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Original Research

Medication Adherence Analysis of Type 2 Diabetes Mellitus Patients

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Type 2 diabetes mellitus; Adherence; Treatment

Abstract

Adherence has an important role in therapy management in patients with type 2 Diabetes Mellitus. This research is to identify and analyze factors related to medication adherence. The design used in this study was a descriptive-analytic design with a cross-sectional approach. The population is type 2 Diabetes Mellitus sufferers of Prolanis Group in Primary Health Care Facilities in the Ponorogo Regency. A sample of 180 respondents was taken by purposive sampling technique. Variable X includes age, gender, education, occupation, income, and length of suffering. Variable Y was medication compliance with type 2 Diabetes Mellitus patients. Data collection used a Morisky Medication Adherence (MMAS-8) questionnaire and was analyzed using the Chi-Square test with a significant level of $\alpha < 0.05$. From the results of the study, it was found that the factors of age, sex, education, employment, income and duration of suffering had a significant relationship with medication adherence for patients with type 2 diabetes mellitus. It is expected that health services develop family and community-based service management. Researchers are further advised to develop programs to improve medication adherence.

INTRODUCTION

Diabetes mellitus is a group of metabolic diseases with hyperglycemia characteristic that occurs due to abnormalities in insulin secretion, insulin action, or both. Chronic hyperglycemia in diabetes is associated with long-term damage, and dysfunction of several organs, especially the eyes, kidneys, nerves, heart, and blood vessels, which cause various kinds of complications, including atherosclerosis, neuropathy, kidney failure, and retinopathy[1].

At present, the prevalence of diabetes in the world reaches 230 million people and that number is up by 3% or an increase of 7 million people every year. In 2025 there are an estimated 350 million people who have diabetes mellitus in the world. The World Health Organization (WHO) says that half of the adults with diabetes in the world are in 5 countries; China, India, the United States, Brazil, and Indonesia[2]. Indonesia ranks 7th with the highest number of people with diabetes mellitus in the world. The International Diabetes Federation (IDF) states that in 2016 Indonesia has around 9.1

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million people with DM[3]. It is estimated that the number could increase to 12.4 million people in 2025 and reach 14.1 million in 2035[2]. One of the regions with the highest number of diabetics is East Java Province with a prevalence of DM sufferers of 2.1%, which ranks 5th in the top 10 of diabetes mellitus prevalence in Indonesia[4].

The success of DM management to prevent complications is achievable, primarily through adherence to pharmacological therapy. Compliance is a change in behavior according to the instructions given by the doctor in the form of exercise therapy, diet, treatment, and disease control. Indirectly, the level of medication adherence can be measured by the *Morisky Medication Adherence Scale* (MMAS)-8 questionnaire. The questionnaire is a method for assessing medication adherence in patients with chronic diseases, including diabetes that has been validated by WHO. Non-compliance with taking medication can lead to complications, the risk of hospitalization, and high costs[5].

Adherence to the treatment of DM is quite important in the management of DM yet still a big problem[6]. The level of adherence of patients with type 2 DM which is still low compared to type 1 can be caused by polypharmacy and therapeutic regimens which are generally more complex, as well as drug side effects that arise during treatment[6]. Compliance with medication and taking medication in people with DM have a very important role in controlling blood sugar.

This study was conducted to determine the description of compliance with type 2 Diabetes Mellitus patients in the Prolanis (Chronic Disease Management Program) group in primary care facilities in Ponorogo Regency East Java Indonesia.

METHODS

The design used in this research is analytical descriptive design using a *cross-sectional* approach. The study was conducted from April 15th to May 30th, 2019, in the Prolanis (Chronic Disease Management Program) group in the primary service facilities in Ponorogo Regency East Java Indonesia. The study sample of 180 patients with type 2 Diabetes Mellitus with inclusion criteria (male or female aged $\geq$ 18 years; diagnosed with type 2 diabetes, received drug therapy, had attended a regular check-up at least one time, and was willing to take part in the study). Exclusion criteria are patients who have met the inclusion criteria but are pregnant and breastfeeding, illiterate; patients diagnosed with chronic kidney or liver disease and who undergo hemodialysis.

