufficient increase in knowledge of risk reduction through condom use, sexual transmission of HIV and transmission through sharps (Faust & Yaya, 2018). Peers also help in achieving treatment engagement and antiretroviral compliance (Genberg et al., 2016). Peers are considered as a platform that overcomes the stigma often felt by the key population (Hall et al., 2017). Peers also build

perpetuated social norms that justify HIV testing behavior of key populations' inner circle (Witzel, Weatherburn, Rodger, Bourne, & Burns, 2017). Social network influences HIV testing behavior in key population, and peers persuade and provide assistance in all testing process activities (Conserve, Alemu, Yamanis, Maman, & Kajula, 2018). In the Indonesia context, a study also found a narrative finding that people living with HIV determined their HIV healthcare access seeking behavior and healthcare function depended on social support (Setyoadi, 2013). Peer support also boosts the autonomy and self-determination of people living with HIV among Indonesian migrant workers (Nursalam, Yusuf, Widyawati, & Asmoro, 2015)

The study found the media as an accessible platform to obtain HIV-related information. Media certainly take a role in becoming an integral part of HIV-related information distribution in the community. Accessing media strongly influences knowledge and the face of HIV education. Media are positively associated with HIV knowledge and awareness about transmission and prevention (Jung, Arya, & Viswanath, 2013). Through technological improvement, the media can be accessed by anyone. Technology increases exposure among certain population and is considered as a significant predictor of HIV knowledge (Muhammad Hamid, Tamam, & Nizam Bin Osman, 2020). Media provides the key population with an interactive yet understandable interface in the urban settings and shape the variable as HIV knowledge predictors for urban population (Bekalu & Eggermont, 2014). Media becomes a platform to boost creative and innovative information delivery. Innovative digital improvisation in media delivery of HIV-related information has proved cost effectiveness in information distribution with large-scale coverage (Daher et al., 2017). Varies media options give the key populations freedom of choice to choose what is best for them. The individual approach of social media also marked a new trend of interventional strategies in HIV eradication activities (Tso, Tang, Li, Yan, & Tucker, 2016). The media has also proved its contribution by showing positive impacts in changing prevention behavior (Bertrand, O'Reilly, Denison, Anhang, & Sweat, 2006), HIV testing (Wang et al., 2019), and adherence monitoring (Bychkov & Young, 2018).

The healthcare providers also play a substantial role in providing information among participants. The rapid progress of healthcare services is also changing HIV programs and activities overlook. Healthcare providers are now accessible by the population to seek help and information. In a study, HIV risk populations admitted that healthcare personnel are moving forward to serve the HIV patients with equal treatments, more valued relationship, social support and confidentiality assurance (Stutterheim et al., 2014). Patient-centered care has also become a new focus trend in order to optimize HIV working progress. Providing access, uses and education of key population are the main variables in developing and deploying HIV-related interventions. Coordinated patient focus care is essential to build empowering situations among affected populations (Dixon & Kaneshiro, 2012). Healthcare services delivery by healthcare personnel faces many factors for improvement. Training, working experience, appropriate timetable plans are a necessity to be developed. A primary prevention practice is encouraged to push down new transmission disease in the population (Davis et al., 2016). In forming an appropriate attitude in delivering services among kin, healthcare providers have now become important to attract more people to engage healthcare services for obtaining HIV-related information (Abu Moghli, Al Habeesh, & Abu Shikha, 2017). The limitation of the study found some participants found it difficult to express the qualitative narration of their experience. It required the communication competency of in-depth semi-structured interviews of the interviewer.

CONCLUSION

This study showed a changing progress of HIV-related information delivery. The underpinning qualitative evaluation assures optimistic strategies need to be implemented and optimized years ahead in order to achieve 2030 goals. Maintaining the consequential pattern is crucial and developing better and strategic programs in HIV-related information delivery remains vital.

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REFERENCES

Abu Moghli, F., Al Habeesh, S., & Abu Shikha, L. (2017). Perception of HIV/AIDS Education at the Community Level in Jordan. Iranian Journal of Public Health, 46(3), 301–307. Retrieved from https://pubmed.ncbi.nlm.nih.gov/28435815

Bekalu, M. A., & Eggermont, S. (2014). Media use and HIV/AIDS knowledge: a knowledge gap perspective. Health Promotion International, 29(4), 739–750. https://doi.org/10.1093/heapro/dat030

Berenguera, A., Pujol-Ribera, E., Violan, C., Romaguera, A., Mansilla, R., Giménez, A., & Almeda, J. (2011). Experiences about HIV-AIDS preventive-control activities. Discourses from non-governmental organizations professionals and users. Gaceta Sanitaria, 25(3), 184–190. https://doi.org/10.1016/j.gaceta.2010.10.015

Bertrand, J. T., O'Reilly, K., Denison, J., Anhang, R., & Sweat, M. (2006). Systematic review of the effectiveness of mass communication programs to change HIV/AIDS-related behaviors in developing countries. Health Education Research, 21(4), 567–

597. https://doi.org/10.1093/her/cyl036

Bychkov, D., & Young, S. (2018). Social media as a tool to monitor adherence to HIV antiretroviral therapy. Journal of Clinical and Translational Research, 3(Suppl 3), 407–410. Retrieved from https://pubmed.ncbi.nlm.nih.gov/30873489

Chan, B. T., & Tsai, A. C. (2018). HIV knowledge trends during an era of rapid antiretroviral therapy scale-up: an analysis of 33 sub-Saharan African countries. Journal of the International AIDS Society, 21(7), e25169–e25169. https://doi.org/10.1002/jia2.25169

Conserve, D. F., Alemu, D., Yamanis, T., Maman, S., & Kajula, L. (2018). "He Told Me to Check My Health": A Qualitative Exploration of Social Network Influence on Men's HIV Testing Behavior and HIV Self-Testing Willingness in Tanzania. American Journal of Men's Health, 12(5), 1185–1196. https://doi.org/10.1177/1557988318777674

Daher, J., Vijh, R., Linthwaite, B., Dave, S., Kim, J., Dheda, K., … Pai, N. P. (2017). Do digital innovations for HIV and sexually transmitted infections work? Results from a systematic review (1996-2017). BMJ Open, 7(11), e017604–e017604. https://doi.org/10.1136/bmjopen-2017-017604

Davis, T., Teaster, P. B., Thornton, A., Watkins, J. F., Alexander, L., & Zanjani, F. (2016). Primary Care Providers' HIV Prevention Practices Among Older Adults. Journal of Applied Gerontology : The Official Journal of the Southern Gerontological Society, 35(12), 1325–1342. https://doi.org/10.1177/0733464815574093

Dixon, B. E., & Kaneshiro, K. (2012). Improving Access to HIV and AIDS Information Resources for Patients, Caregivers, and Clinicians: Results from the SHINE Project. Online Journal of Public Health Informatics, 4(1), ojphi.v4i1.3849. https://doi.org/10.5210/ojphi.v4i1.3849

Faust, L., & Yaya, S. (2018). The effect of HIV educational interventions on HIV-related knowledge, condom use, and HIV incidence in sub-Saharan Africa: a systematic review and meta-analysis. BMC Public Health, 18(1), 1254. https://doi.org/10.1186/s12889-018-6178-y

Geibel, S., King'ola, N., Temmerman, M., & Luchters, S. (2012). The impact of peer outreach on HIV knowledge and prevention behaviours of male sex workers in Mombasa, Kenya. Sexually Transmitted Infections, 88(5), 357–362. https://doi.org/10.1136/sextrans-2011-050224

Genberg, B. L., Shangani, S., Sabatino, K., Rachlis, B., Wachira, J., Braitstein, P., & Operario, D. (2016). Improving Engagement in the HIV Care Cascade: A Systematic Review of Interventions Involving People Living with HIV/AIDS as Peers. AIDS and Behavior, 20(10), 2452–2463. https://doi.org/10.1007/s10461-016-1307-z

Haakenstad, A., Moses, M. W., Tao, T., Tsakalos, G., Zlavog, B., Kates, J., … Dieleman, J. L. (2019). Potential for additional government spending on HIV/AIDS in 137 low-income and middle-income countries: an economic modelling study. The Lancet HIV, 6(6), e382–e395. https://doi.org/10.1016/S2352-3018(19)30038-4

Hakim, A. J., MacDonald, V., Hladik, W., Zhao, J., Burnett, J., Sabin, K., … Garcia Calleja, J. M. (2018). Gaps and opportunities: measuring the key population cascade through surveys and services to guide the HIV response. Journal of the International AIDS Society, 21 Suppl 5(Suppl Suppl 5), e25119–e25119. https://doi.org/10.1002/jia2.25119

Hall, B. J., Sou, K.-L., Beanland, R., Lacky, M., Tso, L. S., Ma, Q., … Tucker, J. D. (2017). Barriers and Facilitators to Interventions Improving Retention in HIV Care: A Qualitative Evidence Meta-Synthesis. AIDS and Behavior, 21(6), 1755–1767. https://doi.org/10.1007/s10461-016-1537-0

Hooshyar, S. H., Shahesmaeili, A., Faramani, R. S., Khajehkazemi, R., Nasirian, M., Sharifi, H., & Kamali, K. (2017). 85: KNOWLEDGE, ATTITUDE AND PRACTICE OF HIV/AIDS: A SYSTEMATIC REVIEW AMONG KEY POPULATIONS AT RISK FOR HIV INFECTION IN IRAN. BMJ Open, 7(Suppl 1), bmjopen-2016-015415.85. https://doi.org/10.1136/bmjopen-2016-015415.85

Iskarpatyoti, B. S., Lebov, J., Hart, L., Thomas, J., & Mandal, M. (2018). Evaluations of Structural Interventions for HIV Prevention: A Review of Approaches and Methods. AIDS and Behavior, 22(4), 1253–1264. https://doi.org/10.1007/s10461-017-1997-x

Januraga, P. P., Reekie, J., Mulyani, T., Lestari, B. W., Iskandar, S., Wisaksana, R., … Kaldor, J. M. (2018). The cascade of HIV care among key populations in Indonesia: a prospective cohort study. The Lancet HIV, 5(10), e560–e568. https://doi.org/10.1016/S2352-3018(18)30148-6

Jung, M., Arya, M., & Viswanath, K. (2013). Effect of media use on HIV/AIDS-related knowledge and condom use in sub-Saharan Africa: a cross-sectional study. PloS One, 8(7), e68359–e68359. https://doi.org/10.1371/journal.pone.0068359

Liu, Y., Osborn, C. Y., Qian, H.-Z., Yin, L., Xiao, D., Ruan, Y., … Amico, K. R. (2016). Barriers and Facilitators of Linkage to and Engagement in HIV Care Among HIV-Positive Men Who Have Sex with Men in China: A Qualitative Study. AIDS Patient Care and STDs, 30(2), 70–77. https://doi.org/10.1089/apc.2015.0296

Lo, C. Y.-P. (2018). Securitizing HIV/AIDS: a game changer in state-societal relations in China? Globalization and Health, 14(1), 50. https://doi.org/10.1186/s12992-018-0364-7

Maddali, M. V., Gupta, A., & Shah, M. (2016). Epidemiological impact of achieving UNAIDS 90-90-90 targets for HIV care in India: A modelling study. BMJ Open, 6(7), 1–6. https://doi.org/10.1136/bmjopen-2016-011914

Martínez Sanz, J., Pérez Elías, M. J., Muriel, A., Gómez Ayerbe, C., Vivancos Gallego, M. J., Sánchez Conde, M., … DRIVE 03, Opt. W. and F. S. G. (2019). Outcome of an HIV education program for primary care providers: Screening and late diagnosis rates. PloS One, 14(7), e0218380–e0218380. https://doi.org/10.1371/journal.pone.0218380

Muhammad Hamid, A., Tamam, E., & Nizam Bin Osman, M. (2020). Relationships between Media Exposure and Knowledge, Attitude, and Practice on HIV/AIDS: A Cross Sectional Survey of Adolescent Islamiyya Girls in Nigeria. Health Communication, 35(4), 419–429. https://doi.org/10.1080/10410236.2018.1564960

Nursalam, Yusuf, A., Widyawati, I. Y., & Asmoro, C. P. (2015). Peningkatan Kemandirian Perawatan Tenaga Kerja Indonesia (Tki) Yang Terinfeksi Hiv Melalui Pengembangan Model Pemberdayaan Keluarga Dan Peer Group Support. Jurnal Ners, 10(March 2016), 265–271.

Nyblade, L., Stockton, M. A., Giger, K., Bond, V., Ekstrand, M. L., Lean, R. M., … Wouters, E. (2019). Stigma in health facilities: why it matters and how we can change it. BMC Medicine, 17(1), 25. https://doi.org/10.1186/s12916-019-1256-2

Palumbo, R. (2015). Discussing the Effects of Poor Health Literacy on Patients Facing HIV: A Narrative Literature Review. International Journal of Health Policy and Management, 4(7), 417–430. https://doi.org/10.15171/ijhpm.2015.95

Perazzo, J., Reyes, D., & Webel, A. (2017). A Systematic Review of Health Literacy Interventions for People Living with HIV. AIDS and Behavior, 21(3), 812–821. https://doi.org/10.1007/s10461-016-1329-6

Phillips, G., Lindeman, P., Adames, C. N., Bettin, E., Bayston, C., Stonehouse, P., … Greene, G. J. (2019). Empowerment Evaluation: A Case Study of Citywide Implementation within an HIV Prevention Context. The American Journal of Evaluation, 40(3), 318–334. https://doi.org/10.1177/1098214018796991

Setyoadi. (2013). Pengalaman ODHA Mendapatkan Dukungan Sosial dalam Menjalani Kehidupan Sehari-hari di Malang Raya. Jurnal Ners, 8(2), 240–252.

Shangani, S., Escudero, D., Kirwa, K., Harrison, A., Marshall, B., & Operario, D. (2017). Effectiveness of peer-led interventions to increase HIV testing among men who have sex with men: a systematic review and meta-analysis. AIDS Care, 29(8), 1003–1013. https://doi.org/10.1080/09540121.2017.1282105

Stonbraker, S., Smaldone, A., Luft, H., Cushman, L. F., Lerebours Nadal, L., Halpern, M., & Larson, E. (2018). Associations between health literacy, HIV-related knowledge, and information behavior among persons living with HIV in the Dominican Republic. Public Health Nursing (Boston, Mass.), 35(3), 166–175. https://doi.org/10.1111/phn.12382

Stutterheim, S. E., Sicking, L., Brands, R., Baas, I., Roberts, H., van Brakel, W. H., … Bos, A. E. R. (2014). Patient and provider perspectives on HIV and HIV-related stigma in Dutch health care settings. AIDS Patient Care and STDs, 28(12), 652–665. https://doi.org/10.1089/apc.2014.0226

Tique, J. A., Howard, L. M., Gaveta, S., Sidat, M., Rothman, R. L., Vermund, S. H., & Ciampa, P. J. (2017). Measuring Health Literacy Among Adults with HIV Infection in Mozambique: Development and Validation of the HIV Literacy Test. AIDS and Behavior, 21(3), 822–832. https://doi.org/10.1007/s10461-016-1348-3

Tso, L. S., Tang, W., Li, H., Yan, H. Y., & Tucker, J. D. (2016). Social media interventions to prevent HIV: A review of interventions and methodological considerations. Current Opinion in Psychology, 9, 6–10. https://doi.org/10.1016/j.copsyc.2015.09.019

UN. (2019). Special edition: progress towards the Sustainable Development Goals. Retrieved from https://undocs.org/E/2019/68

UNAIDS. (2014). To help end the AIDS epidemic. United Nations, 40. Retrieved from http://www.unaids.org/sites/default/files/media_asset/90-90-90_en.pdf

UNAIDS. (2018a). Country factsheets China | 2018 HIV and AIDS Estimates| 2018 HIV People living with HIV Coverage of adults and children. Unaids, 1–6. Retrieved from https://aidsinfo.unaids.org/%0D

UNAIDS. (2018b). Country factsheets China | 2018 HIV and AIDS Estimates| 2018 HIV People living with HIV Coverage of adults and children. Unaids. Retrieved from https://aidsinfo.unaids.org/%0D

UNAIDS. (2019). Global HIV and AIDS statistics 2019 Fact sheet. Global HIV and AIDs Ststistics, World AIDS Day 2019 Fact Sheet, 1(June), 1–6.

UNAIDS. (2020). SUMMARY OF STRATEGY DEVELOPMENT PROCESS AND Phase I : Review of the current strategy (UNAIDS 2016-2021 On the Fast- Track to end AIDS), its implementation , and the results obtained Scope of the Review 2016-2021 Strategy Result Areas.

Wang, D., Mei, G., Xu, X., Zhao, R., Ma, Y., Chen, R., … Hu, Z. (2016). Chinese non-governmental organizations involved in HIV/AIDS prevention and control: Intra-organizational social capital as a new analytical perspective. Bioscience Trends, 10(5), 418–423. https://doi.org/10.5582/bst.2016.01134

Wang, L., Podson, D., Chen, Z., Lu, H., Wang, V., Shepard, C., … Mi, G. (2019). Using Social Media To Increase HIV Testing Among Men Who Have Sex with Men - Beijing, China, 2013-2017. MMWR. Morbidity and Mortality Weekly Report, 68(21), 478–482. https://doi.org/10.15585/mmwr.mm6821a3

Wawrzyniak, A. J., Ownby, R. L., McCoy, K., & Waldrop-Valverde, D. (2013). Health literacy: impact on the health of HIV-infected individuals. Current

HIV/AIDS Reports, 10(4), 295–304. https://doi.org/10.1007/s11904-013-0178-4

WHO. (2017). Policy Brief Hiv Prevention , Diagnosis , Treatment and Care for Key Populations. Geneva. Retrieved from https://www.who.int/publications-detail/consolidated-guidelines-on-hiv-prevention-diagnosis-treatment-and-care-for-key-populations

Witzel, T. C., Weatherburn, P., Rodger, A. J., Bourne, A. H., & Burns, F. M. (2017). Risk, reassurance and routine: a qualitative study of narrative understandings of the potential for HIV self-testing among men who have sex with men in England. BMC Public Health, 17(1), 491. https://doi.org/10.1186/s12889-017-4370-0

World Health Organization. (2019). Progress report on HIV, viral hepatitis and sexually transmitted infections 2019. Accountability for the global health sector strategies, 2016–2021. Geneva: WHO/CDS/HIV/19.7). Licence: CC BY-NC-SA 3.0 IGO.

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Original Research

Domestic Violence and Postpartum Depression

Winnellia Fridina Sandy[1], Djaswadi Dasuki[2], Elli Nur Hayati[2], and Suhariyanto Suhariyanto[1]

[1]Poltekkes Kemenkes Pontianak, West Kalimantan, Indonesia
[2]Universitas Gadjah Mada Yogyakarta, Indonesia

ABSTRACT

Introduction: Domestic violence occurs at all levels of society. Evidence shows that sexual, physical and psychological violence are predisposing factors of postpartum depression. This study was aimed to determine the relationship between domestic violence and postpartum depression.

Methods: This research adopted quantitative method through observational with a cross-sectional study design by analyzing secondary data from SEHATI longitudinal surveillance. A total of 232 women was selected as sample using a purposive sampling method, with the sample criterion being mothers with children <2 years old located in Purworejo District, Central Java, consisting of 16 sub-districts and 494 villages. The data obtained were analyzed using the chi square statistical test and binomial regression test.

Results: The results of the quantitative data showed that physical violence against postpartum depression (PR = 1.7; 95% CI = 1.23-2.38), psychic violence against postpartum depression (PR = 1.9; 95% CI = 1.44-2.54), and sexual violence against postpartum depression (PR-2.0; 95% CI = 1.54-2.65). The result of the qualitative data showed that postpartum depression occurred due to domestic violence.

Conclusion: Physical, psychological and sexual violence in the household are significantly related to postpartum depression.

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CONTACT

Winnellia Fridina Sandy
winaskw_mkia@yahoo.co
Poltekkes Kemenkes Pontianak, West Kalimantan, Indonesia

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INTRODUCTION

Domestic violence is the most common form of violence experienced by women in Indonesia (Oram et al., 2017). The definition of domestic violence as stated in Law Number 23 of 2004 Article 1 is every action against another person, which results in physical, sexual, psychological, and domestic misery or neglect of the household related to activities to carry out, coerce or take away the law in the contribution of the household (Fekadu et al., 2018; Jewkes et al., 2019). The causes of domestic violence can be classified into internal factors and external factors. Internal factors involve the personality of the perpetrators of violence which makes the perpetrators easily commit acts of violence when faced with situations that cause anger or frustration. Aggressive personalities are usually formed through interaction in the family or with the social environment in childhood. If violence presents in the life of a family, chances are that the children will experience the same thing after they get married (Adams & Bewley, 2017). This is because they consider that violence is a natural thing or they are considered a failure if they do not repeat the pattern of violence. Suppressed feelings of resentment and anger toward parents, will eventually manifest as acts of violence against their wives, husbands or children (Al-Dahasha & Kulatunga, 2018).

Domestic violence occurs almost all over the world. The number of reported incidents of violence against women in Indonesia has tended to increase over the past 11 years (Boivin & Leclerc, 2016; Liu et al., 2018). In 2019, there were 431,471 cases of violence against women, an increase of 693% from 2008 in which there were only 54,425 cases. Cases of domestic violence (KDRT) in Central Java in 2019 reached 2,525 cases. This is the second largest number after West Java, reaching 2,738 cases (Kaser-Boyd & Kennedy, 2018). This figure presents a phenomenon of events that need to be considered

and resolved (Adıbelli et al., 2019). Even though the amount of violence is quite large, in reality there are still women who experience violence and do not report (Boivin & Leclerc, 2016).

Battered mothers or conflicts with pregnant couples are among the causes of postpartum depression. Domestic abuse will have a negative impact, resulting in a mother's disturbed mental health (Adams & Bewley, 2017; Michau et al., 2015). Also, postnatal depression can interfere with a child's relationship with the mother if not treated properly and can cause problems in the family. For baby, postpartum depression results in emotional and behavioral disorders, such as eating and sleeping disorders, irritability to cry, and late communication, while untreated postpartum depression will increase the mother's risk of chronic depression and other major depressive episodes (Ayers et al., 2016; Safadi et al., 2016). In addition, the effects of postpartum depression can cause interactions between mothers and the baby so that, while loving the baby, if upset with the baby then the baby may be pinched, and there are also mothers who do not want to associate her husband's behavior with her baby (Fekadu et al., 2018). Based on the description above, this study was aimed to determine the relation of domestic violence to postpartum depression among women.

MATERIALS AND METHODS

This research adopted a quantitative method through observational with cross-sectional study design that analyzed secondary data from SEHATI longitudinal surveillance. Research was also conducted using qualitative methods through data collection and observing the processes that occur behind phenomena or events so as to obtain complex answers from respondents with in-depth interviews. The study population was all women at the time of the SEHATI survey and willing to be respondents, totaling 765 women. A total of 232 women was selected as sample using a purposive sampling method, with the sample criteria being mothers with children <2 years old located in Purworejo District, Central Java, consisting of 16 sub-districts and 494 villages.

Quantitative data were collected using the SEHATI questionnaire which was a modified questionnaire from the WHO Multi-Country Study on Women's Health and Agents of Women's Domestic Violence. The instrument used for screening for postpartum depression is Self-Reporting Questionnaire (SRQ) to show the possibility of depression. The results of the study were also strengthened by participant statements during the interviews as supporting data in accordance with the topic and objectives of the researcher. The data obtained were analyzed using the chi square statistical test and binomial regression test. This study received ethical approval from the Nursing Study Program, Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta.

RESULTS

Researched Variable Relationship Analysis

The frequency distribution of respondents' characteristics was based on age, education and pregnancy. The results of the research showed mothers' age 25-35 years old were 185 people (79.74 percent), mothers' age ≤ 19 years old and ≥ 36 years old were 47 people (20.26 percent). Respondents with educational background of graduating from high school and above were 57 people (24.57 percent), final education graduating from junior high school or below were 175 people (75.43 percent). Desired pregnancies were 178 people (76.72 percent) and unwanted pregnancies were 54 people (23.28 percent). Respondents who experienced physical violence from 232 respondents were 24 people (10.34 percent), those who did not experience physical violence were 208 people (89.66 percent). Those who experienced sexual violence were as many as 42 people (18.10 percent) and those who did not experience sexual violence were 190 people (81.90 percent). While 64 people experienced psychological violence (27.59 percent), 168 people did not experience psychological violence (72.41 percent) (Table 1).

The Relationship of the Variables Analysis

Physical violence was significantly related to postpartum depression (ρ = 0.009, PR = 1.7 95% CI = 1.23 - 2.38) and it can be interpreted that the postpartum depression prevalence in mothers who experience physical violence is 1.7 times greater compared to mothers who did not experience physical violence. Psychological violence is significantly related to postpartum depression (ρ = 0.000, PR = 1.9; 95% CI = 1.44 - 2.54) and it can be interpreted that postpartum depression prevalence in mothers who experience psychological violence is 1.9 times greater than in mothers who did not experience psychological violence. Sexual violence was significantly related to postpartum depression (ρ = 0.000, PR = 2.0; 95% CI = 1.54 - 2.65) and it can be interpreted that postpartum depression prevalence in mothers who experience sexual violence is 2.0 times greater than in mothers who did not experience sexual violence (Table 2).

The results of analysis of the relationship of respondents' characteristics of age and education to postpartum depression showed a statistically insignificant relationship ρ > 0.05 and 95% CI included the number 1. The relationship of pregnancy to postpartum depression showed a statistically significant relationship ρ < 0.05 and 95% CI, excluding number 1 (ρ = 0.043, RP = 1.4; 95% CI = 1.03 - 1.91) and it can be interpreted that postpartum depression prevalence in mothers with unwanted pregnancies is 1.4 times greater compared to mothers with desired pregnancies (Table 3).

The analysis results of the age respondent characteristics, education and pregnancy are significantly not related to physical violence,

Table 1. The Frequency Distribution of Respondents' Characteristics (n = 232)

The Characteristics of Research Subjects	Total	
	N	%
Age		
≤ 19 years and ≥ 36 years	47	20.26
20 – 35 years	185	79.74
Education		
Under Junior High School	175	75.43
Above High School	57	24.57
Pregnancy		
Unwanted Pregnancy	54	23.28
Desired Pregnancy	178	76.72
Physical Violence		
Yes	24	10.34
No	208	89.66
Psychological Violence		
Yes	64	27.59
No	168	72.41
Sexual Violence		
Yes	42	18.10
No	190	81.90
Depression		
Yes	97	41.81
No	135	58.19

Table 2. The Analysis Results of the Relationship of Domestic Violence with Postpartum Depression (n = 232)

Variable	Depression		X^2	ρ	PR	CI (95%)
	Yes n (%)	No n (%)				
Domestic Violence						
Physical Violence						
Yes	16 (66.67)	8 (33.33)	6.80	**0.009**	**1.7**	**1.23 – 2.38**
No	81 (38.94)	127 (61.06)				
Psychological Violence						
Yes	41 (64.06)	23 (35.94)	17.99	**0.000**	**1.9**	**1.44 – 2.54**
No	56 (33.33)	112 (66.67)				
Sexual Violence						
Yes	30 (71.43)	12 (28.57)	18.49	**0.000**	**2.0**	**1.54 – 2.65**
No	67 (35.26)	123 (64.74)				

Table 3. The Analysis Results of Respondents' Characteristic of Age, Education, and Pregnancy with Postpartum Depression (n = 232)

Variable	Depression		X^2	ρ	PR	CI (95%)
	Yes n (%)	No n (%)				
Age						
≤ 19 years and ≥ 36 years	22 (46.81)	25 (53.19)	0.61	0.437	1.1	0.81 – 1.64
20 – 35 years	75 (40.54)	110 (59.46)				
Education						
Under Junior High School	74 (42.49)	101 (57.71)	0.07	0.797	1.0	0.73 – 1.50
Above High School	23 (40.35)	34 (59.65)				
Pregnancy						
Unwanted Pregnancy	29 (53.70)	25 (46.30)	4.09	**0.043**	**1.4**	**1.03 – 1.91**
Desired Pregnancy	68 (38.20)	110 (61.80)				

statistically ρ > 0.05 (Table 4). The analysis results show the relationships between age education and pregnancy were not statistically significantly related to sexual violence ρ > 0.05 (Table 5).

Table 4. The Analysis Results of the Relationship of Age, Education, and Pregnancy with Domestic Violence (Physical Violence) (n = 232)

Variable	Physical Violence		X^2	ρ
	Yes n (%)	No n (%)		
Age				
≤ 19 years and ≥ 36 years	7 (14.89)	40 (85.11)	1.31	0.252
20 – 35 years	17 (9.19)	168 (90.81)		
Education				
Under Junior High School	20 (11.43)	155 (88.57)	0.90	0.342
Above High School	4 (7.02)	53 (92.98)		
Pregnancy				
Unwanted Pregnancy	8 (14.81)	46 (85.19)	1.52	0.218
Desired Pregnancy	16 (8.99)	162 (91.01)		

Table 5. The Analysis Results of the Relationship Between Age, Education, Pregnancy and Domestic Violence (Sexual Violence)

Variable	Sexual Violence		X^2	ρ
	Yes n (%)	No n (%)		
Age				
≤ 19 years and ≥ 36 years	8 (17.02)	39 (82.98)	0.05	0.829
20 – 35 years	34 (18.38)	151 (81.62)		
Education				
Under Junior High School	34 (19.43)	141 (80.57)	0.84	0.358
Above High School	8 (14.04)	49 (85.96)		
Pregnancy				
Unwanted Pregnancy	13 (24.07)	41 (75.93)	1.69	0.193
Desired Pregnancy	29 (16.29)	149 (83.71)		

Table 6. Binomial Regression Modeling of the Relationship of Physical, Sexual, Psychological and Variables of Age, Education and Pregnancy to Postpartum Depression

Variable	Model 1 PR (95% CI)	Model 2 PR (95% CI)	Model 3 PR (95% CI)
Physical Violence			
Yes	1.2	1.0	1.0
No	(1.03 – 1.59)	(1.03 – 1.03)	(0.75 – 1.53)
Psychological Violence			
Yes	1.5	1.4	1.4
No	(1.13 – 2.20)	(1.06 – 2.07)	(1.04 – 2.14)
Sexual Violence			
Yes	1.5	1.7	1.5
No	(1.17 - 2.16)	(1.27 – 2.31)	(1.12 – 2.19)
Pregnancy			
Unwanted Pregnancy		1.3	1.2
Desired Pregnancy		(1.08 – 1.66)	(0.90 – 1.63)
Age			
≤ 19 years and ≥ 36 years			1.1
20 – 35 years			(0.79 – 1.58)
Education			
Under Junior High School			0.9
Above High School			(0.64 – 1.32)
Deviance	340.27	340.49	349.19
R^2	0.03	0.03	0.03

Multivariable Analysis

Multivariable analysis was performed to see the relationship between the independent variables and the dependent variable simultaneously by including significant external variables in the bivariable analysis. The modeling was conducted to see the variables that influence the dependent variable by looking at the amount of the contribution given by the independent variables and external variables. The statistical test used was a binomial regression confidence interval analysis of 95%.

The first model was built to see the relationship of independent variables (physical, psychological and sexual violence) to the dependent variable (postpartum depression). The analysis shows that there is a significant relationship between physical, psychological and sexual violence with postpartum depression. The first model contributes three percent to postpartum depression. The second model was built to see the relationship of physical, psychological and sexual violence to postpartum depression, and to see the magnitude of the contribution of external variables (pregnancy). Model 2 shows a significant relationship between physical violence against postpartum depression by controlling pregnancy variables (PR = 1.0; 95% CI = 1.03 - 1.03), psychological violence against postpartum depression by controlling pregnancy variables (PR = 1.4; 95% CI = 1.06 - 2.07) and sexual violence against postpartum depression by controlling for pregnancy variables (PR = 1.7; 95% CI = 1.27 - 2.31). The second model contributes three percent to postpartum depression. The third model was built to see the relationship of physical, psychological and sexual violence to postpartum depression, and to see the contribution of external variables. Model 3 shows a meaningful and statistically significant relationship between psychological and sexual violence against postpartum depression by controlling for external variables. The third model contributes three percent to postpartum depression (Table 6).

DISCUSSION

Violence in women based on research results has a significant relationship with physical, psychological and sexual violence. Violence against women also has to do with the knowledge and age level of both perpetrators and victims. Violence that occurs can cause postpartum depression to be increased. This is in line with previous research which states that depression is influenced by the experiences of a mother in the past (Cooke et al., 2019; Paquet et al., 2017), especially in regard to unpleasant experiences. Mothers who often experience violence from spouses or other people will experience a higher feeling of fear: as a result these fears are a threat to them and, in the long run, cause depression (Adams & Bewley, 2017; McCabe et al., 2017). The incidence of depression will be increased especially in people who have less knowledge; it requires extensive information so that women can prepare for the birth process properly (Lahti et al., 2019).

This is also related to the age of pregnant women; the incidence of postpartum depression is most common in pregnant women who are too young or too old. Pregnant women of suitable age in pregnancy will be more adaptable and not cause easy sadness, because of the productive age (Henry & Powell, 2016; Will et al., 2016). A harmonious household situation must also be established by each family member, both husband and wife, so that the incidence of violence against women can be prevented and reduced (Michau et al., 2015). In line with research that examines the harmony of family life, the results of in-depth interviews with an elderly woman show that the woman's family can continue to harmonize because communication is always built and discussed whenever problems occur, so that problems can be resolved without causing disputes that lead to violence (Al-Dahasha & Kulatunga, 2018).

Violence against women in the form of physical, psychological and sexual violence still shows quite high numbers. Most are violence related to sexual crimes, many underage women have experienced it and it has caused deep trauma to victims (Boivin & Leclerc, 2016; Jung et al., 2019; Reed et al., 2016). The fear felt by the victim will make the incidence of depression and mental health disorders also increase. Counseling is very much needed to improve the psychological condition of the patient. In line with the research, the results show that the effects of sexual violence on children are very broad, encompassing physical, emotional and psychological conditions that can affect the development of children who are victims of sexual violence (Jewkes et al., 2019; Zhang et al., 2017). With various kinds of impacts that can arise, efforts are needed to anticipate the emergence of the impact of violence and treatment by the authorities. In addition to getting treatment from the authorities, professionals, in this case social workers, are also able to handle cases of sexual violence that occur to children (Semahegn & Mengistie, 2015).

Acts of violence are acts of crime; in general crime can arise due to the same conditions and processes, which results in social behavior. The social process can be seen from aspects of human life in society, namely, social mobility, competition and cultural conflict, political ideology, economy, quality of population, religion, income and employment. The social process that will influence a person to commit an act of violence can be analyzed as to the extent of its influence on a person with his violent actions. The limitations of the research obtained are the lack of exploration of information about the violence felt by someone, so it is necessary to do further and in-depth research.

CONCLUSION

Physical, psychological and sexual violence experienced by mothers from their husbands are

significantly related to postpartum depression. Age, education, and pregnancy factors are not confounding or interaction factors for postpartum depression in women with domestic violence.

REFERENCES

Adams, R., & Bewley, S. (2017). Domestic violence and abuse. In Biopsychosocial Factors in Obstetrics and Gynaecology (pp. 54–65). https://doi.org/10.1017/9781316341261.009

Adıbelli, D., Ünal, A. S., & Şen, T. (2019). Attitudes of Young Adult Men Toward Domestic Violence and Factors Affecting Their Attitudes in Turkey. Journal of Interpersonal Violence, 34(18), 3961–3977. https://doi.org/10.1177/0886260516673630

Al-Dahasha, H., & Kulatunga, U. (2018). Challenges Facing the Controlling Stage of the Disaster Response Management Resulting from War Operations and Terrorism in Iraq. Procedia Engineering, 212, 863–870. https://doi.org/10.1016/j.proeng.2018.01.111

Ayers, S., Bond, R., Bertullies, S., & Wijma, K. (2016). The aetiology of post-traumatic stress following childbirth: A meta-analysis and theoretical framework. In Psychological Medicine (Vol. 46, Issue 6, pp. 1121–1134). https://doi.org/10.1017/S0033291715002706

Boivin, R., & Leclerc, C. (2016). Domestic violence reported to the police: Correlates of victims' reporting behavior and support to legal proceedings. Violence and Victims, 31(3), 402–415. https://doi.org/10.1891/0886-6708.VV-D-14-00076

Cooke, J. E., Racine, N., Plamondon, A., Tough, S., & Madigan, S. (2019). Maternal adverse childhood experiences, attachment style, and mental health: Pathways of transmission to child behavior problems. Child Abuse and Neglect, 93, 27–37. https://doi.org/10.1016/j.chiabu.2019.04.011

Fekadu, E., Yigzaw, G., Gelaye, K. A., Ayele, T. A., Minwuye, T., Geneta, T., & Teshome, D. F. (2018). Prevalence of domestic violence and associated factors among pregnant women attending antenatal care service at University of Gondar Referral Hospital, Northwest Ethiopia. BMC Women's Health, 18(1). https://doi.org/10.1186/s12905-018-0632-y

Henry, N., & Powell, A. (2016). Sexual Violence in the Digital Age: The Scope and Limits of Criminal Law. Social and Legal Studies, 25(4), 397–418. https://doi.org/10.1177/0964663915624273

Jewkes, R., Corboz, J., & Gibbs, A. (2019). Violence against Afghan women by husbands, mothers-in-law and siblings-in-law/siblings: Risk markers and health consequences in an analysis of the baseline of a randomised controlled trial. PLoS ONE, 14(2). https://doi.org/10.1371/journal.pone.0211361

Jung, H., Herrenkohl, T. I., Skinner, M. L., Lee, J. O., Klika, J. B., & Rousson, A. N. (2019). Gender Differences in Intimate Partner Violence: A Predictive Analysis of IPV by Child Abuse and Domestic Violence Exposure During Early Childhood. Violence Against Women, 25(8), 903–924. https://doi.org/10.1177/1077801218796329

Kaser-Boyd, N., & Kennedy, R. (2018). Using R-PAS in the assessment of psychological variables in domestic violence. In Using the Rorschach Performance Assessment System® (R-PAS®). (pp. 282–308). http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2017-45013-014&site=ehost-live

Lahti, K., Vänskä, M., Qouta, S. R., Diab, S. Y., Perko, K., & Punamäki, R. L. (2019). Maternal experience of their infants' crying in the context of war trauma: Determinants and consequences. Infant Mental Health Journal, 40(2), 186–203. https://doi.org/10.1002/imhj.21768

Liu, M., Xue, J., Zhao, N., Wang, X., Jiao, D., & Zhu, T. (2018). Using Social Media to Explore the Consequences of Domestic Violence on Mental Health. Journal of Interpersonal Violence. https://doi.org/10.1177/0886260518757756

McCabe, B. E., Mitchell, E. M., Gonzalez-Guarda, R. M., Peragallo, N., & Mitrani, V. B. (2017). Transnational Motherhood: Health of Hispanic Mothers in the United States Who Are Separated From Children. Journal of Transcultural Nursing, 28(3), 243–250. https://doi.org/10.1177/1043659616644960

Michau, L., Horn, J., Bank, A., Dutt, M., & Zimmerman, C. (2015). Prevention of violence against women and girls: Lessons from practice. In The Lancet (Vol. 385, Issue 9978, pp. 1672–1684). https://doi.org/10.1016/S0140-6736(14)61797-9

Oram, S., Khalifeh, H., & Howard, L. M. (2017). Violence against women and mental health. In The Lancet Psychiatry (Vol. 4, Issue 2, pp. 159–170). https://doi.org/10.1016/S2215-0366(16)30261-9

Paquet, A., Plansont, B., Labrunie, A., Malauzat, D., & Girard, M. (2017). Past Pain Experience and Experimentally induced Pain Perception. Issues in Mental Health Nursing, 38(12), 1013–1021. https://doi.org/10.1080/01612840.2017.1354103

Pasal 1 Undang-Undang Nomor 23 Tahun 2004 tentang Penghapusan Kekerasan dalam Rumah Tangga (UU PDKRT). (n.d.).

Reed, L. A., Tolman, R. M., & Ward, L. M. (2016). Snooping and Sexting: Digital Media as a Context for Dating Aggression and Abuse Among College Students. Violence Against Women, 22(13), 1556–1576. https://doi.org/10.1177/1077801216630143

Safadi, R. R., Abushaikha, L. A., & Ahmad, M. M. (2016). Demographic, maternal, and infant health correlates of post-partum depression in Jordan. Nursing & Health Sciences, 18(3), 306–313.

https://doi.org/10.1111/nhs.12268
Semahegn, A., & Mengistie, B. (2015). Domestic violence against women and associated factors in Ethiopia; Systematic review. In Reproductive Health. https://doi.org/10.1186/s12978-015-0072-1
Will, J. L., Loper, A. B., & Jackson, S. L. (2016). Second-generation prisoners and the transmission of domestic violence. Journal of Interpersonal Violence, 31(1), 100–121. https://doi.org/10.1177/0886260514555127
Zhang, L., Li, X., Wang, B., Shen, Z., Zhou, Y., Xu, J., Tang, Z., & Stanton, B. (2017). Violence, stigma and mental health among female sex workers in China: A structural equation modeling. Women and Health, 57(6), 685–704. https://doi.org/10.1080/03630242.2016.1186781

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Original Research

Summary Guidance for Daily Practices on Glycemic Control and Foot Care Behavior

Devi Mediarti[1], Rosnani Rosnani[1], and Hidayat Arifin[2]

[1]Poltekkes Kemenkes Palembang, South Sumatera, Indonesia
[2]Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

ABSTRACT

Introduction: The Prevalence of Diabetes Foot Ulcers (DFU) in Indonesia is increasing every year. Summary Guidance for Daily Practice (SGFDP) is a media used to discuss and share knowledge to prevent foot ulcer in patients with Type 2 Diabetes Mellitus (T2DM). The aim was to know the influence of applying SGFDP on glycemic control (fasting blood glucose levels) and foot care behavior.

Methods: The study was quasi-experimental utilizing a pretest-post-test with a control group design. The sample obtained was 232 respondents through consecutive sampling. The variables were SGFDP, glycemic control, and foot care behavior. The intervention was conducted for three weeks meeting. The data collected using observation sheets and the Nottingham Assessment of Functional Footcare (NAFF) questionnaire. The results were analyzed using the Wilcoxon and Mann-Whitney tests.

Results: Most of respondents were elderly aged 41-50 years old. Respondents showed significant progressed of foot care behavior on before and after treatment. The results showed a significant influence from SGFDP on foot care behavior (p=0.001).

Conclusion: The application of SGFDP as an approach to prevent foot ulcers among adults T2DM was significantly affected. It was conducted by discussing and sharing knowledge and utilizing a foot ulcer prevention simulation with foot exercises. Sharing information and the attention given by the nurses in the form of regular meetings can increase patient knowledge and induce behavior changes among adult T2DM.

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CONTACT

Devi Mediarti
✉ devi.mediarti@gmail.com
Poltekkes Kemenkes Palembang, South Sumatera, Indonesia

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INTRODUCTION

Diabetes mellitus (T2DM) is a metabolic disease characterized by an increase in blood sugar levels. This occurs due to abnormalities in insulin secretion, insulin action or both (Kusnanto, 2017). T2DM is one of the most chronic diseases experienced by people in the world. T2DM patients are susceptible to nerve and vascular damage which can result in a loss of the protective sensation in the legs, poor circulation, biomechanical changes in leg and skin trauma (Fan, 2012). If it is not treated well, it can occur because the development of ulcers is known in diabetic patients to be preceded by a history of trauma (neuropathy) or vasculopathy (Schaper et al., 2017). T2DM-related complications are a major cause of morbidity and mortality, and they have a serious impact on the quality of life of the patients (Hsieh et al., 2016). Foot ulceration and subsequent lower limb amputation are common and serious chronic complications for T2DM patients (Fan, 2012).

It is estimated that in 2035, the global prevalence of T2DM will increase to nearly 600 million (Shearman & Rawashdeh, 2016). In Indonesia, T2DM patients are known to have increased from 1.1% in 2007 to 2.1 percent in 2013. The province of East Java, with the prevalence of T2DM based on a doctor's diagnosis and symptoms, is 1.2% and 1.6% respectively (Badan Penelitian dan Pengembangan Kesehatan, 2013).The four main objectives of service providers include health promotion, disease prevention, patient care and meeting the patient's needs. The management of T2DM patients in the physical aspect with early education is about T2DM, the monitoring of routine blood sugar levels, diet, how to use the health facilities, physical exercise and

the importance of foot care (PERKENI, 2015). The role of the nurses is to prevent the risk of ulcers related to T2DM through education, demonstration and monitoring about foot care.

SGFDP is a summary of suggested guidelines for daily practice summarizing the essence of the prevention and management of foot problems in T2DM patients. SGFDP as part of a more complete guide on foot care consisting of the identification of risky feet, the inspection and routine checking of feet at risk, health education for patients regarding foot care, routine footwear care and identification and the handling of pre-ulcer signs (Schaper et al., 2017). SGFDP is provided more complete in health education and activity. Due to the important of SGFDP among T2DM to manage DM, thus we encouraged to determine the influence of applying SGFDP on glycemic control and foot care behavior.

MATERIALS AND METHODS

Research design, population, sample, and variables

The design was quasi-experimental with a pre-post-test control group design. The population in this research consisted of all outpatients with T2DM in three Primary Health Services (HPS). The researcher used two HPS for treatment group and one HPS for control group because the population is bigger, and the area coverage is wider. The samples obtained 232 respondents (116 in the treatment group and 116 in the control group) with consecutive sampling technique. This research was conducted at Palembang in South Sumatera from October 9 to December 20, 2018. The inclusion criteria in this research were 1) low risk T2DM patients, 2) T2DM history of more than 10 years, 3) can communicate verbally well, and they are able to read and write and 4) taking T2DM therapy in the form of oral subcutaneous therapy. The exclusion criteria were 1) patients with T2DM who experienced cognitive impairment and 2) T2DM patients with foot ulcers. The independent variable was the application of SGFDP and the dependent variables were glycemic control and foot care behavior.

Instruments

SGFDP used the modules as form of media to give to the respondents. The module of SGFDP consists of information about T2DM, diet, the behavior of people with T2DM, foot care behavior with exercise and psychosocial education to reduce stress in T2DM patients. The instrument of glycemic control was an observation sheet. Glycemic control used peripheral blood and measured by Easy Touch 3in1 Glucose, Uric Acid and Cholesterol. Foot care behavior was measured using the Nottingham Assessment of Functional Footcare (NAFF) questionnaire by Lincoln, et. al. (Lincoln et al., 2008), which was modified by Putri, at. al. (Putri et al., 2013) and translated into the Indonesian language. The number of questions totaled 27 using a Likert scale with a score of 0-3. We obtained a range of scores from 0 to 81; the higher the score, the better the T2DM foot care behavior. This questionnaire was tested for validity and reliability with a Cronbach's alpha value of 0.720.

Research procedure and analysis

This research was carried out in collaboration with the existing program activities in the primary health service in order to increase the knowledge of the T2DM patients through empowerment and health education. The research has passed the ethical review and obtained an Ethical Approval certificate No. 208/UN2.F12.D/HKP.02.04/2018 issued by the Health Research Ethics Committee of Faculty of Nursing Science, Universitas Indonesia. The research was conducted in the treatment group by providing SGFDP that formulated by researcher with select modules on three meetings over three weeks. The first week was to provide health education about T2DM and the screening of the respondents with the risk of foot ulcers. The second week was explained as the ideal diet and behavior of people with T2DM, and the third weeks was on teaching prevention of foot ulcers through a demonstration of foot exercises and monitoring. The control group was given information about T2DM through SGFDP modules. The data was analyzed using IBM SPSS Statistic 25 (SPSS, 2019). The statistical analysis used a Wilcoxon Signed Rank and Mann-Whitney U test. The confidence interval was 95% with alpha (α) = 0.05.

RESULTS

The characteristics of the respondents in (Table 1) shows that the majority of the respondents in both groups were in the age group of the elderly and that the majority were female. The last level of education for both groups was high school and the majority of respondents in both groups did not work. The majority of the income in the control and treatment groups was >2.6 million. The majority of the respondents in the control group had had T2DM for 14-15 years and the treatment group had had T2DM for 10-13 years.