Data analysis was done descriptively by describing patient characteristics consisting of age, sex, last education, occupation, income, and duration or the length of suffering. Then tabulation is made. The compliance is measured using *Morisky Medication Adherence* 8 items *(MMAS-8)*. It is said to be obedient if the total score of respondents answered "yes" on each questionnaire is $\leq$ 2. It is said to be non-compliant if the total score of respondents answered "yes" on each questionnaire is 3-8.

Data were collected after obtaining patient approval from the Human Research Ethics Committee (UHREC) Sultan Zainal Abidin University Malaysia with Number: UnISZA.C / 2 / UHREC / 628-2 (85) on 8 April 2019 with UHREC code number: UnISZA / UHREC / 2018/46

RESULTS

Based on the results of the study in the table above, it can be seen that there are 125 people (69.4%) are not compliant to the undergoing treatment programs and there are 55 people (30.6%) who are compliant to the undergoing treatment programs.

Based on the age, the highest non-compliance is in the age range > 45 years which is 115 people (63.9%), based on the

sex the highest non-compliance is female which reaches 115 people (63.9%), based on education, the highest non-compliance is the low education patients with 125 people (69.4%), based on occupation, the highest non-compliance is among working patients which is 125 people (69.4%), based on income, the highest non-compliance is high-income patients with 67 people (37.2%), based on length of suffering, the highest non-compliance patients are those who had a long duration of suffering ≤ 74 (41.1%) 5 years.

Table 1 Patient compliance based on patient demographic characteristics.

Indicators	Compliance				p
	Compliance	%	Non-Compliance	%	
Age					
> 45 years	22	12,2	115	63,9	0,000
≤ 45 years	33	18,3	10	5,6	
Gender					
Men	22	12,2	10	5,6	0,000
Women	33	18,3	115	63,9	
Education					
Low	45	25,0	125	69,4	0,000
High	10	5,6	0	0	
Occupation					
Working	44	24,5	125	69,4	0,000
Not working	11	6,1	0	0	
Income					
Low	0	0	58	32,2	0,000
High	55	30,6	67	37,2	
Suffering Duration					0,000
> 5 years	7	3,9	51	28,3	
≤ 5 years	48	26,7	74	41,1	

DISCUSSION

During the ± 6 weeks of data collection using a questionnaire it was found that as many as 672 Type 2 DM patients have received treatment at Prolanis (Chronic Disease Management Program) in primary health care facilities in Ponorogo District. There are around 12 of them who refuse to become respondents so that only about 180 respondents meet the inclusion and exclusion criteria of the study.

Based on the results of research conducted it can be seen that age, sex, education, occupation, income and length of suffering have a significant relationship to medication adherence to type 2 Diabetes Mellitus sufferers.

Age Factors

The results of the study showed that the majority of respondents were over 45 years old. These results are consistent with the results of Riskesdas which shows the majority of Type 2 DM patients aged 56-64 years[7]. The high number of type 2 DM sufferers at age-susceptible is influenced by several causes, among others, pancreatic beta cells have decreased function in old age which can be influenced by the level and duration of insulin resistance[8].

Chi-square statistical test results showed that the age factor had a significant value of 0,000 (p> 0.05), indicating that the correlation between age and medication adherence was significant. According to the older the age, the lower the level of compliance. This is due to the physiological function of the decline due to aging[10].

Gender Factor

The highest proportion of respondents based on sex is female. The prevalence of DM in women is higher than in men, especially in type 2 DM, because they are likely to be obese due to an increase in body mass index, monthly cycle/menstruation, and menopause which cause them to experience fat accumulation in the body due to the hormonal process[11].

The results of *chi-square* the statistical test showed that the sex factor had a significant value of 0,000 (p> 0.05), indicating that the correlation between sexes with medication adherence was significant. States that gender is related to different life roles and behaviors between men and women in society. In maintaining health, women usually take better care of their health than men[12].

Educational Factors

Educational factors have a significant value of 0,000 (p> 0.05), indicating that the correlation between education and medication adherence is significant. The results of this study are the same as[13], that education has a significant relationship with medication adherence in patients with diabetes mellitus with a value of p = 0.012. The level of education affects a person's learning process, the higher the education obtained, the easier the person gets information, and the more information obtained, the more knowledge will be obtained[14].

Occupational Factors

Someone who does not work is more at risk of developing DM than those who work. That is because the group does not work are generally lacking in physical activities so that the burning of calories in the body or metabolic processes are not as high as the working group.

The results of the *chi-square* statistical test showed that the occupational factor had a significant value of 0,000 (p> 0.05), indicating that the correlation between work and medication adherence was significant. According to other research, a person's work affects physical activity.[15] The group not working tends to lack physical activity so that there is no movement of the limbs, this can make them easier to experience DM.

Income Factor

Income factor has a significant value that is 0,000 (p> 0.05), indicating that the correlation between income and medication adherence is significant. Economic status influences someone to conduct self-care management. State that the high cost of treatment in type 2 Diabetes Mellitus patients is still an important reason in terms of preventing suboptimal levels of adherence[16].

The Suffering Duration Factor or The Length of Illness

The length or the duration of illness affects compliance toward treatment. Barriers to adherence can be caused by complex treatment regimens, duration of treatment, multi-therapy, drug efficacy, and lack of information provided by health care providers. Other barriers are related to socioeconomic problems, memory disorders, psychological problems, and personal beliefs[17].

Chi-square statistical test results indicate that the duration of the length of suffering has a significant value of 0,000 (p> 0.05), indicating that the correlation between the duration of the length of suffering from adherence to taking medication is significant. Patients with type 2 diabetes mellitus with comorbidities will indirectly consume more complex types of drugs. Complex types of drugs such as the number of drugs, frequency of administration, dosage forms, as well as special drug administration instructions can trigger non-compliance.

CONCLUSION

The factors of age, sex, education, employment, income and duration of suffering have a significant relationship with medication compliance with type 2 Diabetes Mellitus patients in the Prolanis Group in Primary Health Care Facilities.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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Original Research

Dimensions Supporting and Inhibiting Pregnant Women in Using "Sayang Bunda" Application

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Abstract

The Maternal and Neonatal Health Surveillance Officer and the Public Health Center of Purwoyoso build the android application. This application aims to help pregnant women recognize their pregnancy health thereby can improve the pregnant women's four-visit antenatal care coverage. This case study described the dimensions supporting and inhibiting pregnant women in the Puskesmas Purwoyoso work area conducted on August-November 2019. The informants of the research consisted of 42 pregnant women. Data collection was conducted using interviews and observation techniques. The instrument used was an interview guide, recorder, and observation sheet. The result of the research showed the factors supporting healthcare service in Semarang area, Semarang Health Office always monitoring the condition of pregnant women through the result of examination on pregnant women facilitation in the application, updating pregnancy article, making innovation of application to facilitate pregnant women in accessing and using the application. Puskesmas Purwoyoso promotes the application when pregnant women have their pregnancy examined in Puskesmas and the implementation of pregnant women class. The Maternal and Neonatal Health Surveillance Officer promotes the application when visiting the pregnant women's house for facilitating the pregnant women. This application has an advantage over other pregnancy application so that pregnant women Puskesmas Purwoyoso work area can get many benefits. Inhibiting factor includes the highland condition of residence, pregnant women having no android smartphone and memory data of smartphone android of pregnant women has been full.