The results of the analysis of fasting blood glucose in the control and treatment groups at the pre-test and post-test showed that all of the respondents had differences in the mean and std. deviation. The results of the data obtained using the Wilcoxon Signed Ranks test on fasting blood glucose in the pre-test and post-test of the control group showed no change in the results between the pre-test and post-test of the respondents. The test results showed $p>0.05$ which was 0.11, which means that there was no significant difference. The treatment group showed $p<0.05$ which was equal to 0.013, which means that the pre-test and post-test in the treatment group had significant differences. The results of the post-test carried out using the Mann-Whitney U test on fasting blood glucose data in the control and treatment groups was 0.836 which equals $p>0.05$. It can be

Table 1. Characteristics of The Respondents in The Control and Treatment Groups of Patients with T2DM (n=232)

Characteristic	Control Group		Treatment Group	
	n	%	n	%
Age				
Adult (30-40 year)	16	13.8	27	23.3
Elderly (41-50 year)	100	86.2	89	76.7
Sex				
Male	44	37.9	50	43.1
Female	72	62.1	66	56.9
Education				
Elementary School	19	16.4	23	19.8
Junior High School	26	22.4	39	33.6
Senior High School	54	46.6	46	39.7
University	17	14.7	8	6.9
Work				
Does not work	72	62.1	85	73.3
Private	26	22.4	23	19.8
Government employees	18	15.5	8	6.9
Average income				
<1.5 million	43	37.1	39	33.6
1.5-2.5 million	28	24.1	32	27.6
>2.6 million	45	38.8	45	38.8
Long suffer from T2DM				
10 – 13 years	49	42.2	83	71.6
14 – 15 years	67	57.8	33	28.4

Table 2. Distribution of Blood Glucose and Foot Care Behavior in The Control and Treatment Groups of Patients T2DM (n=232)

Variables	Control Group		Treatment Group	
	Pretest	Posttest	Pretest	Posttest
Blood Glucose				
Mean ± SD	121.47 ± 29.153	122.72 ± 29.396	117.29 ± 8.344	115.9 ± 14.62
p-value	0.11[a]		0.013[a]	
p-value	0.836[b]			
Foot Care Behavior				
Mean ± SD	38 ± 7.489	36.28 ± 9.878	43.02 ± 7.889	45.42 ± 8.254
p-value	0.274[a]		0.003[a]	
p-value	0.001[b]			

[a] Wilcoxon Signed Rank Test
[b] Mann-Whitney U Test

concluded that there were no significant differences in the results of the post-test data in the control and treatment groups (Table 2).

The results of the foot care behavior analysis in the control and treatment groups in the pre-test and post-test showed that all of the respondents had differences in the mean and std. deviation. The results of the data obtained using the Wilcoxon Signed Ranks test on foot care behavior on pre-test and post-test of the control group showed no change in the results between the pre-test and post-test of the respondents. The test results showed $p>0.05$, which was 0.274 which means that there was no significant difference. The treatment group showed $p<0.05$, which was equal to 0.003, which means that the pre-test and post-test in the treatment group had significant differences. The results of the post-test foot care behavior data using the Mann-Whitney U Test in the control and treatment groups were 0.001 which means $p<0.05$. It can be concluded that there were significant differences in the results of the post-test data between the control and treatment groups (Table 2).

DISCUSSION

The SGFDP approach explains the basic principles of the prevention of foot problems in T2DM patients (Schaper et al., 2017) and it seeks to prevent ulcers in patients at risk with T2DM by providing integrated and adequate foot care (S.A Bus, D.G. Armstrong, R.W. Van Deursen, J.E.A.Lewis, C.F Caravaggi, 2016). Prevention bases SGFDP include risky feet identification, risky inspection and routine foot checks, patient health education about foot care, appropriate footwear care and the identification of pre-ulcerative signs.

One risk factor of T2DM was age, especially for those older than 40 years. This is because at that age, there is an increase in glucose intolerance (Chai et al., 2018). In old age, bodily functions are physiologically decreasing because the aging process causes a decrease in insulin secretion or resistance. Therefore, the body's ability to control high blood glucose is not optimal. The aging process causes a decrease in insulin secretion or resistance, resulting in a macroangiopathy, which can affect the decrease in blood circulation, one of which is in the large or medium blood vessels in the legs.

Gender is one of the factors associated with the occurrence of T2DM, where women who have experienced menopause tend to be more insensitive to insulin. Diabetes in general, for men, comes faster than it does for women. Women can be protected from diabetes until they reach menopause because of the influence of the female hormone estrogen, which is a reproductive hormone that helps to regulate blood sugar levels in the body. The results of a study conducted by Martis, R et. al. (Martis et al., 2018) showed a higher prevalence of the incidence rate of T2DM in women than in men. Women are more at risk of developing diabetes because physically, women have a greater chance of increasing their body mass index. Post-menopausal monthly cycle (premenstrual syndrome) syndrome makes the distribution of body fat more easily accumulated due to the hormonal processes, so therefore women are more at risk of developing T2DM (Hsieh et al., 2016).

Education level has an important role in increasing the knowledge of T2DM. The majority of the residents did not know about T2DM. Knowledge can have an important role in the prevention of T2DM in the community. Education can influence a person, including a person's behavior and lifestyle, especially in reference to motivating people to participate in developments. In general, the higher the education level of someone, the easier it is for them to receive information (Wawan & Dewi, 2014).

The respondents who suffered from T2DM needed to do more physical activities. In T2DM, exercise plays a major role in regulating blood glucose levels. Muscle contractions have properties such as the production insulin and increasing the permeability of the membrane to glucose in the contracting muscle (Bakar et al., 2017). At the time of exercise, insulin resistance is reduced, whereas insulin sensitivity increases when inactive. This is not a permanent effect. Therefore, exercise must be carried out continuously. Physical activity can be in the form of diabetic foot exercises. Exercise is very beneficial for improving blood circulation, losing weight and improving insulin sensitivity as it will improve the glucose levels in the blood.

Hyperinsulinemia (10fEU/ml) can cause atherosclerosis, which has an impact on vasculopathy which makes the legs prone to T2DM ulcers (Rachmawati et al., 2015). In addition, it is often accompanied by an increase in triglyceride and plasma cholesterol levels which will result in poor blood circulation to the tissue, which appears in the decrease of the dorsalis pedis artery pulse (<60 x/m) and decreased ankle brachial index (<0.9), resulting in ulcers that usually start from the tip of the leg (Waspadji, 2006). All of the respondents in this study had suffered from T2DM for more than 10 years. Foot ulcers are especially common in T2DM patients who have suffered with the disease for 10 years or more. If their uncontrolled blood sugar levels are not seen to, then this will result in vasculopathy and neuropathy.

Physical activity is included in this research in the form of T2DM foot exercises. Physical activity increased the sensitivity of the insulin receptors in the active muscles (Albargawi et al., 2017). The main problem that occurs in T2DM is the occurrence of insulin resistance which causes glucose to not enter the cells. When a person engages in physical activity, there will be a muscle contraction which will eventually make it easier for glucose to enter the cell (Jankowska-Polaska et al., 2015). This means that when a person is engaged in physical activity, it will reduce the level of insulin resistance and this will eventually reduce their blood sugar levels. There are other factors that influence blood sugar levels. In addition to SGFDP implementation, there are several things that cause one's blood sugar to rise, namely a lack of exercise, an increased amount of food consumed, increased stress and emotional factors, weight gain and age, and the impact of treatment from drugs, such as steroids (Iljaž et al., 2017).

The driving factor was the factor obtained from the closest person to the patient and the social support given to the individual, such as their family, friends and teachers, and especially in this case, the health workers who can strengthen the behavior of SGFDP management. With the support provided by the closest people to them, it is expected to encourage behavior change in the patients (Nursalam, 2016). In terms of the prevention of injury in T2DM patients, foot care behavior is carried out in accordance with SGFDP, which consists of the identification of risky feet, the inspection and routine examination of risky feet, health education for patients about foot care, routine foot care and the identification of pre-ulcer signs in T2DM patients (Yamin et al., 2018).

The level of education of a person is very influential on any changes in attitude and behavior related to healthy living. Higher levels of education will make it easier for a person or community to absorb information and to implement it in their daily behavior patterns and lifestyle, especially in terms of health. Based on the information obtained by the researchers through questioning the respondents, the respondents said they always tried to maintain good foot care behavior in accordance with the principles of SGFDP so then further foot injuries can be prevented.

This is because of the intervention given by the researchers in the form of SGFDP through daily practice guidance that explain the basic principles of the prevention of foot problems in T2DM patients to prevent ulcers in patients at risk who have T2DM.

Foot problems in T2DM are one of the more serious complications. Foot problems are the main source of suffering and costs for the patients and they also place a considerable financial burden on health care and on society in general. Strategies include prevention, patient education and close foot monitoring (Schaper et al., 2017).

T2DM Patients with peripheral neuropathy also have a history of foot ulceration or lower limb amputation, foot deformity, poor foot hygiene and inappropriate or inadequate footwear. Furthermore, routine inspections and checks of at-risk feet should be conducted at least once a year to identify those at risk of foot ulceration. Patients who have any of the risk factors must be examined more frequently. These include a history of ulcers, previous amputations, end-stage kidney disease, social isolation, access to poor health care, walking without using a pedestal and a regular foot examination concerning vascular status, skin, footwear and an assessment of neuropathy (S.A Bus, D.G. Armstrong, R.W. Van Deursen, J.E.A.Lewis, C.F Caravaggi, 2016).

Health education for patients about foot care is presented in a structured, organized and repeated manner, both verbally and through media channels. This plays an important role in preventing foot problems. Patients with T2DM must learn how to recognize potential foot problems and they must be aware of the steps that they must take when problems arise. One of the sports recommended for people with T2DM is foot exercises (Lincoln et al., 2008). Gymnastic foot stretches aim to smooth the blood circulation that is disrupted. This is because leg exercises can strengthen the leg muscles. This is in accordance with Mariana, et.al. (Souza et al., 2017), who stated that T2DM foot exercises aim to improve blood circulation so then the nutrients can get to the tissues smoother. It can also strengthen the small muscles, calf muscles and thigh muscles, and overcome the limitations of joint motion that often experienced by T2DM patients. This is supported by theories involving endoneuria blood flow, increased nitric oxide synthesis and increased Na + / K + - ATPase activity with given training efforts (Brand & D, 2016).

Regular footwear, improper footwear and barefoot walking with insensitive feet are the main causes of foot ulceration. Patients with a loss of sensation should be taught about protection and the appropriate use of footwear so then the use of footwear at any time, both inside and outside the room, is paired with the identification of pre-ulcer signs in T2DM patients characterized by redness or pain (Schaper et al., 2017). The limitations in this study were that it was limited in terms of the time available and the intervention in the treatment group was for 3 weeks. Patient changes and any developments will be more visible if the intervention is carried out over a longer time period.

CONCLUSION

SGFDP explains the basic principles of preventing foot problems in patients in a manner that can be carried out in a session once a week and re-evaluated after 3 weeks by discussing, sharing knowledge and undergoing foot ulcer prevention simulation using foot exercise. Sharing information and the attention given by the nurses with regular meetings can increase patient knowledge and behavior changes in the T2DM patients to encourage them to take positive actions. This was proven to prevent foot injury in patients with T2 T2DM. SGFDP can be done regularly to train the T2DM type 2 patients to maintain a good lifestyle including good food, a balanced diet, exercise and regular activities. The next researchers could improve the treatment of SGFDP based on culture and by evaluating the qualitative results.

CONFLICT OF INTEREST

The authors have declared that they have no conflict of interest.

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REFERENCES

Albargawi, M., Snethen, J., Gannass, A. Al, & Kelber, S. (2017). Relationship between person ' s health beliefs and diabetes self-care management regimen. Journal of Vascular Nursing, 1–6. https://doi.org/10.1016/j.jvn.2017.07.002

Badan Penelitian dan Pengembangan Kesehatan. (2013). Riset Kesehatan Dasar (RISKESDAS) 2013. In Laporan Nasional 2013.

Bakar, A., Nursalam, Adriani, M., Kusnanto, Qomariah, S. N., Hidayati, L., Pratiwi, I., & Ni'mah, L. (2017). Spiritualitas perawat Meningkatkan Perilaku Caring. International Journal of Evaluasi Dan Penelitian Dalam Pendidikan (IJERE), 6(April), 23–30.

Brand, S. L., & D. (2016). Evaluation of the effect of nurse education on patient-reported foot checks and foot care behaviour of people with diabetes receiving haemodialysis. Diabetic Medicine, 33(2), 204–207. https://doi.org/10.1111/dme.12831

Chai, S., Yao, B., Xu, L., Wang, D., Sun, J., Yuan, N., Zhang, X., & Ji, L. (2018). The effect of diabetes self-management education on psychological status and blood glucose in newly diagnosed patients with diabetes type 2. Patient Education and Counseling, 101(8), 1427–1432. https://doi.org/10.1016/j.pec.2018.03.020

Fan, L. (2012). Examining the Feasibility , Acceptability and Effects of a Foot Self-Care Educational Intervention in Adult Patients with Diabetes at Low Risk for Foot Ulceration by. In

ProQuest. University of Toronto.

Hsieh, Y. L., Lee, F. H., Chen, C. L., Chang, M. F., & Han, P. H. (2016). Factors Influencing Intention to Receive Examination of Diabetes Complications. Asian Nursing Research, 10(4), 289–294. https://doi.org/10.1016/j.anr.2016.10.004

Iljaž, R., Brodnik, A., Zrimec, T., & Cukjati, I. (2017). E-Healthcare For Diabetes Mellitus Type 2 Patients – A Randomised Controlled Trial In Slovenia E-Zdravstvena Oskrba Bolnikov S Sladkorno Boleznijo Tipa Ii – Randomizirana Kontrolirana Raziskava V Sloveniji. 56(3), 150–157.

Jankowska-Polaska, B., Fal, A. M., Uchmanowicz, I., Sen, M., Polanski, J., & Kurpas, D. (2015). Influence of organized diabetic education on self-control and quality of life of patients with type 2 diabetes. International Journal of Diabetes in Developing Countries, 35, 79–87. https://doi.org/10.1007/s13410-014-0253-4

Kusnanto. (2017). Asuhan Keperawatan pada Klien dengan Diabetes Mellitus Pendekatan Holistic Care. AUP.

Lincoln, N. ., Radford, K. ., Game, F. ., & Jeffcoate, W. . (2008). Education for secondary prevention of foot ulcers in people with diabetes: A randomized controlled trial. Diabetologia, 51, 1954–1961.

Martis, R., Crowther, C. A., Shepherd, E., Alsweiler, J., Downie, M. R., & Brown, J. (2018). Treatments for women with gestational diabetes mellitus: an overview of Cochrane systematic reviews. Cochrane Database of Systematic Reviews. https://doi.org/10.1002/14651858.CD012327.pub2

Nursalam. (2016). Metodologi Penelitian Ilmu Keperawatan (4th ed.). Salemba Medika.

PERKENI. (2015). Pengolahan dan Pencegahan Diabetes Melitus Tipe 2 Di Indonesia 2015. https://doi.org/10.1017/CBO9781107415324.004

Putri, D. S. R., Yudianto, K., & Kurniawan, T. (2013). Perilaku Self-Management Pasien Diabetes Melitus (DM). 1(April 2013), 30–38. https://doi.org/10.24198/jkp.v1n1.4

Rachmawati, N., Safitri, N., K, D., Keperawatan, M. J., Kedokteran, F., & Diponegoro, U. (2015). Gambaran Kontrol dan Kadar Gula Darah pada Pasien Diabetes Melitus di Poliklinik Penyakit Dalam RSJ Prof. Dr. Soerojo Magelang. 01, 1–8.

S.A Bus, D.G. Armstrong, R.W. Van Deursen, J.E.A.Lewis, C.F Caravaggi, P. R. C. (2016). IWGFD guidance on footwear and offloading interventions to prevent and heal foot ulcers in patients with diabetes. Diabetes/Metabolism Research and Reviews, 32(30), 13–23. https://doi.org/10.1002/dmrr

Schaper, N. C., Van Netten, J. J., Apelqvist, J., Lipsky, B. A., & Bakker, K. (2017). Prevention and management of foot problems in diabetes: A Summary Guidance for Daily Practice 2015, based on the IWGDF guidance documents. Diabetes Research and Clinical Practice, 124, 84–92. https://doi.org/10.1016/j.diabres.2016.12.007

Shearman, C. P., & Rawashdeh, M. (2016). Foot complications in patients with diabetes. Surgery (Oxford), 34(4), 192–197. https://doi.org/10.1016/j.mpsur.2010.02.002

Souza, A. L. R., Guimarães, R. A., de Araújo Vilela, D., de Assis, R. M., de Almeida Cavalcante Oliveira, L. M., Souza, M. R., Nogueira, D. J., & Barbosa, M. A. (2017). Factors associated with the burden of family caregivers of patients with mental disorders: A cross-sectional study. BMC Psychiatry, 17(1), 1–10. https://doi.org/10.1186/s12888-017-1501-1

SPSS, I. (2019). IBM SPSS Statistics Vers 25. https://www.ibm.com/id-en/marketplace/spss-statistics/details

Waspadji, S. (2006). Komplikasi Kronik Diabetes: Mekanisme Terjadinya Diagnosis dan Strategi Pengelolaan. FK UI.

Wawan, A., & Dewi, M. (2014). Teori dan Pengukuran Pengetahuan. Nuha Medika.

Yamin, A., Windani, C., & Sari, M. (2018). Relationship of Family Support Towards Self-Management and Quality of Life of Patients with Type 2 Diabetes Mellitus. 6, 175–182.

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Original Research

The Differences of Inpatients' Satisfaction Level based on Socio-Demographic Characteristics

Ni Komang Ayu Adnya Dewi, Ni Putu Emy Darma Yanti, and Kadek Saputra

Faculty of Nursing, Universitas Udayana, Bali, Indonesia

ABSTRACT

Introduction: Assessing the quality of nursing care has become a global health issue. especially for caregivers and recipients of care in the inpatient department. Patient satisfaction is one of the indicators to measure quality of nursing care. This study aimed to identify the differences of patient satisfaction level in inpatient ward based on socio-demographic characteristics at Siloam Hospitals Bali.

Methods: This study was cross-sectional design with descriptive comparative and correlation methods. Patient satisfaction data were collected using the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) that was provided after the patient was discharged. Purposive sampling technique was used to determine 107 samples. The analytical tests used in this study were the Spearman correlation test, Mann-Whitney test and Kruskal-Wallis test.

Results: The results of this study showed that there was a significant weak and negative correlation between the level of satisfaction and age of the patient ($p = 0.017$; $r = -0.231$; $\alpha < 0.05$). There were significant differences of patient satisfaction based on marital status ($p = 0.036$; $\alpha < 0.05$) and nationality status ($p = 0.001$; $\alpha < 0.05$), but there were no differences in patient satisfaction based on sex ($p = 0.276$; $\alpha < 0.05$) and education level ($p = 0.434$; $\alpha < 0.05$).

Conclusion: This study concluded that social demographic characteristics of patients can influence the satisfaction, but only on age, marital and nationality status. This showed that inpatients provide good satisfaction evaluations of nursing care. The optimal nursing care needs to be maintained and improved, either routine evaluation or sustainable program development.

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CONTACT

Ni Komang Ayu Adnya Dewi
ayu.adnyadewi@gmail.com
Faculty of Nursing, Universitas Udayana, Bali, Indonesia

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INTRODUCTION

Health has now become one of the main goals of the Sustainable Development Goals (SDGs) for 2030, which states that everyone has the right to achieve universal health coverage, including affordable medicines, accessibility, safe and effective quality of services and access to quality essential health services (World Health Organization, 2015). High health needs demand facilities and health service providers to perform better quality services and comply with established standards.

The health services quality was previously measured only by using professional standards and ignored the patient satisfaction value. Nevertheless, some findings revealed that patient satisfaction as an indicator to measure the health services quality. Patient satisfaction is defined by the happiness level by the patient during treatment or the patient's perception about the care received while treated in hospital (Worku & Loha, 2017). Patient satisfaction surveys can directly evaluate whether the extent of the care provided is able to meet the patient's health needs (Price et al., 2014).

The Ministry of Health Republic of Indonesia Act Number 129 Year 2008 established a minimum service standard for patient satisfaction of ≥ 90%. If health services are found with patient satisfaction levels lower than 90%, it could be assumed that the health services provided did not meet with the minimum standards or no quality. The patient satisfaction percentage in Indonesia obtained from

one central hospital was 77.1% (Novitasari et al., 2014), at regional hospitals was 83.3% (Mustika & Sari, 2019), and at private hospitals was 54.52% (Oini et al., 2017). These show that the picture of patient satisfaction level in Indonesia is still under the minimum standard established.

Variations in the patient satisfaction level with the service quality could be affected by several factors. Chen et al. (2019) revealed that there are non-modifiable factors that affect the patient satisfaction levels with variations such as age, sex, race and socioeconomic status. The patient satisfaction level also could be affected by several factors originating from the health services themselves, such as reliability, responsiveness, assurance, empathy and service quality (Mumu et al., 2015Sulistyo et al. (2019) stated that the funding sources, treatment duration and accreditation status could also affect patient satisfaction.

Patients who are satisfied with the treatment given will tend to adhere to the healthcare provider's treatment plan (Mohan & Kumar, 2011). Patient satisfaction also provides benefits to health services such as making patients loyal and increasing the visits percentages. Loyal patients will visit the same health service if they need back-to-back treatment (Nursalam, 2014), whereas for patients who are dissatisfied, services will lead to lower utilization of health services. Other forms of negative attitudes due to dissatisfaction could show as verbally influencing others to not to seek healthcare (Debono & Travaglia cited in Mukhtar et al., 2013).

Efforts made to improve the patient satisfaction with health services are achieved by improving facilities cleanliness, privacy settings and providing interpersonal services (Adhikary et al., 2018). Hospitals also need to pay attention about ongoing efforts to improve the collaboration and discipline between health professionals (de Oliveira et al., 2017). Nkwinda et al. (2019) also revealed that the hospital's high concern through the presence and nurses professional abilities could make patients satisfied with the services provided.

Siloam Hospitals Bali is part of the Siloam Group Hospital located in the Province of Bali. This hospital has become one of the private hospitals prepared to support medical tourism. Therefore, Siloam Hospitals Bali not only serves Indonesian patients, but also serves patients with foreign nationality. This can be seen from the results of preliminary studies obtained by the researcher on the number of tourists who have been hospitalized at Siloam Hospitals Bali from 2017 to 2019, respectively amounting to 1,269, 1,303 and 1,402 patients.

The change in number of inpatients at Siloam Hospitals Bali every year is a reflection of the patient satisfaction level with the care service received. These are certainly influenced by efforts to improve accreditation which demands a health service facility also to improve the treatment process provided (Alkhenizan & Shaw, 2011). However, the presence of patient-related factors, such as socio-demographic characteristics, could also affect the patients' satisfaction level during hospitalization. Therefore, patient satisfaction needs to be explored on an ongoing basis to identify variables that can influence patient responses during treatment and find out the changes needed to perform nursing care. This study aims to identify the differences of inpatients' satisfaction level based on socio-demographic characteristics at Siloam Hospitals Bali.

MATERIALS AND METHODS

This study is a non-experimental research with descriptive comparative and correlation methods and a cross sectional research design. The variables examined in the study were patient satisfaction as the dependent variable and socio-demographic characteristics (age, sex, education, marital status, and nationality status) as independent variables.

This study was conducted at inpatient installation of Siloam Hospitals Bali with the selected room number as research locations, namely four inpatient rooms consisting of Inpatient Department (IPD) -1, -2, -3, and Maternity Ward. The population in the study were all inpatients at Siloam Hospitals Bali. The inclusion criteria used in this study are: patients aged ≥12 years; inpatients at Siloam Hospitals Bali who declared allowed going home, willing to be the subject by signing informed consent, able to understand Indonesian or English. Meanwhile the exclusion criteria from this study are: patients in decreased consciousness condition and patients with cognitive impairment. This study also used dropout criteria, such as patients who did not fill the instruments completely and lost patients.

This study obtained a sample size of 107 patients selected using a non-probability sampling technique with purposive sampling. The research instrument used in this study was the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ). The PSNCQQ was developed by Laschinger et al. (2005) to measure patient satisfaction with the nursing services quality. The PSNCQQ instrument validity and reliability test was carried out on 445 patients in Canada and the results showed that the PSNCQQ has excellent psychometric with 0.97 Cronbach's alpha reliability and correlation items ranging from 0.61 to 0.89 (Laschinger et al., 2005). The PSNCQQ instrument was also tested in several developing countries, such as Serbia (n = 240) and Poland (n = 85); the results showed that the PSNCQQ instrument is valid and reliable (Ksykiewicz-Dorota et al., 2011; Milutinović et al., 2012).

The PSNCQQ instrument consists of 19 questions summarized in nine dimensions, namely individual assessment, nurses' attention, nurse abilities and skills, staff collaboration, comfort, nurse response, and information provided by nurses, return instructions and coordination after patients discharged. Data were collected through instruments given to patients after patients were declared as discharge allowed. The researcher also obtained

ethical clearance from the research ethics commission, prior to data collection.

The analysis test used in this study is the Spearman correlation test to determine the differences in satisfaction levels based on age, the Mann-Whitney test to determine the levels of satisfaction differences based on sex, marital status and nationality, as well as Kruskal-Wallis test to determine the differences in patient satisfaction levels based on education level.

RESULTS

Social demographic characteristics description and patient satisfaction are seen in Table 1. The patients' age characteristics in this study indicate that the mean age of patients is 41 years with the youngest age being 12 years and the oldest age being 74 years. Patient characteristics based on sex, education level, marital status and nationality showed that the majority of patients were male (51.4%), tertiary educated (46.7%), married (74.8%), and Indonesian (80.4%) The patient satisfaction description to nursing services shows that of the 107 patients undergoing hospitalization, it was found that the median patient satisfaction score was 75 with the lowest satisfaction score being 50 and the highest satisfaction score 95.

The analysis of inpatient satisfaction levels differences based on age, gender, education level, marital status and nationality are seen in Table 2. The differences analysis of inpatient satisfaction levels by age shows that there is a weak significant relationship with the negative correlation direction between patient satisfaction levels and age. The analysis shows that age can influence the level of patient satisfaction with weak strength (p value = 0.017; r = -0.231; α <0.05). The differences analysis of inpatient satisfaction levels by sex shows that the median value of patient satisfaction is found higher in men (76)

Table 1. The differences analysis of inpatient satisfaction levels by age, sex, education level, marital status and nationality

Variable	n (%)	Median (Min-Max)
Age (Years)	-	41 (12-74)
Gender		
Male	55 (51,4)	-
Female	52 (48,6)	-
Level of Education		
Primary Education	8 (7,5)	-
Secondary Education	49 (45,8)	-
Tertiary Education	50 (46,7)	-
Marital Status		
Married	80 (74,8)	-
Unmarried	27 (25,2)	-
Nationality		
Indonesian	86 (80,4)	-
Non-Indonesian	21 (19,6)	-
Patients satisfaction	-	75 (50-95)

Tabel 2. The Differences Analysis of Inpatient Satisfaction Levels by Age, Sex, Education Level, Marital Status and Nationality

Variable	Patient Satisfaction			
	n	Median (Min–Max)	*Mean Rank*	*p-value*
Age	107	-	-0,231#	0,017*
Gender				
Male	55	76 (56–95)	57,17	0,276**
Female	52	74,5 (50–95)	50,64	
Education Level				
Primary Education	8	79 (57–95)	65,38	0,434***
Secondary Education	49	76 (55–95)	55,31	
Tertiary Education	50	70,5 (50–95)	50.90	
Marital Status				
Married	80	73 (50–95)	50,36	0,036**
Unmarried	27	79 (55–95)	64,78	
Nationality				
Indonesian	86	72,5 (50–95)	48,87	0,001**
Non-Indonesian	21	85 (57–95)	75,02	

\# : coefficient correlation (r)
* : Spearman Correlation test result
** : Man-Whitney test result
*** : Kruskal-Wallis test result

than women (74.5). Statistical test results showed that there was no significant difference between satisfaction scores in male and female patients at Siloam Hospitals Bali (p value = 0.276; α <0.05).

The differences analysis of inpatient satisfaction level based on the level of education obtained the result that the higher median value of patient satisfaction was found in primary educated patients (79), compared to secondary educated (76) and tertiary educated (70.5). Statistical test results showed that there was no significant differences between satisfaction scores in primary, secondary and tertiary educated patients at Siloam Hospitals Bali (p value = 0.434; α <0.05). The differences analysis of inpatients' satisfaction level based on marital status obtained results that a higher median value was found in patients who were single (79) compared to those who were married (73). Statistical test results show that there were significant differences between the patient satisfaction scores with married and unmarried status at Siloam Hospitals Bali (p = 0.036; α <0.05). The differences analysis of inpatients' satisfaction level based on nationality shows higher median score found in non-Indonesian patients (85) compared to Indonesian patients (72.5). Statistical test results show that there is a significant difference between satisfaction scores in Indonesian patients and non-Indonesian patients in Siloam Hospitals Bali (p value = 0.001; α <0.05).

DISCUSSION

Inpatient satisfactions' overview

This study results indicated that all inpatients satisfaction scores were in range 50 to 95. Based on the median values obtained, these findings indicated that the patient satisfaction score is close to the maximum, which is 95. According to Thapa and Joshi (2019), the patient satisfaction level value with the care quality measured using the PSNCQQ instrument divided into two categories, which were good patient satisfaction (median ≥70) and poor patient satisfaction (median <70). Based on these categories, the median patient satisfaction score found in this study is categorized as good. This proves that inpatients at Siloam Hospitals Bali as a whole were satisfied with the nursing services received.

This study result is in line with the Thapa and Joshi (2019) study at one hospital in Chitwan City, Nepal, which found that the majority of patients had good satisfaction (50.5%). Research by Konduru et al. (2015) which categorizes the patient satisfaction level as good, moderate and bad also supports this study result, namely the majority of patients hospitalized at a public hospital in India have good satisfaction (66%) of nursing care services.

In the all items results of the statements given, the majority of inpatients gave a good evaluation value. This study shows that inpatients at Siloam Hospitals Bali received good quality nursing services. This is because the service quality will positively influence patient satisfaction, i.e. the better service quality, the higher patients satisfaction (Sulistyo et al., 2019).

Nursing services are professional services performed by nurses in accordance with service standards with the aim of delivering services that exceed patient expectations (Nursalam, 2014). Nursalam (2014) explains that the high and low level of patient expectations about the service quality can also be influenced by four interrelated factors, word-of-mouth communication, personal needs, past experiences and external communication (company's external communication). This shows that, in addition to factors in the nursing services quality, the gap between patient expectations and the care quality received can also affect patient satisfaction. The service quality could be defined to meet satisfying if the expected service is the same as perceived. Similarly, a service is said to not meet expectations or is not qualified if the expected service is greater than the perceived service (Nursalam, 2014).

This study also shows that hospital care management has been able to understand patient expectations, and that the majority of patients have good satisfaction. This is explained in the Grand Theory developed by Parasuraman (cited in Nursalam, 2014) related to gaps in service quality, as patient dissatisfaction can occur when the management of healthcare institutions has not been able to correctly identify and understand the health service users' expectations.

Differences in Patient Satisfaction Levels by Age

Based on this study's results, shows that there are differences in the inpatient satisfaction level based on age. Based on Rank Spearman test, there is a weak significant relationship with the negative correlation direction between the satisfaction level and patients' age. These results indicated that the younger the patient, the satisfaction will increase, while the older the patient, the satisfaction level will be lower.

This study results are supported by Batbaatar et al. (2017) who revealed that age as a demographic characteristic factor could influence the patient satisfaction level. Karaca and Durna (2019) also found that patients aged >65 years or patients with an older age tend to give less satisfied quality of care ratings compared to other age groups. Other research related to public satisfaction with the health system performance also found that the younger age group had higher satisfaction than the older age group (Footman et al., 2013).

Other studies related to patient satisfaction with the nursing care quality found different results. Chen et al. (2019) found that younger patients tended to show lower satisfaction compared to older patients. This is in line with research by Dzomeku et al. (2013) who found that patients with age <40 years tend to feel less satisfied with care services than patients aged> 40 years.

Older patients tend to be more satisfied with care services because elderly people generally

experienced chronic diseases. This condition causes them to be more receptive to their physical limitations than younger. This will encourage older patients to have lower demands and expectations. Therefore, older patients are generally more satisfied with care services than younger (Haj-Ali et al., 2014). In addition, the existence of cultural values factors, such as parents must be more respected and given special privileges, affects satisfaction because nurses will pay more attention to older than younger patients (Dzomeku et al., 2013).

Although the age factor can be said to be consistent, the relationship between age and satisfaction is still in a nonlinear pattern. This is proved by the findings, which stated that patient satisfaction increases until the age of 40 years, but can decrease sharply after 40 years (Amro et al., 2018). The variation in differences in the patient satisfaction level due to age is caused by several things, such as differences in cultural values, less positive patient responses, tolerance levels in each individual patient and age-related maturity levels (Karaca & Durna, 2019).

The differences results found in this study were caused by differences of patient needs that affect patient care services expectations. Karaca and Durna (2019) state that the low level of satisfaction in the patients group with older age is caused by the nurses' lack of attention in providing care to the elderly. This can lead to differences in patient needs, i.e. older patients have unique needs during treatment compared to younger. According to Chumbler et al. (2016), the differences in needs is caused by the inherent heterogeneity in the elderly patient group, the complex health status experiences, health wrong perceptions, and an illness history due to age.

These findings indicated that inpatient care providers need to pay special attention when providing care to older patients. One way is to improve and maintain communication between nurses and patients. Chumbler et al. (2016) revealed that nurses' communication was the second most influential factor on care satisfaction in a group of patients with older age (>70 years). In addition, Salehi et al. (2018) argued that older patients will feel more satisfied with healthcare if they receive more respect and attention. Therefore, inpatient care providers need to improve care services by ensuring good communication by nurses and maintaining the nursing staff's responsiveness to patient needs so that overall care can be patient-centered.

Differences in Patient Satisfaction Levels based on Gender

This study results obtained statistical data that showed that there were no differences in the patient satisfaction level by sex. This study is supported by the research of Karaca and Durna (2019) who found that there were no significant differences in satisfaction levels between male and female patients. Alsaqri (2016), in her research, also found the same, that there were no significant differences in satisfaction between men and women in providing nursing care evaluation.

Gender is a factor that still has strength and direction of the association that is not consistent with patient satisfaction (Batbaatar et al., 2017). This is proved by Chen et al. (2019) research which found that patients with female sex had higher levels of satisfaction compared to male patients. Other studies have found different results, namely male patients tend to feel more satisfied with treatment compared with female patients (Dzomeku et al., 2013).

Gender could affect patient satisfaction because they have different views of the hospital services provided. Women tend to pay more attention to the appearance in details, whereas men generally do not attach importance to it (Oroh et al., 2014). Those female patients will be more careful and critical of the quality aspects when evaluating the performance of service provider staff (Dzomeku et al., 2013). In addition, men also have different ways in managing relationships with women. Men tend to be more ignorant about what is stated by women, and they are considered more flexible (Gunarsa cited in Oroh et al., 2014).

This study found that gender did not affect inpatient satisfaction. Aspects that came from care service providers, such as hospital accreditation status, caused this. This is because good accreditation status will require hospitals to improve the services quality provided. Quality improvement could see from the hospitals efforts to improve cooperation and discipline among health workers in providing services (de Oliveira et al., 2017). In addition, accreditation is a determinant of patient satisfaction because of the complete hospital facilities and infrastructure support (Haj-Ali et al., 2014).

In addition to the factors originating from the care provider, the length of stay in the hospital can also affect patient satisfaction. According to Sulistyo et al. (2019), patient's length of stay can significantly affect patient satisfaction positively. This is because patients treated for a long time feel that they have received more attention (Salehi et al., 2018). Long-term treatment will also increase the health workers' attention and empathy to patients, then patients generally will more feel comfortable (Sulistyo et al., 2019).

Differences in Patient Satisfaction Levels based on Education Level

Based on this study, results showed that there were no differences in patient satisfaction levels based on primary, secondary and tertiary education levels. This is in line with Konduru et al. (2015) and Edmealem et al. (2019) who found that there were no significant differences in patient satisfaction with nursing care based on the level of patient education.

This study results differ from those of Amro et al. (2018) who found that patients with master's education had higher satisfaction compared to

bachelors, diploma and no education certificates. This is supported by Chen et al. (2019) who found that the majority of low satisfaction was experienced by less education patients and who did not have an education degree. This can be caused by the influence of the patient's education level on communication skills. Highly educated patients are better able to listen and integrate the opinion differences along with medical services (Amro et al., 2018). Bu-Alayyan (cited in Baltaci et al., 2013) also revealed that patients with high levels of education more easily communicate with medical personnel.

Other studies have also found different results, namely illiterate patients and only primary education patients tend to be satisfied with treatment (Dzomeku et al., 2013). Low-educated patients are more satisfied with the service because they do not have more information about the treatment they will receive, so they do not place high expectations on the service provider. Salehi et al. (2018) also supported that the majority of patients with low education did not have sufficient access to know good health service standards. Dzomeku et al. (2013) also argued that highly educated patients tend to be less satisfied because they are more able to access information about nurses' tasks. In addition, highly educated patients have obtained more information about the alternative treatments they will receive, so they will expect a higher care standard (Karaca & Durna, 2019).

In addition to accessing information easily, service quality can also affect patient satisfaction, i.e. the better service quality, the higher the patients' satisfaction. This is because good service quality will increase the speed of the service process provided, such as the easy registration administration process, nurses working systematically and effectively, and arrival on time, then patients will feel more satisfied and provide a positive assessment (Fuad et al., 2019).

Differences in Patient Satisfaction Levels based on Marital Status

Based on this research, the results show that there is a significant difference between the satisfaction of married and unmarried patients. This study analysis results indicated that unmarried patients have higher satisfaction than married patients. Marital status is categorized as either unmarried patient who is unmarried, divorced and dead divorced, or as a married patient, who is married and having married status.

This study finding are supported by Karaca and Durna (2019) who stated that marital status influences patient satisfaction. The study found that patients with divorced status had higher satisfaction with nursing services compared to patients who were married. This study results are also in line with the Akbas (2019) study at obstetrics and gynecology clinics in several hospitals types. The study found that single-status patients were more satisfied with nursing care services than married patients.

One study found different results, i.e. married patients were more satisfied with health services than single patients, divorced or patients living with partners (Ayranci & Atalay, 2019). Edmealem et al. (2019) also found that married patients were more satisfied with nursing care than single patients were. Although marital status is a contradictory factor in influencing patient satisfaction, other studies have found that there is no significant difference in satisfaction between married and single or unmarried patients (Konduru et al., 2015; Olomi et al., 2017).

This study found that unmarried patients tended to be more satisfied with nursing services. This tendency is attributed to the satisfaction description results based on the age characteristics found in this study, namely patients with younger ages tend to be more satisfied with care services. This is because the majority of unmarried individuals are younger, i.e. 0-17 years (99.94%) (Kementerian Pemberdayaan Perempuan and Perlindungan Anak RI, 2019). However, this relationship is used as a basis if the status category of unmarried patients is divorced or divorced. This is because the majority of divorced and dead divorced people is experienced by the age group of 45 years and over, which is 2.28% and 35.80%, respectively (Badan Pusat Statistik, 2018), while the percentage of divorced life and death divorce experienced by the age group of 10 to 17 years is only 0.04% (KPPPA RI, 2019).

If the patient satisfaction tendency categorized as unmarried occurs in patients with divorce status, this can be related to their older age. According to Chen et al. (2019), older patients will be more satisfied with the services received. This is because older patients are more receptive to their physical limitations, causing them to tend to have lower demands and expectations (Haj-Ali et al., 2014).

In addition to the age influence, aspects that come from healthcare providers, such as the environment, can also cause the satisfaction tendency found in patients who are not married. Quintana (cited in Batbaatar et al., 2017) , supports this in stating that patients with single or divorced status tend to be more satisfied with health services, especially in the comfort and hygiene aspects. This is because a satisfying physical environment, such as clean clothing availability, clean bedding and clean food will be considered as a good care evidence (Heidari et al., 2017).

These findings indicated that to be able to know differences in satisfaction levels based on marital status more clearly, it is necessary to identify the satisfaction scores proportion based on the category of single, married, divorced and dead divorced. It aims to analyze deeply the effect of marital status on patient satisfaction.

Differences in Patient Satisfaction Levels based on Nationality

Based on the study result, obtained statistical data show that there are significant differences between the satisfaction of Indonesian patients and non-Indonesian patients. This study analysis results indicated that the patients with foreign nationality have higher satisfaction than Indonesian nationality.

This study results are different from research conducted by Chaker and Al-Azzab (2011) related to the relationship between patient nationality and satisfaction scores at one of the specialized athlete hospitals in Qatar and which found that participants with Qatar nationality had higher satisfaction with hospital services compared to participants of European, Asia, North Africa, America and other countries. AlNemer et al. (2015) also conducted a similar study at a primary healthcare clinic in Riyadh, Saudi Arabia. This study results found no significant differences in patients' satisfaction between those who were Saudi Arabian and patients who were not.

The satisfaction tendency in non-Indonesian patients found in this study can be caused by differences in the patient's work status. Based on the survey, the number of foreigners who came to Bali in 2018 with a health tourism aim reached 6,070,473 (Bali Goverment Tourism Office, 2019). The data show that the majority of patients undergoing treatment at Siloam Hospitals Bali are foreigners. This refers to their activities while living in Bali, which is the majority of trips compared to work. Sulistyo et al. (2019) revealed that patients who did not work had higher satisfaction than patients who worked. This is because individuals who work generally have a habit of always focusing on the services, they should get to suit their needs. Therefore, individuals who work tend to be very dependent on health services, while individuals who do not work will tend to be more independent (Lupiyoadi cited in Sulistyo et al., 2019).

In addition to the influence of differences in patient work status, the strategic location of the hospital and the tourism area can also affect the satisfaction of non-Indonesian patients compared to Indonesian patients. Damghi et al. (2013) found that patients who lived within 10 kilometers of the hospital tended to be more satisfied than patients who lived more than 10 kilometers. Based on the observations, Siloam Hospitals Bali is located in the Kuta district, which causes this hospital to be the main health service access for tourists. Patients who are foreigners will be more satisfied because the location of a hospital that is easily accessible means patients get emergency care more quickly. This is also supported by Amro et al. (2018) who stated that patients who live in cities are more satisfied than patients who live in villages, because most private and government hospitals are located in cities.

CONCLUSION

Based on the research, it can be concluded that age can influence inpatient satisfaction with weak strength and negative correlation direction. Other socio-demographic characteristics factors that were found to influence inpatient satisfaction were marital status and nationality, while gender and education level were found to have no significant effect on patient satisfaction. Overall, inpatients provide good satisfaction evaluations of nursing care.

REFERENCES

Adhikary, G., Shajedur Rahman Shawon, M., Wazed Ali, M., Shamsuzzaman, M., Ahmed, S., Shackelford, K. A., Woldeab, A., Alam, N., Lim, S. S., Levine, A., Gakidou, E., & Jasim Uddin, M. (2018). Factors influencing patients' satisfaction at different levels of health facilities in Bangladesh: Results from patient exit interviews. *PLoS ONE*, *13*(5), 1–13. https://doi.org/10.1371/journal.pone.0196643

Akbas, M. (2019). Patient satisfaction on nursing care: The case of gynecology and obstetrics clinics. *Acta Bioethica*, *25*(1), 127–136. https://doi.org/10.4067/S1726-569X2019000100127

Alkhenizan, A., & Shaw, C. (2011). Impact of accreditation on the quality of healthcare services: A systematic review of the literature. *Annals of Saudi Medicine*, *31*(4), 407–416. https://doi.org/10.4103/0256-4947.83204

AlNemer, K. A., Al-Homood, I. A., AlNemer, A. A., Alshaikh, O. M., Alsaidan, M. A., & Alzahrani, A. T. (2015). A multicenter study of factors affecting patient's satisfaction visiting primary health care clinics in Riyadh, Saudi Arabia. *Family Medicine and Medical Science Research*, *4*(2), 1–4. https://doi.org/10.4172/2327-4972.1000169

Alsaqri, S. (2016). Patient satisfaction with quality of nursing care at Governmental Hospitals, Ha'il City, Saudi Arabia. *Journal of Biology, Agriculture and Healthcare*, *6*(10), 128–142. https://www.iiste.org/Journals/index.php/JBAH/article/view/30595

Amro, N., Kamel, A. M. A., Qtait, M., Yagi, H., Amro, B., Amro, R., & Amro, R. (2018). Factors affect patients satisfaction in Emergency Departments in Palestine. *Journal of Health, Medicine and Nursing*, *54*(1), 3–8. https://www.researchgate.net/publication/328031303

Ayranci, E., & Atalay, N. (2019). Demographic determinants of patient satisfaction: A study in a Turkish context. *International Journal of Academic Research in Business and Social Sciences*, *9*(6), 829–839. https://doi.org/10.6007/ijarbss/v9-i6/6041

Badan Pusat Statistik. (2018). Statistik Penduduk Lanjut Usia Tahun 2018. BPS Jakarta.

Bali Goverment Tourism Office. (2019). Direct Foreign Tourist Arrivals to Bali in 1971-2018.

https://disparda.baliprov.go.id/

Baltaci, D., Eroz, R., Ankarali, H., Erdem, O., Celer, A., & Korkut, Y. (2013). Association between patients' sociodemographic characteristics and their satisfaction with primary health care services in Turkey. *Kuwait Medical Journal*, *45*(4), 291–299. https://www.researchgate.net/publication/287273429

Batbaatar, E., Dorjdagva, J., Luvsannyam, A., Savino, M. M., & Amenta, P. (2017). Determinants of patient satisfaction: A systematic review. *Perspectives in Public Health*, *137*(2), 89–101. https://doi.org/10.1177/1757913916634136

Chaker, M., & Al-Azzab, N. (2011). Patient satisfaction in Qatar Orthopedic and Sports Medicine Hospital (ASPITAR). *International Journal of Business and Social Science*, *2*(7), 69–78. https://www.semanticscholar.org/

Chen, Q., Beal, E. W., Okunrintemi, V., Cerier, E., Paredes, A., Sun, S., Olsen, G., & Pawlik, T. M. (2019). The association between patient satisfaction and patient-reported health outcomes. *Journal of Patient Experience*, *6*(3), 201–209. https://doi.org/10.1177/2374373518795414

Chumbler, N. R., Otani, K., Desai, S. P., Herrmann, P. A., & Kurz, R. S. (2016). *Hospitalized Older Adults ' Patient Satisfaction : Inpatient Care Experiences*. *2016*. https://doi.org/10.1177/2158244016645639

Damghi, N., Belayachi, J., Armel, B., Zekraoui, A., Madani, N., Abidi, K., Benchekroun, A. B., Zeggwagh, A. A., & Abouqal, R. (2013). Patient satisfaction in a Moroccan Emergency Department. *International Archives of Medicine*, *6*(20), 1–8. https://doi.org/10.1186/1755-7682-6-20

de Oliveira, J. L. C., Gabriel, C. S., Fertonani, H. P., & Matsuda, L. M. (2017). Mudanças gerenciais resultantes da Acreditação hospitalar. *Revista Latino-Americana de Enfermagem*, *25*, 1–8. https://doi.org/10.1590/1518-8345.1394.2851

Dzomeku, V. M., Atinga, Ba-Etilayoo, Perekuu, T., & Mantey, R. E. (2013). In-patient satisfaction with nursing care: A case study at Kwame Nkrumah University of Science and Technology Hospital. *International Journal of Research In Medical and Health Sciences*, *2*(1), 1–6. http://www.ijsk.org/ijrmhs.html

Edmealem, A., Asfaw, Y., & Ademe, S. (2019). Patients' satisfaction and associated factors towards nursing care in Dessie Referral Hospital, Northeast Ethiopia. *Clinical Journal of Nursing Care and Practice*, *3*, 53–58. https://www.heighpubs.org/hjncp

Footman, K., Roberts, B., Mills, A., Richardson, E., & McKee, M. (2013). Public satisfaction as a measure of health system performance: A study of nine countries in the former Soviet Union. *Health Policy*, *112*(1–2), 62–69. https://doi.org/10.1016/j.healthpol.2013.03.004

Fuad, L., Tamtomo, D., & Sulaeman, E. S. (2019). Multilevel analysis on the effect of marketing mix strategy toward patient satisfaction in Magelang, Central Java. *Journal of Health Policy and Management*, *4*(1), 39–46. https://doi.org/10.26911/thejhpm.2019.04.01.05

Haj-Ali, W., Karroum, L. B., Natafgi, N., & Kassak, K. (2014). Exploring the relationship between accreditation and patient satisfaction-the case of selected Lebanese hospitals. *International Journal of Health Policy and Management*, *3*(6), 341–346. https://doi.org/10.15171/ijhpm.2014.116

Heidari, M., Pour, H., Norouzzadeh, R., Temel, E., & Şahin, B. (2017). Assessment patients' satisfaction related on quality of care: A Cross-sectional descriptive study. *Asian Journal of Medicine and Health*, *5*(4), 1–8. https://doi.org/10.9734/ajmah/2017/34513

Karaca, A., & Durna, Z. (2019). Patient satisfaction with the quality of nursing care. *Nursing Open*, *6*(2), 1–11. https://doi.org/10.1002/nop2.237

Kementerian Pemberdayaan Perempuan dan Perlindungan Anak RI. (2019). Profil Anak Indonesia Tahun 2018.

Konduru, A., Sujatha, T., & Judie, A. (2015). A study to assess the level of patient satisfaction on quality of nursing care among patients in SRM general hospital, kattankulathur. *International Journal of Pharmaceutical and Clinical Research*, *7*(6), 458–461. https://www.researchgate.net/publication/303089344

Ksykiewicz-Dorota, A., Sierpińska, L., Gorczyca, R., & Rogala-Pawelczyk, G. (2011). Polish version of patient satisfaction with Nursing Care Quality Questionnaire (PSNCQQ). *Progress in Health Sciences*, *1*(1), 51–56.

Laschinger, H. S., Hall, L. M., Pedersen, C., & Almost, J. (2005). A psychometric analysis of the patient satisfaction with nursing care quality questionnaire. *Journal of Nursing Care Quality*, *20*(3), 220–230. https://doi.org/10.1097/00001786-200507000-00006

Milutinović, D., Simin, D., Brkić, N., & Brkić, S. (2012). The patient satisfaction with nursing care quality: The psychometric study of the Serbian version of PSNCQ questionnaire. *Scandinavian Journal of Caring Sciences*, *26*(3), 598–606. https://doi.org/10.1111/j.1471-6712.2012.00969.x

Mohan, D. R., & Kumar, K. S. (2011). A study on the satisfaction of paitnets with reference to hospital services. *ZENITH International Journal of Business Economics & Management Research*, *1*(3), 15–25. http://zenithresearch.org.in/

Mukhtar, F., Anjum, A., Bajwa, M., Shahzad, S., Hamid, S., Masood, Z., & Mustafa, R. (2013). Patient Satisfaction. *Professional Med J*, *20*(6), 973–980. https://doi.org/10.3109/9780824706081.114

Mumu, L. J., Kandou, G. D., & Doda, D. V. (2015). Analisis faktor-faktor yang berhubungan dengan

kepuasan pasien di Poliklinik Penyakit Dalam RSUP Prof . Dr . R . D . Kandou Manado. *Jurnal Unsrat*, *5*(4). https://ejournal.unsrat.ac.id/index.php/jikmu/article/view/7460

Mustika, D., & Sari, K. (2019). Kepuasan pasien terhadap layanan rawat inap RSUD Jagakarsa tahun 2017/2018. *Jurnal ARSI*, *5*(3), 147–152. http://journal.fkm.ui.ac.id/arsi/article/view/2950

Nkwinda, B., Jacobs, W., & Downing, C. (2019). Patient satisfaction with caring at a district hospital in Malawi. *Global Journal of Health Science*, *11*(1), 15–27. https://doi.org/10.5539/gjhs.v11n1p15

Nursalam. (2014). Manajemen Keperawatan: Aplikasi Keperawatan Profesional (4th ed.). Selemba Medika.

Novitasari, A., Hidayat, M., & Kaporina, A. (2014). Kepuasan pasien rawat inap terhadap pelayanan keperawatan di RSUP Dr. Kariadi Semarang. *Jurnal Kedokteran Muhammadiyah*, *3*(1). https://jurnal.unimus.ac.id/index.php/kedokteran/article/view/2553

Oini, O., Komalasari, R., & Hasibuan, S. Y. (2017). Tingkat kepuasan pasien terhadap pelayanan keperawatan di unit rawat inap. *Nursing Current*, *5*(2), 50–60. https://ojs.uph.edu/index.php/NCJK/article/view/1707

Olomi, G., Mboya, I., & Manongi, R. (2017). Patients' level of satisfaction with the health care services received at outpatient departments in Kilimanjaro Region, Tanzania. *Journal of Patient Care*, *3*(1). https://doi.org/10.4172/2573-4598.1000124

Oroh, M. E., Rompas, S., & Pondaag, L. (2014). Faktor-faktor yang berhubungan dengan tingkat kepuasan pasien rawat inap terhadap pelayanan keperawatan di Ruang Interna Rsud Noongan. *Jurnal Keperawatan*, *2*(2). https://ejournal.unsrat.ac.id/index.php/jkp/article/view/5220

Peraturan Menteri Kesehatan Republik Indonesia Nomor 129 Tahun 2008 tentang Standar Pelayanan Minimal Rumah Sakit.

Price, R. A., Elliott, M. N., Zaslavsky, A. M., Hays, R. D., Lehrman, W. G., Rybowski, L., Edgman-Levitan, S., & Cleary, P. D. (2014). Examining the role of patient experience surveys in measuring health care quality. *Medical Care Research and Review*, *71*(5), 522–554. https://doi.org/10.1177/1077558714541480

Salehi, A., Jannati, A., Nosratnjad, S., & Heydari, L. (2018). Factors influencing the inpatients satisfaction in public hospitals: a systematic review. *Bali Medical Journal*, *7*(1), 17. https://doi.org/10.15562/bmj.v7i1.533

Sulistyo, S. A., Tamtomo, D., & Sulaeman, E. S. (2019). Accreditation Status and Other Factors Affecting Patient Satisfaction in Hospital. *Journal of Health Policy and Management*, *4*(3), 139–149. https://doi.org/10.26911/thejhpm.2019.04.03.01

Thapa, S., & Joshi, A. (2019). Patients' satisfaction with quality nursing care at teaching hospital, Chitwan. *Journal of Nursing and Health Science (IOSR-JNHS)*, *8*(3), 71–75. https://doi.org/10.9790/1959-0803077175

World Health Organization. (2015). Health in 2015 from MDGs to SDGs. https://www.who.int/gho/publications/mdgs-sdgs/en/

Worku, M., & Loha, E. (2017). Assessment of client satisfaction on emergency department services in Hawassa University Referral Hospital, Hawassa, Southern Ethiopia. *BMC Emergency Medicine*, *17*(1), 1–5. https://doi.org/10.1186/s12873-017-0132-7

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Original Research

What Do Our Nurses Know about Managing Patient with Permanent Pacemakers?

Muhamad Al Muizz Ismail[1], Nor Marini Ibrahim[2] and Muhammad Kamil Che Hasan[3]

[1] Coronary Care Unit, Hospital Universiti Sains Malaysia, Kelantan, Malaysia
[2] Open University Malaysia, Kelantan, Malaysia
[3] Department of Medical-Surgical Nursing, Kulliyyah of Nursing, International Islamic University Malaysia, Pahang, Malaysia

ABSTRACT

Introduction: The number of patients with pacemaker implant is increasing in the health services sector in Malaysia, which requires nurses to have expertise in patient care with pacemaker implantation. Therefore, this study was conducted to analyse the level of knowledge among nurses regarding the management of patients with pacemaker implantation.

Methods: A cross-sectional study was conducted through purposive sampling among all nurses working at the critical care unit, intensive care unit, cardiac rehabilitation ward, investigation clinical laboratory, and non-invasive clinical laboratory in a public hospital in Kelantan. A questionnaire consisted of demographic data and nurses' knowledge was distributed. Data were analysed for descriptive analysis and using Pearson correlation test.

Results: Results from all respondents (n=70), show 48.6 % of the respondents had moderate knowledge about patient management with pacemaker implantation, 32.9 % had a low level of knowledge and only 13.6% had high knowledge regarding management of patient with pacemaker implantation. There is a significant difference between the level of knowledge and demographic data, that is between the level of education (p=0.027), age (p=0.011) and length of service (p=0.015). There is no significant relationship between knowledge and demographic data, such as gender (p=0.481), marital status (p=0.315), and post-basic (p=0.067).

Conclusion: Level of knowledge among nurses about the management of patient with pacemaker implantation is low to moderate. Additional education and exposure among nurses are needed to enhance the knowledge of nurses and improve the quality of care among patients with pacemaker implant.

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CONTACT

Muhammad Kamil Che Hasan
mkamil@iium.edu.my
Department of Medical-Surgical Nursing, Kulliyyah of Nursing, International Islamic University Malaysia, Pahang, Malaysia

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INTRODUCTION

According to the World Health Organization (WHO), in 2016, an estimated 17.9 million deaths worldwide are caused by cardiovascular disease (WHO, 2020). In Malaysia, in 2012, statistical data showed that 295.8% of deaths per 100,000 population in Malaysia were due to cardiovascular disease (WHO | Global Health Observatory (GHO) data, 2019). It is also estimated that around 450,000 deaths worldwide are caused by sudden cardiac death (Stecker et al., 2014). A poor electrical conduction system of the heart is seen as a critical issue and can result in death or cause complications such as congestive heart failure (Burri & Varma, 2013). Currently, the problem of heart rhythm can be treated with the use of a permanent pacemaker (PPM) which helps the heart when the rate of heart rhythm drops below 60 per minute. It acts as an artificial sino-atrial node and helps drain the heart's electrical system to raise the heart rate to 60 beats per minute (Boink, Christoffels, Robinson, & Tan, 2015). Nurses should play a role in caring for patients with PPM, through updating knowledge of pacemaker by attending continuous training and education to ensure comprehensive care (Humphreys, 2013). The knowledge of pacemaker management is very crucial, and a key factor to

ensure that the patients are fully informed and understand about the pacemaker. Nurses are reported to have a key role to liaise with the multidisciplinary team in providing information to patients and family members before surgery (Riley, 2015).

The pacemaker will be part of the patient's life expectancy and, therefore, the assessment of patient and caregiver knowledge is important to prevent early complications and dysfunction and that immediate treatment can be provided (Hatchett & Thompson, 2002). The pacemaker is also reported to induce musculoskeletal attention of the diaphragm, the pectoral or the intercostal muscles due to normal extracardiac stimulation (Rasmussen & Pareek, 2014). The implantation of pacemaker is also reported in reducing the incidence of falls, fall-related fractures and fall-related injuries among patients with sinus node dysfunction (Brenner et al., 2017). These ongoing updates and challenges among patients with pacemaker indicate the need for nurses to update their knowledge. Currently, there is no research on nurses' knowledge of pacemaker management in the local context. It is very crucial to identify the basic information related to the knowledge of nurses to provide ongoing awareness of the updated information of pacemaker. Therefore, this study was conducted to measure the level of knowledge among nurses regarding the management of patients with pacemaker implantation.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted. All nurses at cardiology related clinical area (coronary care, intensive care, cardiac rehab ward, invasive cardiac catheterization lab, and non-invasive cardiac lab) were purposively sampled to determine their levels of knowledge concerning pacemaker in one of the hospitals in Kelantan.

The questionnaires used in this study were adapted from HadiAtiyah (2016) through back and forward translation process by a group of three content experts to ensure the reliability and validity of the questionnaire. The questionnaire contained two parts: Part A, Sociodemographic Data; Part B, Knowledge. For demographic data, gender, age, marital status, education level, job placement, level of qualification and length of service in years were asked. The Part B questions (10 items) were related to nurses' knowledge, including the basic concepts of pacemaker, information on pacemaker and temporary pacemaker (TPM) as well as basic nursing knowledge. Responses to the statements were measured using a 5-point Likert scale: "strongly agree," "agree," "not sure," "disagree," and "strongly disagree." A pilot study was conducted to determine whether the instrument used in the measurement has high reliability and validity. The pilot study was conducted using 10 nurses and revealed a Cronbach's alpha value of 0.7. If the Cronbach's alpha value reaches 0.5 and above, it shows that the research questions are appropriate and applicable (Bowling, 2002). The higher the value of the reliability of a measuring item, the better the outcome is.

Data collection procedure: After obtaining ethical approval [OUM/5.7/2.1.1/469.3/303-17(006)], we executed the study for six months beginning February 2017. All nurses aged 20 years and above with a minimum of six months of clinical experience were purposively selected in the respective area and approached to participate in this study. We used Krejcie and Morgan sample size scheduling as a means of calculating sample size for this study (Krejcie & Morgan, 1970). According to the table, the sample size is based on the study population (70 nurses) and the sample size required is 59 people. The researcher distributed the questionnaire to 70 respondents and all respondents returned the completed questionnaire in response. Before the data collection, written consent was obtained from respondents. The respondents answered the questionnaire themselves, which took about seven to ten minutes. The respondents returned the completed questionnaires to the researcher, who checked them.

All data collected were kept confidential. The data were analysed using SPSS version 24, and the descriptive analysis results were presented in tables as frequency and percentage for the distribution of the data. Pearson's correlation coefficient was used to measure the relationship between knowledge and demographic characteristics. The results for associations between variables are also presented in tables, interpreted based on the significant p-value of $\alpha = 0.05$.

RESULTS

Table 1. Sociodemographic Data of Respondents (n = 70)

Variable	(*n*)	(%)
Gender		
Male	28	40.0
Female	42	60.0
Age		
20-34	38	54.3
35-54	32	45.7
Marital status		
Single	45	64.3
Married	25	35.7
Level of education		
Diploma	48	68.6
Bachelor's degree	17	24.3
Master's degree	5	7.1
Specialisation course		
With post-basic	32	45.7
Without post-basic	38	54.3
Length of service		
<5 years	4	5.7
5-10 years	29	41.4
11-20 years	27	36.6
>21 years	10	14.3

Table 2. Level of Knowledge Regarding Pacemaker (n=70)

Level	Frequency (*f*)	Percentage (%)
High	13	18.6
Moderate	34	48.6
Low	23	32.9

Table 3. Correlation between Knowledge Score and Sociodemographic Data

Knowledge score

	Coefficient, r	P-value	Mean	Standard deviation (SD)
Gender	- 0.86	0.481	1.60	0.49
Age	0.301*	0.011	2.45	0.5
Marital status	-0.122	0.315	1.36	0.48
Level of education	0.265*	0.027	1.38	0.62
Specialisation course	-0.220	0.067	1.54	0.50
Length of service	0.289*	0.015	2.61	0.80

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

Table 1 presents the detailed distribution of sociodemographic data among the respondents. This study included a total of 70 respondents, more than the required by the estimated minimum sample size of 59. There were 42 female respondents (60%), age range from 20-34 years was 38 (54.3%). For the level of education, 48 respondents obtained diploma (68.6%) while 32 (45.7%) respondents have specialisation certificate in cardiac nursing. For distribution of service, this was less than five years (n=4, 5.7%), five to ten years (n=29, 41.4%), 11-20 years (n=27, 36.6%) and more than 21 years (n=10, 14.3%).

Meanwhile, regarding knowledge of pacemaker, a questionnaire with a total of ten questions measured the level of knowledge on pacemaker. As presented in Table 2, almost half of the respondents have a moderate score (n=13, 48.6%), while a total of 13 respondents achieved a high score (18.6), and 23 respondents (32.9%) has a low score, particularly in information on the device.

Table 3 shows the results of sociodemographic data and level of knowledge in detail. Based on the data analysis using a Pearson correlation test, there was a significant association between age and knowledge: r = 0.301, p = 0.011; level of education and knowledge: r=0.265, p= 0.027; and length of service: r=0.289, p=0.015, while gender, marital status and specialisation course have no association with the level of knowledge regarding pacemaker among nurses.

DISCUSSION

This study indicated that the level of knowledge among nurses about the management of pacemaker is low to moderate. Most nurses in this study generally need to increase their knowledge about patient management with pacemakers, particularly information about the device, as compared to another study in Iraq (HadiAtiyah, 2016). Nurses need to educate the management of a patient with a cardiac problem, including a pacemaker. The development of professionalism is an activity that enhances the level of competence in terms of knowledge, skills and attitudes and the effectiveness of an individual's role in performing any given any task (Mohd Yusoff, Firdaus, Jamaludin, & Che Hasan, 2019).

Continuous education is needed to enhance the level of knowledge, skills and competencies in the treatment of patients. Similar to a study in Egypt, nurses' knowledge and practices related to patient management and cardiac implantation devices are still unsatisfactory, while nurses' knowledge levels are low (Ali, Youssef, Mohamed, & Hussein, 2014). The study has concluded that the source of knowledge of nurses regarding cardiac implantation device in relation to the topic is inconsistent with the nursing curriculum and has a profound impact on nurses' knowledge of cardiac implantation. Meanwhile, the lack of exposure and co-operation between each of the team disciplines led to the failure of nurses to have extensive knowledge of management of a patient with cardiac implantation devices. In addition, most nurses had low knowledge prior to the tests and satisfactory results after the tests on nurses as reported (Mahramus et al., 2013).

Moreover, it is important for nurses to have the knowledge and skills of cardiac implantation and specific care for patients with cardiac implantation (Ali et al., 2014). This finding is supported by Faisal in which he also recognised that nurses' knowledge and skills play a key role in providing counselling and care to patients requiring cardiac implantation so as to enable nurses to meet the complex needs (Ameen, 2017). Therefore, the need for nurses to receive ongoing training and education is very crucial.

Through bivariate analysis, this study also revealed that age and length of service play a significant role in influencing nurses' knowledge for the management of patients with pacemaker. Most nurses are from the age group of 20- 34 years and have less work experience. This is supported by another study where, through their research on the practice and perception of delirium in intensive care units in Egypt, studies show 75% of respondents are within the range of this study (Ali Elfeky & Shoeib Ali, 2013).

From the findings, we recommended some strategies to improve nurses' knowledge of management of patients with pacemaker. Firstly,

continuous nursing education regarding pacemaker among nurses with the collaboration of cardiologists to help further understandings of the nature of pacemaker and its relatedness. This could promote the development of a positive patient safety culture among healthcare professionals (Nurumal, Sabran, Hamid, & Hasan, 2020). Researchers involved in the study also should consider cultural context as, in Malaysia, many issues involving cultural surroundings were reported (Aris, Sulaiman, & Che Hasan, 2019; Mohd Sharif, Che Hasan, Che Jamaludin, & Zul Hasymi Firdaus, 2018). Secondly, interprofessional learning activities could also be done to engage with the understanding of the management of pacemaker in the different fields, namely cardiovascular technologist, pharmacy, nutrition and therapist. Such instances could lead the nurses to understand and be able to adjust the mode of pacemaker and the process of checking the specific pacemaker function, maintenance and follow-up of pacemakers and routine checks for patients. Thirdly, regular assessment for nurses regarding the care of patients with cardiovascular problems, particularly pacemaker, in all cardiology-related units. It could lead to provide good practice of working, improve skills, and update the knowledge from time to time. Limitation of this study could be the small number of sample size and focusing only on one hospital.

CONCLUSION

As a conclusion, the level of knowledge among nurses regarding pacemaker is moderate which requires a numbers of actions to increase the level. Level of education and length of service indicated the need for continuous education to promote understanding of the management of patients with pacemaker in general and provide full support to patients in need. Further bigger scale research in different settings also is suggested to generalise the findings.

REFERENCES

Ali Elfeky, H., & Shoeib Ali, F. (2013). Nurses' Practices and Perception of Delirium in the Intensive Care Units of a Selected University Hospitals in Egypt. *Journal of Education and Practice*, *4*(19), 61-70. Retrieved from www.iiste.org

Ali, N. S., Youssef, W., Mohamed, A., & Hussein, A. (2014). Nurses' knowledge and practice regarding implantable cardiac devices in Egypt. *British Journal of Cardiac Nursing*, *10*(1), 551-557. https://doi.org/10.12968/bjca.2015.10.1.34

Ameen, F. (2017). Knowledge of Cardiology Nurses, Regarding Care of Patients with Permanent Pacemakers and Implantable Cardioverter Defibrillators in Karachi Pakistan. *Prehospital and Disaster Medicine, 32*(1), S148-S149. https://doi.org/10.1017/s1049023x17004095

Aris, A., Sulaiman, S., & Che Hasan, M. K. (2019). The influence of music therapy on mental well-being among postoperative patients of total knee arthroplasty (TKA). *Enfermeria Clinica, 29*(2), 16-23. https://doi.org/10.1016/j.enfcli.2019.04.004

Boink, G. J. J., Christoffels, V. M., Robinson, R. B., & Tan, H. L. (2015). The past, present, and future of pacemaker therapies. *Trends in Cardiovascular Medicine, 25*(8), 661-673. https://doi.org/10.1016/j.tcm.2015.02.005

Bowling, A. (2002). *Research methods in health : investigating health and health services*. Open University Press.

Brenner, R., Ammann, P., Yoon, S.-I., Christen, S., Hellermann, J., Girod, G., … Kühne, M. (2017). Reduction of falls and fractures after permanent pacemaker implantation in elderly patients with sinus node dysfunction. *Europace : European Pacing, Arrhythmias, and Cardiac Electrophysiology : Journal of the Working Groups on Cardiac Pacing, Arrhythmias, and Cardiac Cellular Electrophysiology of the European Society of Cardiology*, *19*(7), 1220–1226. https://doi.org/10.1093/europace/euw156

Burri, H., & Varma, N. (2013). Remote device management in patients with cardiac complaints. *Cardiac Electrophysiology Clinics, 5*(3), 337-347. https://doi.org/10.1016/j.ccep.2013.05.005

HadiAtiyah, H. M. D. H. (2016). *Nurses, Knowledge Concerning an Implantation Pacemaker For Adult Patients with Cardiac Rhythm Disorder at Al-Nassirrhyia Heart Center*.

Hatchett, R. P., & Thompson, D. R. (2002). *Cardiac nursing : a comprehensive guide*.

Humphreys, M. (2013). *Nursing the Cardiac Patient*. Blackwell. https://doi.org/10.1002/9781118785331

Krejcie, R. V., & Morgan, D. W. (1970). *Determining Sample Size for Research Activities*. *Educational and Psychological Measurement, 30*(3), 607-610.

Mahramus, T. L., Penoyer, D. A., Sole, M. Lou, Wilson, D., Chamberlain, L., & Warrington, W. (2013). Clinical nurse specialist assessment of nurses' knowledge of heart failure. *Clinical Nurse Specialist, 27*(4),198-204. https://doi.org/10.1097/NUR.0b013e3182955735

Mohd Sharif, N. A., Che Hasan, M. K., Che Jamaludin, F. I., & Zul Hasymi Firdaus, M. K. (2018). The need for first aid education for adolescents. *Enfermería Clínica*, *28*(Supplement 1), 13–18. https://doi.org/10.1016/S1130-8621(18)30028-7

Mohd Yusoff, N. S., Firdaus, M. K. Z. H., Jamaludin, F. I. C., & Che Hasan, M. K. (2019). The need for educating healthcare professionals regarding good musculoskeletal health practice. *Enfermería Clínica, 29*(2),579-584. https://doi.org/10.1016/j.enfcli.2019.04.089

Nurumal, M. S., Sabran, N. M., Hamid, S. H. A., & Hasan, M. K. C. (2020). Nurses' Awareness on Patient Safety Culture in A Newly Established University Hospital. *Jurnal Keperawatan Indonesia*, *23*(2). https://doi.org/10.7454/jki.v0i0.1088

Rasmussen, I. K. B., & Pareek, M. (2014). A video demonstration of pacemaker-induced pectoral

muscle stimulation. *BMJ Case Reports*. https://doi.org/10.1136/bcr-2013-200697

Riley, J. (2015). The Key Roles For The Nurse In Acute Heart Failure Management. *Cardiac Failure Review, 1*(2), 123-127. https://doi.org/10.15420/cfr.2015.1.2.123

Stecker, E. C., Reinier, K., Marijon, E., Narayanan, K., Teodorescu, C., Uy-Evanado, A., … Chugh, S. S. (2014). Public health burden of sudden cardiac death in the United States. *Circulation: Arrhythmia and Electrophysiology, 7*(2), 212–2 . https://doi.org/10.1161/CIRCEP.113.001034

WHO. (2020). *Cardiovascular diseases (CVDs).* Retrieved from World Health Organisation website: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)

WHO | Global Health Observatory (GHO) data. (2019). *WHO*.

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Original Research

Reducing Labor Pain Intensity within First Stage Active Phase through Hegu LI 4 Acupressure and Quranic Recital Method

Nurul Azizah, Rafhani Rosyidah, and Hanik Mahfudloh

Faculty of Health Science, Universitas Muhammadiyah Sidoarjo, Indonesia

ABSTRACT

Introduction: Labor pain is one of the greatest pains experienced by a woman in their life. The purpose of this study was to examine the effectiveness of acupressure and Quranic recital on labor pain reduction.

Methods: The study design uses quasi-experiment with comparison between pretest and posttest on non-equivalent control group. Samples were as many as 30 laboring mothers in each group, totaling 60 samples who had been chosen through consecutive sampling technique. The labor pain was assessed through the NRS (Numeric Rating Scale) then analyzed univariately with mean and standard deviation, followed by independent T-sample statistical test such as bivariate analysis.

Results: The average pain reduction score in the Hegu LI 4 acupressure group was higher than the Quranic recital of Surah Ar-Rahman group. The acupressure group average pain reduction was 3.03 ± 0.718 while the Quranic recital group was 2.57 ± 1.006. The difference in the average score of independent T-test was significant with the P < 0.007 and 95% C.I. -0.919-(-0.015)

Conclusion: Hegu LI 4 acupressure and Quranic recital of Surah Ar-Rahman treatments were promising and may be utilized to reduce labor pain intensity within labor's first stage active phase. Hegu LI 4 acupressure group had a greater reduction in labor pain intensity than the Quranic recital of Surah Ar-Rahman group. This study suggests that Hegu LI 4 can be utilized to reduce labor pain as a non-pharmacological therapy.

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CONTACT

Nurul Azizah
nurulazizah@umsida.ac.id
Faculty of Health Science, Universitas Muhammadiyah Sidoarjo, Indonesia

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INTRODUCTION

Pain is a complicated and subjective experience, as it is within the scope of physiological and psychological interaction. Labor pain is the greatest pain experienced by most woman in their lifespan (Yazdkhasti & Pirak, 2016). Labor pain is the reaction between the uterine muscle contractions which normally happens in labor process. Contraction is intended to give a push to the fetus and opening the birth canal. The resulting effect is that the majority of mothers cannot tolerate this kind of pain, and are mainly affected by stress, fear, tension, and pain (Larasati & Alatas, 2016). The increasing of mothers' pain perceptiveness results in the mothers' panic level and then begging for a quick labor process, some of them request pain relief medicine, others even request unneeded surgical operations out of fear (Jones et al., 2012).

Heavy labor pain may induce weak uterine contraction, resulting in longer labor process and increasing the risk of hemorrhage (Lozada et al., 2018). In Indonesia, hemorrhages are one of the biggest contributing factors in the mothers' fatality rate aside from preeclampsia/eclampsia and infection (Kemenkes, 2018). Labor pain can be reduced with pharmacological and non-pharmacological methods (Asadi et al., 2015), and wider cervical opening will commonly heighten labor pain (Hawkins, 2010). Pharmacological methods have better effects in treating labor pain, but this treatment can only be done with authorized medical doctors while having more expensive costs (Lozada et al., 2018). The non-pharmacological methods have minimal side effects with cheaper cost or even no

additional costs while having the same effectiveness in reducing labor pain. Even so, non-pharmacological methods need to be standardized (Gayesi & Brüggemann, 2010); non-pharmacological approaches, especially acupressure, still need to be researched and expanded further before becoming a standard in addressing labor pain (Robinson et al., 2011).

Mothers' pain experienced in the labor process is unique and natural. The administration and surveillance of labor pain, especially in the first stage active phase is crucial, as it is the determining point of whether the labor process is considered normal or must be ended with interventions because of complications from severe pain (Zhang et al, 2010). The approach of labor pain management increasingly depends on pharmacological methods. Because of side effects on mothers and fetuses, the use of non-pharmacological methods is also increasingly popular (Schlaeger et al., 2017) According to a systematic review by Rahimi et al. (2018), non-pharmacological methods are effective, but the processes are not well defined and standardized.

Acupressure is a non-pharmacological method to relieve pain and included in the Traditional Chinese Medicine (TCM); it is considered as a non-invasive method and based on acupuncture principles (Shahali & Kashanian, 2010). TCM considers the human body as a united channel to transmit energy (meridian). Each of specific points in human body pass through a meridian line (Zhang et al., 2010). Recent studies from Schlaeger et al. (2017) and Rahimi et al. (2018) showed that acupuncture could reduce pain and anxiety in the labor process. There are many acupressure points in human body, and every point has different effect in the body. Acupressure could also increase the production of endorphin hormones which function as a painkiller. To reduce pain, there are several acupressure points that could be pressed. One of them is the LI 4 (Hegu) point (Gönenç & Terzioğlu, 2020).

Non-pharmacological therapy to relieve pain may also be administered through distraction techniques, one of which is listening to Quranic verses. This therapy stimulates delta brainwave which makes the listener feel comfort and tranquil (Wirakhmi et al., 2018). Quran recital therapy with correct rhythm and pronunciations will result in the decrease of anxiety level, Ghofar (2012) confirmed that 65% of therapy subjects felt a sense of tranquility and anxiety reduction, while Elzaky (2011) concluded that listening to Quranic recital of Surah Ar-Rahman transmits a soundwave which affects the movements of human cells; it is also activates pain pressure lanes and is succeeded by electrical stimulation of the substantia grisea cerebri in waking the analgesic neurotransmitter (endorphin, encephalin, dinorphin) which acts as pain suppressor. Surah Ar-Rahman is a chapter in the Quran believed to have medicinal properties if being listened to repeatedly with the correct recital (Wahida et al., 2015). Surah Ar-Rahman also has repetitive verses which give

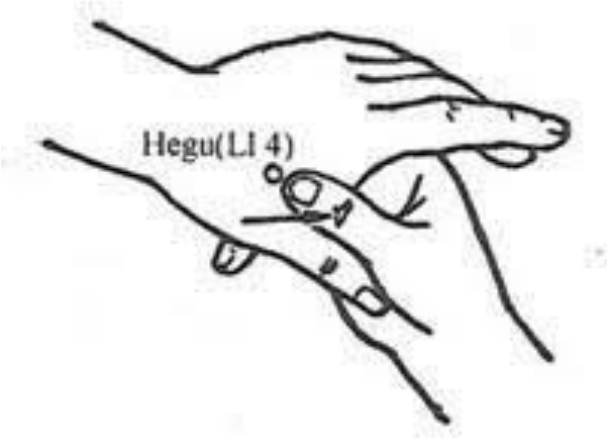

Figure 1. Hegu LI 4 Pressure Point

accentuated rhythm to the listeners. As repetitive verses can be appealing and behave as hypnosis, so patients brainwaves will attune into the rhythm and increase the production of serotonin and endorphin, which gives relaxing, serene, and delighting effects (Wahida et al., 2015).

Music may also be used to minimize labor pain, as music may give energy and subliminal commands through its rhythm; music with an appropriate tempo may help mothers to regulate their breathing in labor process. Classical music is commonly used to distract pain perception. Faradisi, (2012) proved that music could reduce anxiety, stress level, bad emotions and physical pain, and relax the muscles. Our study aims to assess the effectivity of Hegu LI 4 acupressure point with Quranic recital intervention of Surah Ar-Rahman in reducing labor pain intensity within the first stage active phase

MATERIALS AND METHODS

The study uses quasi experimental design with non-equivalent control group design, which means the subjects grouping was not random. In this design, we compare Hegu LI 4 acupressure group with Surah Ar-Rahman Quranic recital group. 30 laboring mothers were treated with Hegu LI 4 acupressure within 10 minutes in the Hegu spot in the right/left hand, while the other 30 laboring mothers were treated with Quranic recital of Surah Ar-Rahman with MP3 device within 20 minutes. These two groups were compared with pretest, intervention, and posttest questionnaire.

Study population was the entirety of mothers within the first stage active phase labor process who fulfilled all inclusion criteria. The criteria were normal labor with gestational period ≥ 37 weeks old, single gestation, head presentation, no labor induction, within first stage active phase (4-6 cm cervical opening), adequate his (uterine contractions > 3 times in 10 minutes with contraction time > 40 seconds), labor process supported with the husband or family, and not using pharmacological administration in reducing pain. Samples used are 30

Table 1. Respondents' Demographics and Characteristics

Variables	Hegu LI 4 Acupressure Mean ± SD	Quranic Recital of Surah Ar-Rahman Mean ± SD	p
Age	26.73 ± 4.386	25..63 ± 5.524	0.156
Parity	1.60 ± 0.675	1.53 ± 0.123	0.804
Anxiety	11.50 ± 5.557	11.93 ± 4.697	0.251
Pain score before intervention	6.30 ± 0.988	6.33 ± 0.988	0.219

Table 2. Intervention Effect to Labor Pain Level

Interventions	Pain Level		Pretest - Posttest	mean	95% C.I.	p
	Pretest Mean ± SD	Posttest Mean ± SD				
Quranic Recital of Surah Ar-Rahman	6.33 ± 1.184	3.77 ± 1.073	2.57 ± 1.006	-0.46	-0.919-(-0.015)	0.007
Hegu LI 4 Acupressure	6.30 ± 0.988	3.27 ± 0.785	3.03 ± 0.718			

laboring mothers in each group, amounting to 60 samples.

Samples were gathered using non-probability sampling with consecutive sampling technique, meaning that samples were chosen through determining subjects who fulfilled the study criteria and treated within a set elapsed time until the number of subjects was enough.

Data were collected with direct observations on mothers who were within labors' first stage active phase; mothers were given pretests (preliminary observations) before proceeding with interventions of Hegu LI 4 acupressure in the first group and Quranic recital of Surah Ar-Rahman in the second group, followed by posttest (final observation). The intervention of Hegu LI 4 acupressure was done by the researchers, who had a level 4 acupressurist certificate of competency. Enumerators gave information to the researchers if there were laboring mothers who met the criteria and were willing to become study respondents. The intervention of the Quranic recital of Surah Ar-Rahman was done by enumerators with the recorded recital provided by the researchers. The administrations of Hegu LI 4 acupressure and Quranic recital were done after the mothers entered the delivery room, had cervical opening checked, and signed the informed consent. Each administration was carried out for 20 minutes. Both groups were given a Numeric Rating Scale (NRS) pain scale to assess the difference between the value of pretest and posttest. Data are presented within average standard deviation table and followed by normality test. Data are further analyzed with independent T-Test for bivariate regression using significance rate $\alpha = 0.05$.

RESULTS

Univariate analysis is used to analyze respondent characteristic distributions. Using 60 mothers as respondents divided in two groups, distribution characteristics can be seen in Table 1.

From Table 1 we can stipulate that the comparability of subjects are homogenous and comparable. All variables in Table 1 do not have a significant difference ($P > 0.05$), implying that data are equitably distributed before the study progressed further.

According to Table 2 the average score of labor pain reduction in the Quranic recital group is 2.57 ± 1.006, whereas the acupressure Hegu LI 4 group score is 3.03 ± 0.718. From the independent sample T-test, the resulting score is 0.919-(-0.015) with $P < 0.007$ under confidence interval of 95%. To summarize, the decrease of labor pain score is greater in the Hegu LI 4 acupressure group, implying the effectiveness of acupressure statistically and clinically.

Figure 2 summarizes the comparison of labor pain intensity between intervention groups. Overall, two groups have a decreasing score in labor pain intensity from the pretest to posttest, but the Hegu LI 4 acupressure group has a greater decrease in labor pain than the Quranic recital of Surah Ar-Rahman group

DISCUSSION

Acupressure intervention in Hegu LI 4 could increase the level of endorphin hormones. Endorphin has an effect in pain relief (Hamidzadeh et al., 2012). Gate control theory explains that pain is transmitted by nerve fibers to the spinal cord before being transmitted to the brain. Synapses in the dorsal horn act as a closed gate to maintain impulses before reaching the brain. According to gate control theory, nerve fibers which have small diameters and carry pain stimuli from the nerves to the same gate could hinder the transmission of pain impulses through closing the gate (Kashanian & Shahali, 2010).

Gate control theory also explains that, while labor is going on, pain impulses are transmitted from the uterus all along the large nerve fibers to the upper level of gelatinous substance in the spinal column and transmission cells project a pain message to the brain. The presence of stimuli renders the opposing message to become stronger and faster while transmitted in the gelatinous small nerve fibers, then

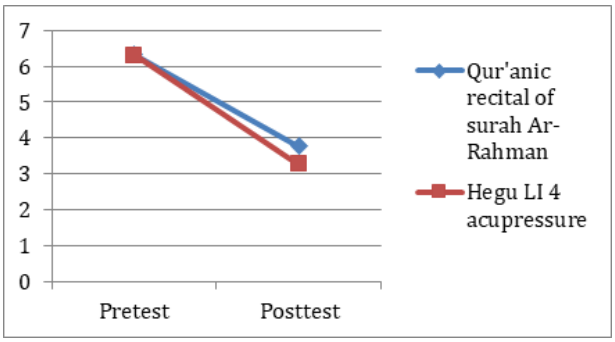

Figure 2. Comparison of Labor Pain Decrease

hindering the pain message so the brain does not process it (Koyyalamudi et al., 2016).

The administration of Hegu LI 4 acupressure is suspected to stimulate Ad fibers which inject into medulla spinalis. This process makes a segmental inhibition from pain stimuli which is inducted by C fiber in the other side of medulla spinalis. The resulting message will stimulate mechanoreceptors (Hamidzadeh et al., 2012). If the dominant impulses are induced from Delta A and C membranes, it will open said defenses which make mothers to perceive pain. But, if the pain is transmitted to the brain, the higher cortex center in the brain will modify pain perception (Schlaeger et al., 2017). Existing pressure in the Hegu LI 4 could help endorphin discharge in the body. Dabiri et al. (2014) also confirm that Hegu LI 4 acupressure could reduce the duration of labor's first stage.

Music can be utilized to minimize labor pain, as music gives energy and a message through the music's rhythm, so appropriate tempo can help mothers to regulate their breathing in labor. Commonly used music in pain distraction is classical music. Several studies prove that listening to music, especially classical music, can reduce the level of anxiety, stress, emotion, and physical pain. Music can be utilized as a pain reduction by countering stress and loosening flexed muscles as a reaction to the pain (Y.H. et al., 2010)

According to Wahida et al/ (2015), the application of Quranic recital of Surah Ar-Rahman as a therapy is proven effective in increasing the level of β-endorphin, which reduces pain intensity to laboring mothers; a recital with slow tempo with deep appreciation can induce a relaxing sensation. β-endorphin is a neuropeptide which consists of 31 amino acids produced by the hypophysis gland from the splitting of proopiomelanocortin (POMC) (Kovalitskaya & Navolotskaya, 2011). Endorphin is produced naturally by the body and has the ability to inhibit pain transmission, so pain level is reduced (Fraser & Cooper, 2009).

Another contributing factor is the belief of Al-Quran as a holy book which contains God's commandments and life guidance for Muslims. Listening to Quranic recital can give someone a feel of being closer to God's presence, and unconsciously makes the listeners submit themselves to God, which boosts a relaxing feel, suppressing anxiety and increasing β-endorphin level as a pain suppressor (Faradisi, 2012).

Quranic recital which contain human voice harmonic melody is a good healing instrument, as listening to harmonic melody can induce a comforting feel and naturally increase the endorphin level, affecting the suppression of stress, fear, and anxiety hormones (Särkämö et al., 2014). As supported by this study, the therapy of Quranic recital of Surah Ar-Rahman for 25 minutes can reduce the first stage active phase labor pain.

CONCLUSION

Hegu LI 4 acupressure and Quranic recital of Surah Ar-Rahman is proven to be used as a pain reductor in treating the first stage active phase labor pain. Acupressure group has a greater pain reduction level than Quranic recital group. The study result recommends that Hegu LI 4 acupressure can be utilized in addressing labor pain non-pharmacologically.

REFERENCES

Abdul Ghofar, L. N. (2012). *he Influence Of Playing Therapy And Music Therapy (Listening Al-Qur'an : Juz Amma) To Anxiety Respond At Toddler*.

Faradisi, F. (2012). Efektifitas Terapi Murotal dan Terapi Musik Klasik terhadap Penurunan Tingkat Kecemasan Pasien Pra Operasi di Pekalongan. *Jurnal Psikologi Stikes Muhammadiyah Pekajangan Pekalongan*. https://doi.org/10.1533/9780857096326.index

Fraser, D. M., & Cooper, M. A. (2009). Buku ajar bidan myles. *Jakarta: EGC*.

Gönenç, I. M., & Terzioğlu, F. (2020). Effects of Massage and Acupressure on Relieving Labor Pain, Reducing Labor Time, and Increasing Delivery Satisfaction. *The Journal of Nursing Research : JNR*. https://doi.org/10.1097/jnr.0000000000000344

Hamidzadeh, A., Shahpourian, F., Orak, R. J., Montazeri, A. S., & Khosravi, A. (2012). Effects of LI4 Acupressure on Labor Pain in the First Stage of Labor. *Journal of Midwifery and Women's Health*. https://doi.org/10.1111/j.1542-2011.2011.00138.x

Jones, L., Othman, M., Dowswell, T., Alfirevic, Z., Gates, S., Newburn, M., Jordan, S., Lavender, T., & Neilson, J. P. (2012). Pain management for women in labour: an overview of systematic reviews. *Cochrane Database of Systematic Reviews*. https://doi.org/10.1002/14651858.cd009234.pub2

Kashanian, M., & Shahali, S. (2010). Effects of acupressure at the Sanyinjiao point (SP6) on the process of active phase of labor in nulliparas women. *Journal of Maternal-Fetal and Neonatal Medicine*. https://doi.org/10.3109/14767050903277662

Kovalitskaya, Y. A., & Navolotskaya, E. V. (2011). Nonopioid effect of β-endorphin. In *Biochemistry (Moscow)*. https://doi.org/10.1134/S0006297911040018

Koyyalamudi, V., Sidhu, G., Cornett, E. M., Nguyen, V., Labrie-Brown, C., Fox, C. J., & Kaye, A. D. (2016). New Labor Pain Treatment Options. In *Current Pain and Headache Reports*. https://doi.org/10.1007/s11916-016-0543-2

Larasati, T., & Alatas, F. (2016). Dismenore Primer dan Faktor Risiko Dismenore Primer pada Remaja. *Majority*.

Rahimi, F., Goli, S., Soltani, N., Rezaei, H., & Amouzeshi, Z. (2018). Effects of Complementary Therapies on Labor Pain: A Literature Review. *Modern Care Journal*. https://doi.org/10.5812/modernc.69306

Särkämö, T., Tervaniemi, M., Laitinen, S., Numminen, A., Kurki, M., Johnson, J. K., & Rantanen, P. (2014). Cognitive, emotional, and social benefits of regular musical activities in early dementia: Randomized controlled study. *Gerontologist*. https://doi.org/10.1093/geront/gnt100

Schlaeger, J. M., Gabzdyl, E. M., Bussell, J. L., Takakura, N., Yajima, H., Takayama, M., & Wilkie, D. J. (2017). Acupuncture and Acupressure in Labor. In *Journal of Midwifery and Women's Health*. https://doi.org/10.1111/jmwh.12545

Shahali, S., & Kashanian, M. (2010). Effect of acupressure at the Sanyinjiao point (SP6) on the process of active phase of labor in nulliparas women. *Journal of Babol University of Medical Sciences*. https://doi.org/10.1080/14767050903277662

Wahida, S., Andarini, S., & Nooryanto, M. (2015). Al Qur ' an Surah Arrahman Recital Therapy Increase β -Endorphin Levels and Reduce Childbirth Pain Intensity on A. *Journal Kedokteran Brawijaya*.

Wirakhmi, I. N., Utami, T., & Purnawan, I. (2018). Comparison of Listening Mozart Music With Murotal Al Quran on the Pain of Hypertension Patients. *Jurnal Keperawatan Soedirman*. https://doi.org/10.20884/1.jks.2018.13.3.813

Y.H., L., M.Y., C., & H, C. C. (2010). Effects of music therapy on labour pain and anxiety in Taiwanese first-time mothers. *Journal of Clinical Nursing*.

Yazdkhasti, M., & Pirak, A. (2016). The effect of aromatherapy with lavender essence on severity of labor pain and duration of labor in primiparous women. *Complementary Therapies in Clinical Practice*. https://doi.org/10.1016/j.ctcp.2016.08.008

Zhang, J., Troendle, J., Mikolajczyk, R., Sundaram, R., Beaver, J., & Fraser, W. (2010). The natural history of the normal first stage of labor. *Obstetrics and Gynecology*. https://doi.org/10.1097/AOG.0b013e3181d55925

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Original Research

Model Theory of Planned Behavior to Improve Adherence to Treatment and the Quality of Life in Tuberculosis Patients

Made Mahaguna Putra[1], Ni Putu Wulan Purnama Sari[2]

[1] School of Health Sciences Buleleng, Bali, Indonesia

[2] Widya Mandala Catholic University Surabaya, Indonesia

ABSTRACT

Introduction: Tuberculosis (TB) is a global public health problem and a leading cause of death from infectious diseases. The research objective was to determine the relationship between the theory of planned behavior, adherence and quality of life using the path model.

Methods: This study employed a cross-sectional design with 154 tuberculosis patients. The research was conducted in all community health centers in the Buleleng, Bali. Data on subjective norms, attitudes, perceived behavior control, intention, physical and mental HRQoL domains and medical adherence were collected. Data were analyzed using a descriptive and structural equation model feature using structural equation model.

Results: Most respondents have attitudes in the positive category and subjective norms in the good category. Perceived behavior is control in the good category, intentions in the good category and physical health in the good category. Almost all respondents have mental health in the good category and are married. All respondents in this study had adherence to treatment. The influence of subjective norms on intentions (p = <0.01), the influence of intentions on adherence (p = <0.01) and the effect of adherence on quality of life (p = <0.01) were found.

Conclusion: Subjective norms are the most important part to influence intention. Adequate TB treatment causes HRQoL to improve.

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CONTACT

Made Mahaguna Putra
md.mahagunaputra@gmail.com
School of Health Sciences
Buleleng, Bali, Indonesia

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INTRODUCTION

Tuberculosis (TB) remains a major cause of health problems. Worldwide, around 10 million people are diagnosed with TB each year. There were 1.2 million (range 1.1-1.3 million) TB deaths among HIV-negative people in 2018. TB is one of the 10 leading causes of death worldwide, and the main cause of TB is an infectious agent (Mycobacterium tuberculosis), ranking above HIV / AIDS (WHO, 2019). Based on the results of the 2013-2014 TB Indonesia Prevalence Survey, the estimated TB prevalence was 1,600,000 cases while the TB incidence was 1,000,000 and the TB mortality was 100,000 cases. In 2018, the second highest case finding was in the Regency of Buleleng at 114.6 per 100,000 population (Dinas Kesehatan Provinsi Bali, 2019).

It was evaluated that, in terms of treatment, medication adherence is one of the main obstacles faced by patients due to adverse reactions, long-term therapy and initial perception of healing, which weakens adherence and contributes to treatment neglect; Therefore, adherence to TB has become a challenge for patients, as well as for health services, and it is necessary to formulate strategies that minimize the difficulties encountered (Carla et al., 2015). Therefore, it is important to consider the social and clinical effects caused by this disease, especially those related to decreased quality of life. It should be understood that the quality of life in people with TB is a meeting of complex elements, such as disease, poverty, and stigma, which are negatively reflected in family life, work, and social activities. It is, therefore, considered important to create professional-patient-

family relationships in care and follow-up, and it is necessary to implement health measures that seek to improve treatment adherence (Farias, Medeiros, Paz, Lobo, & Ghelman, 2013).

Health-related quality of life (HRQoL) is defined as "the extent to which a patient's subjective perception of physical, mental and social well-being by an illness and its treatment"(Dion, Tousignant, Bourbeau, Menzies, & Schwartzman, 2004; Leidy, Revicki, & Genesté, 1999). Patients with chronic diseases value their mental and social wellbeing in addition to physical health (Sherbourne, Sturm, & Wells, 1999). The need to measure HRQoL is important because of the broader concept of measuring health status beyond conventional indicators, such as mortality and morbidity. HRQoL is an indicator of the effects of disease and related morbidity on regular activities and functions. As a result, HRQoL evaluations have become important health outcomes and areas of interest for policy makers, healthcare professionals and researchers. HRQoL evaluation in patients with TB is very important to identify appropriate actions to improve their health status and quality of life (Chamla, 2004).

Thus, one of the main goals in TB control is to reduce the rate of treatment neglect, because stopping treatment causes greater spread of bacilli, because patients remain as a source of transmission, contribute to preventative drugs and increase treatment time and care costs, jeopardizing the quality of life of patients (Chirinos & Meirelles, 2011). We employed the Theory of Planned Behavior as the conceptual framework to guide this process. In a systematic review of guideline implementation studies, it was the most likely theory to predict guideline adherence (Godin, Bélanger-Gravel, Eccles, & Grimshaw, 2008). This theory asserts that intention is the best predictor of behavior and that three factors mediate the strength of intention: (1) attitudes (expected value of behavioral performance); (2) subjective norms (what important others think about the behavior); and (3) self-efficacy (perception of ability to overcome barriers to behavioral performance) (Ajzen, 1985). The lack of research on the application of theory planned behavior on the quality of life of tuberculosis patients made researchers interested in conducting this research. The research objective was to determine the relationship between the theory of planned behavior, adherence and quality of life using the path model.

MATERIALS AND METHODS

This study employed a cross-sectional design with 154 tuberculosis patients who were selected using random sampling. Data collection was conducted from May to September 2019. The research was conducted in all community health centers in the Buleleng. The variables in this study are perceived behavior control, subjective norms, attitude, intention, adherence and quality of life.