INTRODUCTION

Information and communication technology (ICT) can be enjoyed by everyone. The development of ICT contributes to the community, including the health sector, either positively or negatively. The positive contributions of ICT to the health sector are: accelerating the public service, facilitating the data's accessibility, facilitating communication between health workers, facilitating data checking, and saving place. The negative contributions (weaknesses) of it are: resulting in health disorders such as eye disorder, depending on the electric power

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supply, health workers depending on the application used, its use needs special practice.[1] A variety of healthcare applications have been developed by the Republic of Indonesia's Ministry of Health, SehatPedia, *Indonesia Health Facility Finder* (IHeFF), e-sign, e-postorder Alkes PKRT,[2] Program Indonesia Sehat with a family approach.[3] Visit Schedule and information about women pregnancy health is contained in the design of an android-based pregnancy visit application.[4] The Cloud Computing-based pregnant women application gives some benefits: consultation with obstetrician and sharing experience between pregnant women.[5] The use of an android-based pregnant women application increases the proportion of antenatal care with good quality.[6]

"SAYANG BUNDA" application is the android-based pregnancy application launched by Semarang Health Office on July 2019 aiming to help pregnant women find out their pregnancy health, so that it is expected to improve the four-visit antenatal coverage of pregnant women. Content or menu contained in "SAYANG BUNDA" android-based application is the facilitation of pregnant women's health, online consultation with GASURKES KIA officers, pregnancy article, date of delivery estimation, proximate healthcare center, and general information. "SAYANG BUNDA" android-based mobile application is a new product in Puskesmas Semarang's Work Area because it is marketed simultaneously to pregnant women on July 2019.[7]

Semarang Health Office's data shows that the four-visit antenatal care coverage in Semarang is 97.57% (28,060 visits) and lower than the target specified.[8] This data also shows that the four-visit antenatal care coverage of Puskermas Purwoyoso is 73.1% and does not meet the target of the program; it is the one with the lowest four-visit antenatal care coverage in Semarang.[9] The four-visit antenatal care coverage is used to find out the coverage of antenatal care comprehensively (meeting the standard service and using the time specified) as the representation of pregnancy women protection level and the sustainability of Maternal and Neonatal Health Program. Inadequate antenatal care visit of pregnant women can be hazardous to mother and fetus she has.[10,11] Pregnant women with less than four-pregnancy visits has maternal death risk of 4.57 times higher than those with 4-visit ANC or more regularly.[12]

In the implementation of Semarang's Local Regulation Number 2 of 2015 about Maternal and Neonatal Safety, the "SAYANG BUNDA" android-based mobile application is expected to help pregnant women maximally in Puskesmas Purwoyoso's work area, Semarang, in monitoring their pregnancy so that their 4-visit antenatal care coverage can improve.

Considering the result of a preliminary study on Gasurkes KIA in Puskesmas Purwoyoso, it can be seen that the acceptability and use of the "SAYANG BUNDA" application are still low in Puskesmas Purwoyoso, only 12 out of all pregnant women targeted to use the "SAYANG BUNDA" application. This research employed Rogers' Diffusion Innovation theory and Anderson's satisfaction theory. In using "SAYANG BUNDA" android-based application in pregnant women, there are supporting and inhibiting dimensions that should be recognized.

METHODS

The research method employed in this study was qualitative analysis one with a case study research type to obtain an in-depth description of dimensions supporting and inhibiting pregnant women in the application use. This research was conducted from August to November 2019.

This research was conducted in Puskesmas Purwoyoso's work area because the 4-visit antenatal care (ANC) coverage in this work

does not achieve the target and is the lowest coverage throughout Semarang. Informants of the research consisted of 42 pregnant women. Data collection was carried out using interviews and observation techniques. The instruments used were interview guide, recorder, and observation sheet. The variables were supporting and inhibiting factors of pregnant women in Puskesmas Purwoyoso's work area.

The method of analyzing data used was descriptive analysis one. To validate the data of research, source and triangulation techniques were used. Source triangulation was obtained from the Public Health Division of Health Office responsible for the "SAYANG BUNDA" application and GASURKES KIA as the facilitator of pregnant women. Technique triangulation was conducted by observing the result of the interview with respondents.