The instrument in this study consisted of six questionnaires. a) *Perceived behavior control assessment questionnaire*: A closed questionnaire sheet containing questions about perceived behavioral control based on the development of the theory of planned behavior-based adherence approach model on type II DM clients (Lestarina, 2018) where researchers make modifications to the topic of questions in the questionnaire. The

Table 1. Characteristic of Respondent

Characteristic Respondent	n (%)
Age (Mean ± SD)	50 years ± 13.79
Gender	
Male	92 (40.26)
Female	62 (59.74)
Education level	
No school	7 (4.55)
Elementary school	51 (33.12)
Middle school	70 (45.45)
High school	19 (12.34)
Higher education	7 (4.55)
Employment	
Labor	67 (43.51)
Government employees	6 (3.90)
Not working	40 (25.97)
Entrepreneur	41 (26.62)
Marital status	
Single	12 (7.79)
Married	142 (92.21)
Family size member	
Less than 3 members	52 (33.77)
More than 3 members	102 (66.23)
Socioeconomic status	
< 1 million	57 (37.01)
1-2 million	54 (35.06)
> 3 million	43 (27.92)
Attitude	
Positive	87 (56.49)
Negative	67 (43.51)
Subjective norms	
Good	93 (60.39)
Poor	61 (39.61)
Perceived behavior control	
Good	80 (51.95)
Less	74 (48.05)
Intention	
Good	101 (65.58)
Less	53 (34.42)
Physical health	
Good	113 (73.38)
Less	41 (26.62)
Mental health	
Good	142 (92.21)
Less	12 (7.79)
Adherence to treatment	
Yes	154 (100)
No	0 (0)

Table 2. Characteristic Variable

Variable	n (%)
Attitude	
Positive	87 (56.49)
Negative	67 (43.51)
Subjective norms	
Good	93 (60.39)
Poor	61 (39.61)
Perceived behavior control	
Good	80 (51.95)
Less	74 (48.05)
Intention	
Good	101 (65.58)
Less	53 (34.42)
Physical health	
Good	113 (73.38)
Less	41 (26.62)
Mental health	
Good	142 (92.21)
Less	12 (7.79)
Adherence to treatment	
Yes	154 (100)
No	0 (0)

determination of the questionnaire answers using a 4-point Likert scale consists of eight questions, both if the score ≥ means data and less if the scores ≤ mean data. b) *Subjective norms assessment questionnaire*:A closed questionnaire sheet containing questions about subjective norms based on the development of a theory of planned behavior-based adherence approach model on type II DM clients (Lestarina, 2018). The researcher modified the topic of questions in the questionnaire. The determination of the questionnaire answers uses the 4-point Likert scale and consists of eight questions, both if the score ≥ means data and less if the scores ≤ mean data. c) *Attitude assessment questionnaire*: A closed questionnaire sheet containing questions about attitudinal factors modified from Knowledge and Attitudes on LTBI Treatments Acceptance (Biedenharn, 2015) and the development of a theory of planned behavior-based adherence approach model for type II DM clients (Lestarina, 2018). The researcher modified the topic of questions in the questionnaire. This questionnaire consists of 10 questions. d) *Intention assessment questionnaire*: A closed questionnaire sheet containing questions about intentions / intentions based on the development of the theory of planned behavior-based adherence approach model on type II DM clients (Lestarina, 2018). The researcher modified the topic of questions in the questionnaire. Determination of the questionnaire answers using the 4-point Likert scale consists of six questions, both if the score ≥ mean data and less if the score ≤ mean data. e) *Adherence assessment questionnaire*: The Morinsky Medication Adherence Scale (MMAS) questionnaire was used in the study, which consisted of eight statements (De las Cuevas & Peñate, 2015) which had been translated into Indonesian. Questionnaire answers using the Guttman scale, where respondents' answers are only limited to two answers, "Yes" and "No". The higher the total value indicated the patient is compliant in treatment. f) *Quality of Life assessment questionnaire*: The SF-36v2 was used in the study. This questionnaire consisted of 36 question items consisting of eight scale items of health and welfare function profiles. The following are the detailed questions asked in this questionnaire, namely Physical Functioning (PF) in question number 3, Role-Physical (RP) in question number 4, Bodily Pain (BP) in questions number 7 and 8, General Health (GH) in questions number 1 and 11, Vitality (VT) questions number 9 (a, e, g, i), Social Functioning (SF) in questions number 6 and 10, Role-Emotional (RE) question number 5, Mental Health (MH) question number 9 (b, c, d, f, h) and Self-Evaluated Transition (SET) on question number 2. Two main items assessed are: Physical Health Summary: score 30-70, with an average of 50 and Mental Health Summary: a score of 30-70, with an average of 50. For all scales and summary components, higher scores demonstrate better HRQoL (Zhou et al., 2013).

Data were analyzed using a descriptive and structural equation model feature using STATA software. Ethical approval for this study was obtained from the School of Health Sciences Buleleng Committee of Ethic Research No. 092/EC-KEPK-SB/VII/2019.

RESULTS

Table 1 shows the average age of the respondent is 50 years. Nearly half the respondents have a middle school level of education, work as a laborer, have a socioeconomic status <1 million and most respondents have more than three family members. Table 2 shows most respondent have attitudes in the positive category, subjective norms in the good category, Perceived behavior control in the good category, intentions in the good category and physical health in the good category. Almost all respondents have mental health in the good category and are married. All respondents in this study had adherence to treatment.

Table 2 shows the influence of subjective norms on intention, the effect of intention on adherence and the effect of adherence on quality of life. Goodness of fit results: $\chi 2$: 93.02, RMSEA: 0.220, CFI: 0.673, TLI: 0.464, SRMR: 0.158, AIC: 5640.15. Based on the results of the output goodness of fit statistics, the SEM model developed in this study is not yet good

Table 2. Summary of structural equation model

Variable	z	P
Attitude → Intention	1.39	0.16
Subjective Norms → Intention	6.34	<0.01
Perceived Behavior Control → Intention	-0,58	0.563
Intention → Adherence	2.64	<0.01
Adherence → QoL	14.35	<0.01

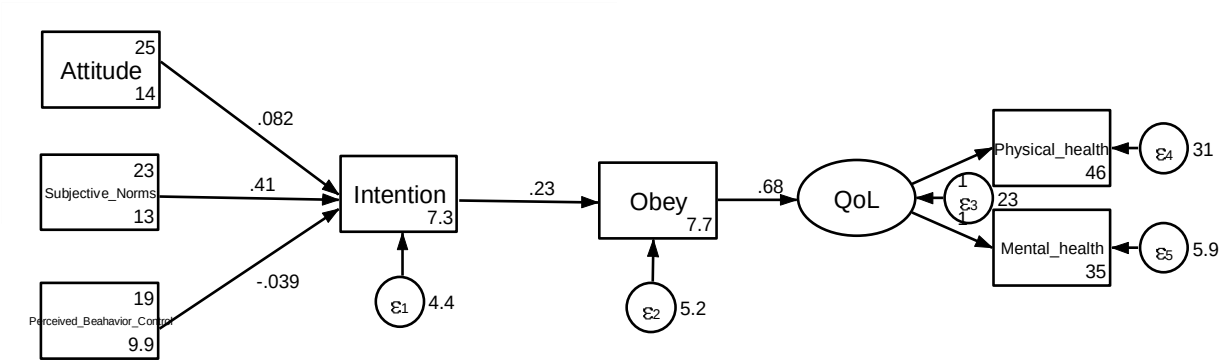

Figure 1. Path model of Relationships Between Variables

DISCUSSION

This study found that all respondents who had medication adherence were influenced by intention. A pulmonary TB patient who has good intentions with high values will have a tendency to adhere to routine treatment. The new knowledge of this research is quality of life is influenced by medication adherence to TB patients. According to Ajzen (2005) intention to perform behavior is a tendency for someone to choose to do / not do something work. This intention is determined by the extent to which the individual has a positive attitude to certain behaviors and the extent to which he chooses to do certain behaviors and he has the support of others who are influential in his life. Intention is a factor that drives how someone has a strong desire to strive for a behavior, if they have the desire / interest to do it. Intention is influenced by attitudes, subjective norms, and perceptions in controlling behavior. Research (Lestarina, 2018) shows that intention has an influence on adherence. Intention / intention is the closest factor that can predict the emergence of behavior (Alberta, Proboningsih, & Almahmudah, 2016). Adherence in taking daily medication is the behavior to adherence the suggestions or procedures from doctors about the use of drugs, which was preceded by the consultation process between patients and doctors as health service providers. Some aspects that are used to measure adherence in taking daily drugs are frequency, number of pills / other drugs, continuity, metabolism in the body, biological aspects in the blood, and physiological growth in the body. The determinants of the emergence of adherence in taking daily medication include: patient perception and behavior, interaction between patient and doctor, and medical communication between the two parties as well as intention to recover (Lailatushifah, 2012).

This study shows that respondents who have medication adherence have good quality of life. After treatment, TB still has an impact on the physical, emotional, psychological, social and economic dimensions of HRQOL (Kastien-Hilka et al., 2016). Significant side effects associated with prolonged pharmacological treatment affect TB patients in health-related quality of life (HRQoL). Thus, successful TB treatment is essential for public health (Park, George, & Choi, 2020). HRQoL is important to consider at three critical points in treatment: at the beginning of TB treatment, during the intensive treatment phase (first two months), and at the completion of treatment (Chirwa et al., 2013). In clinical research, quality of life related to health (HRQL) has become an accepted measure of outcome (Hansel, Wu, Chang, & Diette, 2004) and has been described as an individual's perception of wellbeing in physical, psychological and social aspects (Guo, Marra, & Marra, 2009). Physical and mental stress are common in TB patients and as a result lead to poor disease outcomes or poor treatment outcomes (Babikako, Neuhauser, Katamba, & Mupere, 2010). Physical function reflects the patient's capacity to perform basic daily activities, while psychological health takes into account several aspects of the mood and emotional wellbeing of the individual. This disease also affects nearly half of daily activities among patients with tuberculosis. Most patients are worried, frustrated, or disappointed with the diagnosis, and nearly a quarter initially did not receive their diagnosis (Rajeswari, Muniyandi, Balasubramanian, & Narayanan, 2005). Adequate TB treatment causes HRQoL to improve (Louw, Mabaso, & Peltzer, 2016).

CONCLUSION

TB patients who have good intentions with high scores will have a tendency to adhere to routine treatment. Quality of life is a complex concept which includes physical and mental health. Patients who take adequate TB treatment affect their quality of life,

mentally and physically. In providing health promotion related to medication adherence, community service center nurses must increase the TB patient's intention to seek treatment so that quality of life is good. A limitation in the study was that adherence was observed only once. The study cannot be a reference adherence of TB patients in Indonesia.

REFERENCES

Ajzen, I. (1985). From intention to action: A theory of palnned behavior. In J. Kuhl & J. Beckmann (Eds.), *springer series in social psychology* (pp. 11–39). Heidelberg: Springer.

Ajzen, I. (2005). *Attitudes, Personality and Behavior : Second Edition*. Poland: Mc Graw Hill.

Alberta, L. T., Proboningsih, J., & Almahmudah, M. (2016). The Improvement of Low Salt Diet Behavior based on Theory of Planned Behavior on Elderly with Hypertension. *Jurnal NERS*, *9*(2), 297. https://doi.org/10.20473/jn.v9i22014.297-304

Babikako, H. M., Neuhauser, D., Katamba, A., & Mupere, E. (2010). Feasibility, reliability and validity of health-related quality of life questionnaire among adult pulmonary tuberculosis patients in urban Uganda: Cross-sectional study. *Health and Quality of Life Outcomes*, *8*, 93. https://doi.org/10.1186/1477-7525-8-93

Biedenharn, A. M. (2015). *Assessment of Knowledge and Attitudes on Latent Tuberculosis Treatment Acceptance in a Southwest Ohio Public Health Clinic*.

Carla, L., Oliveira, S., De Almeida Nogueira, J., Duarte De Sá, L., Palha, P. F., Alves Da Silva, C., … Villa, S. (2015). The discourse of individuals on feelings associated with coping with tuberculosis* A discursividade do sujeito sobre sentimentos associados ao enfrentamento da tuberculose. *Revista Eletrônica de Enfermagem*, *17*(1). https://doi.org/10.5216/ree.v17i1.24523

Chamla, D. (2004). The assessment of patients' health-related quality of life during tuberculosis treatment in Wuhan, China. *International Journal of Tuberculosis and Lung Disease*, *8*(9), 1100–1106.

Chirinos, N. E. C., & Meirelles, B. H. S. (2011). Factors related to abandoning tuberculosis treatment: An integrative review. *Texto e Contexto Enfermagem*, *20*(3), 399–406. https://doi.org/10.1590/S0104-07072011000300023

Chirwa, T., Nyasulu, P., Chirwa, E., Ketlogetswe, A., Bello, G., Dambe, I., … Joshua, M. (2013). Levels of Tuberculosis Treatment Adherence among Sputum Smear Positive Pulmonary Tuberculosis Patients Attending Care at Zomba Central Hospital, Southern Malawi, 2007–2008. *PLoS ONE*, *8*(5), e63050. https://doi.org/10.1371/journal.pone.0063050

De las Cuevas, C., & Peñate, W. (2015). Psychometric properties of the eight-item Morisky Medication Adherence Scale (MMAS-8) in a psychiatric outpatient setting. *International Journal of Clinical and Health Psychology*, *15*(2), 121–129. https://doi.org/10.1016/j.ijchp.2014.11.003

Dinas Kesehatan Provinsi Bali. (2019). *Profil Kesehatan Provinsi Bali Tahun 2018*. Denpasar: Dinas Kesehatan Provinsi Bali.

Dion, M. J., Tousignant, P., Bourbeau, J., Menzies, D., & Schwartzman, K. (2004). Feasibility and reliability of health-related quality of life measurements among tuberculosis patients. *Quality of Life Research*, *13*(3), 653–665. https://doi.org/10.1023/B:QURE.0000021320.89524.64

Farias, S. N. P. de, Medeiros, C. R. da S., Paz, E. P. A., Lobo, A. de J. S., & Ghelman, L. G. (2013). Completeness in caring: study of quality of life in clients with tuberculosis. *Escola Anna Nery*, *17*(4), 749–754. https://doi.org/10.5935/1414-8145.20130020

Godin, G., Bélanger-Gravel, A., Eccles, M., & Grimshaw, J. (2008). Healthcare professionals' intentions and behaviours: A systematic review of studies based on social cognitive theories. *Implementation Science*, Vol. 3. https://doi.org/10.1186/1748-5908-3-36

Guo, N., Marra, F., & Marra, C. A. (2009, February). Measuring health-related quality of life in tuberculosis: A systematic review. *Health and Quality of Life Outcomes*, Vol. 7, p. 14. https://doi.org/10.1186/1477-7525-7-14

Hansel, N. N., Wu, A. W., Chang, B., & Diette, G. B. (2004, April). Quality of life in tuberculosis: Patient and provider perspectives. *Quality of Life Research*, Vol. 13, pp. 639–652. https://doi.org/10.1023/B:QURE.0000021317.12945.f0

Kastien-Hilka, T., Abulfathi, A., Rosenkranz, B., Bennett, B., Schwenkglenks, M., & Sinanovic, E. (2016). Health-related quality of life and its association with medication adherence in active pulmonary tuberculosis– a systematic review of global literature with focus on South Africa. *Health and Quality of Life Outcomes*, *14*(1), 42. https://doi.org/10.1186/s12955-016-0442-6

Lailatushifah, S. N. F. (2012). *Kepatuhan Pasien Yang Menderita Penyakit Kronis Dalam Mengkonsumsi Obat Harian*. Fakultas Psikologi Universitas Mercubuana.

Leidy, N. K., Revicki, D. A., & Genesté, B. (1999). Recommendations for Evaluating the Validity of Quality of Life Claims for Labeling and Promotion. *Value in Health*, *2*(2), 113–127. https://doi.org/10.1046/j.1524-4733.1999.02210.x

Lestarina, N. N. W. (2018). Theory of Planned Behavior sebagai Upaya Peningkatan

Kepatuhan pada Klien Diabetes Melitus. *Media Kesehatan Masyarakat Indonesia*, *14*(2), 201. https://doi.org/10.30597/mkmi.v14i2.3987

Louw, J. S., Mabaso, M., & Peltzer, K. (2016). Change in health-related quality of life among pulmonary tuberculosis patients at primary health care settings in South Africa: A prospective cohort study. *PLoS ONE*, *11*(5). https://doi.org/10.1371/journal.pone.0151892

Park, S., George, M., & Choi, J. Y. (2020). Quality of life in Korean tuberculosis patients: A longitudinal study. *Public Health Nursing*, phn.12691. https://doi.org/10.1111/phn.12691

Rajeswari, R., Muniyandi, M., Balasubramanian, R., & Narayanan, P. R. (2005). Perceptions of tuberculosis patients about their physical, mental and social well-being: A field report from south India. *Social Science and Medicine*, *60*(8), 1845–1853. https://doi.org/10.1016/j.socscimed.2004.08.024

Sherbourne, C. D., Sturm, R., & Wells, K. B. (1999). What outcomes matter to patients? *Journal of General Internal Medicine*, *14*(6), 357–363. https://doi.org/10.1046/j.1525-1497.1999.00354.x

WHO. (2019). Global Tuberculosis Report 2019. Retrieved from http://apps.who.int/iris

Zhou, K., Zhuang, G., Zhang, H., Liang, P., Yin, J., Kou, L., … You, L. (2013). Psychometrics of the Short Form 36 Health Survey Version 2 (SF-36v2) and the Quality of Life Scale for Drug Addicts (QOL-DAv2.0) in Chinese Mainland Patients with Methadone Maintenance Treatment. *PLoS ONE*, *8*(11), e79828. https://doi.org/10.1371/journal.pone.0079828

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Original Research

Effectiveness of Health Education and Nutrition Rehabilitation Toward Community Empowerment for Children Aged Less Than 5 Years with Stunting: A Quasi-Experimental Design

Eli Amaliyah[1] and Mulyati Mulyati[2]

[1]D3 Keperawatan, Universitas Sultan Ageng Tirtayasa, Banten, Indonesia
[2]D3 Keperawatan Universitas Faletehan, Banten, Indonesia

ABSTRACT

Introduction: Globally, more than one child in four under the age of five is too short for their age. Although attempts to reduce stunting have succeeded globally, stunting rates in Indonesia have unfortunately remained largely stagnant. However, few studies have been conducted in Indonesia, particularly in Banten to develop and evaluate the education program combining with nutrition rehabilitation intervention to reduce stunting. The purpose of this study was to test effectiveness of education and nutrition rehabilitation to increase community empowerment for stunting in Serang Banten.

Methods: This study was conducted using a quasi-experimental design with the reversed-treatment non-equivalent control group design. The study used 200 people as research samples. The analysis tools used include descriptive statistics and paired t tests

Results: The results of this study showed that education and nutrition rehabilitation effectively to increased community empowerment in overcoming children with stunting ($p<0.05$).

Conclusion: Nutrition education and rehabilitation management needs to be improved in an effort to reproduce the status of malnutrition or malnutrition into normal nutritional status, particularly in Serang City.

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CONTACT

Eli Amaliyah
✉sholehmalikul088@gmail.com
D3 Keperawatan, Universitas Sultan Ageng Tirtayasa, Banten, Indonesia

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INTRODUCTION

Globally, more than one child in four under the age of five is too short for their age (UNICEF, 2013). Low height-for-age or stunting represents failure to attain a minimum stature correlated with present and future growth and development and is a main chronic undernutrition indicator. Stunting means poverty and unhealthy working conditions. In 2012, nearly 33 percent of urban residents in the developing world lived in the suburbs and this is expected to reach two billion people living in slum communities in less developed countries by 2030 (United Nations, 2012). In the developing world, more than 100,000 people shift to slums each day. Actually, almost 1.5 billion citizens live in urban suburbs without proper access to healthcare, clean water and sanitation (British Red Cross, 2012). Evidence indicates that children living in the slums are much more likely than children who live somewhere else in the city to suffer from malnutrition, including stunting (Awasthi & Agarwal, 2003; Ghosh & Shah, 2004).

Stunting is a result of chronic undernutrition during the most important periods of early life growth and development. Stunted children suffer from compromised development with irreversible adult consequences and face a high risk of morbidity and mortality (Dewey & Begum, 2011; McDonald et al., 2013). Stunting in children can be measured by anthropometry using physical growth data. Development faltering often happens between the ages of three months and 18 to 24 months (Victora et al., 2010). Stunting prevalence rises very rapidly between 12 and 24 months (40 percent to 54 percent), continues to rise until 36 months of age (58 percent), and then remains relatively stable until 5

years of age (55 percent) (Bhutta et al., 2013). Indonesia is the fifth highest country in stunting prevalence among children under five in Asia (WHO, 2018). In 2018, as many as 30.8 percent of children under five in Indonesia experienced stunting and Banten province was the fifth province to become a priority of stunting handling in Java Island (Kemenkes RI., 2018). In Banten, the stunting rate has increased significantly from year to year, in 2018 as many as 60,806 cases of stunting were identified.

The WHO hypothesis on the history, causes, and consequences of childhood stunting, which was published in 2013, identifies numerous factors directly leading to stunted growth and development (Stewart et al., 2013). While the WHO framework was based on global data analysis, the framework used to evaluate the contributors of stunting at the national level is critical as national health policies are often based on the available national and sub-national data. The WHO Stunting Framework defines community and social factors as 'contextual' and classifies them into six groups: (1) political economy; (2) health and healthcare; (3) education; (4) society and culture; (5) farming and food systems; and (6) water, sanitation and climate. The current evidence of correlation between these factors and stunting is minimal (Stewart et al., 2013), and various background variables (e.g. population density, per capita national income, level of democracy (Pridmore & Hill, 2009) are measured at the national level and are, therefore, not appropriate for household or community level research. According to the WHO conceptual framework for determinants of a child, stunting showed that household and family factors–low maternal height, premature birth, short birth length, low maternal education, and low household wealth—are important proximate determinants of child stunting in Indonesia (Beal et al., 2018).

Although attempts to reduce stunting have succeeded globally (Lundeen et al., 2014), notably in Ethiopia and the state of Mahrastrata, India (Haddad et al., 2014), stunting rates have unfortunately remained largely stagnant in sub-Saharan Africa and South Asia (Bhutta et al., 2013). Achieving global health goals of the WHO in 2025 to minimize stunting by 40 percent in children under the age of five would rely on sustained efforts to prevent stunting within slums. In Indonesia, currently, the government program in handling stunting has been carried out through two approaches, namely specific and sensitive nutrition interventions (Kemenkes RI., 2018). However, the stunting program is still not implemented optimally and here is less involvement of community to participate in stunting reduction, as evidenced by the continued increase in the stunting rate. So, we need an approach or intervention that is able to involve community participation outside the health sector.

Community empowerment is the participation of all community members in solving community problems (Bierman et al., 2014). There are several interventions to prompt community participation, one of which is education. The results of previous studies indicate that education is an effective way to increase knowledge, which will have an impact on increasing behavior to participate in problem solving (Notoatmodjo, 2014). However, educational education alone is not enough to sustain sustainable participants. Decreases in the stunting can be accomplished through measures based on facts. Strong evidence was found in the Lancet series on maternal and child undernutrition for a range of measures that are effective in supporting children's health (Bhutta et al., 2013). By integrating and scaling up to 90 percent of these documented nutrition-specific interventions, stunting could be reduced by 20 percent, representing 33.5 million fewer stunted children (Bhutta et al., 2013; Fenske et al., 2013; Milman et al., 2005; Remans et al., 2011). Specifically, proposed strategies to address the underlying causes of stunting would concentrate on improving nutrition and avoiding associated diseases. However, few studies have been conducted in Indonesia, particularly in Banten, to develop and evaluate the education program combining with nutrition rehabilitation intervention to reduce stunting. Therefore, the purpose of this study was to primarily test the effectiveness of health education and nutrition rehabilitation toward community empowerment for children aged less than 5 years with stunting.

MATERIALS AND METHODS

Study design

This study was conducted using a quasi-experimental design with the reversed-treatment non-equivalent control group design with pre-test and post-test conducted in Serang City, Banten. Intervention group was provided education and rehabilitation nutrition for two week and control group only provided with education through leaflet with the topic focus on general information about stunting and its prevention. In the first week, the cadre received two sessions of comprehensive workshops, each session was two hours and the topics were regarding general information about stunting, prevention, and treatment and discussion about their ability to help children aged less than 5 years in recovery from stunting and preventing relapse. Workshops were delivered in Bahasa Indonesia using tutorial and discussion methods. In the second week, the cadre was provided with rehabilitation training in two sessions (each session was two hours) with the topic about nutrition intervention that can be done by the cadre, for example modification of nutrition for children, and cooking class, and also discussing about how to empower their ability to help children with undernutrition. Before the workshop session began, all participants received a pre-test regarding their understanding through group discussion about stunting and most of them showed similar understanding about malnutrition.

Sample

The sample in this study was a cadre and other volunteers that were listed officially in the public health center in Serang City, Banten Province, Indonesia. The inclusion criteria in this study were age over 18 years old, able to communicate, and willing to be respondent. Inactive cadre means those who registered in the database in the public health centre but did not involve in activities provided by the community health centre more than three times. Exclusion criterion was inactive cadre. The sample size was calculated using G-Power Software Version 3.1.6 assuming t-test, $\alpha = 0.05$, effect size = 0.15 (Cohen, 1992), power level = 0.80. So that the total sample recruited was 100 cadres for each group. Convenience sampling was used to select participants.

Instrument

The demographic characteristics were collected, including age, gender, and education level. Community empowerment was measured using a self-developed instrument constructed from four indicators, namely contribution of thought, contribution of funds, contribution of personnel, and contribution of facilities. This instrument was developed based on our previously unpublished qualitative study. This instrument included a Likert scale with 1 indicating never and 5 indicating always. After discussion with an expert, finally the instrument measured only three aspects, contribution of thought, contribution of personnel, and contribution of funds with total 15 items, five items for each indicator. The content validity index ranged from 0.64 to 0.79. The Cronbach's alpha in the current study was 0.68.

Data Collection Procedure

Prior to this research, an ethics permit was obtained from the affiliated university (EB20346). After permission was obtained, the researcher explained the objectives, inclusion and exclusion criteria, procedures and ethical protection to midwives and cadres. Cadres helped choose samples according to the criteria. Respondents who met the criteria were then given an explanation of the intervention and after that signed the informed consent sheet. Before intervention, respondents filled out the questionnaire first and then intervened with education and rehabilitation for two weeks. After completion of the intervention, a post-test was taken again.

Data analysis

Normality test with Kolmogorov Smirnov was first done to see whether the data distribution was normal or not. When the data were normal, the univariate analysis used the mean and standard deviation to describe the demographic characteristics and variable of community empowerment. Paired sample t-test was used to see the difference before and after the intervention. Data processing was performed using SPSS software version 22.

RESULTS

Table 1 shows that the average age of the control and control group is over 30 years, mostly women, with junior high school education. There was no significant difference between intervention and control group in terms of age, gender, and education level, which mean that both intervention and control groups had similar characteristics even without random sampling.

In the intervention group, the mean of community empowerment score before intervention was 11.11 (SD=4.88), and after intervention there was an increased score of community empowerment as much as 4.17, with mean score after intervention of 13.50 (SD=2.22). According to the results of paired t-test, it showed a significant improvement of community empowerment after intervention with p-value 0.000 (Table 2). While, in the control group, the mean of community empowerment score before intervention was 13.42 (SD=6.60), and after intervention there was an increased score of community empowerment as much as 0.09, with

Table 1. Demographic characteristics of respondent (n=200)

Variables	Intervention group (n=100)	Control group (n=100)	p-value
Age, mean (SD)	34.4 (3.3)	33.4 (3.4)	0.142
Gender			
Male	30 (30)	27 (27)	0.078
Female	70 (70)	73 (73)	
Education level			0.271
Elementary school	35 (35)	37 (37)	
Junior high school	55 (55)	49 (49)	
Senior high school	10 (10)	14 (14)	
University	0	0	

Tabel 2. Differences in community empowerment before and after intervention in both groups (n=200)

Group	Before intervention Mean (SD)	After Intervention Mean (SD)	Mean different	p-value for paired t test	p-value for independent t test
Intervention group	11.11 (4.88)	13.50 (2.22)	4.17	0.000	0.001
Control group	13.42 (6.60)	13.49 (3.29)	0.09	0.922	

mean score after intervention of 13.49 (SD=3.29). According to the results of paired t-test, it showed non- significant improvement of community empowerment after intervention with p-value 0.922. In addition, independent t-test showed that the intervention group had significant improvement in the score of community empowerment after intervention compared to the control group, with p-value 0.001.

DISCUSSION

There is a significant improvement of community empowerment in stunting prevention after being given intervention. These results are consistent with Astama et al. (2012), that prevention through nutrition education and rehabilitation is an alternative model for tackling under-fives' malnutrition based on community empowerment through four elements, namely: (1) education, (2) PMT together , (3) health checks, medications and micronutrients and (4) fostering community participation to contribute in the form of food, energy, or money. The implications of this result are nutrition education and rehabilitation by helping, facilitating, and motivating mothers of under-fives and with poor nutrition, failing to improve their child's nutritional status, and changing behavior in caring for children and providing food to children. The obstacles are the low level of society and the lack of public knowledge about the importance of overcoming malnutrition in children under five which has an impact on brain growth and development in children.

We found that community empowerment before intervention among two groups showed a low score. This result is not in accordance with previous study finding that the development paradigm that is highly developed now is the empowerment paradigm, which consists of community participation (Abadi, 2014). It was also explained that community participation is the participation of all community members in solving community problems (Abadi, 2014). The results are also not in accordance with Aidha (2012), that the level of community participation, both from the scope of the program and from the results of measurements on the community, shows the same results i.e. the level of community participation is below the established national standard of 80 percent. If the D / S coverage is below 80 percent then it is said that community participation for monitoring growth and weight development is very low. Thus, support from family and community will influence the actions of mothers in utilizing community health activity to improve family health, especially weighing children under five, examining sick children and others.

Our study may have several limitations. First, measurement of community empowerment still needs to be tested for its construct validity. Second, our study was carried out for only two weeks after ending of the impact evaluation and termination, which may be considered as a relatively short period. Nevertheless, this period was sufficient to examine how intervention exposure changed even shortly after the ending. Further research on the effects of longer duration of sustainability is needed. Third, our study of sustained outcomes was focused on the effects among the target population of the nutrition interventions. We did not examine the policy and regulatory institutions or organizational levels in connection to sustained service delivery, which was undertaken by a separate study.

CONCLUSION

In conclusion, education and nutrition rehabilitation through workshop and training in two sessions for two weeks was effective to increase community empowerment for stunting reduction. Nutrition education and rehabilitation management needs to be improved in an effort to reproduce the status of malnutrition into normal nutritional status, particularly in Serang City. Community empowerment management needs to be improved by instilling awareness to be involved in dealing with toddlers with malnutrition and of malnutrition being the normal nutritional status. This study provides a new approach for prevention of stunting in Indonesia that can be basic evidence for healthcare policy to improve prevention programs on stunting with the local community and widely provide cultural training for all communities through cadres as a first line of the healthcare system in Indonesia.

REFERENCES

Abadi, T. (2014). Performance E-Government Untuk Peningkatan Partisipasi Masyarakat Dalam Pembangunan Infrastruktur Di Kabupaten Sidoarjo. *Jurnal Kawistara*, *4*. https://doi.org/10.22146/kawistara.6379

Aidha, Z. (2012). Analisis Implementasi Pemberdayaan Masyarakat Dalam Strategi Promosi Kesehatan Dan Pengaruhnya Terhadap Partisipasi Masyarakat Dalam Pencegahan Gizi Buruk Pada Balita Di Kecamatan Helvetia Medan. *Jurnal Ilmiah Penelitian Kesehatan*, *2*(2). http://jurnal.uinsu.ac.id/index.php/kesmas/article/view/1123/889

Astama, D., Widodo, A. K. M. K. A., & Ambarwati, S. K. N. E. M. K. W. N. (2012). *Pengaruh Pendidikan Kesehatan Pada Ibu-Ibu Kader Pemberdayaan Keluarga Dan Kemasyarakatan (PKK) Dalam Mengubah Pengetahuan Dan Sikap Tentang Pencegahan Demam Berdarah Dengue Di Desa Pucangan Kartasura*.

Awasthi, S., & Agarwal, S. (2003). Determinants of childhood mortality and morbidity in urban slums in India. *Indian Pediatrics*, *40*(12), 1145–1161.

Beal, T., Tumilowicz, A., Sutrisna, A., Izwardy, D., & Neufeld, L. M. (2018). A review of child stunting determinants in Indonesia. *Maternal & Child Nutrition*, *14*(4), e12617. https://doi.org/10.1111/mcn.12617

Bhutta, Z. A., Das, J. K., Rizvi, A., Gaffey, M. F., Walker, N., Horton, S., Webb, P., Lartey, A., & Black, R. E. (2013). Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *Lancet (London, England)*, *382*(9890), 452–477. https://doi.org/10.1016/S0140-6736(13)60996-4

Bierman, G., Abadi, M., & Torgersen, M. (2014). *Understanding TypeScript* (Vol. 8586). https://doi.org/10.1007/978-3-662-44202-9_11

British Red Cross. (2012). *Learning from the City: British Red Cross Urban Learning Project Scoping Study.*

Dewey, K. G., & Begum, K. (2011). Long-term consequences of stunting in early life. *Maternal & Child Nutrition*, *7 Suppl 3*(Suppl 3), 5–18. https://doi.org/10.1111/j.1740-8709.2011.00349.x

Fenske, N., Burns, J., Hothorn, T., & Rehfuess, E. A. (2013). Understanding Child Stunting in India: A Comprehensive Analysis of Socio-Economic, Nutritional and Environmental Determinants Using Additive Quantile Regression. *PLOS ONE*, *8*(11), e78692. https://doi.org/10.1371/journal.pone.0078692

Ghosh, S., & Shah, D. (2004). Nutritional problems in urban slum children. *Indian Pediatrics*, *41*(7), 682–696.

Haddad, L., Nisbett, N., Barnett, I., & Valli, E. (2014). *Maharashtr_s Child Stunting Declines: What is Driving Them? Findings of a Multidisciplinary Analysis*.

Kemenkes RI. (2018). *Hasil utama riskesdas 2018.* (K. RI. (ed.)).

Lundeen, E. A., Stein, A. D., Adair, L. S., Behrman, J. R., Bhargava, S. K., Dearden, K. A., Gigante, D., Norris, S. A., Richter, L. M., Fall, C. H. D., Martorell, R., Sachdev, H. S., & Victora, C. G. (2014). Height-for-age z scores increase despite increasing height deficits among children in 5 developing countries. *The American Journal of Clinical Nutrition*, *100*(3), 821–825. https://doi.org/10.3945/ajcn.114.084368

McDonald, C. M., Olofin, I., Flaxman, S., Fawzi, W. W., Spiegelman, D., Caulfield, L. E., Black, R. E., Ezzati, M., & Danaei, G. (2013). The effect of multiple anthropometric deficits on child mortality: meta-analysis of individual data in 10 prospective studies from developing countries. *The American Journal of Clinical Nutrition*, *97*(4), 896–901. https://doi.org/10.3945/ajcn.112.047639

Milman, A., Frongillo, E. A., de Onis, M., & Hwang, J.-Y. (2005). Differential improvement among countries in child stunting is associated with long-term development and specific interventions. *The Journal of Nutrition*, *135*(6), 1415–1422. https://doi.org/10.1093/jn/135.6.1415

Notoatmodjo, S. (2014). *Promosi Kesehatan dan Ilmu Perilaku* (cetakan II). Rineka Cipta.

Pridmore & Hill. (2009). Addressing The Underlying And Basic Causes Of Child Undernutrition In Developing Countries : What Works And Why ? Evaluation Study 2009 / 2 Addressing the Underlying and Basic Causes of Child Undernutrition in Developing Countries : What Works and Why ? *Foreign Affairs*, *2*(April), 1–97.

Remans, R., Pronyk, P. M., Fanzo, J. C., Chen, J., Palm, C. A., Nemser, B., Muniz, M., Radunsky, A., Abay, A. H., Coulibaly, M., Mensah-Homiah, J., Wagah, M., An, X., Mwaura, C., Quintana, E., Somers, M. A., Sanchez, P. A., Sachs, S. E., McArthur, J. W., & Sachs, J. D. (2011). Multisector intervention to accelerate reductions in child stunting: An observational study from 9 sub-Saharan African countries. *American Journal of Clinical Nutrition*, *94*(6), 1632–1642. https://doi.org/10.3945/ajcn.111.020099

Stewart, C. P., Iannotti, L., Dewey, K. G., Michaelsen, K. F., & Onyango, A. W. (2013). Contextualising complementary feeding in a broader framework for stunting prevention. *Maternal & Child Nutrition*, *9 Suppl 2*(Suppl 2), 27–45. https://doi.org/10.1111/mcn.12088

UNICEF. (2013). *Improving Child Nutrition. The achievable imperative for global progress.* https://reliefweb.int/report/world/improving-child-nutrition-achievable-imperative-global-progress#:~:

United Nations. (2012). *The Millennium Development Goals Report 2012.* https://www.un.org/millenniumgoals/pdf/MDG Report 2012.pdf

Victora, C. G., de Onis, M., Hallal, P. C., Blössner, M., & Shrimpton, R. (2010). Worldwide timing of growth faltering: revisiting implications for interventions. *Pediatrics*, *125*(3), e473-80. https://doi.org/10.1542/peds.2009-1519

WHO. (2018). *Global Nutrition Report 2018 - Executive Summary*. 12. https://doi.org/10.2499/9780896295643

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Original Research

Analysis of Factors Related to Nursing Student Self Wareness in Doing Screening for Psychosocial Problems

Verantika Setya Putri, Ah Yusuf, and Rr Dian Tristiana

Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

ABSTRACT

Introduction: Mental health knowledge is a substantial part of mental health literacy. Many psychosocial problems are transient and are often not noticed. This study aimed to analyze the factors related to student self-awareness in conducting psychosocial screening.

Methods: This study used a descriptive-analytic design with cross-sectional approach. The study was conducted at the Faculty of Nursing, Universitas Airlangga Surabaya. A total of 160 respondents was chosen using simple random sampling techniques. The instrument used was a questionnaire. The dependent variable in this study was students' awareness in conducting psychosocial problems screening. The independent variables in this study were knowledge, social interaction, family support, perceived vulnerability, perceived severity, perceived benefits, perceived barriers, and self-confidence. Analysis used multiple linear regression statistical tests.

Results: The results showed there was a relationship between social interaction (p=0.00), perceived vulnerability (p=0.00), perceived benefits (p=0.001) and self-confidence (p=0,000) with students' self-awareness in conducting psychosocial screening. There was no relationship between knowledge (p=0.555), family support (p=0.720), perceived severity (p=0.070), perceived barriers (p=0.748) with students' self-awareness in conducting psychosocial screening.

Conclusion: Mental health awareness in nursing student should be enhanced and strengthened with health education. Self-awareness of mental health is important for students. This can prevent mental disorders in the future

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CONTACT

Ah Yusuf
ah-yusuf@fkp.unair.ac.id
Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia

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INTRODUCTION

Anxiety is experienced by 75% of nursing students at Airlangga University. Anxiety is a symptom of psychosocial problems. Based on preliminary study on December 13, 2019, problems above 56.4% were caused by poor coping and 49.1% were due to poor time management. Other causes were too many assignments by 34.5%, rescheduling schedules, and heavy credit load with a small percentage that causes students to experience physical and psychological fatigue. The results of the preliminary study said that nursing students did not consider the anxiety problem caused by physical and psychological stress required to be addressed immediately, they considered the problem to be a normal thing to happen. According to Ormel et al. (2020) this phenomenon illustrates that nursing students' awareness of psychosocial health is still low. The impacts felt by students due to the problems above include dizziness, diarrhea, increased stomach acid, and thrush (Ashley & Reiter-Palmon, 2012). Other impacts such as college assignments that were completed but not maximal in doing so were 92.3% and unfinished college assignments by 13.5%.

The prevalence of severe mental disorders in Indonesia is 1.7% and mental-emotional disorders reached around 6.1% in 2013 and increased to 9.8% in 2018 (Riskedas, 2018). More than 19 million people aged over 15 years are affected by mental-emotional disorders. The World Health Organization (WHO, 2010) mentions the suicide rate in Indonesia reaches 1.6-1.8% per 100,000 people. The impact of extensive psychosocial problems covers all aspects of

human life, one of which is productivity; this is a concern that needs to be addressed through preventive efforts. Secondary or preventive prevention is aimed at community members who experience psychosocial problems (risk of mental disorders). The purpose of this service is to reduce the incidence of mental disorders. Service targets are student members who are at risk or show signs of psychosocial problems and mental disorders. Screening is used as early detection of health problems. This is done through government programs that address mental health problems with health and screening counselors (Prince & Alexander, 2017). However, these efforts have not shown maximum results, due to low mental health concerns, including a screening process that is not in line with community conditions, lack of human resources, and available health facilities (Andriyani & Widigdo, 2017).

Self-awareness is influenced by demographic factors, including gender, education, age, and history of previous illnesses (Manurung, 2018). Psychological characteristic factors influence the courage to do screening as well as undertake treatment, while socio-cultural factors consisting of social interactions and family support affect awareness in screening; the more often a person interacts with other people the more experience and good socializing habits. This socio-cultural influence influences one's perception and belief in the problem of mental disorders. These factors are identified by the Health Belief Model (HBM) theory, which is a model used to describe an individual's trust in healthy living behaviors so that individuals will engage in such behaviors. Healthy behaviors can be preventive behavior or the use of health facilities. This health belief model is often used to predict preventive health behaviors. Based on the description above, the researcher will further analyze the factors related to students' self-awareness in screening for psychosocial problems at the Faculty of Nursing, UNAIR Surabaya.

MATERIALS AND METHODS

This research is a descriptive analysis type of research with a cross-sectional approach. The population of Airlangga Nursing Faculty students is a regular program and has passed the mental nursing course. This research was conducted at the Faculty of Nursing UNAIR Surabaya in March-April 2020. The population of respondents was 267. The sample size in this study was determined using simple random sampling in a population of 267 people; with a confidence level of 95%, and an error rate of 5%, it obtained 160 samples. The dependent variable is awareness in screening, measurement used research questionnaires made by Sabila Okta UNAIR psychology students (Syarafina, 2019) and independent variables are knowledge, social interaction, family support, perceived vulnerability, perceived severity, perceived benefits, perceived obstacles, and trust in the perceived self. The validity test in this study used Pearson product moment (r) at SPSS with a significance level of 5% and resulted in 20 respondents. The reliability test used the Cronbach's alpha formula. If r alpha> r table then the question is reliable, conversely if r alpha <r table then the question is not reliable. Data were analyzed by multiple regression test. This research proposal has passed the ethical test by the Health Research Ethics Committee (KEPK) with the number of ethical certificate No 1957 dated March 28, 2020.

RESULTS

Respondents' contributions are based on demographic characteristics in 160 students. The data distribution of this study were respondents with the age of 21 years as many as 65 students (40.6%), the number of female respondents was 138 students (86.3%), collected by respondents obtained from semester 8 that were 104 students (65. 0%) and collect respondents to migrate or boarding houses in Surabaya. Respondents having a level of knowledge that is supported in the moderate category totaled 82 respondents (51.3%). The number of respondents who participated in the high category was 83 respondents (51.9%), students who received scholarships in the high category were 83 respondents (51.9%). A total of 87 respondents (54.4%) were accepted by students in the high category. The severity felt in the high category was 79 respondents (49.4%). The benefits received in the high category were 98 respondents (61.3%), the challenges received by respondents in the moderate category were 86 respondents (53.8%) and the confidence received by respondents increased in the moderate category by 106 respondents (66. 3%). Respondents who had low self-awareness in screening psychosocial problems were 67 respondents (41.9%) and respondents who had high self-awareness in screening were 93 respondents (58.1%).

Statistical tests with multiple linear regression obtained the results of social interaction, the assessment received, the benefits received and the self-confidence received related to students' self-awareness in screening for psychosocial problems. Based on the F test or simultaneous independent results obtained independent variables with the dependent variable with an F count of 24.057> F table 2.00 and a significance value of 0.00 <0.05. R square was 0.560, which means the independent variable related to the dependent variable by 56%. The dominant variable in this study is confidence obtained with a standard coefficient of 0.338.

Based on the table 2, it can be seen that the majority of the respondents' knowledge is in the medium category, namely as many as 82 respondents (51.3%). The majority of social interactions in the high category were 83 respondents (51.9%). The majority of respondents had family support in the high category, namely 83 respondents (51%). The

Table 1. Respondents' Characteristics

Characteristics	Category	n	%
Age	18 years	1	0.6
	19 years	1	0.6
	20 years	32	20.0
	21 years	65	40.6
	22 years	59	36.9
	23 years	2	1,3
Gender	Male	22	13.8
	Girl	138	86.3
Semester	8	104	65.0
	6	56	35.0
Address	Live with parents	43	26.9
	Dormitory	117	73.1

Table 2. Factors related to Students' Self-Awareness in Conducting Psychosocial Problems Screening

Variable	Category	n	%	Standardized Coefficients (beta)	T count	p-value
Knowledge	Low	13	8.1	-.034	-.592	.555
	Medium	82	51.3			
	High	65	40.6			
Social interactions	Low	77	48.1	.235	3,945	.000
	High	83	51.9			
Family support	Low	77	48.1	-,021	-359	.720
	High	83	51.9			
Perceived vulnerability	Low	1	0.6	299	4,152	.000
	Medium	72	45.0			
	High	87	54.4			
Perceived severity	Low	12	7.5	-.124	-1,822	.070
	Medium	69	43.1			
	High	79	49.4			
Perceived benefits	Low	8	5,0	.242	3,344	.001
	Medium	54	33.8			
	High	98	61.3			
Perceived obstacles	Low	37	23.1	.019	322	.748
	Medium	86	53.8			
	High	37	23.1			
Perceived self-efficacy	Low	7	4,4	.338	4,924	.000
	Medium	106	66.3			
	High	47	29.4			
Self-awareness	Low	67	41.9			
	High	93	58.1			

vulnerability felt by the majority of respondents was in the medium category as many as 72 respondents (45.0%). The majority felt the severity in the high category as many as 79 respondents (49.4%). The benefits felt by the majority in the high category were 98 respondents (61.3%). The obstacles felt by the majority were in the medium category as many as 86 respondents (53.8%). The majority who felt confidence in the medium category was as many as 106 respondents (66.3%) and the majority who felt confidence in the high category was as many as 93 respondents (58.1%). From the table above, it can be seen that the dominant variable in this study is the self-confidence variable with a standardized coefficient value of 0.338.

DISCUSSION

Relationship of knowledge with self-awareness

There is no partial relationship between knowledge and self-awareness of students in screening psychosocial problems, with a significance value of 0.55 > 0.05. The knowledge, which consists of six levels in this study, shows the level of respondents in the first level, namely ToFu (Top Of Funnel), and self-awareness indicators consisting of knowledge, understanding, attitudes, and patterns of behavior or action. The aspect of the respondent's self-awareness is still in the knowledge stage, in which is the first stage ToFu). According to Wawan and Dewi (2017). Knowing is defined as memorizing material that has been studied previously, people who already know

must be able to understand the material or object. Second is understanding (comprehension), the ability to explain an object that was known and interpret the material correctly; the interpretation phase consists of detection, observe an object and identify the characteristics of the objects based on hue, shapes and textures. Analysis is processing and finding the characteristics of the object deeper so that it will produce accurate results, and deduction/classification, namely the conclusion or determination of the type of object (Indarto, 2017). Based on the results of data analysis, it is known that the aspects of signs and symptoms have the lowest value so that this is the background of the respondents' knowledge stage in the first stage (know) because they have not been able to interpret the material correctly. If the first stage of knowledge has been passed it will increase to the next and final stage, namely action. This explains why knowledge is not related to self-awareness because the stage through which self-awareness goes to cause action is still in the first stage so that, in this study, knowledge has no relationship with self-awareness.

The relationship of social interaction with self-awareness

There is a partial relationship between social interaction with student self-awareness in screening for psychosocial problems with a significance value of 0.000 < 0.05. Social interaction is influenced by several things, one of which is motivation, here such as education, work, the desire to fulfill the necessities of life, the desire to add new insights, the desire to create harmony in the community and add experience (Astuti et al., 2018). If someone is aware of the importance of a thing (motivation), it will increase the social interaction of individuals to meet their desires. According to Ira Dwi Puspitasari and Puji Lestari (2015) self-awareness is needed if individuals interact so that they can place themselves in the community. Self-awareness is the background of social interaction, where, with a conscious attitude toward what is inside the individual, both weaknesses and strengths, it will make it easy for someone to understand the potential that is within them, so that they do not experience difficulties to carry out social relations. According to Astuti et al. (2018), social interaction begins with social contact, this is by supported by Herimanto and Winarno who stated that social contact is the beginning of social interaction. One form of social contact is lecture activities in the classroom (Ira Dwi Puspitasari and Puji Lestari, 2015) wherein semester 8 and semester 6 students still often hold lectures in the classroom, so there are social contacts, makinge the majority of student social interactions in the high category.