RESULTS

"SAYANG BUNDA" application has been created Semarang Health Office aiming to help pregnant women recognize their pregnancy health, thereby expectedly improving their 4-visit antenatal care (ANC) coverage and it has been trialed in three Puskesmas (Public Health Centers) on June 2019: Puskesmas Gayamsari, Tlogosari Wetan, and Puskesmas Kedungmundu. The result shows that some constraints were still found in its operation: pregnant women still found difficulty in logging into the application, some Gasurkes KIA have not used the application yet, and many pregnant women still decline to use the "SAYANG BUNDA" application. This "SAYANG BUNDA" android application can be obtained by downloading it for free through Play Store on an android smartphone.

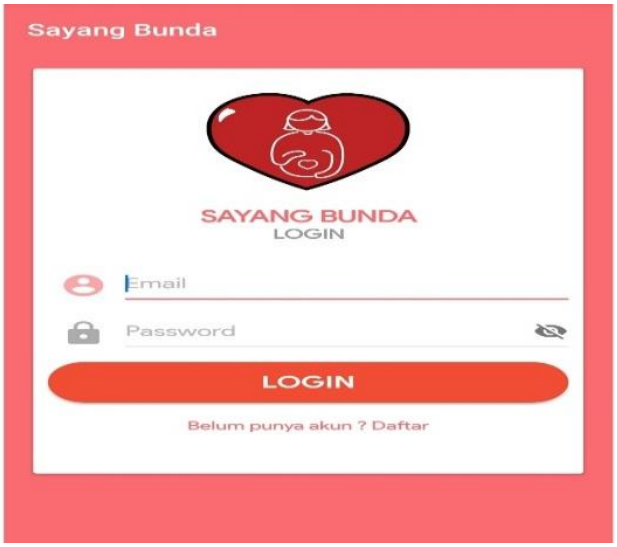

Figure 1. Login "SAYANG BUNDA" application

Menu of "SAYANG BUNDA"-android application includes pregnant women facilitation, birth consultation, proximate healthcare center, pregnancy article, date of delivery calculator, and general information.

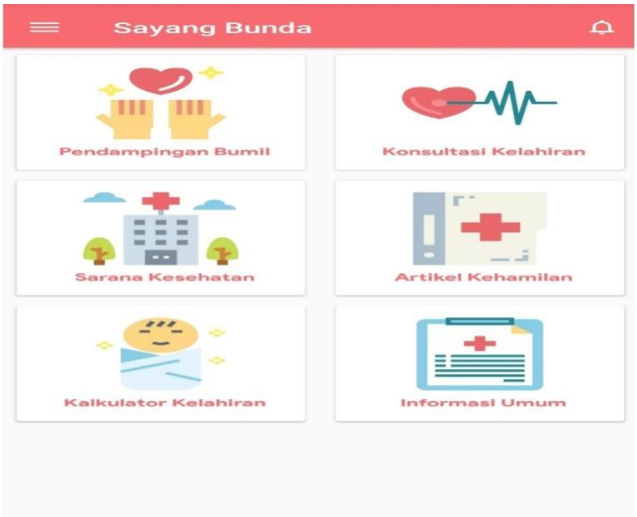

Figure 2. Menu of "SAYANG BUNDA" application

Characteristics of Informants

The result of research on the characteristic of informants is presented in table 1. That showed that nearly all of the pregnant women (92.86%) are 20-35 years old. Most (54.76%) of pregnant women are housewives. Almost all pregnant women (80.95%) have secondary education level. Most of them (76.19%) have medium income. All (100%) of pregnant women are Muslims. All (100%) of them live in a plain

area. Less than half (35.73%) of them are in the second-trimester gestation. Most (71.43%) of them are multigravida. Most (73.81%) of them have *Plain Joe's* lifestyle. Almost all (92.86%) of them show rational consumer behavior.