Relationship of family support with self-awareness

There is no relationship between family support and self-awareness with a significance value of 0.720 > 0.05. The lowest aspect of family support lies in the aspect of valuation support regarding assessment support. According to Anwari (2018), lack of appraisal support due to lack of concern for family members about what is done by respondents, this is supported by the respondents who answered never on the question whether the family cares about the problem at hand. This will have an impact on feelings of disrespect for the actions taken and if this continues it will have an impact on depression. If an individual can understand well the source of stressors and has good coping strategies, the individual has high self-awareness, which means that the individual can understand themselves well, their weaknesses and strengths, so that they can deal with the situation appropriately. Because of this, the third hypothesis is rejected, which means there is no partial relationship between family support and self-awareness.

Relationship of perceived vulnerability with self-awareness

There is a partial relationship between perceived vulnerability if not screening with student self-awareness in conducting psychosocial screening with a significance value of 0.000 < 0.05. Vulnerability perceptions represent an individual's beliefs about risk if they don't have a psychosocial screening. When an individual wants to screen for the first time, they will instinctively collect all the facts and stories, including the risk of screening. Feelings of vulnerability in regard to psychosocial problems and their impact can trigger respondents' awareness of efforts to overcome these problems by screening. If not, they tend to experience the effects of psychosocial problems. Therefore, awareness and subsequent experience have an important role to determine the success of screening (Notoatmodjo, 2010). The more individuals feel their vulnerability regarding their health, the higher the level of individual awareness in conducting the psychosocial screening. The results of this study are consistent with the concept put forward that a person will act if they feel vulnerable to the disease. The positive relationship between perceived vulnerability and self-awareness in conducting psychosocial screening is influenced by patient experience. Experience has an important role that will shape perceptions, such as cognitive, personality, and culture of the individual (Notoatmodjo, 2010) so that the more the person feels vulnerable it will make the individual aware of screening for psychosocial problems. The quality of self-awareness is a clearer state of the individual conscious experience of the present conditions, which effectively realizes memories and anticipates the future (Buglar et al., 2010). This explains how the respondents' vulnerability to the occurrence of

psychosocial problems and their impact affects and relates to self-awareness; if an individual understands that they are vulnerable to a problem, they will instinctively predict what will happen to them, both now and in the future, so that they arise behavior to anticipate this. The main component of self-awareness is understanding of oneself and secondly the ability to anticipate how a person is valued by others.

Relationship of perceived severity with self-awareness

With perceived severity if not having screening, there is no positive partial relationship with student self-awareness in conducting psychosocial screening, with a significance value of 0.720 > 0.05. Perception of severity is an individual's belief in the severity of a disease. Whereas perceptions of the severity of disease are often based on information or treatment knowledge, it may also come from belief in people who have difficulties with the illness suffered or the impact of the disease on their lives (Buglar et al., 2010). Based on the distribution of questions on this variable, the majority of respondents answered correctly on the question items in my opinion; if they do not do screening, it will have a bad impact on long-term health In addition to this, perception of severity can also be strengthened from information obtained from medical information and mass media, while psychosocial issues themselves have not been given special attention, so that minimal information is conveyed regarding psychosocial and screening issues. Respondents only get this information from lectures in class because it is included in the subject in psychiatric nursing.

Relationship of perceived benefits with self-awareness

There is a positive partial relationship between the perceived benefits of screening and self-awareness. evidenced by the significance value of 0.001 < 0.05. This means that someone who has self-awareness should be fully aware of their perceptions, feelings, dreams, or the world outside of themselves. Humans can realize themselves, a unique and real ability that enables humans to be able to think and decide (Widiatmoko & Ardini, 2018). This is the background of how the benefits relate to self-awareness,. With someone considering the benefits to be gained after doing something, the individual will decide what they will do and with self-awareness owned by the individual they will determine the benefits that are good for them, So H6 is that the benefits felt after psychosocial screening are partially related to self-awareness. Perceived benefits have an important role in determining behavior for secondary prevention (Buglar et al., 2010). This shows that the perception of the benefits of disease prevention has a positive relationship with student self-awareness in conducting psychosocial screening. The more the patient knows the benefits of these health behaviors, the more aware the respondent is in screening.

Relationship of perceived obstacles with self-awareness

There is no partial relationship between perceived obstacles and self-awareness of nursing students in conducting the psychosocial screening, as evidenced by the significance value of 0.748 > 0.05. Stages of individual self-awareness are determined by the extent to which the individual is trying to enhance their self-awareness. Based on the frequency distribution, the obstacle most felt by individuals is the lack of information, which is one of the efforts to increase self-awareness by conducting communication based on information so that, because of the limited source of information, about screening it is hampering the increase of individual self-awareness. According to Yunti (2019), perceived barrier gets a low proportion of perception because it is the only factor that represents an individual's beliefs about obstacles to doing something. The smaller the obstacles, the higher the patient's compliance. Perceived barriers have an important role in determining behavior change in individuals (Buglar et al., 2010). This proves that respondents who are new to psychosocial screening are likely to face several obstacles that affect their awareness. Students as respondents have obstacles in conducting psychosocial screening; these obstacles can be in the form of internal or external obstacles. Internal barriers include feelings.

Relationship of self-confidence that is felt with self-awareness

Self-confidence has a significant relationship and has a positive influence on self-awareness in conducting psychosocial screening with a significance value of 0.000 < 0.05. Self-confidence is a belief that is owned by individuals who can screen correctly. The belief in new behaviors derived from perceived benefits will increase respondents' self-awareness. Someone's belief in healing a disease will motivate them to take action. This study is in line with research conducted (Indah, 2016; Prasetyowati, 2018) showing that there is a positive effect of confidence in preventive care in type 2 DM patients. Patients with high self-confidence will improve self-care DM 2, where someone who has good self-confidence will be more obedient to preventive behavior to facilitate prevention. According to Chaplin (2002), self-awareness is awareness of one's mental processes or existence as unique individuals. When someone understands and is aware of their emotions, it is easier for them to acknowledge and control emotions. They are also more confident because they do not let their emotions get out of their control. Confidence is a belief in yourself the ability to do something. If someone believes a new behavior is beneficial, but does not

think they can do it (perceived barrier), chances are that will not be tried (Buglar et al., 2010).

Simultaneous relationship between independent and dependent variables

There is a simultaneous relationship between variables of knowledge, social interaction, family support, perceived vulnerability, perceived severity, perceived benefits, perceived obstacles, and self-confidence with self-awareness on students in screening psychosocial problems, with a calculated F value of 24.057> F table 2.00 and a significance value of 0.000 < 0.05 so that it can be interpreted that there is a simultaneous influence of knowledge variables, social interaction, family support, perceived vulnerability, perceived severity, perceived benefits, perceived obstacles, and confidence in self-awareness variables. R square value of 0.560 means that the independent variable simultaneously influences the dependent variable by 56%, and other variables affect self-awareness by 44%, but in this study were not examined. Based on the results of the regression coefficient (B) it is known that self-efficacy has the greatest value of 0.338 compared to other variables. So self-confidence has the most influence on student self-awareness in conducting psychosocial screening. Where if someone has a high self-efficacy will increase preventive behavior to facilitate prevention (Holm-Hadulla & Koutsoukou-Argyraki, 2015) .Psychosocial screening is an effort to prevent the worse effects due to existing psychosocial problems, so psychosocial screening is a preventive program for the prevention of disease. Self-efficacy is an individual's belief in acting so that if the individual already has high confidence, it will be easy to carry out a health behavior. Research (Phillips & Silvia, 2005) states that self-efficacy is the most powerful factor for determining compliance. Ormel et al. (2020) say that humans are creatures that can be aware of and are, therefore, responsible for their existence. Individuals with strong instincts of self-awareness can know when they feel less excited, easily upset, sad, or excited and realize how these various feelings can change their behavior, which causes others to feel uncomfortable. A person's ability to recognize their feelings and the way he responds, makes them able to control behavior that has the potential to harm them. Knowledge, social interaction, family support, perceived vulnerability, perceived severity, perceived obstacles, perceived benefits, and self-confidence together influence self-awareness, wherewith the existence of broad insight and external support.

CONCLUSION

There is a relationship in social interaction variables, perceived vulnerability, perceived benefits, and perceived confidence while the variables of knowledge, family support, perceived severity, and perceived obstacles do not have a positive relationship with self-awareness of students in screening for psychosocial problems. This dilator is due to many factors, both from the internal and external of the individual. The recommendation in this study is that there is a need for health education on mental emotional health that focuses on how to prevent psychosocial problems because these problems are most often experienced by students, and it is necessary to provide information about psychosocial problems as well as psychosocial screening that is easily accessible to students.

REFERENCES

Andriyani, A., & Widigdo, J. (2017). Model Layanan Screening Dalam Konseling Kesehatan Mental Berbasis Android (E-Couns) Untuk Mendukung Gerakan Revolusi Mental. *Seminar Bimbingan Dan Konseling*, *1*(1), 96–103.

Anwari, misbakhul. (2018). *Hubungan Dukungan Keluarga dengan Kualitas Hidup Lansia yang Mengalami Hipertensi di Wilayah Kerja Puskesmas Mandalle Kabupaten Pangkep*. *September*, 160–164.

Ashley, G., & Reiter-Palmon, R. (2012). Self-Awareness and the Evolution of Leaders: The Need for a Better Measure of Self-Awareness. *Journal of Behavioral Applied Management*, *14*(1), 2–17.

Astuti, P. D., Hadiwinarto, H., & Sholihah, A. (2018). Studi Deskriptif Interaksi Sosial Mahasiswa S1 Jurusan Ilmu Pendidikan Berdasarkan Keterlibatan Organisasi Kemahasiswaan Di Fakultas Keguruan Dan Ilmu Pendidikan Universitas Bengkulu. *Consilia : Jurnal Ilmiah Bimbingan Dan Konseling*, *1*(2), 20–28. https://doi.org/10.33369/consilia.1.2.20-28

Buglar, M. E., White, K. M., & Robinson, N. G. (2010). The role of self-efficacy in dental patients' brushing and flossing: Testing an extended Health Belief Model. *Patient Education and Counseling*, *78*(2), 269–272. https://doi.org/10.1016/j.pec.2009.06.014

FARISA, I. I. (2016). *Hubungan Pola Asah Pengasuh dengan Perkembangan Motorik Anak Usia Prasekolah (3-5 Tahun) di TPA Taam Ananda Surabaya*. Universitas Airlangga.

Holm-Hadulla, R. M., & Koutsoukou-Argyraki, A. (2015). Mental health of students in a globalized world: Prevalence of complaints and disorders, methods and effectivity of counseling, structure of mental health services for students. *Mental Health and Prevention*, *3*(1–2), 1–4. https://doi.org/10.1016/j.mhp.2015.04.003

Indarto. (2017). *Penginderaan Jauh : Metode Analisis & Interpretasi Citra*.

Ira Dwi Puspitasari dan Puji Lestari, M. H. (2015). *The Factors Behind The Social Interaction Between The Public Samin And The Non-Samin Community (Community Studies Padukuhan Karangpace Klopoduwur Village , Banjarejo District , Blora Regency , Central Java)*.

Manurung, lisma nurlina. (2018). Asuhan

Keperawatan Keluarga. *Fakultas Ilmu Kesehatan Ump*, *2010*, 8–42.

Notoatmodjo. (2010). *Pendidikan dan Perilaku Kesehatan*. Rineka Cipta.

Ormel, J., Cuijpers, P., Jorm, A., & Schoevers, R. A. (2020). What is needed to eradicate the depression epidemic, and why. *Mental Health and Prevention*, *17*(December), 200177. https://doi.org/10.1016/j.mhp.2019.200177

Phillips, A. G., & Silvia, P. J. (2005). Self-awareness and the emotional consequences of self-discrepancies. *Personality and Social Psychology Bulletin*, *31*(5), 703–713. https://doi.org/10.1177/0146167204271559

Prince, H., & Alexander, L. (2017). Self-awareness: There is no cure and no improving of the world that does not begin with the individual himself . *Insights*, *7*, 1–11.

RISKESDAS. (2018). *HASIL UTAMA RISKESDAS 2018. Jakarta: Salemba Medika: Kementerian Kesehatan RI Badan Penelitian dan Pengembangan Kesehatan.*

Syarafina, S. O. (2019). *Pengaruh Optimisme dan Kesadaran Diri Terhadap Adversity Quotient Pada Mahasiswa Universitas Negeri Malang yang Menempuh Skripsi Sambil Bekerja*.

Wawan, A., & Dewi, M. (2017). *Teori & Pengukuran Pengetahuan, Sikap, Dan Perilaku Manusia (Kedua).* Yogyakarta: Nuha Medika.

Widiatmoko, M., & Ardini, F. M. (2018). Pendekatan konseling analisis transaksional untuk mengembangkan kesadaran diri remaja. *Jurnal Kajian Pendidikan Dan Pengajaran*, *4*(2), 99–108. https://doi.org/10.30653/003.201842.50

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Original Research

The Relationship between Family Harmony with Stress, Anxiety, and Depression in Adolescents

Heni Dwi Windarwati, Amin Aji Budiman, Renny Nova, Niken Asih Laras Ati, and Mira wahyu Kusumawati

School of Nursing, Faculty of Medicine, Universitas Brawijaya

ABSTRACT

Introduction: Adolescents are a group vulnerable to mental health problems, including stress, anxiety, and depression. This study aimed to examine the interlink of a harmonious family with stress, anxiety, and depression in adolescents.

Methods: This study employed descriptive correlational design with cross-sectional approach and examined 851 high school adolescents aged between 16-18 years who were recruited using a total sampling method from five high school in Malang City. Stress, anxiety and depression in adolescents was assessed employing the Depression Anxiety Stress Scale (DASS - 21), while, to assess family harmony, a questionnaire developed by the researcher was used. Data were analyzed through descriptive statistics and bivariate tests using Spearman Rank Correlation.

Results: It was revealed that 428 adolescents (50.3%) were male, 321 adolescents (37.7%) came from parents who worked privately, and 482 adolescents (56.6%) had their parents' social status above the minimum wage standard. Eight hundred and two adolescents (94.2%) had harmonious families, while the remaining 49 adolescents (5.8%) had non-harmonious families. Our study concluded that family harmony had a significant relationship with adolescent stress levels (p-value 0.013). On the other hand, the analysis showed that family harmony was not related to adolescents' anxiety (p-value 0.071) and depression level (p-value 0.13). A harmonious family makes children mentally healthy, able to adapt to the environment while a family that is not harmonious can trigger stress because conditions are not as expected, coupled with the burden of schoolwork, stressors from teachers and peers.

Conclusion: The results of the research showed that harmony in the family had a significant effect on stress in adolescents. Therefore, it is necessary to provide education and counseling to the family to prevent fights in the family so that it can reduce the emergence of stress in adolescents.

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CONTACT

Heni Dwi Windarwati
✉ henipsik.fk@ub.ac.id
School of Nursing, Faculty of Medicine, Universitas Brawijaya

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INTRODUCTION

Mental health is a complex problem in society that requires synergistic and sustainable management (Wuryaningsih, Windarwati, Dewi, Deviantony, & Hadi, 2018). Mental health problems are also encountered in adolescents, in the forms of bullying, game or internet addiction, eating disorders (anorexia, bulimia), psychosis, drugs, suicide-self harm, and emotional disorders (e.g., anger, frustration, anxiety, depression) (WHO, 2019). Teenagers also often experience stress due to bullying from peers at schools (Rana et al., 2018). Stress, anxiety, and depression in adolescents are caused by internal factors from within, cognitive, academic achievement, and external factors such as family or peer function (Chi et al., 2020). Gender is a major factor in causing depression in adolescents (Liu et al., 2019). Women have higher levels of depression than men because they have different hormones and

quickly respond to stressors from family (Sun et al., 2017). Adolescents tend to experience anxiety due to the formation of self-identity, sensitivity to aspects of self-assessment, and self-compassion (Gill et al., 2018). Late teens are depressed because they are about to face graduation exams and go to college (Liu et al., 2019).

Research has portrayed that the prevalence of mental health disorders among children and adolescents around the world has reached 13.4%, anxiety 6.5%, depression 2,6%, attention deficit hyperactivity disorder 3.4%, and other disorders 5.7% of 87.742 individuals in 27 countries (Polanczyk et al., 2015). Meanwhile, in Turkey, as much as 13.9% of adolescents experienced anxiety (Ercan et al., 2016). Most of the psychiatric morbidity among adolescents in Nigeria is caused by depression (Oderinde et al., 2018). The results of a study conducted on school students with a mean age of 16 years found that the prevalence of depression, anxiety and stress was 65.53%, 80.85% and 47.02% respectively (Sandal et al., 2017). Based on data from the National Institute of Mental Health (2017) in the United States, 13.3% of 3.2 million adolescents aged 12-17 have major depression (Mental Health Information Statistics, 2017). In Indonesia, depression is more common in adolescents than adults as much as 50% and mostly occurs in women as much as 32% (Brooks et al., 2019).

Socioeconomic factors of family, environment, peers, and family dysfunction are external factors related to stress, anxiety, and depression, where socioeconomic status is related to overall health conditions, including life satisfaction and happiness (Guo et al., 2018; Kezer & Cemalcilar, 2020; Leavey et al., 2020). Also, gadget addiction and bullying are external factors of stress, anxiety, and depression because bullying causes psychological distress, aggressive behavior, hostility, and psychosomatic symptoms (Hill et al., 2017; Liu et al., 2020; Zhao et al., 2020). Bullying occurs due to experiences of bullying and a lack of parental affection during childhood, and it is more common among teenagers with stepfamilies (Erika et al., 2017; Fujikawa et al., 2018). Every teenager faces stressors from family, school environment, peers, teachers, and lessons, but not all of them have good coping with adapting (Zheng et al., 2016). Parents who are not harmonious, family dysfunction, and conflict in the relationship between children and parents are significant stressors in the psychological development of adolescents (Guo et al., 2018). Family is a comfortable place to grow and develop for teenagers apart from school and peer groups (Thariq, 2018). Unhappy psychological experiences in the family during childhood lead to depression, low self-concept, and maladaptive coping in adolescents (Hayward et al., 2020; Wong et al., 2019). Good coping and family support can increase self-esteem, a more optimistic view, and reduce stress, anxiety, and depression in adolescents (Han et al., 2018; Nursalam et al., 2017).

Based on the above factors, the family or parents have an attachment to the psychological resilience of children (Liu et al., 2020). Parents have the responsibility to monitor children's behavior and activities, especially in their teens, so as not to commit social deviations and be able to deal with stressors (Ibnu et al., 2020). Poor family parenting causes adolescents to experience internal conflicts, irritability, obsessiveness, frustration, and behavioral deviations (Okaviani., 2018). Adolescents who grow up in disharmonious families are more at risk of mental, anti-social, and emotional disorders (Sas, Nurdin, & Bakar, 2018). Several previous studies have discussed family harmony related to mental health problems in adolescents, such as depression, self-esteem and emotional maturity (Artasari, 2017; Budianti, 2015; Rahmawati et al., 2015; Witantri, 2018). However, the current research not only discusses the relationship between family harmony with depression but also stress and anxiety, especially in high school adolescents in Indonesia. While theoretical research has found a possible relationship between family and adolescents' mental health problems, little attention has been geared to examining the interlink of a harmonious family with stress, anxiety, and depression in adolescents. Therefore, the present study aimed to examine the association between family harmony with stress, anxiety, and depression in adolescents.

MATERIALS AND METHODS

This study employed descriptive correlational design with cross-sectional approach. The population was 851 adolescents aged between 16-18 years in five high schools in Malang City. The total sampling was used to recruit the participants. Data were gathered using a pre-tested semi-structured questionnaire to determine the demographic details and family harmony of the participants during the period August 2019 to January 2020.

Harmony in the family was measured using a questionnaire developed by the researcher and filled out by adolescents. The self-reported questionnaire consisted of questions that ask whether adolescents feel that their families are harmonious, with a choice of harmonious and disharmonious answers. The harmony in the family questionnaire has passed the validity and reliability test (Cronbach's alpha > 0.7).

Furthermore, the Stress Anxiety Stress Scale (DASS-21), which was validated and translated into participants' national language (Indonesian language), was used to determine the level of depression, anxiety, and stress in adolescents aged between 16-18 years. DASS-21 was used to screen patients suffering from depression, anxiety, and stress in the community. The original 42-item DASS of Lovibond was changed to a shorter 21-item version. DASS-21 is a well-established instrument for measuring depression, anxiety, and stress symptoms in clinical and non-clinical samples (Antony et al., 1998; Lovibond & Lovibond, 1995). The DASS-21

Table 1. Adolescents' Demography Information (n=851)

Characteristics	n	%
Gender		
Female	423	49.7
Male	428	50.3
Parents' Occupation		
Not Any	9	1.1
Private Employee	321	37.7
Farmer	88	10.3
Civil Servant	157	18.4
Merchant	182	21.4
Others	94	11.0
Socioeconomic Status		
Below Minimum Wage Standard	369	43.4
Above Minimum Wage Standard	482	56.6
Family Harmony		
Harmonious	802	94.2
Not Harmonious	49	5.8
Stress		
Very High	64	7.5
High	92	10.8
Medium	129	15.2
Light	89	10.5
Normal	477	56.1
Anxiety Level		
Very High	307	36.1
High	99	11.6
Medium	117	13.7
Light	97	11.4
Normal	231	27.1
Depression Level		
Very High	187	22
High	107	12.6
Medium	198	23.3
Light	115	13.5
Normal	244	28.7

Table 2. The Relationship between Stress, Anxiety, and Depression Levels with Family Harmony

Family Harmony	Very High		High		Medium		Low		Normal		Total		p	r
	n	%	n	%	n	%	n	%	n	%	n	%		
	Stress													
Not Harmonious	5	0.6	6	0.7	15	1.8	4	0.5	19	2.2	49	5.8	0.013*	0.086
Harmonious	59	6.9	86	10.1	114	13.4	85	10	458	53.8	802	94.2		
	Anxiety													
Not Harmonious	20	2.4	5	0.6	12	1.4	8	0.9	4	0.5	49	5.8	0.071	0.062
Harmonious	287	33.7	94	11	105	12.3	89	10.5	227	26.7	802	94.2		
	Depression													
Not Harmonious	13	1.5	5	0.6	16	1.9	7	0.8	8	0.9	49	5.8	0.13	0.052
Harmonious	174	20.4	102	12	182	21.4	108	12.7	236	27.7	802	94.2		

questionnaire has passed the validity and reliability test (Cronbach's alpha > 0.7).

Data were analyzed through descriptive statistics and bivariate tests using Spearman Rank Correlation analysis. In this study, p-value <0.05 was considered statistically significant. This study has been approved by the Research Ethics Committee of Politeknik Kesehatan Malang (Reg.No.335/KEPK-POLKESMA/2019), and written consent was obtained from all participants.

RESULTS

It was revealed that almost 50% of the adolescents who took part in the study were female (49.7%). The majority of their parents' backgrounds work as private employees (37.7%) with the social and economic status mostly above the minimum wage standard (56.6%). Most of the participants come from harmonious families (94.2%), with stress levels of

most adolescents at normal levels (56.1%), anxiety levels mostly very high (36.1%), and depression levels of 28.7% of adolescents at normal levels [Table 1].

Association between harmony in the family with stress, anxiety, and depression

Table 2 shows a significant relationship between harmony in the family and stress levels in adolescents, as indicated by a p-value of 0.013 (p-value <α). The correlation coefficient of 0.086 indicated a positive direction with a feeble relationship strength between variables. This showed that the more harmonious the relationship in the family was, the lower the stress level in adolescents. The results of further analysis related to stress levels and harmony in the family showed that most adolescents who had stress levels in the normal category had harmonious families (53.8%). Meanwhile, only 1.3% of adolescents had unharmonious families and had high to very high-stress levels.

There was no significant relationship between harmony in the family and the level of anxiety in adolescents, as indicated by a p-value of 0.071 (p-value > α). The correlation coefficient of 0.062 indicated a positive direction with a very weak relationship strength between variables. This showed that the more harmonious the relationship in the family was, the lower the level of anxiety in adolescents even though the decrease was not significant. The results of cross-tabulation between anxiety and harmony in the family indicated that the level of anxiety in adolescents with harmonious families and families who were not harmonious was 33.7% and 2.4%, respectively, and mostly in the anxiety category very high when compared to other classes.

There was no significant relationship between harmony in the family and the level of depression in adolescents, as indicated by a p-value of 0.13 (p-value > α). The correlation coefficient of 0.052 indicates a positive direction with a very weak relationship strength between variables. This showed that the more harmonious the relationship in the family was, the lower the level of depression in adolescents, even though the decrease was not significant. The level of adolescent depression in the cross-tabulation showed that most of the adolescents having normal level of depression had a harmonious family (27.7%), while the adolescents with a non-harmonious family had a most moderate depression level (1.9%).

DISCUSSION

This study documented that most of the adolescents who participated in the study were female. This may be the reason for the high levels of anxiety and depression in this study. Female adolescents respond faster to psychological changes and are more sensitive to self-assessment. Theoretically, women experience hormonal changes, exposure to stressors, coping abilities, and cognitive abilities that are different from men (Liu et al., 2019). Men are better able to manage stressors, although they may not obtain much social support in dealing with the problem (Sun et al., 2017; Tyas, 2014). In addition, female adolescents also show a stronger interpersonal orientation and are more responsive to relationships than male adolescents (Shi et al., 2017).

Our study also portrayed parents' occupation as a large private employee with a socioeconomic status of above the minimum wage standard. In this study, the stress level of adolescents was mostly normal; this can be related to the socioeconomic status of the family. Families with good socioeconomic conditions reduce symptoms of depression and stress in adolescents (Bae, 2020). This is influenced by the mother's caring behavior (Xu et al., 2019). Low-income parents do not care and behave rudely so that their children experience internal problems (Bøe et al., 2017). in addition, physical health problems, self-confidence, and motivation to go to school are lacking (Zhou et al., 2018).

Family harmony affects adolescent mental health development, self-esteem formation, social behavior, and facing stigma from society. Previous research carried out by Wang et al. (2020) declared that family is an essential factor for mental development and higher academic expectations. Family harmony is described by the creation of religious life, understanding, openness, compassion, and mutual trust between children and parents (Sas, Nurdin, & Bakar, 2018). An uncomfortable, unpleasant family atmosphere and unfavorable family relationships can have a psychological impact on children in adolescence (Mulyadi, 2017). Psychological problems of adolescents with single parents (e.g., broken home) tend to occur due to lack of attention and affection. Other factors, such as busy parents, low socioeconomic status, abusive behavior, and negative stigma from the environment, may contribute to adolescents' psychological problems (Ghani et al., 2014). Thus, it takes positive support from parents to reduce the psychological pressure of adolescents (Joyce & Liamputtong, 2017). The psychological wellbeing of adolescents is created when there are harmonious relationships and excellent communication within the family (Tillman & Miller, 2017). Harmony in the family may be related to the high socioeconomic status of adolescents in this study as well as to the stress level of adolescents.

Stress is an emotional problem that often occurs in adolescents due to interpersonal stressors from relationships with family, social environment, and problems at school. According to Widayati et al. (2019), stress is a form of vulnerable emotional disorder, which tends to occur in high school students. Female teenagers experience stress since they worry too much when facing problems, while males tend to be aggressive (Masdar et al., 2016). This behavior is related to adolescent coping abilities. Problem focus coping is one of the strategies that teenagers can do to reduce stressors (Nurlaila, 2019).

Anxiety is a psychopathology that occurs in adolescents with physical and psychological responses to internal and external pressure (Inchley et al., 2011; Wang et al., 2020). Internal pressure that often occurs in adolescents is low self-esteem, negative self-assessment, followed by seeking negative feedback from the environment, which triggers anxiety (Sowislo & Orth, 2013). In this study, most adolescents had normal stress levels related to economic status and harmony in the family. However, the unique thing is that teenagers have a very high category of anxiety. This may be due to other factors not examined in this study.

Depression is related to gender and anxiety. Previous research has reported that women are more at risk of experiencing depression because they tend to be sensitive to stressors, vulnerable to self-compassion, and self-criticism (Bluth & Blanton, 2015; Sun et al., 2017). Teenagers face multiple demands for final exams and their future, which can lead to depression (Liu et al., 2019). Meanwhile, excellent self-evaluation skills and accepting social criticism can minimize anxiety and reduce depression (Gill et al., 2018). However, when the adolescents' self-concept is not good because the psychological experiences of childhood are less enjoyable, it can lead to depression (Wong et al., 2019). Stressors that cause depression also arise from the school environment and associations in the form of learning loads, social demands, hostility, rejection between friends, disappointment, and intimidating actions (Anyan et al., 2018; Zhao et al., 2020).

Stress in adolescents occurs due to puberty; there is a peak of growth and development, both physically and mentally (Miller & Prinstein, 2019). Stress triggers aggressive actions and social behavior deviations, so it is essential to provide support to adolescents. Lack of support from family and friends when dealing with stressors can trigger stress. Every teenager has different coping strategies in responding to the stressors that arise. Stress management using proper coping can help reduce the level of stress experienced (Ramadhani & Hendarti, 2017). Stress management skills are also influenced by the psychological wellbeing of children in the family (Dewi & Soekandar, 2019). The results in this study indicated that most adolescents having stress in the normal category had harmonious families. A harmonious family makes children mentally healthy, able to adapt to the environment, and show filial piety to parents (filial piety) (Bourassa et al., 2015; Chen, 2014; Meggiolaro & Ongaro, 2014). A family that is not harmonious can trigger stress because conditions are not as expected, coupled with the burden of school work, stressors from teachers and peers (Duarte et al., 2019). This suppresses the mind of adolescents and is often not expressed so that the stressor they feel is not reduced (Kim, Bassett, So, & Voisin, 2019).

It was found that harmony in the family is not related to the level of anxiety and depression in adolescents. Although adolescents are found to freely choose their career pathways and future trajectories, parental support still holds a firm factor for such options. Feeling worried about the future, hopes, and ambiguous desires can cause anxiety. Anxiety per se is experienced by many individuals, especially women, which affects their survival, weakness, and helplessness (Craske et al., 2017). Adolescents with families who are not harmonious, but who are not anxious can be caused by good social support and coping skills. A recent study by Wang et al. (2020) revealed that parents who are not harmonious can still reduce feelings of loneliness, provide affection by accompanying children's activities, pay attention, and fulfill their needs so that children do not feel anxious. Adolescents who experience anxiety or depression tend to face academic difficulties, dropping out of school, maladaptive social relationships, drug abuse, and suicide (Ingul & Nordahl, 2013). Therefore, if the conditions of the family are not harmonious, single parents still have to try to meet the physical and psychological needs of their children, and the environment must reduce the negative stigma of children with broken homes (Ghani et al., 2014).

Adolescence is a transitional period that experiences many new challenges (Guo et al., 2018). Higher education levels and academic stress can play an important role in determining adolescent mental health (Chellamuthu & Kadhiravan, 2017). Depression is a mental health problem in adolescents that is a response to the loss of parents, siblings, friends, or the end of a relationship with a lover (Townsend, 2017). In this regard, adolescents with an unharmonious family are less able to communicate their emotions and thoughts effectively, and they also lack family support, which leads to anxiety and depression (Kleiboer et al., 2015). A family that is not harmonious causes adolescents to lack communication skills, often feel blamed, and tend to experience loneliness (Shi et al., 2017; Wang et al., 2020). However, when adolescents can communicate and have good relationships, and their parents are willing to facilitate it, depression will not occur. This is because an adolescent has a basic need to give and receive a positive response to relationships with others (Beata et al., 2018).

The results of the correlation between anxiety and depression with family harmony in this study showed insignificant value. The insignificant results in this study may be related to the large differences in the distribution of adolescents with harmonious and disharmonious families. The advantage of this research is that it was carried out on a population of adolescents with almost the same age, in addition to which this research was also carried out in a large number of samples. However, this study has limitations; the family harmony questionnaire used in this study is a self-reported questionnaire that reveals youth perspectives on family harmony so that it may not reflect the condition of the family as a whole. However, the results showed that stress in adolescents was significantly related to family harmony. Stress in everyday life is often ignored, even

though stress can develop into anxiety and depression and can be very detrimental to mental health (Khan & Khan, 2017). Therefore, to prevent stressful conditions in adolescents, it is necessary to promote mental health by involving teenagers' families.

CONCLUSION

Our study has attempted to uncover the relationship between family and mental health problems in adolescents, such as stress, anxiety, and depression. The results of the analysis showed that harmony in the family had a significant effect on stress. Meanwhile, anxiety and depression in adolescents did not have a significant relationship with family harmony. Although it is not significant, it does not mean that family harmony is not a neglected thing in the handling of anxiety and depression problems in adolescents. Stress in adolescents should be addressed through early detection and promotion of mental health. Mental health promotion activities need to be carried out to prevent increasing stress, anxiety, and depression in adolescents. Therefore, it is necessary to provide education and counseling to the family to prevent fights in the family so that it can reduce the emergence of stress in adolescents. Families also need to improve the relationship between parents and adolescents so that they know better the mental health conditions of adolescents. It is also recommended to explore more deeply about family harmony from the point of view of all family members and broaden the identification of factors contributing to mental health problems through more extensive studies to explore various aspects of mental health in adolescents.

REFERENCES

Antony, M. M., Cox, B. J., Enns, M. W., Bieling, P. J., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment*, *10*(2), 176–181. https://doi.org/10.1037/1040-3590.10.2.176

Anyan, F., Bizumic, B., & Hjemdal, O. (2018). Specificity in mediated pathways by anxiety symptoms linking adolescent stress profiles to depressive symptoms: Results of a moderated mediation approach. *Journal of Affective Disorders*, *228*(December 2017), 109–117. https://doi.org/10.1016/j.jad.2017.12.011

Artasari, D. N. (2017). *Hubungan antara Keharmonisan keluarga dengan kematangan emosi pada Siswa SMA Diponegoro Tumpang* [Universitas Malik Ibrahim Malang]. https://doi.org/10.1016/j.sbspro.2015.04.758

Bae, S. M. (2020). The relationship between social capital, acculturative stress and depressive symptoms in multicultural adolescents: Verification using multivariate latent growth modeling. *International Journal of Intercultural Relations*, *74*(February 2019), 127–135. https://doi.org/10.1016/j.ijintrel.2019.11.007

Beata, M. D. R., Rhodes, S., Vasilopoulou, E., & Hutton, P. (2018). Loneliness in Psychosis: A Meta-analytical Review. *Schizophrenia Bulletin*, *44*(1), 114–125. https://doi.org/10.1093/schbul/sbx036

Bluth, K., & Blanton, P. W. (2015). The influence of self-compassion on emotional well-being among early and older adolescent males and females. *Journal of Positive Psychology*, *10*(3), 219–230. https://doi.org/10.1080/17439760.2014.936967

Bøe, T., Skogen, J. C., Sivertsen, B., Hysing, M., Petrie, K. J., Dearing, E., & Zachrisson, H. D. (2017). Economic volatility in childhood and subsequent adolescent mental health problems: A longitudinal population-based study of adolescents. *BMJ Open*, *7*(9). https://doi.org/10.1136/bmjopen-2017-017030

Bourassa, K. J., Sbarra, D. A., & Whisman, M. A. (2015). Women in very low quality marriages gain life satisfaction following divorce. *Journal of Family Psychology*, *29*(3), 490–499. https://doi.org/10.1037/fam0000075

Brooks, H., Irmansyah, I., Lovell, K., Savitri, I., Utomo, B., Prawira, B., Iskandar, L., Renwick, L., Pedley, R., Kusumayati, A., & Bee, P. (2019). Improving mental health literacy among young people aged 11-15 years in Java, Indonesia: Co-development and feasibility testing of a culturally-appropriate, user-centred resource (IMPeTUs) - A study protocol. *BMC Health Services Research*, *19*(1), 1–9. https://doi.org/10.1186/s12913-019-4328-2

Budianti, A. K. (2015). Hubungan antara Keharmonisan keluarga dengan harga diri pada Remaja. *Universitas Muhammadiyah Surakarta. Surakarta.*

Chellamuthu, S., & Kadhiravan, D. (2017). Academic stress and mental health among high school students. *Indian Journal of Applied Research*, *7*(5), 404–406.

Chen, W. W. (2014). The relationship between perceived parenting style, filial piety, and life satisfaction in Hong Kong. *Journal of Family Psychology*, *28*(3), 308–314. https://doi.org/10.1037/a0036819

Chi, X., Liu, X., Huang, Q., Huang, L., Zhang, P., & Chen, X. (2020). Depressive Symptoms among Junior High School Students in Southern China: Prevalence, Changes, and Psychosocial Correlates. *Journal of Affective Disorders*, *274*(October 2019), 1191–1200. https://doi.org/10.1016/j.jad.2020.05.034

Craske, M. G., Stein, M. B., Eley, T. C., Milad, M. R., Holmes, A., Rapee, R. M., & Wittchen, H. U. (2017). Anxiety disorders. *Nature Reviews Disease Primers*, *3*. https://doi.org/10.1038/nrdp.2017.24

Dewi, kartika sari; Soekandar, A. (2019). kesejahteraan anak dan remaja pada keluarga bercerai di Indonesia : Review Naratif. *Https://Jurnalwacana.Psikologi.Fk.Uns.Ac.Id/*, *vol 11*, *No*. https://doi.org/https://doi.org/10.13057/wacana.v11i1.135

Duarte, T. A., Paulino, S., Almeida, C., Gomes, H. S., Santos, N., & Gouveia-Pereira, M. (2019). Self-harm as a predisposition for suicide attempts: A study of adolescents' deliberate self-harm, suicidal ideation, and suicide attempts. *Psychiatry Research*, *287*. https://doi.org/10.1016/j.psychres.2019.112553

Ercan, E. S., Bilaç, Ö., Uysal Özaslan, T., & Akyol Ardic, U. (2016). Prevalence of Psychiatric Disorders Among Turkish Children: The Effects of Impairment and Sociodemographic Correlates. *Child Psychiatry and Human Development*, *47*(1), 35–42. https://doi.org/10.1007/s10578-015-0541-3

Erika, K. A., Pertiwi, D. A., & Seniwati, T. (2017). Bullying Behaviour of Adolescents based on Gender, Gang and Family. *Jurnal Ners*, *Vol 12*, *no*, p.126-132.

Fujikawa, S., Ando, S., Nishida, A., Usami, S., Koike, S., Yamasaki, S., Morimoto, Y., Toriyama, R., Kanata, S., Sugimoto, N., Sasaki, T., Furukawa, T. A., Hiraiwa-Hasegawa, M., & Kasai, K. (2018). Disciplinary slapping is associated with bullying involvement regardless of warm parenting in early adolescence. *Journal of Adolescence*, *68*(December 2017), 207–216. https://doi.org/10.1016/j.adolescence.2018.07.018

Ghani, F. B. A., Roeswardi, S. I. bt, & Aziz, A. bt A. (2014). Parenting Styles and their Relation to Teenagers' Personality Profile in Single Mother Families: A Case Study. *Procedia - Social and Behavioral Sciences*, *114*, 766–770. https://doi.org/10.1016/j.sbspro.2013.12.782

Gill, C., Watson, L., Williams, C., & Chan, S. W. Y. (2018). Social anxiety and self-compassion in adolescents. *Journal of Adolescence*, *69*(October), 163–174. https://doi.org/10.1016/j.adolescence.2018.10.004

Guo, L., Tian, L., & Scott Huebner, E. (2018). Family dysfunction and anxiety in adolescents: A moderated mediation model of self-esteem and perceived school stress. *Journal of School Psychology*, *69*(January), 16–27. https://doi.org/10.1016/j.jsp.2018.04.002

Han, L., Zhao, S. Y., Pan, X. Y., & Liao, C. J. (2018). The impact of students with left-behind experiences on childhood: The relationship between negative life events and depression among college students in China. *International Journal of Social Psychiatry*, *64*(1), 56–62. https://doi.org/10.1177/0020764017739332

Hayward, L. E., Vartanian, L. R., Kwok, C., & Newby, J. M. (2020). How might childhood adversity predict adult psychological distress? Applying the Identity Disruption Model to understanding depression and anxiety disorders. *Journal of Affective Disorders*, *265*(November 2019), 112–119. https://doi.org/10.1016/j.jad.2020.01.036

Hill, R. M., Mellick, W., Temple, J. R., & Sharp, C. (2017). The role of bullying in depressive symptoms from adolescence to emerging adulthood: A growth mixture model. *Journal of Affective Disorders*, *207*, 1–8. https://doi.org/10.1016/j.jad.2016.09.007

Ibnu, I. F., Wahjuni, C. U., & Devy, S. R. (2020). Narrative stories of high risk sexual behaviors among adolescents in makassar city. *Journal of Public Health Research*, *9*(2), 156–159. https://doi.org/10.4081/jphr.2020.1830

Inchley, J., Kirby, J., & Currie, C. (2011). Longitudinal changes in physical self-perceptions and associations withphysical activity during adolescence. *Pediatric Exercise Science*, *23*(2), 237–249. https://doi.org/10.1123/pes.23.2.237

Ingul, J. M., & Nordahl, H. M. (2013). Anxiety as a risk factor for school absenteeism: What differentiates anxious school attenders from non-attenders? *Annals of General Psychiatry*, *12*(1), 1–9. https://doi.org/10.1186/1744-859x-12-25

Joyce, L., & Liamputtong, P. (2017). Acculturation stress and social support for young refugees in regional areas. *Children and Youth Services Review*, *77*(March), 18–26. https://doi.org/10.1016/j.childyouth.2017.03.016

Kezer, M., & Cemalcilar, Z. (2020). A Comprehensive Investigation of Associations of Objective and Subjective Socioeconomic Status with Perceived Health and Subjective Well-Being. *International Review of Social Psychology*, *33*(1), 10. https://doi.org/10.5334/irsp.364

Khan, S., & Khan, R. A. (2017). Chronic Stress Leads to Anxiety and Depression. *Annals of Psychiatry and Mental Health*, *5*(1), 1091–1095.

Kim, D. H., Bassett, S. M., So, S., & Voisin, D. R. (2019). Family stress and youth mental health problems: Self-efficacy and future orientation mediation. *American Journal of Orthopsychiatry, 89(2)*, *125*. https://doi.org/https://doi.org/10.1037/ort0000371.

Kleiboer, A., Donker, T., Seekles, W., van Straten, A., Riper, H., & Cuijpers, P. (2015). A randomized controlled trial on the role of support in Internet-based problem solving therapy for depression and anxiety. *Behaviour Research and Therapy*, *72*, 63–71. https://doi.org/10.1016/j.brat.2015.06.013

Leavey, G., Rosato, M., Harding, S., Corry, D., Divin, N., & Breslin, G. (2020). Adolescent mental health problems, suicidality and seeking help from

general practice: A cross-sectional study (Northern Ireland Schools and Wellbeing study). *Journal of Affective Disorders*, *274*(April), 535–544. https://doi.org/10.1016/j.jad.2020.05.083

Liu, H., Liu, L., & Jin, X. (2020). *The Impact of Parental Remote Migration and Parent-Child Relation Types on the Psychological Resilience of Rural Left-Behind Children in China*.

Liu, Q. Q., Yang, X. J., Hu, Y. T., Zhang, C. Y., & Nie, Y. G. (2020). How and when is family dysfunction associated with adolescent mobile phone addiction? Testing a moderated mediation model. *Children and Youth Services Review*, *111*(October 2019), 104827. https://doi.org/10.1016/j.childyouth.2020.104827

Liu, W. J., Zhou, L., Wang, X. Q., Yang, B. X., Wang, Y., & Jiang, J. F. (2019). Mediating role of resilience in relationship between negative life events and depression among Chinese adolescents. *Archives of Psychiatric Nursing*, *33*(6), 116–122. https://doi.org/10.1016/j.apnu.2019.10.004

Lovibond, P., & Lovibond, S. (1995). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Psychology Foundation.

Masdar, H., Saputri, P. A., Rosdiana, D., Chandra, F., & Darmawi, D. (2016). Depresi, ansietas dan stres serta hubungannya dengan obesitas pada remaja. *Jurnal Gizi Klinik Indonesia*, *12*(4), 138. https://doi.org/10.22146/ijcn.23021

Meggiolaro, S., & Ongaro, F. (2014). Family contexts and adolescents' emotional status. *Journal of Youth Studies*, *17*(10), 1306–1329. https://doi.org/10.1080/13676261.2014.918246

Menthal Health Information statistics. (2017). *National Institute of Mental Health. Major Depression.*

Miller, A. B., & Prinstein, M. J. (2019). Adolescent Suicide as a Failure of Acute Stress-Response Systems. *Annual Review of Clinical Psychology*, *15*(1), 425–450. https://doi.org/10.1146/annurev-clinpsy-050718-095625

Mulyadi, Y. B. (2017). *Hubungan persepsi keharmonisan keluarga dan self esteem dengan kenakalan remaja*. *2*(1), 22–32.

Nurlaila, N. (2019). Management Stres, Coping Stres Pada Remaja Dan Dampak Pada Pembangunan Ekonomi Daerah Kota Ternate. *Cakrawala Management Business Journal*, *2*(1), 185. https://doi.org/10.30862/cm-bj.v2i1.13

Nursalam, N., Armini, N. K. A., & Fauziningtyas, R. (2017). Family Social Support Reduces Post Judegemental Stress in Teenagers. *Jurnal Ners*, *4*(2), 182–189.

Oderinde, K. O., Dada, M. U., Ogun, O. C., Awunor, N. S., Awunor, N. S., Ahmed, H. K., Tsuung, A. B., Tanko, S. T., & Yusuff, A. A. (2018). Prevalence and Predictors of Depression among Adolescents in Ido Ekiti, South West Nigeria. *International Journal of Clinical Medicine*, *09*(03), 187–202. https://doi.org/10.4236/ijcm.2018.93017

Okaviani., D., L. (2018). Keharmonisan Keluarga Dan Kenakalan Remajapada Siswa Kelas 9 Mts Negeri 2 Palembang. *Psikis: Jurnal Psikologi Islami*, *Vol. 4No.* https://doi.org/https://doi.org/10.19109/psikis.v4i1.2027

Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, *56*(3), 345–365. https://doi.org/10.1111/jcpp.12381

Rahmawati, L., Arneliwati, & Elita, V. (2015). Hubungan dukungan keluarga dengan harga diri remaja di lembaga pemasyarakatan. *Jom*, *2*(2), 1221–1230.

Ramadhani, AH., Hendarti, L. (2017). Hubungan Jenis Kelamin Dengan Tingkat Stres Pada Remaja Siswa Sma di Kota Kediri Tahun 2017. *Jurnal Keperawatan Muhammadiyah.*

Rana, M., Gupta, M., Malhi, P., Grover, S., & Kaur, M. (2018). Effectiveness of a multicomponent school based intervention to reduce bullying among adolescents in Chandigarh, North India: A quasi-experimental study protocol. *Journal of Public Health Research*, *7*(1), 50–55. https://doi.org/10.4081/jphr.2018.1304

Sandal, R. K., Goel, N. K., Sharma, M. K., Bakshi, R. K., Singh, N., & Kumar, D. (2017). Prevalence of Depression, Anxiety and Stress among school going adolescent in Chandigarh. *Journal of Family Medicine and Primary Care*, *6*(2), 405–410. https://doi.org/10.4103/2249-4863.219988

Sas, I., Said, N., & Bakar, A. (2018). Hubungan Antara Keharmonisan keluarga dengan kestabilan emosi remaja. *Jurnal Ilmiah Mahasiswa Bimbingan Dan Konseling*, *Volume 3 N*, Hal 68-75.

Shi, X., Wang, J., & Zou, H. (2017). Family functioning and Internet addiction among Chinese adolescents: The mediating roles of self-esteem and loneliness. *Computers in Human Behavior*, *76*, 201–210. https://doi.org/10.1016/j.chb.2017.07.028

Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, *139*(1), 213–240. https://doi.org/10.1037/a0028931

Sun, X. jun, Niu, G. feng, You, Z. qi, Zhou, Z. kui, & Tang, Y. (2017). Gender, negative life events and coping on different stages of depression severity: A cross-sectional study among Chinese university students. *Journal of Affective Disorders*, *209*(September 2016), 177–181. https://doi.org/10.1016/j.jad.2016.11.025

Thariq, M. (2018). Interpersonal Communication Role for Self-Concept of Children and Families.

Budapest International Research and Critics Institute (BIRCI-Journal) : Humanities and Social Sciences, *1*(2), 181–194. https://doi.org/10.33258/birci.v1i2.21

Tillman, K. H., & Miller, B. (2017). The role of family relationships in the psychological wellbeing of interracially dating adolescents. *Social Science Research*, *65*(2016), 240–252. https://doi.org/10.1016/j.ssresearch.2016.11.001

Townsend, M. C. A. M., K. I. (2017). *Psychiatric mental health nursing: Concepts of care in evidence-based practice,Philadelphia, F.A. Davis company*. F.A. Davis company.