Table 1. Characteristics of Pregnant Women in Puskesmas Purwoyoso's Work Area, Semarang (N=42)

Characteristics	Category	Total	
		f	%
Age	<20 years	0	0
	20-35 years	39	92.86
	'> 35 years	3	7.14
Occupation	Merchant	0	0
	Labor/farmer	0	0
	Civil Servant	0	0
	TNI/POLRI (Army/Police)	0	0
	Retired	0	0
	Entrepreneur	2	4.76
	Private	17	40.48
	Housewife	23	54.76
Education	Primary/Low	3	7.14
	Secondary	34	80.95
	High	5	11.91
Income	Low	0	0
	Medium	32	76.19
	High	6	14.29
	Very High	4	9.52
Religion	Islam	42	100
	Christian	0	0
	Catholic	0	0
	Hindu	0	0
	Buddha	0	0
	Konghucu	0	0
	Belief in God	0	0
Residence Area	Coastal Village/Kelurahan	0	0
	Non-coastal Village/Kelurahan	0	0
	Slope/Peak Village/Kelurahan	0	0
	Valley Village/Kelurahan	0	0
	Plain Village/Kelurahan	42	100
Pregnancy	Trimester I	14	33.33
	Trimester II	15	35.72
	Trimester III	13	30.95
Pregnant Status	Primigravida	12	28.57
	Multigravida	30	71.43
Lifestyle	Kelompok *Swingers*	2	4.76
	Kelompok *Seekers*	9	21.43
	Kelompok *Plain Joes*	31	73.81
Consumer Behavior	Rational consumer behavior	39	92.86
	Irrational consumer behavior	3	7.14

Supporting Dimension

The result of the interview with informants shows that the "SAYANG BUNDA" application is marketed simultaneously to pregnant women in all work areas of Puskesmas throughout Semarang in July 2019. Pregnant women can access this application by means of downloading it for free in play store on the android smartphone; this application has content/menu different from other pregnancy applications do. The difference lies on a menu of pregnant women facilitation displaying the women's result of pregnancy examination in GASURKES KIA

visit including weight, blood pressure, forearm circle, fundus uterine height, complaint, pregnancy risk, and etc. The online consultation menu contains the phone number of GASURKES KIA (health worker) facilitating the pregnant women. The healthcare facility menu contains all healthcare services available in each sub-district existing in Semarang. The date of the Delivery calculator menu enables us to get an estimation of the due date by entering the first day of the last menstruation and monthly menstruation cycle into it. The pregnancy article menu contains many articles on pregnancy and neonatal health. The general information menu contains any general information on health in Semarang. The content/menu of the "SAYANG BUNDA" application will be filled in by GASURKES KIA based on the women's result of pregnancy examination during home visit. The menu of pregnancy articles is always updated by the Public Health Division of Semarang Health Office.

Puskesmas Purwoyoso and GASURKES KIA promote the "SAYANG BUNDA" application since its launching. Promotion is conducted at any time when the officer sees pregnant women, both during the examination in the puskesmas or in the implementation of pregnant women class and during the home visit for facilitating pregnant women. "SAYANG BUNDA" application connects pregnant women online to the Public Health Division of Semarang Health Office so that their health condition can be monitored by the Public Health Division of Semarang Health Office.

Generally, "SAYANG BUNDA" application has some advantages over other pregnancy applications: pregnant women can know their pregnancy health condition and can tell it to others by opening "SAYANG BUNDA" application on their own smartphone, pregnant women can acquire knowledge on pregnancy and fetal health, baby, postpartum, and health advise to maximize maternal and fetal health, pregnant women can access easily the result of pregnancy examination facilitation conducted in this application, pregnant women know their pregnancy condition routinely and periodically, it establishes closer relationship between pregnant women and Gasurkes KIA officers, pregnant women should not pay to get this application as it is given for free by downloading it, pregnant women can consult online with Gasurkes KIA officer, this application is simple, complete, and usable and operable, and this application is portable as it is inherent to pregnant women's smartphone.

Inhibiting Dimension

"SAYANG BUNDA" application is still new as it has just been launched in July 2019 by Semarang Health Office; thus many pregnant women have not known the application yet.