Tyas, H. A. (2014). Perbedaan Kebutuhan Dukungan SosialAntara Laki-Laki dan Perempuan Pada Pasien PenderitaGagal Ginjal di RSUD Dr. Moewardi. *Universitas Muhammadiyah Surakarta. Surakarta.*

Wang, J.-L., Rost, D. H., Qiao, R.-J., & Monk, R. (2020). Academic Stress and Smartphone Dependence among Chinese Adolescents: A Moderated Mediation Model. *Children and Youth Services Review*, 105029. https://doi.org/10.1016/j.childyouth.2020.105029

WHO. (2019). *Adolescent Menthal Health. Newsroom, fact sheet, detail. Retrieved from:*

Widayati, R. W., Syafitri, E. N., & Wiyani, C. (2019). *Managemen Stress Sebagai Upaya Meminimalkan Resiko Bencana Sosial Pada Siswa Di Smp Negeri 2 Stress Management As an Effort To Minimize Social Disaster Risk in Students At Middle School Ngemplak*. 205–210.

Witantri, A. (2018). Hubungan antara persepsi keharmonisan keluarga, penerimaan diri dengan depresi remaja perempuan. *Universitas Muhammadiyah Surakarta. Surakarta.*

Wong, A. E., Dirghangi, S. R., & Hart, S. R. (2019). Self-concept clarity mediates the effects of adverse childhood experiences on adult suicide behavior, depression, loneliness, perceived stress, and life distress. *Self and Identity*, *18*(3), 247–266. https://doi.org/10.1080/15298868.2018.1439096

Wuryaningsih, E W., Windarwati, HD., Dewi, EI., Deviantony, F., Hadi, E. (2018). *Keperawatan Kesehatan Jiwa*. Percetakaan & penerbitan Universitas Jember.

Xu, F., Cui, W., Xing, T., & Parkinson, M. (2019). Family socioeconomic status and adolescent depressive symptoms in a Chinese low- and middle- income sample: The indirect effects of maternal care and adolescent sense of coherence. *Frontiers in Psychology*, *10*(APR), 1–9. https://doi.org/10.3389/fpsyg.2019.00819

Zhao, Y., Zhao, Y., Lee, Y. T., & Chen, L. (2020). Cumulative interpersonal relationship risk and resilience models for bullying victimization and depression in adolescents. *Personality and Individual Differences*, *155*(November). https://doi.org/10.1016/j.paid.2019.109706

Zheng, Y., Rijsdijk, F., Pingault, J. B., McMahon, R. J., & Unger, J. B. (2016). Developmental changes in genetic and environmental influences on Chinese child and adolescent anxiety and depression. *Psychological Medicine*, *46*(9), 1829–1838. https://doi.org/10.1017/S0033291716000313

Zhou, Q., Fan, L., & Yin, Z. (2018). Association between family socioeconomic status and depressive symptoms among Chinese adolescents: Evidence from a national household survey. *Psychiatry Research*, *259*(121), 81–88. https://doi.org/10.1016/j.psychres.2017.09.072

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Original Research

Effectiveness of an Intervention based on Peplau's Model on Health Literacy among Nurses Who Smoke: A Quasi-Experimental Study

Achmad Djojo[1], Suhariyanto Suhariyanto[1], Lily Yuniar[1], Arsad Suni[2], Efi Riani[1], Yogi Ervandi[1], Sepni Walvri[1], Angie Aprizal[1], Rr Tutik Sri Hariyati[3] and Hanny Handiyani[3]

[1]Jurusan Keperawatan Singkawang, Poltekkes Kemenkes Pontianak, Pontianak, Indonesia
[2] Poltekkes Kemenkes Ternate, Indonesia
[3] Faculty of Nursing Science, Universitas Indonesia, Depok, Indonesia

ABSTRACT

Introduction: : Lack of health literacy for smoking nurses has worsened image of nursing services. The role of leader can be a support in increasing behavior change of nurses who smoke. The aimed to find out health literacy of smokers in nursing staff through interpersonal role of the head of the room by intervention based on Peplau's model.

Methods: A quasi-experimental research with a pre-and post-control group design, using modification questionnaire of knowledge and behavior. The target population was nurses living in Singkawang who smoke in a hospital. Sample was 35 respondents for each group (controlling group and intervention group) using purposive sampling. Dependent variable is health literacy among nurses who smoke and independent variable is intervention based on Peplau's model. Intervention is in the form of a guide module consisting of strengthening health literacy (health awareness, self-reflection, cognitive competence and behavioral interpersonal relationships in the head of the room) and will be implemented to nurses who smoke. Analysis data for bivariate used paired t – test and for multivariate used the McNemar test.

Results: The research showed that the difference before and after intervention was 2.23 (p = 0.001) and control group was 8.00 with a default value of 0.870 deviation. The results showed a significant increase in health literacy in nurse smokers through the role of interpersonal head nurse (p=0.001).

Conclusion: Role of head of room in interpersonal relationship with Peplau's model affects the health literacy of nursing staff who smoke.

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CONTACT

Suhariyanto Suhariyanto
✉ suhariyantoputra1986@gmail.com
Poltekkes Kemenkes Pontianak, Pontianak, Indonesia

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INTRODUCTION

Nurses are role model who provide education for patients or community to change for better behavior (Morsiani, Bagnasco and Sasso, 2017). Nurses who don't have good health awareness are given interventions to change these behaviors (Morsiani, Bagnasco and Sasso, 2017; Kirkman *et al.*, 2018). Nurses' health literacy can be formed through interpersonal relationships that can change the way they think about health behavior. The findings indicate that healthcare professionals need support from leaders and coworkers, who play an important role in promoting behavior change (Blackstone and Pressman, 2016; Morsiani, Bagnasco and Sasso, 2017). Other studies suggest that positive support, training, motivating, and disciplined healthcare personnel promote increased adherence that changes behavior (Renner *et al.*, 2012). The ability to understand individual behavior requires a nursing theory approach, which is a theory developed by Peplau regarding interpersonal relationships that help carry out their duties through cooperative relationships (Canadian Interprofessional Health

Collaborative, 2010). The interpersonal relationships that are built can influence changes in affective, cognitive, and multidimensional behavior by using several positive social and interpersonal interventions (Choi *et al.*, 2016). The approach through health professionals, especially nurses, has a role in maintaining patient safety by providing patient and family education (Scully, 2015). In addition, one of the competencies of nurses is being able to apply interpersonal relationships to provide education and examples for patients in changing behavior.

Health literacy rate of nurses in implementing health has not yet reached the standard level, more than 50% of nurses in developing countries still need higher education and support (Niederdeppe *et al.*, 2008; Seymour, 2018). The results of a preliminary study and encroachment carried out in five hospitals in Kalimantan in May 2019 showed that the level of knowledge and health literacy was still low (45%) and moderate (55%). The results of interviews with the head of nursing and medical services for health workers stated that most male nurses had smoking behavior, even though information on smoking bans in the hospital already existed. The results of observations also show that health workers still smoke around the hospital, both in the surrounding area and in the canteen. Bad health literacy carried out by nurses can make patients and their families to not believe in the education provided by nurses, because of the behavior they see (Choi *et al.*, 2016). The phenomenon of nurse behavior not having high health literacy needs to be changed, so that the quality of nursing and hospital services improves. In addition, patient and family satisfaction is important for maintaining the existence of the hospital and accreditation. Good services can improve the health status of patients, thereby supporting the SDGs 2030 program of healthy living and promoting welfare for all communities. This study aim was to find out health awareness of smokers in nursing staff through the interpersonal role of the head of the room by intervention based on Peplau's model.

MATERIALS AND METHODS

This research is a quasi-experimental study with pre and post-control group design, which was held for six months at hospital in Kalimantan with criteria of hospitals that have a large number of smoking nurses. The target population was nurses who smoke in a hospital and lives in Singkawang. Researchers selected research respondents using purposive sampling technique with the inclusion criteria being male nurses, productive age and active smokers, while the exclusion criteria were nurses who had quit smoking and were unwilling to be observed. There are 70 respondents that contain 35 respondents for control group and 35 respondents for intervention group. Dependent variable is health literacy among nurses who smoke and independent variable is intervention based on Peplau's model. Intervention is in the form of a guide module consisting of strengthening health literacy and implemented to nurses who smoke. Instruments of this study consist of guide module (strengthening health awareness, self-reflection, cognitive competence and behavioral interpersonal relationships in the head of the room) and health awareness questionnaire with 49 items using Likert scale. After dividing into two groups, we did pretest then gave intervention with guide module (strengthening health awareness, self-reflection, cognitive competence and behavioral interpersonal relationships in the head of the room). Analysis data for bivariate used paired t – test and for multivariate used McNemar test. This study was accepted for ethical clearance from Poltekkes Kemenkes Pontianak No. 191/KEPK-PK.PKP/V/ 2019.

RESULTS

The research conducted in 35 respondents in each group showed that all respondents were male. The highest educational background of the nurses was diploma (intervention vs. control; 88.6% vs. 85.7%) and the average of age of each group was 26 – 30 years. The majority respondents were permanent employee with working period average 3-4 years (Table 1).

There are differences between intervention group before and after giving intervention; before intervention the intervention group mean was 7.76 and increased after intervention to 10.00 with p value 0.001, while in the control group with 35 respondents the average health literacy obtained a value of 8.00 with a default value of 0.870 deviation (Table 2). Based on the results of the calculation of the statistical test, it was obtained p = 0.001. This means that the p value $<\alpha = 0.05$), which states that the interpersonal role of the head of the room strengthens the interpersonal role with the Peplau's model affecting the health literacy of nursing staff. For head of the room, there are guide modules that can increase the knowledge about interpersonal role with Peplau's model and which consist of role of teaching and resource persons, leadership role, role of guardian, advisory role and role of the stranger. It will be implemented to nursing staff who smoke using Peplau's model, so health literacy among nurses who smoke will increase.

DISCUSSION

Health literacy is defined as a person's ability to obtain, process, and understand health information and healthcare that is necessary so as to make appropriate decisions for individual health conditions. The health literacy of respondents who are smoking nurses is to be aware of the knowledge and motivation to change (DeWalt et al., 2011; Sheridan et al., 2011). In this study, before the respondents were given intervention, the head of the room was given a guide module containing interpersonal roles with Peplau's model. After that,

Table 1. Distribution of Respondent Characteristics

Parameter	Intervention		Control		Total	
	n	%	n	%	n	%
Gender						
Male	35	100	35	100	70	100
Age						
20-25 year	15	42.8	12	34.3	27	38.5
26-30 year	10	38.5	17	48.6	27	38.5
31-35 year	10	28.7	6	17.1	16	23
Education						
Bachelor	4	11.4	5	14.3	9	12.8
Diploma	31	88.6	30	85.7	61	87.2
Employment Status						
Permanent employee	21	60.0	19	54.3	40	57
Contract employee	14	40.0	16	45.7	30	43
Working duration						
< 1 year	5	14.3	6	17.1	11	15.7
1-5 year	17	48.6	13	37.1	30	42.8
> 5 year	13	37.1	16	45.8	29	41.5

Table 2. The Difference of Health Literacy of the Respondents

No	Health literacy		N	Mean	Mean Differences	SD	p
1	Intervention group	Before	35	7.76	2.23	1.550	0.001
		After	35	10.00		0.870	
2	Control group	Before					
		After	35	8.00		0.870	0.037

the head of the room implemented it to nursing staff. The result of this study shows that afterwards the intervention group increased health literacy; before intervention the mean was 7.76 and after intervention it was 10.00 with p value 0.001, which means p value <α = 0.05) indicating the interpersonal role of the head of the room strengthens the interpersonal role with the Peplau's model affecting the health literacy of nursing staff.

Sorensen stated that the causes of low health literacy include increasing age, latest education level, motivation, and individual behavior. It has been researched by Sorensen et al. (2012) that motivation also affects a person's ability to seek information about health and try to understand what is obtained from that information (Kim, 2009; Protheroe, Wolf and Lee, 2010; Berkman et al., 2011). The result of this research supports the theory found by other researchers. Persons with low health literacy have low knowledge of health, while a person with high health literacy has good knowledge of health (Lee, Lee and Moon, 2016). In this study, there was no difference in the control group results because it wasn't given treatment. In this case, it is necessary to have a continuous mentoring from the field of nursing to perform competence as head nurse in conducting interpersonal Peplau. It cannot be done only one or twice, but must be continuous (Mosley and Taylor, 2017). The motivation also affects a person's ability to seek information about health and seek to understand what the information provides. The motivation is gained from interpersonal head of room with Peplau's model. This is supported by the head of room providing support and commitment to the goal that raises productivity and can motivate the work behavior of nurses.

The competency of head nurses in implementing leadership functions is the most dominant factor affecting the health literacy in nurses (Laschinger et al., 2014; Marquis and Huston, 2017). Leadership roles and managerial head of room are important in applying interpersonal Peplau's model. This role can't be given only once, but needs to be continuous in the form of continuous supervision of the head of nurse to the staff who are smoking in order to create health literacy. A briefing function that is included in the interpersonal role of the head nurse is one of the forms of leadership management to increase effectiveness and efficiency in working further to create a healthy work environment because the head of room is capable to direct to nursing staff (Scully, 2015; Marquis and Huston, 2017). It is influenced by the ability and responsibility of the head of room and the cooperation of nurses in the room.

Interpersonal relationships are one of the measures to change viewpoints related to health behavior. Findings suggest that healthcare professionals need the support of leaders and peers, who play an important role in raising behavioral changes (Barrantes *et al.*, 2017; Ogoncho, Sanga and Halake, 2017). The ability to understand behavior requires an approach to nursing theory. The Hildegard Peplau Theory (1952) focuses on individuals, nurses, and the interactive process; the results show the relationship between nurses and clients. Based on this theory, the client is an individual with a feeling of need, and nursing is an interpersonal and therapeutic process. The goal of nursing is to educate clients and families and to help clients achieve personality development maturity. Therefore, nurses seek to develop a relationship between nurses and clients, where nurses serve as

speakers, counselors, and guardians. When the client seeks help, the nurse first discusses the problem and explains the type of service available. With the growing relationship between nurses and clients, nurses and clients together define problems and possibly resolve the problem. From this relationship, the client benefits by utilizing the available services to meet his needs and nurses assist the client in terms of lowering the anxiety associated with his health problems.

CONCLUSION

Based on this study regarding the health literacy of smokers in nursing staff through the interpersonal role of the head of the room with the strengthening of the Peplau's model, it can be concluded that there is an influence of the interpersonal role of the head of the room with Peplau's model on the health literacy of nursing staff. The role of head of room in interpersonal relationships using Peplau's model affects the health literacy of nursing staff who smoke. This role cannot be assigned once, but needs to be continuous in the form of continuous supervision from the head of the room to the smoking staff so as to create health literacy.

REFERENCES

Barrantes, R. J. *et al.* (2017) 'The role of minority stressors In lesbian relationship commitment and persistence over time', *Psychology of Sexual Orientation and Gender Diversity*. doi: 10.1037/sgd0000221.

Berkman, N. D. *et al.* (2011) 'Low health literacy and health outcomes: An updated systematic review', *Annals of Internal Medicine*. doi: 10.7326/0003-4819-155-2-201107190-00005.

Blackstone, S. W. and Pressman, H. (2016) 'Patient Communication in Health Care Settings: New Opportunities for Augmentative and Alternative Communication', *AAC: Augmentative and Alternative Communication*. doi: 10.3109/07434618.2015.1125947.

Canadian Interprofessional Health Collaborative (2010) *A National Interprofessional Competency Framework*, *Health San Francisco*.

Choi, S. L. *et al.* (2016) 'Transformational leadership, empowerment, and job satisfaction: The mediating role of employee empowerment', *Human Resources for Health*. doi: 10.1186/s12960-016-0171-2.

DeWalt, D. A. *et al.* (2011) 'Developing and testing the health literacy universal precautions toolkit', *Nursing Outlook*. doi: 10.1016/j.outlook.2010.12.002.

Kim, S. H. (2009) 'Health literacy and functional health status in Korean older adults', *Journal of Clinical Nursing*. doi: 10.1111/j.1365-2702.2008.02739.x.

Kirkman, T. *et al.* (2018) 'Strategies for implementing a multiple patient simulation scenario', *Nurse Education Today*. doi: 10.1016/j.nedt.2018.01.032.

Laschinger, H. K. S. *et al.* (2014) 'Resonant leadership and workplace empowerment: the value of positive organizational cultures in reducing workplace incivility.', *Nursing economic$*.

Lee, E. H., Lee, Y. W. and Moon, S. H. (2016) 'A Structural Equation Model Linking Health Literacy to Self-efficacy, Self-care Activities, and Health-related Quality of Life in Patients with Type 2 Diabetes', *Asian Nursing Research*. doi: 10.1016/j.anr.2016.01.005.

Marquis, B. L. and Huston, C. J. (2017) *Leadership roles and management functions in nursing: Theory and application*, *Leadership Roles and Management Functions in Nursing: Theory and Application*. doi: 10.1097/00006216-200407000-00013.

Morsiani, G., Bagnasco, A. and Sasso, L. (2017) 'How staff nurses perceive the impact of nurse managers' leadership style in terms of job satisfaction: a mixed method study', *Journal of Nursing Management*. doi: 10.1111/jonm.12448.

Mosley, C. M. and Taylor, B. J. (2017) 'Integration of Health Literacy Content Into Nursing Curriculum Utilizing the Health Literacy Expanded Model', *Teaching and Learning in Nursing*. doi: 10.1016/j.teln.2016.12.005.

Niederdeppe, J. *et al.* (2008) 'Message design strategies to raise public awareness of social determinants of health and population health disparities', *Milbank Quarterly*. doi: 10.1111/j.1468-0009.2008.00530.x.

Ogoncho, I. M., Sanga, P. and Halake, D. G. (2017) 'Case Management of Substance Induced Psychosis Using Peplau ' s Theory of Interpersonal Relations', *Clinical Practice*. doi: 10.5923/j.cp.20170602.03.

Protheroe, J., Wolf, M. S. and Lee, A. (2010) 'Health literacy and health outcomes', in *Health Literacy in Context: International Perspectives*.

Renner, B. *et al.* (2012) 'Dynamic psychological and behavioral changes in the adoption and maintenance of exercise', *Health Psychology*. doi: 10.1037/a0025302.

Scully, N. J. (2015) 'Leadership in nursing: The importance of recognising inherent values and attributes to secure a positive future for the profession', *Collegian*. doi: 10.1016/j.colegn.2014.09.004.

Seymour, J. (2018) 'The Impact of Public Health Awareness Campaigns on the Awareness and Quality of Palliative Care', *Journal of Palliative Medicine*. doi: 10.1089/jpm.2017.0391.

Sheridan, S. L. *et al.* (2011) 'Interventions for individuals with low health literacy: A systematic review', in *Journal of Health Communication*. doi: 10.1080/10810730.2011.604391.

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Original Research

Life Experience of Pregnant Woman with Gestational Diabetes Mellitus in Maternal Role Attainment in Special Region of Yogyakarta

Indah Wulaningsih[1], Elsi Dwi Hapsari[2], Heny Pangastuti[2], and Robert Priharjo[3]

[1] STIKes Karya Husada Semarang, Indonesia
[2] Universitas Gadjah Mada, Yogyakarta, Indonesia
[3] Anglia Ruskin University, Cambridge, Cambridgeshire, UK

ABSTRACT

Introduction: Gestational Diabetes Mellitus (GDM) is any abnormal carbohydrate intolerance that begins or is first recognized during pregnancy. The presence of GDM has important implications for both the baby and the mother. Objective: This study explored life experience of pregnant woman with GDM in maternal role attainment.

Methods: This was a phenomenological approach qualitative research. Participants were 12 mothers who gave birth to a maximum of 1 year with a history of GDM selected by purposive sampling technique with sampling criteria. Data analysis used the Colaizzi method (2011).

Results: There were eight categories, e.g. the experience of the mother in GDM diagnosis; the influence GDM of the pregnancy; mother's experience in trying hard to keep her pregnancy; a variation of life experience of mothers during pregnancy, childbirth, and post-delivery; the perception of mother of her role being a mother, the factors that support the development and achievement of the maternal role attainment; the mother's experience in integrating the identity of her role as mother; gap and the desire of the mother with GDM in receiving health services. Life experience of GDM mothers in achieving maternal role attainment has a diversity.

Discussion: Pregnant mothers with GDM experience various maternal role attainments. They cannot attain the role optimally.

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gestational diabetes mellitus; life experience; maternal role attainment

CONTACT

Indah Wulaningsih
ns.indah@gmail.com
STIKes Karya Husada Semarang, Indonesia

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INTRODUCTION

GDM is defined as glucose intolerance with onset or first recognition during pregnancy. The definition does not require any return to normal glucose levels following delivery. Thus, GDM simply represents relatively high glucose levels at one point in the life of a young woman (Buchanan et al., 2012). GDM is a form of hyperglycemia. In general, hyperglycemia results from an insulin supply that is inadequate to meet tissue demands for normal blood glucose regulation. Studies conducted during late pregnancy, when, as discussed below, insulin requirements are high and differ only slightly between normal and gestational diabetic women, consistently reveal reduced insulin responses to nutrients in women with GDM. Studies conducted before or after pregnancy, when women with prior GDM are usually more insulin resistant than normal women (also discussed below), often reveal insulin responses that are similar in the two groups or reduced only slightly in women with prior GDM. However, when insulin levels and responses are expressed relative to each individual's degree of insulin resistance, a large defect in pancreatic ß cell function is a consistent finding in

women with prior GDM (Buchanan et al., 2012; Plows et al., 2018). The presence of GDM has important implications for both the baby and the mother. As regard baby complication, GDM is associated with a significantly increased risk of macrosomia, shoulder dystocia, birth injuries as well as neonatal hypoglycemia and hypobilurinemia. GDM also adds an intrauterine environmental risk factor to an increased genetic risk for the development of obesity, diabetes and/or metabolic syndrome in childhood. As regard mothers' complications, GDM is a strong risk factor for the development of permanent diabetes later in life (40% in 10 subsequent. years) and GDM in successive pregnancies (35%), increasing with the age and weight of the mother. An important intervention on long-term metabolic benefits for both mother and offspring has been attributed to breastfeeding. In the offspring, a protective role was seen against excessive fat accumulation, protection against childhood infections, cardiovascular diseases and type 2 diabetes, while in women an association between lactation and low concentrations of glucose and insulin and a better tolerance to glucose was seen and a significant delay in the appearance of type 2 diabetes in women with GDM (Alia et al., 2019).

In Indonesia, the prevalence of GDM is around 14% of all pregnant women, and 10-25% of the total cases handled are undiagnosed or diagnosed GDMs (Dewi et al., 2020). According to Medical Record Department, Sardjito Hospital of Yogyakarta, the prevalence of GDM in Indonesia is approximately 1,9-3,6 on inpatient disease index of GDM in the last 10 years from 2012-2013.

MATERIALS AND METHODS

This research was a phenomenological approach qualitative research. Data collection was carried out through in-depth interviews with a voice recorder and field notes. Participants were selected based on research needs with the principle of appropriateness and adequacy. Participants in this research were mothers who delivered to a maximum of 1 year with a history of GDM. The data collection was finished in the twelve participant when the categorization of data was saturated. In addition, the availability of time and resources in research is also taken into consideration in ending data collection. This research instrument was the researchers themselves. Purposive sampling technique with sampling criterion was used. The inclusion criteria in this study were 1). Mothers who have given birth for a maximum of the last 1 year and were treated at Dr. Sardjito with a history of DMG. 2) Living in the Special Region of Yogyakarta Province. 3). The maternal age of delivery was less than 18–45 years. 4). Maternal gestational age was less than 32 weeks and more than 40 weeks. 5). Willing to become a participant by agreeing the informed consent. The exclusion criterion was poor pregnancy outcome (stillbirth and severe defects). Data analysis used the Colaizzi method. The inclusion of additional steps were 1). Transcribing all the subjects' descriptions. 2). Extracting significant statements (statements that directly relate to the phenomenon under investigation). 3). Creating formulated meanings. 4). Aggregating formulated meanings into theme clusters. 5). Developing an exhaustive description (that is, a comprehensive description of the experience as articulated by participants). 6). Additional step was researcher's interpretative analysis of symbolic representations from the articulation of the symbolic representation (which occurred during participant interview). 7). Identifying the fundamental structure of the phenomenon. 8). Returning to participants for validation (Edward & Welch, 2011). Data were collected between December 2013 and February 2014. Nursing theory of maternal role attainment (Shrestha et al., 2019) was used as a reference to analyse life experience of mother with GDM. The validity of the data in this research was tested and included the credibility, dependability, and conformability. The study was declared to have passed the ethical review by the Research Ethics Committee, Faculty of Medicine, Gadjah Mada University.

RESULTS

Based on the criteria for inclusion, participating gained as many as five mothers with GDM. In-depth interviews were conducted with participants, which showed mixed results about life experience of pregnant women with GDM in Yogyakarta. This study obtained as many as eight themes of the sub-categories that have been arranged.

Theme 1: Experiences of mothers in the diagnosis of GDM

Mothers' experiences when diagnosed of GDM determined the sustainability of the mother's condition during pregnancy. Sub-categories of signs and symptoms, as well as the causes of diabetes mellitus in pregnancy, were expressed by the participants as follows: P5-12: "Well heredity and lifestyle is wrong, wrong diet contains a lot of sugar." Sub-category of mothers' ignorance about the disease when pregnant was expressed by participants as follows: P2-18: "During pregnancy, I didn't know

what diabetes mellitus is, so I didn't take any treatment, just checked my pregnancy with midwives and district health centre. I've just known this after surgery process, so I didn't realize and know before. I just knew when I had a treatment in Sardjito Hospital, and I was brought into a quiet room. After delivering, I was checked on sugar level, it reached 600 and I was placed in a different ward."

Theme 2: Influence of diabetes mellitus on pregnancy

Gestational Diabetes Mellitus influences maternal and fetal. From the results of interviews with participants it was found the data on the effect of the decrease in fetal condition. Participant P1-5 said: "When I had doctor visits around 9 or 10 am, my baby's heartbeat was supposed to 150 per minutes, but it declined 50 beats per minute, so the doctor advised me to have surgery in the afternoon. My baby was born after 8 months pregnancy, the weight was 1800 grams." The children's condition at birth showed varied circumstances, there were babies who in healthy condition and started to cry, some were born with sepsis and small infants and also experienced hypoglycemia and needed to be treated. There were not enough birth month and low birth weight data.

Theme 3: Experiences of mothers' effort to save their pregnancy

Maintaining pregnancy with diabetes mellitus make a mother desperate to retain the fetus and the mother to remain healthy. There are many ways for mothers to save their pregnancy, such as maintaining maternal and fetal maturity by checking their pregnancy into the hospital with a pregnancy condition of insufficient enough months, then the mothers continually do antenatal care. Here are the expressions of participant: P2-27: "I do monthly check in Kalasan Hospital, I am not suitable to midwives. They said I had to check my pregnancy into the hospital. "

Theme 4: Variation of life experience of the mother during pregnancy, childbirth, and postpartum

Participants have diverse life experiences during pregnancy, delivering, and postpartum. The experience of mothers with GDM during pregnancy is that pregnancy test was done at the health centre and hospital. There is also diversity when the mother checked the pregnancy, which is revealed by the participants as follows: P1-7: "Examination of pregnancy is regularly done in health centre, but I never join maternal exercise." The experience of participants in facing the delivery process is very diverse; the delivery process was done by surgery. Experiences of pregnant women suffering from GDM becomes a traumatic feeling. This is proved by the expression that, postpartum, the mothers decided to use IUD. They were afraid they would get pregnant again and had complaints unwanted if they did not use contraception.

Theme 5: Maternal perception of role during pregnancy

Mothers who have a good maternal role are able to find out the truth about something that is inherent in children (blind-ing-in) and have a comfortable sense of identity (maternal role identity). This means that a mother is able to integrate her role in the system itself with the suitability of herself and other roles. The situation makes mothers rate themselves on how they underwent her role is shown by the feeling of helplessness that indicated a sense of worry about whether their children have the degenerative disease of diabetes mellitus and the confusion of mothers in caring the baby because the baby is too small. Here is the expression of participant : P1-15: "Yes I am so happy. There is gladness and worry, I am worried whether my child has a degenerative disease. "

Theme 6: The factors that support the development and maternal role attainment

Husband's support, family support, and commitment of the mother are the support system for the mother to carry out her role as a mother. Here are the expressions of participants: P4-14: "My husband supports me, he saves me, maintains my diet, delivers me to check my pregnancy..." P1-22: "My family has always suggested to check when my check-up time is due, encourage me that I will have a little girl and support me to have a treatment . They support me to do routine treatment, providing support, give support. My husband also supports me. "

Theme 7: Experience in integrating maternal role as mother.

The identity of the mother's role can be achieved when the mother is able to integrate herself into the role with her suitability and other roles. Mothers will feel secure in their identity as a mother. Data were obtained from participants in achieving that role identity, the mother can indicate how being parents makes them happy. ParticipantsP1-46 expressed: "We'll give our baby love too."

Theme 8: Gaps and desires of mothers with diabetes in receiving healthcare

In providing health services to clients, health professionals are expected to provide care and other services because it influences the healing and prosperity of the client. Clients' hope of health workers is to give more attention to the patient, because pregnant women with diabetes mellitus are particularly vulnerable and cause complications of other diseases. Participant P5-30 said: "Well, basically if there is a patient, they hoped to be taken care of because DM is a disease that can cause fatal effect to fetal."

DISCUSSION

Theme 1: Experiences of mothers in the diagnosis of GDM

Pregnancy is a normal physiological process. The majority of pregnancy is accepted by the mother as something that had to be lived with. But the experience of the mother diagnosed with diabetes during pregnancy is a special experience for the mother and a serious challenge to maintain and undergo pregnancy. Therefore, it is very necessary to do prenatal care for the mother and fetus to align processes to avoid pregnancy complications and decrease the incidence of morbidity or perinatal and maternal mortality (Schellinger et al., 2017). The antenatal care is the first step to establish a diagnosis. Signs and symptoms of diabetes mellitus assessment need to be done when the mother's make their first visit to the antenatal care (Muche et al., 2019).

During pregnancy, increased levels of certain hormones made in the placenta (the organ that connects the baby by the umbilical cord to the uterus) help shift nutrients from mother to fetus. Another hormone produced by the placenta helps prevent the mother from developing low blood sugar. During pregnancy, this hormone causes progressive disruption of glucose intolerance (blood sugar levels are higher) (Soheilykhah et al., 2010). To try to lower blood sugar levels, the body makes more insulin so that the cells have glucose for producing energy sources. Mother's pancreas is able to produce more insulin (about three times the normal amount) to overcome the effects of pregnancy hormones on blood sugar levels. However, if the pancreas cannot produce enough insulin to overcome the effect of the increase hormones during pregnancy, blood sugar levels will rise, causing GDM (Durnwald, 2015; Shanthi et al., 2019).

The result of this study shows that the cause of GDM is due to hereditary factors, immunological factors, and diabetes acquired during pregnancy. The etiologies of GDM are genetic, immunological factors, environmental factors, age, and obesity (Bare & Smeltzer, 2010). Secondary data from this study revealed that, when mothers do first antenatal care, screening is not performed on blood sugar levels. It is similarly stated by participants when they did their first antenatal care. This is why GDM becomes unmanageable in trimester 1, trimester 2 and trimester 3, so mother and fetus experience pain, which, in turn, causes termination of pregnancy although at less than 38 weeks gestation.

Theme 2: The effect of GDM on pregnancy

Pregnant women need more insulin to maintain normal carbohydrate metabolism. If you are not able to produce insulin to meet these demands, it can cause diabetes, which results in changes in the metabolism of carbohydrates. GDM has a significant effect on pregnancy in the mother and baby. In the fetus, it is indicated by a decrease in the condition of the fetus with the fetal heart rate becoming weakened, children born with low birth weight and premature infants (Plows et al., 2018).

Fetal Heart Rate (FHR) indicates a weakening of this increased parasympathetic response. FHR conditions can cause a bradycardia fetal wherein FHR is below 110 beats/min. This situation can be regarded as a sign of fetal hypoxia and is known to occur prior to the death of the fetus. Some of the child's conditions at birth were born with healthy condition and immediately cry, low birth weight, sepsis infection, and hypoglycemia. Infants with low birth weight and hypoglycemia are known to occur due to the disruption of placental insufficiency. Because the glucose can diffuse through the placenta to the fetus, so the level in fetal blood is almost like the maternal blood levels. Mother insulin cannot reach the fetus, so the mother's blood sugar levels affect fetal blood levels (Alia et al., 2019; Plows et al., 2018).

These results are reinforced by compelling evidence that mild maternal hyperglycemia is a risk factor for fetal morbidity. Failure to recognize and deal with these conditions will result in unwanted morbidity in multiple pregnancies, while overly aggressive management will result in the emergence of intervention is not required. Infants of diabetic mothers have unique problems and require special handling (Alia et al., 2019). One previous study showed that babies born to mothers with a history of DM revealed an increase in the Sectio Caesarean delivery and preterm births (Joy & Sivakumar, 2012). Diabetes is a common complication of pregnancy. Patients can be separated into two, namely those who had previously known about diabetes and those diagnosed with diabetes during pregnancy (gestational). Maternal factors obtained in mothers with GDM are hypertension, preeclampsia, and increased risk of caesarean section (Huang et al., 2020).

Maternal glucose levels are unstable and it can cause fetal death in utero, which is a typical occurrence in women with diabetes. The fetus exposed to hyperglycemia tends to asphyxia and

acidosis although the exact mechanism is unclear, but is thought ketoacidosis has close links with the death of the fetus. When maternal or blood glucose levels are within normal limits, the death of the fetus in the uterus is rare (Alberico et al., 2017). Hyperinsulinemia that occurs in the fetus will increase the metabolic rate and oxygen needs to deal with situations such as hyperglycemia, ketoacidosis, pre-eclampsia and vascular disease, which can reduce blood flow and oxygenation placenta-utero fetus. The frequency of fetal death in utero or stillbirth ranged from 15-20%. An attempt to avoid the sudden death of the fetus in the womb is to terminate the pregnancy a few weeks before term (Alia et al., 2019).

The risk factors occur in maternal age between 16-28 years old, women with multigravida, maternal history of diabetes mellitus and non-diabetic mothers (Joy & Sivakumar, 2012). Family history of diabetes mellitus has a strong correlation with GDM. Complications that arise are PIH (pregnancy induced hypertension), hypothyroidism, and caesarean delivery. GDM causes significant complications, especially for mother and the fetus, including preeclampsia, eclampsia, polyhydramnios, fetal macrosomia, birth trauma, caesarean delivery, neonatal metabolic complications and perinatal mortality (Soheilykhah et al., 2010). In this study, the opening of the cervix during delivering is not significant, because the action is performed by a medical team to spur the cervical dilatation. However, these measures do not give good results, so the operative action was done. Caesarean delivery is one of the complications of GDM. This study is consistent with studies conducted by researchers in that the effect of GDM on the pregnancy occurred because of the same risk factors, namely maternal age in the range of 20-28 years, caesarean delivery, and recurrent miscarriage.

Theme 3: Experiences of mothers in the extra effort to keep her pregnancy

Maintaining the pregnancy makes the mother desperate to retain the fetus and her own health. Various efforts have been done for mother and the fetus to achieve good condition and wellbeing. The experience of mothers to keep a longer pregnancy is to maintain fetal maturity by way of check-ups to the hospital (Alia et al., 2019). Another effort made by mothers is doing movement exercises during pregnancy, doing routine blood sugar control and continuously making efforts for healthcare treatment (Alia et al., 2019; Dhingra & Ahuja, 2016).

When it was known that mother had diabetes during pregnancy, so the postpartum treatment efforts are also continued (Ashraf et al., 2019). It is stated that monthly maternal health status and blood sugar checkup are performed. Mother is still taking medication to maintain the condition of her DM. The results showed that after a mother is known to suffer from diabetes during pregnancy, there are many efforts to keep her pregnancy. Maintaining pregnancy with routine antenatal care is one important factor to consistently ensure better fetal outcome despite suffering from diabetes mellitus. Extra effort to maintain the pregnancy is part of the learning process. Along with the process of pregnancy, the mother experiences such conditions as the presence of an increase in blood pressure, edema of the extremities, nausea and excessive vomiting, decreased fetal condition, and unreached gestational months. The mother's condition is in a state required to maintain the pregnancy. Therefore, they begin to adjust or adapt to the conditions of their pregnancy with diabetes. A condition that causes mothers to continue to strive to maintain the pregnancy and improve her health is by maintaining healthy adaptive behavior (Ashraf et al., 2019; Dhingra & Ahuja, 2016).

Adaptation is the response of individuals to defend themselves in their environment. Participants showed a response of adaptation to their pregnancy with the extra effort to keep their pregnancy. In a nursing care view, the holistic human being is an individual. In a holistic concept, the human figure is seen as a whole, which is able to adapt as a whole. Adaptation is one of the nursing theories and explains how individuals or clients can improve their health by maintaining adaptive behavior and maladaptive behavioral change. The response that causes a decrease in the integrity of the body will lead to an individual's needs and causes or attempts to respond through certain behaviors and to adapt. Everybody always tries to overcome changes in health status (Ashraf et al., 2019).

The relation of the nursing theory of adaptation with the results of this study are the experiences of mothers in the diagnosis of GDM; mothers have an adaptive response to maintain the pregnancy with the aim that there is harmony between the mother and fetus in the process of her pregnancy so that later there is a good pregnancy outcome. Various behavioral adaptations are performed by mothers checking maturity of the fetus at the hospital, maternal movement exercises during pregnancy, blood sugar routine checks and also efforts on an ongoing basis to healthcare treatment (Ashraf et al., 2019; Dhingra & Ahuja, 2016).

Doing exercise and movement is also an option to keep the mother's pregnancy. Various ways of activities and exercises are performed by the mother. Another exercise is walking. It is pointed out that it is a useful exercise to improve blood glucose levels. Weight gain and number of pregnancy may increase the risk of diabetes mellitus; this suggests that insulin resistance may accelerate the decline in beta cell function, likely causing diabetes (Durnwald, 2015). Treatment for pregnant women includes efforts to reduce insulin resistance with exercise.

Proper exercise recommended by the American College of Obstetricians and Gynecologists (ACOG) is running, cycling in a special place, light aerobics, and swimming (Dhingra & Ahuja, 2016). Each exercise

begins from 5-10 minutes to warm up including flexibility exercises to reduce the risk of musculoskeletal injury during exercise. After that, it is followed by recovery after exercise. There are three important things in the endocrine response to exercise, which lowers plasma insulin, increases sympathetic nerve activity due to changes in insulin counter regulatory hormones, and hormones increase sodium and water balance (Mottola & Artal, 2016). The indication to stop the practice and conduct medical evaluations is when there is vaginal bleeding, faintness, decreased fetal activity, generalized edema, and low back pain.

Theme 4: Variation of life experiences of mothers during pregnancy, delivering, and postpartum baby

Life experience is a history that is very important for mothers to cope with life in a better future. Moreover, for mothers with GDM have the experiences stored in memory and it cannot be forgotten because of their condition during pregnancy, delivering, and postpartum diabetes. The amount of experience is summarized in the diversity of life experience variations of the mother (Shrestha et al., 2019).

Life experience of mothers with GDM during pregnancy, delivering, and the postpartum period are very important moments. There is a change of mindset in mothers to always maintain the health of themselves and their babies. Due to the condition of the mother's own experience she is able to adopt a good lifestyle, the mother becomes aware of baby care, and there is always an attempt from the mother to maintain the blood sugar levels (Ashraf et al., 2019; Dhingra & Ahuja, 2016).

Mothers experience in consuming food and beverages is a serious thing to be considered. The right and proper nutrition can control blood sugar levels. Diet is an important initial step in the management of GDM aimed at achieving normoglycemia and to generate growth and optimal fetal development. However, it should be kept in mind that putting together a diet in mothers with GDM is necessary, not solely to achieve normoglycemia, but setting both the number of calories diet and food composition must be taken into account for the growth of the fetus in order to produce a healthy baby (Moreno-Castilla et al., 2016).

The results of this study showed that mothers who consume herbal remedies can relieve numbness and the body becomes easily tired. Mothers take herbs because there is the suggestion that taking an oral medication will earn ongoing insulin therapy to control blood sugar levels. However, other participants also believed that during pregnancy they would have to use insulin to control their blood sugar levels. If they do not take medication from a doctor, fear will happen and this influences the fetus. The variety of herbs, oral medications, and insulin usage makes mothers with GDM have a diversity of experience to control blood sugar levels to maintain good health (Dhingra & Ahuja, 2016; Xu et al., 2019).

The results of this study also showed for mothers undergoing operative delivery in patients with lumbar anesthesia that there are communications between patients and doctors in the surgery process. Communication is what makes mothers have life experience so that delivery by way of operative delivery is not scary, but it is a labor that can be passed to either because the mother can see the baby's birth (Sunny et al., 2020).

Life experience with GDM and birth process influence mothers to determine to use contraception. Contraception has several different kinds of methods and is aimed to be tailored to the needs of the users. However, various methods are still not able to be an alternative option for some women (Kiley & Griffin, 2015). This is the reason for a mother with a history of GDM to use contraception.

Women with a history of DM should use effective contraception to reduce pregnancy which is accompanied by hyperglycemias. Long-term management with low-dose combined oral contraceptives do not appear to increase the risk of diabetes after pregnancy. Intra-uterine device (IUD) is the most effective contraceptive, as it is metabolically neutral. Conversely the use of progestin-containing contraceptives during lactation may increase the risk of diabetes (Kiley & Griffin, 2015).

This study also indicates the presence of life experience for the mother means she continues to strive to maintain lifestyle and diet. This is done with the goal of staying healthy so mothers can provide care to the children. Mothers' experience of maintaining diet and lifestyle is one of the efforts to achieve normal glucose levels in order to generate growth and optimal fetal development. Nutritional therapy is the mainstay of therapy in the management of diabetes in which the aim is to provide adequate nutrition for both mother and fetus, controlling blood glucose levels and prevent the occurrence of ketosis (increased levels of ketoses in the blood) (Moreno-Castilla et al., 2016).

Theme 5: Maternal perception of their role during their pregnancy

In carrying out the role as a mother, there are a variety of perceptions that arise within the mother. Feeling of helplessness that is followed by sadness will affect the condition of the child's birth, for example fetus born with a gestational age of 9 months with severe weight of 16 ounces. The role of the mother can be considered achieved when the mother feels there is harmony within herself with her roles and expectations (Shrestha et al., 2019). The response of the expectations of their behavior is shown by a reflective and visible role in the concern and caring for the baby's ability, attitude and her love for the baby and taking on the responsibilities of the role. Maternal role attainment leads us to consider

the many variables that have an impact on the identified identity of the mother role. Environment variables are family and friends, which consist of mother, baby and father (the couple) (Ashraf et al., 2019).

The results of this study indicate a maternal perception of a sense of powerlessness in their role as mothers. This is evidenced by anxiety to the child if the child is born with the degenerative disease DM. Sadness of the mother also affects their perception in their role as mothers, and, therefore, contributes to inadequate coping mechanisms. This study also obtains the result that pregnant women with GDM have not been able to reach their full potential role as a mother and are merely doing a part and doing their job as a housewife. Although mothers had a history of DM pain, this does not affect the relationship between the mother and her husband and baby (Shrestha et al., 2019). Mothers are expected to have a sense of empathy, self-concept, be able to accept things when the baby is born, have a good attitude in the l role as mother, and the mother has a good role when there is a conflict in her life.

Related to the development of maternal role attainment is that the results of this study are not yet fully capable of achieving the maternal role as a mother. In the context of life experience in achieving the role of the mother, the baby is born and the husband is a partner in the achievement of the mother whereby the mother is able to interact with the baby and husband. This is evidenced by the support of the husband of the mother during pregnancy and postpartum diabetes mellitus in order to continue to provide regular support to control blood sugar levels and taking the baby to the pediatrician so that the baby's sugar levels are well-controlled. Mother-to-infant interaction is indicated by the mother in regard to the baby's care. Feelings of helplessness and sadness are psychological triggers reduce the ability of the mother to perform her role as a mother. Life experience is the cause of the mother's perception to play the role as a mother (Shrestha et al., 2019).

Theme 6: The factors that support the development and maternal role attainment

Development and the role of the mother is reached if there is support from husband, family support, and commitment of the mother. Support of her husband, family, and the mother's commitment is the support system that can sustain how the mother is able to achieve her role as a mother. The results of this study indicate the existence of a commitment that arises from the heart to perform the role as the mother, then the mother maintains her health, physical and spiritual needs for the child. It is also revealed that she should always be eager to live in order to remain able to care for the child. Caring for children is indicated by providing healthy foods such as vegetables, small portions of rice, and fruit (Shrestha et al., 2019). Mother's spirit for life is offset by exercise. It reveals that the mother's commitment to families is to have a good family, as a family is needed to help each other and respect each other. The mother's husband is the commitment to give the best to way to educate children properly so that later the child will be useful.

The results of this study indicate that the factors that support the development and achievement of the mother's role is the support system in the form of support provided by the mother's husband and family. The support given by the husband to the mother is to continue to remind about routine treatment, giving spirit, and urging to keep eating. The support of the family in the form of suggestions is doing routines check-up and treatment. And a commitment to themselves to play the role as a mother so she is able to achieve. This shows the seriousness of the commitment in achieving the maternal role (Shrestha et al., 2019).

A good support system is important for the mother to perform her role as a mother. Husband and family support is very important because with a good rapport from her husband and family it contributes to the achievement of the role in a way that cannot be duplicated by others. The role of the mother and the achievement of relationship with her husband and family support is located at micro system components and mesosystem level. Microsystems are the relationship between mother and their spouse and is a highly influential component of the maternal role attainment. In this study a good relationship with the husband and the mother was able to provide support to the mother when the mother underwent GDM and in the postnatal period to reach her role as a mother. Family enters into mesosystem components that directly affect the microsystems' components so that the mother is able to achieve her role. Healthcare professionals, especially nurses, play a role in the overall maternal role identity recognition stage. Prenatal education, teaching one of the classes, formal or informal, helps mothers during the preparation phase of an effort and commitment and the mother is able to achieve her role (Shrestha et al., 2019).

Theme 7: Experience in integrating maternal role as mother

The identity of the mother's role can be achieved when the mother is able to integrate herself into the role with other roles and her suitability to these. The results of this study indicate a role in achieving identity is that the mother can show the parents' happiness. It is a way of showing affection for her child. The mother's experience in integrating other roles is the simplicity of life and the mothers being able to socialize with the neighbors (Shrestha et al., 2019). Another mother's experience of integrating identity is the role of mothers' understanding of the task and role as a mother.

The results of this study also showed that, in reaching her role as a mother, they thought that doing household chores, including caring for children of providing food, washing clothes, and educating

children is a core obligation which must be implemented. The role of a person's identity stage is achieved when the mother's role integrates herself with the suitability of the system itself and her other roles, she will be secure in her identity as a mother, emotionally committed to her baby and feel a sense of harmony, comfort, and ability in the role (Shrestha et al., 2019).

Theme 8: Gaps and desires of people with diabetes in mothers receiving healthcare

Healthy covers body and spirit so that one is able to perform any tasks and activities without any obstacles. In a state hospital, everyone hopes to get good healthcare from of the healthcare a team of. Hope will bring enthusiasm from the mother to continue and defend herself from adversity because of DM, thus they still continue to run their daily life as well (Shrestha et al., 2019).

Some of the factors that contribute to the provision of health services is the availability of competent health resources to provide complete healthcare and the availability of adequate infrastructure. Hope and dissatisfaction are trigger factors of the gap and maternal desire with GDM in receiving healthcare. This expectation is for the other side dealing with diabetes during pregnancy, government, health personnel and other hospitals in providing health services. This expectation is basically very good and, if it is realized together, that would trigger better health service delivery in pregnant women with diabetes, the presence of trust among patients with stakeholders, and the incidence of gestational diabetes can be reduced (Eeg-Olofsson et al., 2020).

The results of this study indicate the presence of maternal dissatisfaction against the government because the government was perceived as having lack of attention to the patient. On the other hand, health workers also provide services less well, and information about pregnant women with diabetes is not clearly communicated. It is said that, after the mother's check-up, they do not get information from health workers. The expression of these participants is a negative image of the government and health workers in delivering health services (Ashraf et al., 2019).

Dissatisfaction in pregnant women who suffer from diabetes is indicated by the data that the mothers feels government and health workers are lacking in providing health services, and there is lack of information from health personnel to provide education about infant care. The results of this study also show the triangulation of obstetricians and midwives, that the patient feeling satisfied and not satisfied is a relative thing and there are no specific indicators to measure satisfaction and dissatisfaction. It is emphasized that the team of healthcare providers, in carrying out its duties and obligations to patients, should be in accordance with SOP or the standard operating procedure that is in the hospital (Ashraf et al., 2019; Sunny et al., 2020). And every hospital is believed to have SOP and SOP in providing healthcare to mothers with GDM.

CONCLUSION

Life experience of pregnant women with GDM in Yogyakarta shows diversity. Mothers' experience in integrating her role identity as a mother with GDM can receive health services. Mothers are able to internalize their role as a mother. Mothers' life experience in achieving her role as a mother with DMG is less than optimal. The achievement of the mother's role in the microsystem component has not been fully achieved because mothers only carry out routine tasks as housewives.

Life experience in achieving maternal role as a mother is less than optimal with GDM. Maternal role attainment at microsystem component level has not been fully achieved because the mother only carries out routine duties as a housewife only. Pregnant women with GDM are advised to routinely do antenatal care, do exercise and have a proper diet. The recommended contraception is IUD (intra uterine device), which is a normal contraceptive after delivery and does not affect the hormones that cause an increase in blood sugar levels. GDM screening needs to be done at the beginning of the mother starting antenatal care.

REFERENCES

Alberico, S., Erenbourg, A., Hod, M., Yogev, Y., Hadar, E., Neri, F., Ronfani, L., Maso, G., & Group, the G. (2017). Immediate delivery or expectant management in gestational diabetes at term: the GINEXMAL randomised controlled trial. *BJOG: An International Journal of Obstetrics & Gynaecology*, *124*(4), 669–677. https://doi.org/10.1111/1471-0528.14389

Alia, S., Pugnaloni, S., Borroni, F., Mazzanti, L., Giannubilo, S. R., Ciavattini, A., & Vignini, A. (2019). Impact of gestational diabetes mellitus in maternal and fetal health: An update. *Diabetes Updates*, *5*(3), 1–6. https://doi.org/10.15761/du.1000129

Ashraf, F., Sultana, S., Hasan, T., Pervin, H., Mustanzid, F., Mallick, T. S., Islam, J. A., Khatun, M. H., Tasmin, K. S., Selim, S., & Yusuf, M. A. (2019). Patient Empowerment: An Effective Strategy to Improve Management of GDM. *Journal of Shaheed Suhrawardy Medical College*, *10*(2), 91–94. https://doi.org/10.3329/jssmc.v10i2.41167

Bare, B., & Smeltzer SC. (2010). *Buku Ajar Keperawatan Medikal Bedah*. EGC.

Buchanan, T. A., Xiang, A. H., & Page, K. A. (2012). Gestational diabetes mellitus: risks and management during and after pregnancy. *Nature Reviews. Endocrinology*, *8*(11), 639–649. https://doi.org/10.1038/nrendo.2012.96

Dewi, E. R., Prasetyo, B., Laksana, M. A. C., Joewono, H. T., & Wittiartika, I. D. (2020). The early detection in gestational diabetes mellitus at Indonesia primary health care. *Indian Journal of Forensic Medicine and Toxicology*, *14*(2), 1552–1556.

Dhingra, A., & Ahuja, K. (2016). Lifestyle modifications for GDM. *JPMA. The Journal of the Pakistan Medical Association*, *66*(9 Suppl 1), S34-8.

Durnwald, C. (2015). Gestational diabetes: Linking epidemiology, excessive gestational weight gain, adverse pregnancy outcomes, and future metabolic syndrome. *Seminars in Perinatology*, *39*(4), 254–258. https://doi.org/https://doi.org/10.1053/j.semperi.2015.05.002

Edward, K. leigh, & Welch, A. (2011). The extension of Colaizzi's method of phenomenological enquiry. *Contemporary Nurse*, *39*(2), 163–171. https://doi.org/10.5172/conu.2011.163

Eeg-Olofsson, K., Johansson, U.-B., Linder, E., & Leksell, J. (2020). Patients' and Health Care Professionals' Perceptions of the Potential of Using the Digital Diabetes Questionnaire to Prepare for Diabetes Care Meetings: Qualitative Focus Group Interview Study. *J Med Internet Res*, *22*(8), e17504. https://doi.org/10.2196/17504

Huang, Y., Zhang, W., Go, K., Tsuchiya, K. J., Hu, J., Skupski, D. W., Sie, S. Y., & Nomura, Y. (2020). Altered growth trajectory in children born to mothers with gestational diabetes mellitus and preeclampsia. *Archives of Gynecology and Obstetrics*, *301*(1), 151–159. https://doi.org/10.1007/s00404-020-05436-2

Joy, R., & Sivakumar, V. (2012). A Prospective Study on the Effect of Gestational Diabetes Mellitus on Maternal and Fetal Outcome. *International Journal of Pharmecy Teaching & Practices*, *3*(3), 345–351.

Kiley, J. W., & Griffin, L. R. (2015). Contraceptive care after gestational diabetes: considerations for clinical practice. *Diabetes Management*, *5*(6), 457–472. https://doi.org/10.2217/dmt.15.37

Moreno-Castilla, C., Mauricio, D., & Hernandez, M. (2016). Role of Medical Nutrition Therapy in the Management of Gestational Diabetes Mellitus. *Current Diabetes Reports*, *16*(4), 22. https://doi.org/10.1007/s11892-016-0717-7

MOTTOLA, M. F., & ARTAL, R. (2016). Role of Exercise in Reducing Gestational Diabetes Mellitus. *Clinical Obstetrics and Gynecology*, *59*(3). https://journals.lww.com/clinicalobgyn/Fulltext/2016/09000/Role_of_Exercise_in_Reducing_Gestational_Diabetes.21.aspx

Muche, A. A., Olayemi, O. O., & Gete, Y. K. (2019). Prevalence of gestational diabetes mellitus and associated factors among women attending antenatal care at Gondar town public health facilities, Northwest Ethiopia. *BMC Pregnancy and Childbirth*, *19*(1), 334. https://doi.org/10.1186/s12884-019-2492-3

Plows, J. F., Stanley, J. L., Baker, P. N., Reynolds, C. M., & Vickers, M. H. (2018). The pathophysiology of gestational diabetes mellitus. *International Journal of Molecular Sciences*, *19*(11), 1–21. https://doi.org/10.3390/ijms19113342

Schellinger, M. M., Abernathy, M. P., Amerman, B., May, C., Foxlow, L. A., Carter, A. L., Barbour, K., Luebbehusen, E., Ayo, K., Bastawros, D., Rose, R. S., & Haas, D. M. (2017). Improved Outcomes for Hispanic Women with Gestational Diabetes Using the Centering Pregnancy© Group Prenatal Care Model. *Maternal and Child Health Journal*, *21*(2), 297–305. https://doi.org/10.1007/s10995-016-2114-x

Shanthi, M., Marimuthu, R., Shivapriya, S. N., & Navaneethakrishnan, R. (2019). Diagnosis of Diabetes using an Extreme Learning Machine Algorithm based Model. *2019 IEEE 10th International Conference on Awareness Science and Technology (ICAST)*, 1–5. https://doi.org/10.1109/ICAwST.2019.8923142

Shrestha, S., Adachi, K., & Petrini, M. A. (2019). Maternal Role: A Concept Analysis. *Journal of Midwifery and Reproductive Health*, *7*(3), 1732–1741. https://doi.org/10.22038/jmrh.2019.31797.1344

Soheilykhah, S., Mogibian, M., Rahimi-Saghand, S., Rashidi, M., Soheilykhah, S., & Piroz, M. (2010). Incidence of gestational diabetes mellitus in pregnant women. *Iranian Journal of Reproductive Medicine*, *8*(1), 24–28.

Sunny, S. H., Malhotra, R., Ang, S. Bin, Lim, C. S. D., Tan, Y. S. A., Soh, Y. M. B., Ho, X. Y. C., Gostelow, M., Tsang, L. P. M., Lock, S. H. S., Kwek, S. Y., Lim, Y. T. J., Vijakumar, K., & Tan, N. C. (2020). Facilitators and Barriers to Post-partum Diabetes Screening Among Mothers With a History of Gestational Diabetes Mellitus-A Qualitative Study From Singapore. *Frontiers in Endocrinology*, *11*, 602. https://doi.org/10.3389/fendo.2020.00602

Xu, Y. X. Z., Xi, S., & Qian, X. (2019). Evaluating Traditional Chinese Medicine and Herbal Products for the Treatment of Gestational Diabetes Mellitus. *Journal of Diabetes Research*, *2019*, 9182595. https://doi.org/10.1155/2019/9182595

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Original Research

Knowledge, Attitude, and Culture Influence Visual Inspection with Acetic Acid Service Use

Alifina Izza[1], Pungky Mulawardhana[2], Samsriyaningsih Handayani[3]

[1] Midwifery Program, Faculty of Medicine Universitas Airlangga
[2] Department of Obstetrics and Gynaecology, Faculty of Medicine Universitas Airlangga
[3] Department of Public Health and Preventive Medicine, Faculty of Medicine Universitas Airlangga

ABSTRACT

Introduction: The service use of visual inspection of cervix with acetic acid (VIA) has been low. This technique designed to detect cervical cancer at its earliest stage to prevent the unnecessary burden of its later stages. This study was aimed at showing the influence of knowledge, attitude and culture on the use of VIA service.

Methods: This research was a paired case-control study, conducted in 2019 in in the working area of Kalijudan and Mulyorejo Community Health Centers, Surabaya. Ninety eight female respondents of childbearing age were grouped into control and case groups with 49 respondents respectively. Samples were chosen consecutively. Cases were obtained from the health centres' records, while controls were chosen from cases' close neighbours. Interviews were conducted in the respondents' house using closed questionnaires.

Results: The multivariate analysis showed that knowledge (p<0.001), attitudes (p=0.012) and culture (p=0.045) affected the use of VIA early detection services.

Conclusion: This study pointed out that knowledge, attitude and cultural factors were influential factors in the use of VIA early detection services. Health workers may improve women's knowledge and attitude through health promotion, and take into account supportive local cultural factors in the program to enhance the use of VIA.

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KEYWORDS

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CONTACT

Samsriyaningsih Handayani
✉ samsri.handayani@gmail.comn
Department of Public Health and Preventive Medicine Faculty of Medicine Universitas Airlangga

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INTRODUCTION

Visual Inspection with Acetic Acid (VIA) is an examination performed by medical personnel to a cervix on which 3% - 5% acetic acid/vinegar acid has been applied to detect cervical cancer. VIA examination is one of the joint programs between the government and the regional office of the Ministry of Health which is regulated in the Minister of Health Regulation No. 34 of 2015 as an effort to prevent non-communicable disease of cervical cancer which is carried out nationally, including in all districts/cities in East Java. The VIA program is regarded as successful if its implementation can reach 80% of total women of childbearing age (WCA). In 2016, because WCA who underwent VIA examinations were still far from the target, the number of WCA undergoing VIA examinations was regarded as adequate if it reached 50% of total WCA. In 2017, because the number of WCs who underwent VIA examinations was still very low, the number of WCA undergoing VIA examinations was regarded as adequate if it reaches 10% of total WCA (Ministry of Health, 2016). The high incidence of cervical cancer in Indonesia is due to low awareness (less than 5%) of married women or those who had engaged sexual relations for undergoing early detection.

The Indonesian Ministry of Health (2018) data showed that since 2014 VIA examination had not reached the target. From 6,012,729 women of

childbearing age (WCA) in East Java in 2017, only 3.81% of WCA took the test (The Department of Health of East Java Provience, 2016). In the city of Surabaya in 2014 through 2016, WCA taking VIA tests were 0.94%, 2.25% and 1.23% respectively. In 2018 the average VIA coverage in Surabaya was 6.03%. In the working area of the Mulyorejo Public Health Center, Mulyorejo Subdistrict, 2.13% were examined, whereas in the working area of the Kalijudan Public Health Center in the same subdistrict (3.80%) were tested. These were the lowest figures in Surabaya (the City of Surabaya Department of Health, 2016)

Given the high incidence of cervical cancer, early detection of cervical cancer with VIA method should be carried out seriously. However, the success of the examination scope using VIA method is inseparable from the influence of various factors. The aim of the study was to analyze factors influencing the use of VIA services among women of childbearing age.

MATERIALS AND METHODS

This study was a paired case control study, aiming to determine factors influencing the use of early detection services of VIA by WCA in the areas of Mulyorejo and Kalijudan Community Health Centers. Population in this study were all WCA in the working area of Kalijudan and Mulyorejo Community Health Centers. Cases were WCA undergone VIA within the past one year, married and lived at the study site, identified through the health centres' records. Controls were WCA had not taken VIA test in the past one year and lived in the same neighborhood with cases and chosen consecutively. The sample size was 49 respondents each for the control and case groups. Data collection was carried out in the working area of Kalijudan and Mulyorejo Community Health Centers, Surabaya, from February to April 2019. Interviews were conducted at respondents' houses. Seven questions to assess knowledge, 9 questions for attitude, and 2 questions for culture were tested for reliability and validity. Cronbach's alphas were 0.412 for knowledge and 0.599 for attitude. Pearson's Product moment correlation for validity yielded p-values between 0.008 to 0.750 for knowledge and 0.005 to 0.008 for attitude.

RESULTS

The study findings are presented as follows.

The age of the respondents in this study ranged from 21 to 66 years old, with its mean of 13.50 ± 11.359 years old. The length of marriage ranged from 1 - 53 years, with the average of 16.18 ± 11.359 while the average number of lifetime sexual partners was 1.05 ± 0.333. The number of children of the respondents ranged from 0 to 7 children, with the average of 2.27 ± 1.117 The first time the respondents had sexual intercourse ranged from the age of 13 to 34 years with mean of 21.72 ± 3.618. Continuous data were further dichotomized using mean as cut off value (Table 1)

Responding to question on knowledge, the question most frequently incorrectly answered was at what age VIA is needed, while regarding the attitude that most people answer incorrectly was the assumption that doing VIA is enough only once in a lifetime. Regarding culture, many respondents thought that their environment would suggest that VIA needs to be taken when they get symptoms of cervical cancer. Knowledge was considered good if the total correct answers were 65% or more and poor if the total correct answers were less than 65% of the total correct answers expected. Attitudes of respondents were divided into 2 categories namely favorable and unfavorable with the mean as cut off. For culture, it is divided into 2 categories, namely supporting and not supporting. It is said supportive if the total favorable answers were more than 50% and said to be unsupportive if the total favorable answers were less than 50% of the expected favorable answers. Bivariate analyses were performed using X2 test to assess the difference of VIA takers and non-takers in the past one year by knowledge, attitude and culture (Table 2) .

Multiple logistic regressions was performed to detect the influence of knowledge, attitude and culture simultaneously on the use of VIA services (Table 3). Table 3 shows that the most influential factor of VIA service use is knowledge, although attitude and culture also have significant impact on the use. Those with good knowledge 7.284 times more likely to use VIA service. Subjects with favorable attitude toward VIA 3.864 times more likely to use the service. Those who perceived their culture as supportive toward VIA use were 2.13 more likely to use the service.

DISCUSSION

Relationship between knowledge and the use of VIA services

Analysis showed that there was a relationship between knowledge and the use of VIA services. Knowledge itself is the main part that is the basis for a person to do VIA or not, but the sources or media used to increase knowledge about VIA and all things about cervical cancer are currently very easy for us to reach so it is very possible to influence the increase in VIA use. This is related to the theory that the increase in respondent's knowledge is obtained from increased awareness (self-awareness) and interest in disease prevention (Rogers 1974 in Notoatmodjo 2012). This is in accordance with the results of research on mothers who conducted examinations at the Hamparan Perak Public Health Center, Deli Serdang, explaining that there was a significant relationship between knowledge and IVA examination and with good knowledge, the mother would pay attention to her reproductive health so that she would better recognize the signs of symptoms of cervical cancer and are motivated to

Table 1. Participants' Characteristics

Characteristics	No VIA		Took VIA		Total	p
	N	%	N	%		
Age						
≤ 30 years	20	40.8	12	24.5	32	0.131
> 30 years	29	59.2	37	75.5	66	
Education Completed						
Elementary School	13	26.5	5	10.2	18	
Junior High School	5	10.2	11	22.4	16	0.109
Senior High School	23	46.9	26	53.1	49	
College/university	8	16.3	7	14.3	15	
Employment						
Unemployed	42	85.7	38	77.6	80	0.708
Self-employed	1	2.0	7	14.3	8	
Employee	6	12.2	4	8.2	10	
Marriage Age						
≤ 25 years	40	81.6	39	79.6	79	1.000
> 25 years	9	18.4	10	20.4	19	
Lifetime sexual partner						
1 person	47	95.9	48	98.0	95	0.603
2 persons	1	2.0	1	2.0	2	
≥ 3 persons	1	2.0	0		1	
Child alive						
≤ 3 children	46	93.9	42	85.7	88	0.317
> 3 children	3	6.1	7	14.3	10	
Smoking history						
Passive and Active Smokers	30	61.2	32	65.3	62	0.834
Not both	19	38.8	17	34.7	36	
Age of first time having sex						
≤ 20 years	24	49	22	44.9	46	0.840
> 20 years	25	51	27	55.1	52	
Relevant symptom of cervical cancer risk factor						
0	29	59.2	24	49	53	0.618
1	10	20.4	12	24.5	22	
2	8	16.3	12	24.5	20	
3	2	4.1	1	2	3	

Table 2. Frequency distribution of knowledge, attitude and culture in VIA takers and non-takers in the past one year

Dependent Variables	No VIA		Took VIA		Total	P
	n	%	n	%		
Knowledge						
Poor	38	77.6	27	55.1	65	0.032
Good	11	22.4	22	44.9	33	
Attitude						
Unfavorable	24	49.0	7	14.3	31	0.000
Favorable	25	51.0	42	85.7	67	
Culture						
Not Supportive	33	67.3	16	32.7	49	0.001
Supportive	16	32.7	33	67.3	49	

Table 3. Results of multiple logistic regressions of knowledge, attitude and culture on the use of VIA services

Dependent Variables	B	Sig.	Adjusted OR	95% C.I for Adjusted OR	
				Lower	Upper
Knowledge	1.986	<0.001	7.284	2.417	21.951
Attitude	1.352	0.012	3.864	1.354	11.030
Culture	0.756	0.045	2.130	1.017	4.462

carry out early detection, and perform early treatment if they are diagnosed with cervical cancer (Sibero and Hanum, 2018). This study is also in accordance with previous research which states that there is a significant relationship between knowledge and IVA examination (Gustiana et al., 2013; Achmad, 2016; Rahayu, 2017; Fauza, Aprianti and Azrimaidaliza, 2019). This is because in the previous 4 studies the characteristics of respondents who became the majority of the sample were the same, namely in women of childbearing age with the majority of housewife and high school education. The theory presented states that the knowledge factor is one of the factors that influence health behavior in society, so that if someone has good knowledge, that person tends to carry out health behavior well, but knowledge is not the only factor that can change behavior a person, but knowledge can also be one of the determinants of changing one's behavior (Notoatmodjo, 2012). Most of a person's knowledge is obtained through the sense of hearing (ears) and the sense of sight (eyes). A person's knowledge of objects also has different intensity or level, so that counseling or information can be done in the mass media as an effort to increase public knowledge about early detection of IVA detection (Notoatmodjo, 2012).

However, someone's knowledge of the object also has different levels of intensity, so that counseling or information can be carried out in the mass media as an effort to increase public knowledge about early detection of VIA.

The relationship between attitude and use of VIA services

The results of this study indicated relationship between attitude and the use of VIA services. This was in line with previous studies that found a significant relationship between attitude and willingness of women of childbearing age to conduct VIA examinations (Achmad, 2016; Pontoh, Kairupan and Sondakh, 2017; Rahayu, 2017; Silfia and Muliati, 2017; Indrayani, Naziyah and Rahmawati, 2018). The similarity of the finding in this study with that of previous studies was due to the same characteristics of respondents, who mostly were women aged 30 years and not working.

Attitude is a reaction or response that is still closed from a person against a stimulus or object. Manifestations of an indirect attitude can be seen, but can be interpreted in advance of the closed behavior (Notoatmodjo, 2012). Rogers (1974) reveals that before people adopt new behaviours, inside them there occurs sequential stages (Rogers in Notoatmodjo, 2012). The first stage is awareness where the person is aware in the direction of the stimulus (object) or idea. The second stage is interest, that is people start to be attracted to the idea. The third stage is evaluation, where people ponder the benefit and the disadvantage of an idea being offered and whether the idea suits their needs. The fourth stage is trial in which people begin to practice the new idea. The last stage is adoption or rejection, where people adopt or reject the idea.

Nevertheless from subsequent research Rogers conveyed that behavioral changes do not necessarily pass through the above stages. When the acceptance of new behaviour or adoption of behavior through such a process is based on knowledge, awareness and positive attitude, the behaviour will be lasting (long lasting). Preferably if that behavior is not based on knowledge and consciousness then it does not quite last long was similar with it is not enough for the WCA to only have a good level of knowledge about the willingness to conduct a VIA examination, but it must also be reflected in attitude. WCA with a positive attitude will affect its desire to do early detection of cervical cancer with VIA method (Fauza, Aprianti and Azrimaidaliza, 2019). Previous VIA examination can be one of the factors that influence attitudes towards VIA because someone who has already done a VIA examination will do another VIA examination at a later time or can even tell their relatives that the VIA examination is not as scary as imagined (Indrayani, Naziyah and Rahmawati, 2018). This contradicts the statement that there is no significant relationship between attitude and VIA early detection behavior (Situmorang, Winarni and Mawarni, 2016). This can be motivated by behavior that refers to the experience of others or is based on one's own experience. The previous study had different characteristics of respondents, where the level of knowledge and attitudes among the groups studied were significantly different. In addition, a WCA that is positive about something may not necessarily have positive behavior, because a positive attitude will be followed by behavior that refers to the experience of others or is based on the amount of experience a person has. WCA who have negative attitude toward

early detection of cervical cancer can be related to their ignorance of this information and or do not yet know the purpose and benefits of VIA examination (Rikandi and Rita, 2009). Someone with a good attitude is always expected to have good behavior. However, this is not always the case, so it is expected that the role of local people, including health workers, to continue to encourage WCA who have a good attitude or not to conduct early detection of VIA examination.

This study found that the impact of attitude was lower than knowledge but greater than. Attitude tends to require a relatively shorter time than culture, but funding is one component that is quite dominant in influencing the level of willingness of the WCA to carry out VIA, considering that until now there is still a treatment fee rate and can only be done at a health center which is relatively low. requires road fare.

The relationship between culture and the use of VIA services

This study showed relationship between culture and WCA's willingness to conduct VIA examinations. This can be due to the fact that in the process of forming a supportive culture towards VIA use takes a very long time considering that community leaders, religious leaders and respected figures in the area are generally men where there is still a tendency to be indifferent to problems regarding female organs so that it is more difficult to increase the willingness to do VIA on WCA.

The relationship was consistent with a study conducted on women of childbearing age at the Jatikalen Community Health Center, Nganjuk Regency, which found that cultural value was a dominant factor for women of childbearing age to undergo an early detection of VIA (Ummiyati, 2017). This was because the research site was still in a province with almost the same customs and habits in its community, especially in terms of health. The results of this study contradicted another previous study which found that there was no significant relationship between culture and WCA's willingness to conduct VIA examinations (Novalina, 2018).

Culture is "the set of distinctive spiritual, material, intellectual and emotional features of society or a social group … [which] encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs" (UNESCO, 2001). Health and wellbeing have been found to be fundamentally influenced by the cultural context (Napier, 2017). In this study, respondents who did not undergo VIA stated that the main reason for not undergoing the examination was because of shame. VIA examination procedures, which require that the pubic part be seen by health workers, are the main reason people do not want to do VIA. The respondents tended to have a culture that does not support VIA examination. They refused to do a VIA examination if there were no external factors that compel those respondents to do so, such as the policy of the health center that all members of Family Welfare Development (PKK) and women are required to undergo VIA examination (Novalina, 2018). Cultural diversity or someone's interaction with many people who have cultural differences will affect one's beliefs that are reflected in their health behavior (Napier, 2017). Thus it can be concluded that culture is one of the most important components in determining a person's behavior, especially in health behaviors such as VIA early detection examination with VIA. To stimulate community interest in conducting early detection examination, VIA early detection program providers and/or planners should listen, learn from, partner with, and respond to communities that include women of childbearing age, both those who play an active or inactive role in the community (Lee, 2015).

Culture in the communities that likely underestimate a disease also relates to low VIA examination rates. A previous study revealed that, in the case of early detection of cervical cancer, the WCA assumed that if they were healthy or as long as there were no complaints they would not go to a healthcare provider because they thought VIA examination was useless. Therefore, a more active role in every level of society and including in the officials, is needed to more seriously educating public about the importance of undergoing VIA examinations (Nordianti and Wahyono, 2018)

CONCLUSION

Factors related to the use of VIA services were knowledge about, attitude towards and culture of supporting VIA. Health workers should emphasize the improvement of women's knowledge and attitudes in their work, and take into account local cultural in the program to increase the use of VIA.

REFERENCES

Achmad, N. (2016) 'Perubahan Pengetahuan Sikap Wanita Usia Subur Deteksi Kanker Serviks dengan Pemeriksaan Metode IVA di Wilayah Kerja Puskesmas Pembangunan Kecamatan Tarogong Kidul Kota Garut Tahun 2016', (November), pp. 1–12. Available at: urnal.umj.ac.id/index.php/semnastek.

Indrayani, T., Naziyah and Rahmawati (2018) 'Hubungan Pengetahuan dan Sikap Wanita Usia Subur terhadap Minat Melakukan Iva Test di Puskesmas Kecamatan Jatinegara', *JAKHKJ*, 4(2).

Lee, S. (2015) 'Cultural Factors Associated with Breast and Cervical Cancer Screening in Korean American Women in the US : An Integrative Literature Review', *Asian Nursing Research*. Elsevier, 9(2), pp. 81–90. doi: 10.1016/j.anr.2015.05.003.

Napier, A. D. (2017) 'Culture matters: using a cultural contexts of health approach to enhance policy-making', *WHO Regional Office for Europe*, (1).

Nordianti, M. E. and Wahyono, B. (2018) 'Determinan Kunjungan Inspeksi Visual Asam Asetat di Puskesmas Kota Semarang', *HIGEIA JOURNAL OF*

PUBLIC HEALTH, 2(1), pp. 33–44. Available at: http://journal.unnes.ac.id/sju/index.php/higeia.

Novalina, A. (2018) *Faktor Yang Berhubungan Dengan Kesediaan Wanita Usia Subur (WUS) Melakukan Pemeriksaan Inspeksi Visual Asam Asetat (IVA) di Dua Wilayah Kerja Puskesmas Kota Surabaya*. Universitas Airlangga.

Pontoh, F., Kairupan, B. H. R. and Sondakh, J. (2017) 'Hubungan antara Pengetahuan, Sikap serta Dukungan Keluarga dengan Tindakan Pemeriksaan Payudara Sendiri (Sadari) pada Mahasiswi Semester II Akbid Makariwo Halmahera', (April).

Rahayu, S. (2017) 'Hubungan Tingkat Pengetahuan, Sikap dengan Perilaku Deteksi Dini Kanker Leher Rahim Metode IVA pada Wanita Usia Subur di Dusun Tempuran', 000, pp. 74–84.

Rikandi, M. and Rita, N. (2009) 'Faktor yang berhubungan dengan pemeriksaan dini kanker serviks pada wanita usia subur'.

Silfia, niluh nita and Muliati, T. (2017) 'Hubungan Karakteristik, Pengetahuan dan Sikap dengan Pemeriksaan Inspeksi Visual Asam Asetat (IVA) pada Ibu Pasangan Usia Subur di Puskesmas Talise', *CARING*, 1(2), pp. 69–83.

Situmorang, M. J., Winarni, S. and Mawarni, A. (2016) 'Hubungan Pengetahuan dan sikap dengan perilaku deteksi dini pada penderita kanker serviks di RSUP dr. Kariadi Semarang tahun 2015', *Jurnal Kesehatan Masyarakat*, 4(1), pp. 76–82. Available at: http://ejournal-s1.undip.ac.id/index.php/jkm.

The City Health Office of Surabaya (2016) *Profil Kesehatan Kota Surabaya*. Surabaya.

The Department of Health of East Java Provience (2016) 'Profil Kesehatan Jawa Timur'.

Ummiyati, M. (2017) *Determinan Perilaku Deteksi Dini Kanker Serviks dengan Metode IVA (Inspeksi Visual Asam Asetat) pada Wanita Usia Subur di Puskesmas Jatikalen Kab. Nganjuk*. Universitas Airlangga. Available at: http://repository.unair.ac.id/id/eprint/61766.

UNESCO (2001) *Universal Declaration on Cultural Diversity*, *Paris: United Nations Educational, Scientific and Cultural Organization*.

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Original Research

Determinants of Nutritional Status Among Pregnant Women: a Transcultural Nursing Approach

Ni Ketut Alit Armini, Nurul Hidayati, and Tiyas Kusumaningrum

Faculty of Nursing, Universitas Airlangga, Surabaya, East Java, Indonesia

ABSTRACT

Introduction: Pregnant women experiencing poor nutritional status remains a problem which is still commonly found in Surabaya. Poor nutritional status is one of the causes of increased mortality in pregnant women. The mother's education and occupation, family income, number of children, and family shape are associated with the incidence of nutritional status in pregnant women. The purpose of this study was to explain the factors related to the nutritional status of pregnant women based on transcultural nursing theory.

Methods: his study uses a cross-sectional design. The population were pregnant women at the Public Health Center Tanah Kali Kedinding Surabaya Indonesia, 104 respondents were selected using a consecutive sampling technique. The independent variables were technological, religious, family support, cultural values, political & legal, economic, and educational, while the dependent variable was the incidence of nutritional status in pregnant women. The data was obtained using questionnaires and mid upper arm circumstance (MUAC) measurements. The data was analyzed using the Spearman rho test.

Results: There was a relationship between technological (p=0.001 ; r=0.332), family support (p=0.000 ; r=0.379), cultural values (p=0.000 ; r=0.702), political & legal (p=0.000 ; r=0.387), economic (p=0.031 ; r=0.212), and educational (p=0.020 ; r=0.228) factors with nutritional status in pregnant women.

Discussion: Technological, family support, cultural values, political & legal, economic, and educational factors influenced the nutritional status of pregnant women. The cultural factor was the most dominant in influencing the nutritional status of pregnant women.

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CONTACT

Ni Ketut Alit Armini
✉ k.alita@fkp.unair.ac.id
Faculty of Nursing, Universitas Airlangga, Surabaya, East Java, Indonesia

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INTRODUCTION

In Indonesia, the prevalence of GDM is around 14% of all pregnant women, and 10-25% of the total cases handled are undiagnosed or diagnosed GDMs (Dewi et al., 2020). According to Medical Record Department, Sardjito Hospital of Yogyakarta, the prevalence of GDM in Indonesia is approximately 1,9-3,6 on inpatient disease index of GDM in the last 10 years from 2012-2013.

Many pregnant women experience nutritional problems, especially malnutrition such as a chronic energy deficiency (Blondin & LoGiudice, 2018). Chronic energy deficiency (CED) is one of the causes of increased mortality in mothers (Bhutta et al., 2008). Many factors affect the incidence of CED, one of which is a less diverse diet and fewer portions (Rubina Shaheen, 2016). Chakona & Shackleton (2019) stated that the causes of a lack of variety in food intake consumed by mothers included the taboo culture of food. In some regions in Indonesia there are

still many pregnant women who adhere to the belief in abstinence from consuming certain types of food that are required during pregnancy (Triharini, Nursalam, et al., 2018). The culture affects all aspects of life including health (Diana et al., 2019). In addition to cultural factors, there are also several factors related to the health of pregnant women, namely education, income, family members (Serbesa, Iffa, & Geleto, 2019), type of residence, mother's age, and parity (Islam, Islam, Bharati, Aik, & Hossain, 2016).

The results of a nutritional status survey in Indonesia in 2016 amounted to 16.2% of pregnant women experiencing CED. This shows that there is an increase in CED problems in pregnant women, as much as 2.9% from the previous year, and in the same year the intake of nutritional consumption is still relatively low, at 26.3% of pregnant women whose consumption is good and meets energy adequacy (Kemenkes, 2017). The results of the Demographic Health Survey (DHS) in 2018 recorded that the proportion of pregnant women aged 15-49 years with upper arm circumference <23.5 cm was 17.3%. The amount of pregnant women who experienced CED in East Java was 19.59% and Surabaya City was ranked the second-highest among other districts and cities at 33%. Data obtained from the Health Report Surabaya City in 2018 of 681 mothers who had a pregnancy check at the Tanah Kali Kedinding Public Health Center found 145 (21.3%) pregnant women who experienced CED. Based on a preliminary study conducted on 10 February 2020 through interviews with 10 pregnant women who had a pregnancy check at the Policlinic of Public Health Center Tanah Kali Kedinding, it was found that 20% of pregnant women experience poor nutritional status. Based on interviews, 40% of pregnant women still believe in food restrictions, 50% of pregnant women have less family support, and all pregnant women say they do not know about government policies related to nutrition fulfilment programs for pregnant women.

Beliefs about the culture that can affect health in Indonesia are still very rich and varied. Some people still believe in the culture of food prohibition for pregnant women, which can accidentally eliminate some important nutrients that should be consumed by pregnant women (Parmar, Khanpara, Kartha, Resident, & Shah, 2013). Food restrictions are believed to be the cause of why mothers become malnourished (Ipa, Prasetyo, & Kasnodihardjo, 2016). The problem of malnutrition experienced by the mother during pregnancy has serious consequences for the mother and the baby in both the short and long term. Short-term effects on the mother can cause a risk of abnormalities and complications, namely anemia, bleeding, and cause labor difficulties and bleeding after delivery. In infants malnutrition can cause low birth weight and preterm birth, which has a long-term impact as in the future the child will be at risk of experiencing mental and physical disorders during growth and development (Demelash, Id, & Dadi, 2019).

The cultural dimension of pregnant women in the city of Surabaya is still quite strong, therefore an analysis of the problem using the transcultural approach is needed. Transcultural nursing was chosen because it depicts humans who are not separated from cultural backgrounds and social structures, views, history and environmental context. The purpose of this study was to analyze the factors related to nutritional status in pregnant women based on transcultural nursing theory.

MATERIALS AND METHODS

This research was a phenomenological approach qualitative research. Data collection was carried out through in-depth interviews with a voice recorder and field notes. Participants were selected based on research needs with the principle of appropriateness and adequacy. Participants in this research were mothers who delivered to a maximum of 1 year with a history of GDM. The data collection was finished in the twelve participant when the categorization of data was saturated. In addition, the availability of time and resources in research is also taken into consideration in ending data collection. This research instrument was the researchers themselves. Purposive sampling technique with sampling criterion was used. The inclusion criteria in this study were 1). Mothers who have given birth for a maximum of the last 1 year and were treated at Dr. Sardjito with a history of DMG. 2) Living in the Special Region of Yogyakarta Province. 3). The maternal age of delivery was less than 18–45 years. 4). Maternal gestational age was less than 32 weeks and more than 40 weeks. 5). Willing to become a participant by agreeing the informed consent. The exclusion criterion was poor pregnancy outcome (stillbirth and severe defects). Data analysis used the Colaizzi method. The inclusion of additional steps were 1). Transcribing all the subjects' descriptions. 2). Extracting significant statements (statements that directly relate to the phenomenon under investigation). 3). Creating formulated meanings. 4). Aggregating formulated meanings into theme clusters. 5). Developing an exhaustive description (that is, a comprehensive description of the experience as articulated by participants). 6). Additional step was researcher's interpretative analysis of symbolic representations from the articulation of the symbolic representation (which occurred during participant interview). 7). Identifying the fundamental structure of the phenomenon. 8). Returning to participants for validation (Edward & Welch, 2011). Data were collected between December 2013 and February 2014. Nursing theory of maternal role attainment (Shrestha et al., 2019) was used as a reference to analyse life experience of mother with GDM. The validity of the data in this research was tested and included the credibility, dependability, and conformability. The study was declared to have

passed the ethical review by the Research Ethics Committee, Faculty of Medicine, Gadjah Mada University.

Method

The design of this study was descriptive-analytic. A cross-sectional study approach was used, whereby the researcher measures the data of the independent and dependent variables one at a time.

Population, Samples, and Sampling

The population in this study was all pregnant women who visited ante natal care in the working area of the Public Health Center Tanah Kali Kedinding during the last 3 months from December 2019 to February 2020, totaling 260 pregnant women. Samples were selected using a consecutive sampling technique. 104 pregnant women were found to fit the inclusion criteria, namely pregnant women who had a mother and child health book and exclusion criteria, namely pregnant women with mental disorders.

Variable

The independent variables in this study are the use of technology, religiosity, family support, cultural, political & legal values, economics, and education as seven dimension of transcultural nursing. The dependent variable is the nutritional status of pregnant women.

Measurement

The instruments used in this study were a questionnaire and MUAC measurement using tape to determine the nutritional status of pregnant women based on the mother and the child's health book. The questionnaire in this study was taken and modified from the (Yunitasari, Pradanie, & Susilawati, 2016) research questionnaire. The questionnaire consisted of 38 questions about the use of technology, including access to print and electronic media, access to health services, access to infrastructure, religiosity, including ways of looking at grace, ways of treatment or religious habits that have a positive effect on health, family support including emotional support, information support, facilities, cultural values including perceptions about health workers, cultural references, beliefs related to meeting nutritional needs, maternal habits, political & legal aspects including knowledge of regulations and policies, attitudes towards regulations and policies, economic factors including family income, and education aspects including the mother's education. The questionnaire was given in the form of close-ended questions, namely dichotomy questions (technology and political, & legal utilization questionnaire) and the questions were measured using a Likert scale (questionnaire of religiosity, family support, cultural values). Pregnant women are said to have a good value in seven factors in the transcultural nursing dimension if the score is >50% and less if the value scores ≤50%. The nutritional status of pregnant women is based on the measurement of the mid-upper arm circumference (MUAC) listed in the MCH Handbook. The category of nutritional status was less if the MUAC was <23.5 cm, the nutritional status was good if the MUAC was >23.5 cm.

This questionnaire was tested for validity and reliability on 21 pregnant women with different populations and obtained valid results from all questionnaires.

Procedure

Conducting the research began with obtaining permission from the relevant parties. Researchers collected data from 1-29 April 2020 using two methods, the first before the emergence of the Covid-19 outbreak. The researcher collected data at the Public Health Center Tanah Kali Kedinding Surabaya every day mother, specifically from child health services (Monday-Wednesday). For the second method, after the Covid-19 pandemic emergency was announced, the researcher collected data online through an online form by contacting each respondent using the telephone numbers obtained from the Public Health Center. The researcher contacted the respondents and explained to the respondent the purpose, benefits of the study and obtained informed consent from the respondent. The researcher explained to the respondent how to fill out the questionnaire. The researcher checked the questionnaire had been completed before it was collected by the researcher.

Analysis

The collected data were analyzed using the Spearman rho statistical test with a significance level of $p<0.05$. If the results of $p<0.05$, H1 is accepted, meaning that there is a significant relationship between the independent variable and the dependent variable. If $p\geq0.05$ then H0 is accepted, meaning that there is no relationship between the independent variable and the dependent variable. The strength of the variable relationship is expressed in a positive coefficient if $r = +1$, meaning there is a very strong positive relationship, if $r = -1$ this means there is a very strong negative relationship, and if $r = 0$ then there is no relationship.

Ethical Clearance

This research was conducted following research ethics and received a certificate of ethics from the Ethics Committee of the Faculty of Nursing, Universitas Airlangga with no. 1944-KEPK.

RESULTS

Socio-demographic characteristics (Table 1) show that the majority of respondents and husbands of respondents aged 20-35 years were 88 (84.6%) and

Table 1. Demographic Distribution of Respondents (n=104)

Demographic Sub Characteristics	Category	Frequency (f)	Percentage (%)
Mother's age (years)	< 20	3	2.9
	20-35	88	84.6
	>35	13	12.5
Husband's age (years)	< 20	2	1.9
	20-35	82	7.8
	>35	20	19.2
Mother's occupation	Housewife	75	72.1
	Private employee	26	25
	etc.	3	2.9
Husband's occupation	Civil servants	7	6.7
	Private employee	70	67.3
	Entrepreneur	16	15.4
	etc.	11	10.6
Number of children	0	34	32.7
	1	35	33.7
	2	22	21.2
	≥ 3	13	12.5
Family form	Nuclear family	43	41.3
	Extended family	61	58.7
Number of family members	2	11	10.6
	3	13	12.5
	4	21	20.2
	≥ 5	59	56.7

Table 2. The relationship between the use of technology, religiosity, family support, cultural values, political & legal, economics, education and nutritional status of pregnant women (n=104)

Variable	Category	Nutritional Status of Pregnant Women				Total		Significance
		Less		Good				
		f	%	f	%	N	%	
Technology Utilization	Less	7	6.7	6	5.8	13	12.5	p = 0.001
	Good	13	12.5	78	75	91	87.5	r = 0.332
Religiosity	Less	3	2.9	6	5.8	9	8.7	p = 0.266
	Good	17	16.3	78	75	95	91.3	r = 0.110
Family support	Less	8	7.7	6	5.8	14	13.5	p= 0.000
	Good	12	11.5	78	75	90	86.5	r = 0.379
Culture value	Less	13	12.5	2	1.9	15	14.4	p = 0.000
	Good	7	6.7	82	78.8	89	85.6	r = 0.702
Politics & Legal	Less	11	10.6	12	11.5	23	22,1	p = 0.000
	Good	9	8.7	72	69.2	81	77,9	r = 0.387
Economy	Less	16	15.4	45	43.3	61	58.7	p= 0.031
	Good	4	3.8	39	37.5	43	41.3	r = 0.212
Education	Low	10	9.6	20	19.2	30	28.8	p =0.020
	High	10	9.6	64	61.5	74	71.2	r = 0.228

82 (78.8%), but there were still some pregnant women who were less than 20 years old and over 35 years. Maternal age <20 years or> 35 years is a high-risk age to be able to experience CED and tends to give birth to LBW babies. In the occupational category, 75 (72.1%) respondents were housewives, and for 70 (67.3%) the husband's work was private. 35 (33.7%) respondents had 1 child. Mothers with a high number of births can experience various health problems for both mothers and their babies. 61

(58.7%) respondents lived with their large family. Large families can influence the culture and habits of mothers during pregnancy, mothers who live with large families tend to obey and hold fast the beliefs which family and ancestors have taught for generations.

Table 2 shows that most of the pregnant women who were in the good categories in utilizing technology, religiosity, family support, cultural values, legal politics, and education are in good nutrition status. It appears that some mothers' economic status lacks good nutritional status. Components of transcultural nursing related to the nutritional status of pregnant women include technology utilization factors (p = 0.001), family support (p = 0.000), cultural values (p = 0.000), political and legal (p = 0.000), economy (p = 0.031), education (p = 0.020). However, religiosity is not related to the nutritional status of pregnant women.

DISCUSSION

The nutritional status of pregnant women is one indicator by which to measure the nutritional status of the community. If nutritional consumption for pregnant women is not balanced with the needs of the body this can cause nutritional deficiencies. Nutrient deficiencies in pregnant women are still very high in Indonesia, this is indicated by the high MMR caused by CED during pregnancy (MOH RI, 2009). The results of this study indicate that there are still some pregnant women (19.2%) experiencing poor nutritional status, it shows that there are still some pregnant women who have poor nutritional status with a MUAC less than 23.5 cm. Transcultural nursing was depicts humans who are not separated from cultural backgrounds and social structures, views, history and environmental context. The seven transcultural components of nursing studied include technology, religiosity, family support, cultural, political & legal values, economics, and education(Leininger & Mcfarland, 2002).

The data shows that there is a relationship between the use of technology with nutritional status in pregnant women. Most pregnant women in the good category for technology use tend to have good nutritional status. Similar research shows that information obtained by pregnant women from print or electronic media will increase the mother's knowledge about the importance of consuming nutritious food so that it can motivate mothers to regularly consume healthy and nutritious food(Triharini, Armini, & Nastiti, 2018).

The majority of pregnant women in this study were housewives. Housewives spend more time at home. This can be used to utilize technology appropriately to find information about nutritional status and proper food during pregnancy and can also be used to make nutritious foods by utilizing modern equipment (such as blenders, refrigerators, etc.) to meet their nutritional needs.

The education level of the majority of pregnant women also influences the appropriate utilization of technology in pregnant women. According to (Krishnaswamy, 2001), the use of technology is strongly influenced by human resources or the human brain. The higher the level of education, the better the mastery and use of technology; this will have an impact on the health of the nutritional status of mothers during pregnancy.

Almost all pregnant women in the category of good religiosity have a good nutritional status. Based on the results of the analysis, there is no relationship between religiosity and nutritional status in pregnant women. This is because almost all pregnant women have the same beliefs, causing no difference in the religious level of pregnant women. Fitriani (2016) states that a person is said to have good religiosity by not only claiming to have religion (having religion), but also must have religious knowledge, religious beliefs, observe religious rituals, and behavior (religious morality). This has been seen in the majority of pregnant women. The results of this study also showed that many aspects of a pregnant mother's religiosity were positive. Almost all pregnant women trust and are always grateful for the pregnancy they are experiencing, always pray for their health and the prospective baby, and follow the religious community's "majelis ta"lim" and want to share with others in need. This shows that pregnant women are already good at applying religious values related to the health of their nutritional status.

Although one's religiosity also influences the perspective of health, one's belief in a particular religion does not have a significant impact on nutritional status during pregnancy. Almost all pregnant women have a good level of religiosity, but not all have good nutritional status, there are still pregnant women in the category of malnutrition. This is because several other factors can have an influence, such as utilizing health services and not paying attention to the religious aspects they believe, but rather paying attention to other factors such as beliefs in the cultural values they hold.

Family support is one of the factors related to nutritional status in pregnant women. There is a relationship between family support and nutritional status in pregnant women. The majority of pregnant women get positive family support and have a good nutritional status. Pregnant women who get positive family support get the highest support in the emotional support aspect of the family, motivating pregnant women to consume nutritious food.

According to (Triharini, Nursalam, et al., 2018) family support involves meaningful social relationships and can have a positive influence on the recipient. Lack of family support can cause pregnant women to be negative in determining health care for themselves, especially related to the fulfilment of nutritional intake during pregnancy. Negative family support in this study shows that families rarely listen

to the complaints of pregnant women, forbid the consuming of some food, do not allow them to be seen by health workers, and do not provide costs to go to health workers.

Family support is also seen as a reinforcing factor for the formation of health behaviors (Alit Armini, Tristiana, & Ose Tokan, 2017). This finding shows that information about nutritional status in pregnant women also involves the family, so it can be a good supporting component for pregnant women.

There is a relationship between cultural values and nutritional status in pregnant women. Pregnant women with good cultural value categories have good nutritional status. Nearly half of pregnant women still have some incorrect beliefs about culture related to fulfilling nutrition during pregnancy (taboo culture). This result is supported by research Parmar et al., (2013) which shows that there are still many pregnant women who believe in old, unscientific culture during pregnancy that can affect the nutrition of pregnant women.

Culture is a view of the life of an individual or group concerning the values, beliefs, norms, patterns, and practices that are learned, shared and passed down between generations (Diamond-Smith, Gupta, Kaur, & Kumar, 2016). This is evidenced by the general data of pregnant women, the majority of whom live with large families, so the influence of the previous generation is still strong in influencing the daily activities of pregnant women. However, in this study, some pregnant women did not believe in a culture related to pregnancy. This is done as a form of adherence to the advice and suggestions from parents because they are afraid of karma if they are not obedient to what is ordered by their parents.

The results of this study also showed that there were still some pregnant women who had negative cultures and habits. Negative cultural values are beliefs that do not lead or refer to health (Yunitasari, Pradanie & Susilawati, 2016). Some pregnant women also still smoke. They had the habit of smoking before they became pregnant, so the habit was continued even though they were pregnant. (Nurdin, Hadju, Ansariadi, Zulkifli, & Arundhana, 2018) mentioned that there are several causes of pregnant women smoking, namely the habit before pregnancy, the desire to smell the smoke of cigarettes during pregnancy, and that they will feel satisfied when smoking; pregnant women who smoke also have the support of their husbands. Negative behavior of pregnant women is supported by the environment, which is a unifying tool in society.

There is a relationship between politics & law with nutritional status in pregnant women who work in the Public Health Center Tanah Kali Kedinding, Surabaya Indonesia. Most of the pregnant women in both categories had political and legal knowledge. A similar study by Muttaqin (2018) also shows that knowledge of policies and regulations possessed by pregnant women is directly proportional to the attitude towards fulfilling nutrition in their infants. Politics & law in this study related to the knowledge of pregnant women is related to the allocation of funds and balanced nutritional foods that are recommended during pregnancy.

The majority of pregnant women understand the rules and policies on the recommendation of balanced nutrition. This shows that the socialization of regulations and policies related to nutrition status carried out in the working area of the Tanah Kali Kedinding Health Center is good. However, it is suspected that socialization has not reached all pregnant women. This is because there are still some pregnant women who do not understand the rules and policies regarding balanced nutrition.

More than half of pregnant women have less economic status. The results of this study also showed that pregnant women in the undernutrition category lived in households with low monthly family income. There is a relationship between economic factors and nutritional status in pregnant women. Economic factors were identified as important predictors related to the nutritional status of pregnant women.

Similar research conducted by Hundera et al., (2015) shows that monthly income is significantly related to the nutritional status of pregnant women. Family economic status is a prerequisite for getting adequate food intake and improving nutritional status for pregnant women. More than half of pregnant women have an income above the minimum wage of >Rp.4,200,000 and are in the category of good nutritional status. Economic status is closely related to the income obtained; high income is usually the amount and type of food consumed, which will also be higher (Triharini, Armini, et al., 2018).

Most pregnant women work as housewives. This causes pregnant women to not have a fixed income every month, which can help their husbands to find additional sources of income. If the source of income in the family is low, it will affect the fulfilment of primary needs, one of which is nutritious food which will later have an impact on the family's health status (Adams et al., 2018)

There is an equal number of pregnant women with poor nutritional status categories with low education and pregnant women with good nutritional status categories with higher education. There is a relationship between maternal education and nutritional status in pregnant women. Education plays an important role in the nutritional status of pregnant women, as this education influences nutrition and is associated with the ability of pregnant women to make better decisions for themselves and their children. A study at Miso Health Center, Ethiopia shows that the prevalence of malnutrition is much higher among pregnant women with low education (Serbesa et al., 2019).

Pregnant women with a high education will be more careful about what they eat than those with low education. Other research by Chandra et al., (2019) shows that there is a relationship between the level of education, with the incidence of nutritional status in pregnant women associated with anemia; Renjani & Misra (2017) also shows that there is a relationship between the level of education with the incidence of CED. Pregnant women with low education have a 13.2 times greater chance of experiencing CED compared to pregnant women with high education.

Person's knowledge is influenced by several things, one of which is education (Lee, Newton, Radcliffe, & Belski, 2018). The higher the education, the easier it will be to receive information from outside. However, this does not mean that a person with low education is low in knowledge either. Although some pregnant women have a primary school education and graduate from a junior high school, they have good nutritional status during pregnancy. This study also shows that there are a small proportion of pregnant women who have high education but who are also identified as having poor nutritional status. This may be due to the existence of health behaviors that are formed from various factors that work together, so that even though a person has higher education, his health behavior may be lacking (Leininger, 2002).

Limitation of the study: Research on the dimensions of transcultural nursing and nutritional status of pregnant women was carried out in a cross-sectional approach, only describing a momentary state. The number of samples for validity and reliability testing was 21 pregnant women. As the mid-upper arm circumference is an indicator of nutritional status anthropometry., the change in MUAC measurement results is usually very small and measured over a long time, thus reflecting chronic nutritional status

CONCLUSION

The nutritional status of pregnant women is reviewed based on the theory of transcultural nursing related to the factors of technology utilization, family support, cultural values, knowledge about politics & legal, family economics, and education of pregnant women but there is no relationship with the factor of religiosity. Pregnant women who can take advantage of technology, get optimal family support, positive cultural negotiations, good legal political understanding, economic status and adequate education will be able to maintain good nutritional status during pregnancy.

Further research on the nutritional status of pregnant women needs to be carried out longitudinally by measuring the pregnant woman's weight and blood hemoglobin levels. The government needs to increase awareness in preventing and overcoming nutritional problems in pregnant women by considering the existing culture in society.

REFERENCES

Adams, K. P., Lybbert, T. J., Vosti, S. A., Ayifah, E., Arimond, M., Adu-Afarwuah, S., & Dewey, K. G. (2018). Unintended effects of a targeted maternal and child nutrition intervention on household expenditures, labor income, and the nutritional status of non-targeted siblings in Ghana. *World Development*, *107*, 138–150. https://doi.org/10.1016/j.worlddev.2018.02.025

Alit Armini, N. K., Tristiana, R. D., & Ose Tokan, A. (2017). *Husband's Support is Needed to Prevent Postpartum Depression*. *3*(Inc), 4–7. https://doi.org/10.2991/inc-17.2017.7

Bhutta, Z. A., Ahmed, T., Black, R. E., Cousens, S., Dewey, K., Giugliani, E., … Shekar, M. (2008). What works? Interventions for maternal and child undernutrition and survival. *The Lancet*, *371*(9610), 417–440. https://doi.org/10.1016/S0140-6736(07)61693-6

Blondin, J. H., & LoGiudice, J. A. (2018). Pregnant women's knowledge and awareness of nutrition. *Applied Nursing Research*. https://doi.org/10.1016/j.apnr.2017.11.020

Chakona, G., & Shackleton, C. (2019). Food Taboos and Cultural Beliefs Influence Food Choice and Dietary Preferences among Pregnant. *Nutrients*, *11*, 1–18.

Chandra, F., Junita, D., & Fatmawati, T. Y. (2019). Tingkat Pendidikan dan Pengetahuan Ibu Hamil dengan Status Anemia. *Jurnal Ilmiah Ilmu Keperawatan Indonesia*, *9*(04), 653–659. https://doi.org/10.33221/jiiki.v9i04.398

Demelash, H., Id, D., & Dadi, A. F. (2019). Burden and determinants of malnutrition among pregnant women in Africa : A systematic review and meta-analysis. *Journal PLoS ONE*, *14*(9), 1–19. https://doi.org/https://doi.org/10.1371/journal.pone.0221712

Diamond-Smith, N. G., Gupta, M., Kaur, M., & Kumar, R. (2016). Determinants of Persistent Anemia in Poor, Urban Pregnant Women of Chandigarh City, North India. *Food and Nutrition Bulletin*, *37*(2), 132–143. https://doi.org/10.1177/0379572116637721

Diana, R., Khomsan, A., Anwar, F., Christianti, D. F., Kusuma, R., & Rachmayanti, R. D. (2019). Dietary Quantity and Diversity among Anemic Pregnant Women in Madura Island, Indonesia. *Journal of Nutrition and Metabolism*, *2019*. https://doi.org/10.1155/2019/2647230

Fitriani, A. (2016). Peran Religiusitas Dalam Meningkatkan Psychological Well Being. *Al-Adyan*, *11*(1), 57–80. https://doi.org/https://doi.org/10.24042/ajsla.v11i1.1437

Hundera, T., Wirtu, D., Gemede, H., & Kenie, D. (2015). Nutritional Status and Associated Factors Among Lactating Mothers in Nekemte Referral Hospital and Health Centers, Ethiopia. *International Journal of Nutrition and Food Sciences*, *4*(2), 216. https://doi.org/10.11648/j.ijnfs.20150402.23

Ipa, M., Prasetyo, D. A., & Kasnodihardjo. (2016). *Praktik budaya perawatan dalam kehamilan persalinan dan nifas pada etnik baduy dalam*. (April), 25–36.

Islam, A., Islam, N., Bharati, P., Aik, S., & Hossain, G. (2016). Socio-economic and demographic factors influencing nutritional status among early childbearing young mothers in Bangladesh. *BMC Women's Health*, *16*(58), 1–9. https://doi.org/10.1186/s12905-016-0338-y

Kemenkes. (2017). *HASIL PEMANTAUAN STATUS GIZI (PSG) TAHUN 2016*.

Krishnaswamy, K. (2001). Perspectives on Nutrition Needs for the New Millennium for South Asian Regions. *Biomedical and Environmental Sciences*, *14*(1–2), 66–74.

Lee, A., Newton, M., Radcliffe, J., & Belski, R. (2018). Pregnancy nutrition knowledge and experiences of pregnant women and antenatal care clinicians: A mixed methods approach. *Women and Birth*, *31*(4), 269–277. https://doi.org/10.1016/j.wombi.2017.10.010

Leininger, M., & Mcfarland, M. R. (2002). *Transcultural Nursing: Concepts, Theories, Research & Practice (Third Edit)*. United States of America: The McGraw-Hill Companies.

Muttaqin, A. (2018). Analisis Faktor yang Berhubungan dengan Status Gizi Balita Berdasarkan Teori Transcultural Nursing di Desa Srowo Kecamatan Sidayu Kabupaten Gresik. *Skripsi Fakultas Keperawatan Universitas Airlangga.*

Nurdin, M. S., Hadju, V., Ansariadi, Zulkifli, A., & Arundhana, A. I. (2018). Determinants of anaemia among pregnant women in jeneponto regency. *Pakistan Journal of Medical and Health Sciences*, *12*(1), 429–434.

Parmar, A., Khanpara, H., Kartha, G., Resident, P. G., & Shah, C. U. (2013). *A study on taboos and misconceptions associated with pregnancy among rural women of Surendranagar district 1*. *4*(2), 2–5.

Renjani, R. S., & Misra. (2017). Faktor-Faktor yang Berhubungan dengan Kejadian Kekurangan Energi Kronis (KEK) pada Ibu Hamil di Wilayah Kerja Puskesmas Krueng Barona Jaya Kabupaten Aceh Besar. *Journal of Healthcare Technology and Medicine*, *3*(2), 254–270. https://doi.org/https://doi.org/10.33143/jhtm.v3i2.416

Rubina Shaheen, L. L. (2016). Quality of life among pregnant women with chronic energy deficiency in rural Bangladesh. *Health Policy*, *78*(2–3), 128–134.

Serbesa, M. L., Iffa, M. T., & Geleto, M. (2019). Factors associated with malnutrition among pregnant women and lactating mothers in Miesso Health Center , Ethiopia. *European Journal of Midwifery*, 1–5. https://doi.org/https://doi.org/10.18332/ejm/110131

Triharini, M., Armini, N. K. A., & Nastiti, A. A. (2018). Effect of Educational Intervention on Family Support for Pregnant Women in Preventing Anemia. *Belitung Nursing Journal*, *4*(3), 304–311. https://doi.org/10.33546/bnj.332

Triharini, M., Nursalam, Sulistyono, A., Adriani, M., Armini, N. K. A., & Nastiti, A. A. (2018). Adherence to iron supplementation amongst pregnant mothers in Surabaya, Indonesia: Perceived benefits, barriers and family support. *International Journal of Nursing Sciences*, *5*(3), 243–248. https://doi.org/10.1016/j.ijnss.2018.07.002

Yunitasari, E., Pradanie, R., & Susilawati, A. (2016). Early Marriage Based on Transcultural Nursing Theory in Kara Village Sampang. *Jurnal Ners*, *11*(2015), 164–169. https://doi.org/10.20473/JN.V11I22016.164-169

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Original Research

Social Support Attainment of Older Adults Living in a Flood-Prone Community

Arlene Supremo[1], Sillmark Bacason[1], Alpha Issa Christianne Abegonia[2], and Louverille Bacason[2]

[1] Faculty of Biliran Province State University
[2] School Nurse of Department of Education - Biliran

ABSTRACT

Introduction: A flood, a catastrophic phenomenon often experienced by many, brings destruction to property and livelihood. This kind of event renders access to basic services difficult. During times of floods, older adults need additional social support, from family, friends, relatives, or significant others. The aim of this study was to investigate the level of attainment of social support of older adults during periods of floods and periods without floods.

Methods: A descriptive quantitative research design was used. Purposive sampling was utilized to reach the population sample of 126 elderly respondents. They were interviewed face-to-face in their homes using a modified questionnaire. To analyze the data, descriptive statistics and mean scores were used.

Results: 126 older adults participated in the research study. Most older adults strongly agreed that they received social support during periods of floods (with a mean score of 4.40) and without floods (with a mean score of 4.39).

Discussion: Social support was extended to older adults both during times of floods and without floods. The support they received from people who were special to them maintained their health and well-being.

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CONTACT

Arlene Supremo
✉ arlene.supremo1986@gmail.com
Faculty of Biliran Province State University

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INTRODUCTION

Social support is a fundamental and substantial need for every person. With the attainment of this need, people can live well. At the community level, for instance, older adults are one of the groups of people who need social support because they have a higher prevalence of chronic diseases, physical disabilities, and other co-morbidities (Benson, 2013). Due to the predicted physical changes related to aging, they are a vulnerable age group (Orimo et al., 2006). Wu et al. (2015) concluded that the emergence of natural catastrophic calamities such as floods further hampers the attainment of social support among older adults.

Globally, older adults in both developed and underdeveloped countries have been affected by the effects of natural catastrophes with regard to attaining social support (WHO, 2008). Abraham (2016) reported that older adults were seriously affected by the 2013 and 2014 severe flooding in northern England and northwest Europe. Similarly, older adults were significantly affected by the severe flooding in the southeastern United States due to Hurricane Katrina (Dyer, 2006). Moreover, Wu et al., (2006) indicated that flooding is considered one of the most severe forms of natural disasters affecting various age populations, including older adults.

The Philippines has recorded debilitating effects of natural catastrophes due to various tropical storms

affecting the country (Cadag et al., 2017). The tropical storms Haiyan (Yolanda), Bopha (Pablo), Nesat (Pedring), Washi (Sendong), Ketsana (Ondoy), and Parma (Pepeng) caused severe flooding in the lower regions of the urban and rural areas of the country in 2013, 2012, 2011, and 2010 (Gilbuena, Kawamura, Medina, Amaguchi, & Nakagawa, 2013). In 2014, the Intergovernmental Panel on Climate Change (IPCC) forecasted that coastal regions and disaster-prone areas were likely to experience intense flooding due to typhoons and tropical storms. Fernandez, Stoeckl, and Weltres (2019) emphasized that the possible severe impact of these events could be devastating to the lives of the Filipinos residing in those areas. The social support that people may receive during these debilitating times has been hampered by some destruction in the national and provincial roads.

The Biliran Province, an island community situated in the Philippines, is considered a very high-risk place for climate and weather-related threats (Santos, 2016). Empirical study results showed that the four typhoons, namely Urduja in 2017, Yolanda in 2013, Pablo in 2012, and Ruby in 2004, hit the province and caused serious flooding in some areas and municipalities. Local reports indicated that injuries occurred, but there were undocumented cases of injuries for elders. Among the areas of Biliran, Barangay Poblacion in the municipality of Almeria was identified as one of the flood-prone places. It has been noted in the historical accounts of flooding in the Poblacion, which started in the year 1961 when Typhoon Bebing caused heavy flooding in the area.

However, the effects of the naturally-occurring phenomenon on older adults in Biliran Province, specifically in Almeria, remained uninvestigated. There has been a dearth of research studies elucidating the extent of older adults' attainment of social support, both in periods of floods and periods without floods, especially considering that older adults are a vulnerable population. Meeting their social support needs will foster their increased health, enabling them to live longer. The aim of the study was to investigate the level of the attainment of the social support of older adults living in the flood-prone community of the Biliran Province during a flood and when no flooding was present.

MATERIALS AND METHODS

Study Design

A descriptive quantitative study design was conducted through a cross-sectional approach.

Respondents

The respondents of the study were 126 older adults age 65 years old and above. The inclusion criteria included elders who were willing to participate in the study, who were ambulatory and able to talk, communicate, and express their thoughts. The exclusion criteria included those elders who could not talk, were bed-ridden, stuporous, or comatose.

A purposive sampling design was utilized in the study. The Senior Citizen Organization located in one of the district in Philippines, provided a list of 186 senior residents in the locality, and out of that number, 126 seniors consented to participate.

Instruments

The instrument utilized in the study was derived from the studies of Zimet, Dahlem, Zimet, and Farley (1988). The modified questionnaire was composed of two parts. Part I included the determination of the respondents' demographic profile in terms of age, gender, marital status, common illnesses, presence of chronic disease, and living style. Part II included data on the scoring of how the participant felt about five (5) statements of social support. These items were categorized according to the following sources of social support: acquaintances, relatives, and other important persons related to the care of the elderly. This part covers two periods: when there is no flood and when there is a flood. Each period has a scale to assess the social support acquired by the older adult. Responses were scaled with a five-point Likert-scale. Numbers 5, 4, 3, 2, and 1 represented strongly agree, agree, neutral, disagree, and strongly disagree. The scoring and quantification were designated as follows: 4.21–5.00 indicated strongly agree, 3.41–4.20 indicated agree, 2.61– 3.40 indicated neutral, 1.81–2.60 indicated disagree, and 1.00–1.80 indicated strongly disagree. The semi-structured questionnaire was scrutinized by an external panel to improve certain items in order to ensure reliability and validity.

Data Collection

The researchers interviewed the respondents using the modified questionnaire. Before the actual interview, informed consent was secured. An explanation of the study's intent was conducted, and the study's duration was explained. Those who could not read and write were assisted by their caregivers or the researchers to complete the questionnaire.

Data Analysis

The data gathered was tallied using Microsoft Excel. In analyzing the data, the study utilized the following statistical techniques: Descriptive statistics were used to describe the population studied. Simple frequency and percentage were utilized to determine sample characteristics in terms of age, gender, marital status, common illness, presence of chronic disease, and living style. Mean scores were used to determine

Table 1. Social Support During Period of No Flood and With Flood

Social Support	No Flood														With Flood									
	5		4		3		2		1		Mean	Description	5		4		3		2		1		Mean	Description
	f	%	f	%	f	%	f	%	f	%			f	%	f	%	f	%	f	%	f	%		
There is a special person who is around when I am in need.	76	60	36	29	12	10	2	2	0	0	4.46	Strongly Agree	72	57	39	31	14	11	1	1	0	0	4.44	Strongly Agree
There is a special person with whom I can share my joys and sorrows.	73	58	42	33	9	7	2	2	0	0	4.48	Strongly Agree	70	56	45	36	10	8	1	1	0	0	4.46	Strongly Agree
I have a special person who is a real source of comfort to me.	72	57	39	31	14	11	1	1	0	0	4.44	Strongly Agree	72	57	42	33	11	9	1	1	0	0	4.47	Strongly Agree
There is a special person in my life who cares about my feelings.	65	52	43	34	18	14	0	0	0	0	4.37	Strongly Agree	64	51	47	37	15	12	0	0	0	0	4.39	Strongly Agree
I can talk about my problems with my friends.	56	44	44	35	24	19	2	2	0	0	4.22	Strongly Agree	59	47	45	36	18	14	4	3	0	0	4.26	Strongly Agree
											Overall Mean	4.39											Overall Mean	4.40
												Strongly Agree												Strongly Agree

the level of attainment of social support of the older adults.

Ethical Consideration

Before embarking on the study, the researchers sought ethics approval from the internal review panel. Once the study was approved, the older adults

were given informed consent forms to read and sign. Then, a thorough explanation of the purpose of the study took place prior to the actual interview. Signing the informed consent form indicated that the participant wanted to join the study. However, the participants were reminded that they could withdraw at any time. The consent process was also used to determine willingness for continued participation in the research endeavor. Issues of anonymity and confidentiality of data were also addressed throughout the study using the following measures: (1) replacement of names with pseudonyms and other identifying information to conceal the identity of the interviewee; (2) data was stored in a locked cabinet inside a secure room; (3) data in computers were secured with a password that only the researchers could access; and (4) files will be destroyed five years after the study.

RESULTS

The findings of the study revealed that during floods, most older adults had people who provided them with comfort, with a mean score of 4.47. Similarly, the older adults answered that these people were the ones with whom they shared their joys and sorrows, garnering a score of 4.46, and were around them especially in times of need (with a mean score of 4.44). Also, findings showed that there were special people in the older adults' lives who cared about their feelings, with a mean score of 4.39. Last, older adults responded very strongly that their friends were the ones they could talk to when they had problems, with 4.26 as the mean score.

The answers of the older adults referring to times when there is no flood showed a slim variance with their answers when there is a flood. First, older adults responded that there were special people with whom they shared their joys and sorrows (mean score of 4.48). Second, older adults considered these special people as the group of people who were around with them whenever they needed help (mean score of 4.46). Third, older adults answered that they had special people who provided them with the comfort they needed (mean score of 4.44), and the same people were recognized by them as the ones who truly cared about their feelings (mean score of 4.37). Last, older adults shared that they had friends to whom they could talk whenever they need good conversation (mean score of 4.22). Generally, the overall findings of the study revealed a slight difference of the results on the level of attainment of social support for older adults both during floods (mean score of 4.40) and without floods (mean score of 4.39).

Generally, the findings of the study revealed a slight difference in the results on the level of attainment of the social support for older adults both during a flood (mean score of 4.40) and when there was no flood (mean score of 4.39). The above findings are presented in Table 1.

DISCUSSION

126 older adults participated in the research study. Most of them were 65–74 years old, female (61.9%), widowed (47.62%), had chronic diseases (60.32%) such as hypertension and diabetes mellitus, and had common issues such as coughs and colds (63.49%). Also, they tended to live with their spouses and offspring (41.27%).

Older adults in the study were surrounded by significant people who journeyed with them during the flooding in Barangay Poblacion, Almeria, Biliran. These people were their children, partners, family, and significant others who had been with them through ups and downs. The older adults considered these people as special people who were readily available for them (with a mean score of 4.44 with flood and 4.46 without flood). These individuals were those to whom the elderly could turn in times of flooding. According to Hays (2015), Filipinos deeply value their family and culture. They are very sociable and love to have good conversations with family and friends.

The older adults genuinely felt they had someone who could share their joys and sorrows (with a mean score of 4.46 with flood and 4.48 without flood). This someone was a loved one, friend, relative, or significant other. They shared their happiness and sadness. Filipinos are people who enjoy fun and still maintain good attitudes in the face of adversity. According to Global Affairs Canada (2019), Filipinos are sociable, friendly, good-natured, and hospitable. These traits are shown whenever they are at home or in their work environment. Therefore, sharing joys and sorrows with friends is very common. They live in the present moment, rather than dwell on the past, and think of what might be in the future (Hays, 2015).

In addition, the majority of older adults strongly agreed that they had a special someone to give them comfort and ease (with a mean score of 4.47 with flood and 4.44 without flood). This same person tried to help them in times of need, especially during flooding. When facing the ultimate unknown, older adults also had another source of solace: religion and spirituality. According to Llaneta (2018), there is a clear correlation between religion, spirituality, and health in the elderly. The anxiety faced by the elderly dissipates when they have faith to hold on to, to give them a sense of fulfillment and positive well-being. Spirituality and religious involvement have been strongly associated with healthy productive aging, nutrition, fitness, mental stimulation, self-effectiveness, and communal interaction.

Older adults also mentioned that these special persons truly cared about their emotions and feelings (with a mean score of 4.39 and with flood and 4.37). This finding shows an obvious increase in support received by older adults during flooding periods. This support will lessen the possible apprehension and depression that would be felt by elders who are more susceptible to the dangers caused by isolation.

Depression and suicidal tendencies are common among older adults (Pejner et al., 2012). Knowing that someone cares about their feelings relieves some of their emotional baggage. Spouses, children, or friends are significant persons that help the elderly feel cared for and loved. That is why it is not uncommon to find older adults living with their children and families.

Last, older adults had trustworthy friends with whom they shared their problems (with a mean score of 4.26 with flood and 4.22). It was noticeably apparent that there was an increase of support received by the older adults whenever they needed someone to support them. Their friends always lent a helping hand when things went wrong. They valued friendships and being useful. This means that in times of trouble or calamity, older adults can rely on their friends. According to Global Affairs Canada (2019), Filipinos are sociable in nature, which allows them to befriend almost anyone they meet. They are able to form groups that will back them up when faced with uncertainties. Interim HealthCare (2015) presents an important link between social interaction and senior individuals' health. Filipinos believe that to feeling loved and needed or to have someone to speak to each day are crucial elements in living a healthy life.

CONCLUSION

There is a noticeable slight increase in social support extended to older adults during a flood compared to when there is no flood. The special persons were untiring in providing physical, emotional, psychological, and spiritual support to older adults during this time. These forms of support were beneficial to maintaining the health and well-being of the older adults whether or not there was flooding. The policymakers should craft a plan of action to maintain social support for older adults, especially during flooding.

REFERENCES

Abraham, C. (2016). Older people and power loss, floods, and storms: Reducing risk, building resilience. 1–40. Retrieved March 7, 2019, from https://www.ageuk.org.uk/globalassets/age-uk/documents/reports-and-publications/reports-and-briefings/active-communities/rb_feb16_older_people_and_power_loss_floods_and_storms.pdf

Benson, W. F. (2013). Disaster planning tips for older adults and their families. CDC Healthy Aging Program Health Benefits ABCs, 00221-5. Retrieved March 7, 2019, from https://disasterplaybook.org/wp-content/uploads/2015/12/CDCs-disaster-planning-tips-for-older-adults.pdf

Cadag, J. R. D., Petal, M., Luna, E., Gaillard, J. C., Pambid, L., & Santos, G. V. (2017). Hidden disasters: Recurrent flooding impacts on educational continuity in the Philippines. International Journal of Disaster Risk Reduction, 25, 72–81. doi:10.1016/j.ijdrr.2017.07.016

Dyer, C. (2006). Recommendations for best practices in the management of elderly disaster victims. Baylor College of Medicine. Retrieved March 7, 2019, from https://assets.aarp.org/www.aarp.org_/articles/aboutaarp/baylor_best_practices_guide.pdf

Fernandez, C. J., Stoeckl, N., & Welters, R. (2019). The cost of doing nothing in the face of climate change: a case study, using the life satisfaction approach to value the tangible and intangible costs of flooding in the Philippines. Climate and Development, 11(9), 825–838. doi:10.1080/17565529.2019.1579697

Gilbuena Jr. R., A. Kawamura, R. Medina, H. Amaguchi, & N. Nakagawa. Gap analysis of the flood management system in Metro Manila, Philippines: A case study of the aftermath of Typhoon

Ondoy, in Proceedings of the 5th International Conference on Flood Management – Floods: From Risk to Opportunity, International Association of Hydrological Science Publication No. 357, pp. 32–40. Retrieved from https://www.researchgate.net/profile/Akira_Kawamura/publication/283820205_Gap_analysis_of_the_flood_management_system_in_Metro_Manila_Philippines_A_case_study_of_the_aftermath_of_Typhoon_Ondoy/links/577c5ad508aec3b743367202/Gap-analysis-of-the-flood-management-system-in-Metro-Manila-Philippines-A-case-study-of-the-aftermath-of-Typhoon-Ondoy.pdf

Global Affairs Canada. (2019, January 17). Philippines: Cultural information. Retrieved March 7, 2019, from www.international.gc.ca: https://www.international.gc.ca/cil-cai/country_insights-apercus_pays/ci-ic_ph.aspx?lang=eng

Hays, J. (2015, June). Filipino character and personality: Hiya, amor propio, emotions and the influences of Catholicism, Asia and Spain. Retrieved March 7, 2019 from http://factsanddetails.com/southeast-asia/Philippines/sub5_6c/entry-3867.html

Intergovernmental Panel on Climate Change (2014). Climate change 2014: Synthesis report. Contribution of working groups I, II and III to the fifth assessment report of the intergovernmental Panel on Climate Change. Core Writing Team, R.K. Pachauri and L.A.

Meyer (Eds.). Geneva, Switzerland: Intergovernmental Panel on Climate Change.

Interim HealthCare. (2015, January 19). Social Seniors - The importance of friendship. Retrieved March 7, 2019, from InterimHealthCare.com: https://www.interimhealthcare.com/lincoln/blo

g/january-2015/social-seniors-the-importance-of-friendship/

Llaneta, C. A. (2018, January 8). From final endings to new beginnings. Retrieved March 7, 2019, from University of the Philippines: https://www.up.edu.ph/index.php/from-final-endings-to-new-beginnings/

Orimo, H., Ito, H., Suzuki, T., Araki, A., Hosoi, T., & Sawabe, M. (2006). Reviewing the definition of elderly. Geriatrics and Gerontology International, 6, 149–158. doi:10.1111/j.1447-0594.2006.00341.x

Pejner, M. N., Ziegert, K., & Kihlgren, A. (2012). Trying to cope with everyday life—Emotional support in municipal elderly care setting. International journal of qualitative studies on health and well-being, 7(1), 19613. doi: 10.3402/qhw.v7i0.19613

Santos, E. P. (2016). Philippines among world's most disaster-prone countries. Retrieved June 18, 2018, from http://cnnphilippines.com/news/2015/11/25/philippines-fourth-most-disaster-prone-country.html

World Health Organization (2008). Older Persons in Emergencies: An Active Ageing Perspective. 1–49. Retrieved March 7, 2019, from https://www.who.int/ageing/publications/EmergenciesEnglish13August.pdf?ua=1

Wu, J., Xiao, J., Li, T., Li, X., Sun, H., Chow, E. P., ... & Zhuang, X. (2015). A cross-sectional survey on the health status and the health-related quality of life of the elderly after flood disaster in Bazhong City, Sichuan, China. BMC Public Health, 15(1), 163. doi: 10.1186/s12889-015-1402-5.

Zimet, G., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. Journal of Personality Assessment, 52(1), 30–41. doi:10.1207/s15327752jpa5201_2

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Original Research

Determinant Analysis of Trigger Risk of Death of Father Because of Non-Communicable Diseases in the Family

Miftahul Munir

Nursing Departement of Health Science Institue Nahdlatul Ulama Tuban, East Java, Indonesia

ABSTRACT

Introduction: The tendency of non-communicable diseases is chronic, with the impact of disability including permanent disability. The purpose of this study is to analyze the determinants of the risk of father's death due to non-communicable diseases in families in Semanding District, Tuban Regency.

Methods: This type of research is observational analytic with case control design. Using cluster sampling, 437 samples were taken. In the second stage, the sample was taken by determining the highest non-communicable diseases in the family, 0.82%, then the sample size was 182 with a case group of 82 (the highest non-communicable diseases) and a control of 100 (the father's non-communicable diseases risk).

Results: Data collection was done by interview. OR = 5,863 95% CI 3,087-11,136) with, consumption of foods high in excess salt (OR = 7,653 CI 95 % 3,951-14,821), consumption of food and drink high in excess sugar (OR 5, 582 CI 95% 2.9478-10.57) smoking (OR = 4.849 CI 95% 2.545-9.238).

Conclusion: The health classification of respondents, namely the father as the head of the family suffering from non-communicable diseases, as the highest cause of death in the group of fathers at risk is smoking. The highest sufferers of non-communicable diseases is as the head of the family in the district. The highest in Kab.Tuban in 2018 is primary hypertension. This triggers the risk of death of the father because of the highest non-communicable diseases in families in the district. Notable in Kab. Tuban in 2018 is the lack of consumption of fruits and vegetables, consumption of foods high in excess salt, consumption of foods / drinks high in excess sugar and smoking.

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CONTACT

Miftahul Munir
✉bahranminfanda69@gmail.com
Nursing Departement of Health Science Institue Nahdlatul Ulama Tuban, East Java, Indonesia

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INTRODUCTION

Indonesia is facing a major challenge, namely the triple burden health problems, such as the presence of infectious diseases, the rise of non-communicable diseases and several diseases that should have been overcome but have reappeared (Riskesdas, 2018). Non-communicable diseases are not diseases caused by germ infections, but are included in chronic degenerative diseases, such as heart and blood vessels (coronary heart disease, stroke and hypertension), cancer, diabetes mellitus (DM) and metabolic disorders, lung disease chronic, impaired sense of sight and hearing, and functional disorders (Kemenkes RI, 2017)

Deaths due to non-communicable diseases are increasing, this trend is likely to continue along with changes in life behavior (eating patterns with unbalanced nutrition, lack of physical activity, smoking, etc.) (Raksanagara & Raksanagara, 2016). The proportion of deaths due to non-communicable diseases increased from 41.7% to 59.5%, this is because non-communicable diseases are often asymptomatic and do not show clinical signs specifically (Udjianti, 2013). Based on data provided by the Semanding Puskesmas, hypertension is one of the highest non-communicable diseases in the Semanding Puskesmas Work Area with the prevalence of hypertension occurrence at Semanding Puskesmas in 2017, which is 0.82%.

Some of these risk factors include factors that cannot be changed, including age, gender and genetics (Hussein & Musiana, 2014). Factors that can be changed are behavioral risk factors (smoking, lack of

fruit and vegetable consumption, lack of physical activity, drinking alcohol and stress), environmental risk factors (air pollution, road and vehicle improper roads and social stress) and physiological risk factors (obesity , hyperglycemia and hyperlipidemia) (Sunarti, 2018). The factors that are the focus of this research are behavioral risk factors (Kresnawan, 2014).

The phenomenon of non-communicable diseases (a disease that tends to be chronic, has an impact on the occurrence of disabilities including permanent disability so that it takes a long time for treatment and requires high costs (Meilyana, Djais, & Garna, 2016). High costs in handling non-communicable diseases will affect the patient's economy and cause family conditions disrupted. If you, as the head of the family, suffer from non-communicable diseases, it is possible that there is an imbalance of roles and functions in the family and the worst possibility is the risk of an increase in orphans (Beaglehole et al., 2011).

Efforts made by the government in order to reduce the number of non-communicable diseases occurrences are through an Integrated Health Post through the Healthy Life Society Movement with behavior (routine health check, eliminating cigarette smoke, exercise diligently, healthy diet of balanced calories, adequate rest and stress control) (Setyanda, Sulastri, & Lestari, 2015). The healthy living community movement includes physical activity, consumption of fruits and vegetables, routine health checks, cleaning the environment, maintaining healthy toilets, not smoking and not consuming alcohol (Ska et al., 2016).

MATERIALS AND METHODS

The research is observational analytic with case control design. This research consists of two stages; the first stage is identifying the trigger of father's death risk due to non-communicable diseases and the type of non-communicable disease. The second stage is identifying and analyzing the trigger (risk behavior) to the highest non-communicable diseases on the father. The population in stage I is all households in Keb. Tuban, which was 39,983 households, with 437 participants taken by cluster sampling. In the second stage, the sample was taken by determining the highest non-communicable diseases in the family, namely primary hypertension, then, based on the prevalence of primary hypertension in Semanding Health Center in 2017, it is 0.82%. Based on the prevalence, the sample size was 182 with 82 cases (highest non-communicable diseases) and 100 controls (fathers at risk of non-communicable diseases). Data collection was done by questionnaire. Questionnaire was distributed for later tabulation, data were analyzed by univariate, bivariate with Odds Ratio (OR) and multivariate analysis using logistic regression tests with significance $\alpha = 0.05$. Ethical clearance of this study was taken from Ethical Committee of Nahdlatul Ulama Institute Health Science Tuban Indonesia.

RESULTS

Most of the respondents, 66% (286), suffer from non-communicable diseases. In the fathers who had primary hypertensions 69.5% had a high risk of death due to consumption of fruits and vegetables <5 servings per day, while of all the fathers at risk of non-communicable diseases 28% consumed fruits and vegetables <5 servings per day. There is a significant relationship between primary hypertension and consumption of fruits and vegetables <5 servings per day with p value = 0.000. Relationship strength parameter (Odds Ratio) of fathers with hypertension is 5.8 times (95% CI 3.087-11.136) at risk of death due to less consumption of fruits and vegetables compared to fathers at risk of non-communicable diseases.

For those who have primary hypertension, 70.7% have a high risk of death because they often consume foods high in salt (> 2000 mg / day, equivalent to> 1 teaspoon / day), which is 3-6 times / week, whereas of all fathers at risk of non-communicable diseases ,24% consume foods high in salt. There is a significant relationship between hypertension and high salt food consumption with p value = 0.000. Odds Ratio (OR) for a father who has hypertension at 7.6 times (95% CI 3,951-14,821), he has a high risk of death because he often consumes high-salt foods compared to fathers who are at risk of developing non-communicable diseases.

For those who suffer from hypertension, 69.5% are at risk of death because they often consume foods / drinks high in sugar> 50 gr / day (equivalent to> 4 tablespoons of sugar / day), which is 3-6 times / week, whereas of all fathers with non-communicable diseases risk 29% are consuming foods / drinks high in sugar. There is a significant relationship between hypertension and consumption of high sugar foods / drinks with p value = 0.000. Odds Ratio (OR) For those who experience hypertension at 5.5 times (95% CI 2.948-10.57) they have a high risk of death because they often eat / drink high sugar compared to those who are at risk of developing non-communicable diseases .

Of those with hypertension, 75.6% are at risk of dying from smoking as active or passive smokers, while of all the fathers who are at risk of developing non-communicable diseases 39% are active or passive smokers. There was a meaningful relationship between hypertension and smoking with p value = 0.000. Odds Ratio (OR) for fathers who experience hypertension 4.8 times (95% CI 2.545-9.238), they have a higher risk of death from smoking compared to fathers who are at risk of developing non-communicable diseases.

The results of multivariate analysis showed that the most influential risk factor for father's death due to hypertension was the consumption of excess high salt foods (> 2000 mg / day), which is 3-6 times / week with an OR value = 1.288 (95% CI 1.699-7.747), Exp (B) = 3,628. The equation is the highest non-communicable diseases logit (hypertension) = -2.277

Table 1. Variables Triggering Factors of Risk of Death of Fathers due to the Highest Non-Communicable Diseases (Primary Hypertension) the Most Influential

Variable	B	S.E	Wald	df	Sig.	Exp (B)	CI 95%	
							Lower	Upper
Consumption of fruit and vegetables	1,035	0,385	7,228	1	0,007	2,815	1,324	5,988
High salt food consumption	1,289	0,387	11,087	1	0,001	3,628	1,699	7,747
High sugar food / beverage consumption	0,989	0,383	6,662	1	0,010	2,688	1,269	5,696
Smoke	0,862	0,389	4,899	1	0,027	2,368	1,104	5,080
Constant	-2,277	0,364	39,086	1	0,000	0,103		

+ 1.035 (consumption of vegetable fruit) +1.289 (consumption of foods high in salt) +0.989 (consumption of food / drink high in sugar) +0.862 (smoking). The probability of suffering from hypertension with a high risk of death trigger is 86.8%.

DISCUSSION

Chronic and generative diseases can be prevented by consuming fruits and vegetables every day as recommended by the World Health Organization (WHO) as many as 400 grams per day with details of 250 grams of vegetables which is equivalent to 2.5 servings or 2.5 cups of vegetables after cooking and drained while the fruit is 150 grams (WHO, 2018).

The recommended consumption of fruits and vegetables by the Indonesian Ministry of Health is> 5 servings per day for fruit and three servings per day for vegetables. One serving of vegetables is equivalent to 100 grams while one serving of fruit is equivalent to 50 grams, so that, when converted in weight, the consumption of vegetables is 300 grams per day while consumption of fruits is 250 grams per day. High potassium fruit is found in tomatoes, carrots, beans and bananas. Long-term consumption of fruits and vegetables can inhibit the incidence of hypertension. For data in the case group (i.e. those with a history of hypertension), 69.5% had a high risk (less consumption of fruits and vegetables), while in the control group 28% had less consumption of fruits and vegetable (Division, 2010).

According to the WHO, fruit consumption is categorized as less if <150 grams per day and vegetable consumption <250 grams per day. Based on the Balanced Nutrition Guidelines of the Ministry of Health of the Republic of Indonesia, it is said that the consumption of fruits and vegetables is less if fruit consumption <250 grams and vegetable consumption <300 grams per day. Fresh foods, especially fruits and vegetables, are the main source of potassium (Fitri, Rusmikawati, Zulfah, & Nurbaiti, 2018; Mahmudah, Maryusman, Arini, & Malkan, 2015); . Potassium is a mineral that maintains fluid and electrolyte balance so that the effect of removing sodium and fluids from the body can prevent hypertension. Lack of fruit and vegetables also triggers atherosclerosis and increases the risk of hypertension (World Health Organization, 2016).

The effect of high sodium intake on the incidence of hypertension is that it can increase plasma volume due to the nature of sodium which binds water so that cardiac output (Cardiac Output) increases and the impact on blood pressure increases (Kemenkes RI, 2015). The AHA (American Heart Association) recommends consumption of sodium for adults <2400 mg per day, which is equivalent to 1 teaspoon of salt daily (Lee et al., 2012).

Increased sugar consumption can increase sodium reabsorption in Jejenum (small intestine). Increased sodium will increase preload and cardiac output causing hypertension (Brookes, 2014). The sugar consumption recommended by the Indonesian Ministry of Health is 50 gr / day or equivalent to four (4) tablespoons of sugar / day (Kemenkes RI, 2017).

The influence of smoking on the incidence of hypertension can occur when nicotine contained in cigarettes has an effect on the release of the hormones epinephrine and norepinephrine, which will affect the heart rate so that it affects the increase in Cardiac Output, which is directly proportional to the increase in blood pressure (Kemenkes.RI, 2014).

The weakness of this research that it did not carry out the identification of the number of deaths associated with risk factors of non-communicable diseases. An excess of this research get data on risk factors of the family that is concerned the non-communicable diseases.

CONCLUSION

The health classification of respondents, namely the father as the head of the family suffering from non-communicable diseases , as the highest cause of death in the group of fathers at risk is smoking. The highest non-communicable diseases is as the head of the family in the district. Notable to Kab., Tuban in 2018 is primary hypertension, which triggers the risk of death of the father because it is the highest of non-communicable diseases in families in the district. Kab. Tuban in 2018 has lack of consumption of fruits and vegetables, consumption of foods high in excess salt, consumption of foods / drinks high in excess sugar and smoking. The most influential trigger for the risk of father's death due to non-communicable diseases is the consumption of excess high salt foods. Further investigation can identify the father of the death risk factors of non-communicable diseases.

REFERENCES

Beaglehole, R., Bonita, R., Horton, R., Adams, C., Alleyne, G., Asaria, P., … Watt, J. (2011). Priority actions for the non-communicable disease crisis. *The Lancet*. https://doi.org/10.1016/S0140-6736(11)60393-0

Brookes, L. (2014). The Updated WHO / ISH Hypertension Guidelines. *J Hypertensi*.

Division, N.-C. D. S. D. C. (2010). *National Strategic Plan for Non-Communicable Disease (NSPNCD), Medium term Strategic Plan to Further Strengthen The CVD and Diabetes Prevention & Control Program in Malaysia (2010-2014)*. *Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki*. https://doi.org/978-983-3433-73-5

Fitri, Y., Rusmikawati, R., Zulfah, S., & Nurbaiti, N. (2018). Asupan natrium dan kalium sebagai faktor penyebab hipertensi pada usia lanjut. *AcTion: Aceh Nutrition Journal*. https://doi.org/10.30867/action.v3i2.117

Hussein, R. D., & Musiana. (2014). Faktor-faktor yang Berhubungan dengan Pemanfaatan Puskesmas oleh Pasien Hipertensi. *Jurnal Kesehatan*.

Kemenkes.RI. (2014). Pusdatin Hipertensi. *Infodatin*. https://doi.org/10.1177/109019817400200403

Kemenkes RI. (2015). HIPERTENSI . THE SILENT KILLER. *Pusdatin*.

Kemenkes RI. (2017). Buku Panduan GERMAS (Gerakan Masyarakat Hidup Sehat). *Warta Kesmas*.

Kresnawan, T. (2014). ASUHAN GIZI PADA HIPERTENSI. *GIZI INDONESIA*. https://doi.org/10.36457/gizindo.v34i2.110

Lee, I. M., Shiroma, E. J., Lobelo, F., Puska, P., Blair, S. N., Katzmarzyk, P. T., … Wells, J. C. (2012). Effect of physical inactivity on major non-communicable diseases worldwide: An analysis of burden of disease and life expectancy. *The Lancet*. https://doi.org/10.1016/S0140-6736(12)61031-9

Mahmudah, S., Maryusman, T., Arini, F. A., & Malkan, I. (2015). HUBUNGAN GAYA HIDUP DAN POLA MAKAN DENGAN KEJADIAN HIPERTENSI PADA LANSIA DI KELURAHAN SAWANGAN BARU KOTA DEPOK TAHUN 2015. *Biomedika*. https://doi.org/10.23917/biomedika.v7i2.1899

Meilyana, F., Djais, J., & Garna, H. (2016). Status Gizi Berdasarkan Subjective Global Assessment Sebagai Faktor yang Mempengaruhi Lama Perawatan Pasien Rawat Inap Anak. *Sari Pediatri*. https://doi.org/10.14238/sp12.3.2010.162-7

Raksanagara, A., & Raksanagara, A. (2016). PERILAKU HIDUP BERSIH DAN SEHAT SEBAGAI DETERMINAN KESEHATAN YANG PENTING PADA TATANAN RUMAH TANGGA DI KOTA BANDUNG. *Jurnal Sistem Kesehatan*. https://doi.org/10.24198/jsk.v1i1.10340

Riskesdas. (2018). Hasil Utama Riskesdas Penyakit Tidak Menular 2018. *Hasil Utama Riskesdas Penyakit Tidak Menular*.

Setyanda, Y. O. G., Sulastri, D., & Lestari, Y. (2015). Hubungan Merokok dengan Kejadian Hipertensi pada Laki-Laki Usia 35-65 Tahun di Kota Padang. *Jurnal Kesehatan Andalas*. https://doi.org/10.25077/jka.v4i2.268

Ska, Z., Zwerling, C., Burmeister, L. F., Jensen, C. L. M., Zuo, Z. Q., Gong, T., … Zatoński, W. A. (2016). THE SUICIDE SYNDROME - FARMER,R, HIRSCH,S. *PloS One*. https://doi.org/10.1111/ajr.12187

Sunarti. (2018). *Serat Pangan dalam Menangani Sindrom Metabolik*. *Gajah Mada University Press Yogyakarta*.

Udjianti, W. . (2013). Keperawatan Kardiovaskuler. *Jurnal Ilmiah Kesehatan Diagnosis*.

WHO. (2018). Non-Communicable Diseases Fact Sheet. *Public Health: An Action Guide to Improving Health*. https://doi.org/10.1093/acprof:oso/9780199238934.003.15

World Health Organization. (2016). WORLD HEALTH STATISTICS - MONITORING HEALTH FOR THE SDGs. *World Health Organization*. https://doi.org/10.1017/CBO9781107415324.004

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1. Name : Ah Yusuf
2. Affiliation : Faculty of Nursing Universitas Airlangga
3. E-mail : ah-yusuf@fkp.unair.ac.id
4. Orchid ID : http://orcid.org/0000-0002-6669-0767
5. Contribution to this Manuscript:
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Second author:

1. Name : Hanik Endang Nihayati
2. Affiliation : Faculty of Nursing Universitas Airlangga
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Third author:

1. Name : Krisna Eka Kurniawan
2. Affiliation : Faculty of Nursing Universitas Airlangga
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Table 3. Maternal and child health care-seeking behaviour for the last pregnancy in women aged 15 – 45 years old

Type of care	Age Groups (Years)							
	<30		30 - 39		40 - 45		All Age	
	n	%	n	%	n	%	n	%
Place for antenatal care								
Village level service (Posyandu, Polindes or Poskesdes)	1	9.1	1	4.6	1	3.5	3	4.8
District Level service (Puskesmas/Pustu)	2	18.2	7	31.8	1	3.5	10	16.1
Hospital, Clinics, Private Doctor or OBGYN	1	9.1	4	18.2	2	6.9	7	11.3
Private Midwife	7	63.6	10	45.5	25	86.2	42	67.7
Place of Birth								
Hospital	5	50.0	5	22.7	4	13.8	14	23.0
Birth Clinic/Clinic/Private health professional	5	50.0	15	68.2	21	72.4	41	67.2
Puskesmas or Pustu	0	0.0	2	9.1	0	0	2	3.3
Home or other place	0	0.0	0	0	4	13.8	4	6.6
Ever breastmilk								
No	1	9.1	1	4.6	1	3.5	3	4.8
Yes	10	90.9	21	95.5	28	96.6	59	95.2
Exclusive breastfeeding								
No	4	36.4	10	45.5	18	62.1	32	51.6
Yes	7	63.6	12	54.6	11	37.9	30	48.4

DISCUSSION (Times New Roman 11)

Describe the significance of your findings. Consider the most important part of your paper. Do not be verbose or repetitive, be concise and make your points clearly. Follow a logical stream of thought; in general, interpret and discuss the significance of your findings in the same sequence you described them in your results section. Use the present verb tense, especially for established facts; however, refer to specific works or prior studies in the past tense. If needed, use subheadings to help organize your discussion or to categorize your interpretations into themes. The content of the discussion section includes: the explanation of results, references to previous research, deduction, and hypothesis.

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CONCLUSIONS (Times New Roman 11)

Conclusion should be explained clearly related to hypothesis and new findings. Suggestion might be added contains a recommendation on the research done or an input that can be used directly by consumer.

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REFERENCES (Times New Roman 11)

The author-year notation system is required and completed. All reference mentioned should be written down in reference using **Harvard Cite Them Right 10th Edition** style and arranged from A to Z. Articles have minimal 25 recent references (last 10 years) and 80% is journal. References from journal publication should be provided by DOI. **All cited references must be mentioned in in-text citation.** If you are Mendeley user, please download the reference style here **https://www.mendeley.com/guides/harvard-citation-guide**

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Reference to a Journal Publication:
Efendi, F., Chen, C. M., Nursalam, N., Indarwati, R., & Ulfiana, E. (2016). Lived experience of Indonesian nurses in Japan: A phenomenological study. Japan Journal Nursing Science, 13(2), 284-293. doi:10.1111/jjns.12108

Reference to a Book:
Kurniati, & Efendi, F. (2013). Human Resources for Health Country Profile of Indonesia. New Delhi: WHO South-East Asia Region.

Reference to a Website:
MoH. (2013). Sosialisasi Global Code of Practice on The International Recruitment of Health Personnel [Dissemination Global Code of Practice on The International Recruitment of Health Personnel]. Retrieved December 2, 2014, from http://bppsdmk.depkes.go.id/tkki/data/uploads/docs/workshop-sosialisasi-gcp.pdf

Reference in Conference:

Nursalam, Efendi, F., Dang, L. T. N., & Arief, Y. S. (2009). Nursing Education in Indonesia: Todays and Future Role. Paper presented at the Shanghai International Conference, Shanghai.

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