The result of current research shows that not all pregnant women existing in Puskesmas Purwoyoso have android Smartphones. Some pregnant women or their families have no android smartphone. Some others have it but it is brought by their husband or child, while the pregnant women do not have it. It inhibits the use and the access to "SAYANG BUNDA" application.

Pregnant women's residence location is high land so that the android smartphone signal is poor. Only some pregnant women's houses subscribe to *wifi*. It makes pregnant women accessing the "SAYANG BUNDA" application difficultly.

Android smartphone has some limitation in the term of application that can be downloaded. Pregnant women in Puskesmas Purwoyoso's work area have their own need in accessing the application in their android smartphone so that android smartphone often encounters application overload. It inhibits access to other applications, including the "SAYANG BUNDA" application.

Some pregnancy applications have been available on the internet and can be accessed in pregnant women's android smartphone easily and for free. Pregnant women consider them more important than the "SAYANG BUNDA" application so that they decline to use the "SAYANG BUNDA" application during their pregnancy.

DISCUSSION

The satisfaction with healthcare service access can be achieved when the healthcare service can be distributed well based on geographic location, social-economic condition, and people's demand.[13]

A developing country has varying demographic characteristics including plain, hill, swamp, jungle, and coast.[14]

Pregnant women with higher education levels are aware of their and their family's health.[15] Those with lower education levels have limited language use. The health workers can explain with the reverse sheet containing supporting images or other visual aids.[16]

The working women have no time to have their pregnancy examined. Housewives also consider their chores like washing and taking care of children as the constraint in accessing ANC service.[17]

The accessibility of information on pregnancy in various media can be obtained by pregnant women with high economic status.[16]

More knowledge, comprehension, and experience related to pregnancy and its complications are acquired in older pregnant women so that the frequency of ANC visits in this age group is higher than that in younger pregnant women.[18] Primigravida women have not had experience with pregnancy risk and complication. Therefore, pregnant women utilize ANC visits to acquire information.[19]

Supporting Dimension

Pregnancy application evidently improves pregnant women's knowledge, attitude, and behavior effectively related to the prevention of pregnancy and birth complications.[20] Health education or pregnancy article and technical service on smartphone applications for pregnant women trigger the change of behavior and improve the quality of antenatal care (ANC).[21]

Health worker's support affects pregnant women's knowledge, attitude, and behavior to pregnancy application and ANC visit.[22] Health workers affect positively the successful promotion of healthcare service to the community.[23]

Inhibiting Dimension

Technology advance is something inevitable today; therefore it can be utilized to create innovation, one of which is by utilizing the android operating system-based cellular phone.[24] Data Indonesian Internet Service Provider Association (*Data Asosiasi Penyelenggara Jasa Internet Indonesia* or APJII)'s data shows that nearly half (48.57%) of internet penetration occurs in female users in Indonesia. The penetration of internet users by ware ownership indicates that half (50.08%) of internet users use smartphones/tablets. The utilization rate of the internet for the health sector includes 51.06% for searching for information on health and 14.05% for consulting with health professionals. The service accessed mostly (89.35%) is chatting one.[25] In her study entitled Health Care and Social Media: Building Relationships Via Social Network, Brittany A. Hackworth from Morehead State University, found that healthcare service providers in the United States of America use internet in marketing their healthcare service to communicate actively with their patients, by developing (*PatientsLikeMe* and

Inspire) application and utilizing social media (Facebook, Twitter, Facebook).[26]

Pregnant women's residence location is high land so that the android smartphone signal is poor. Only some pregnant women's houses subscribe to *wifi*. It makes pregnant women accessing the "SAYANG BUNDA" application difficultly.

Android smartphone has some limitation in the term of application that can be downloaded. Pregnant women in Puskesmas Purwoyoso's work area have their own need in accessing the application in their android smartphone so that android smartphone often encounters application overload. It inhibits access to other applications, including the "SAYANG BUNDA" application.

Some pregnancy applications have been available on the internet and can be accessed in pregnant women's android smartphone easily and for free.

CONCLUSION

The advantages of the "SAYANG BUNDA" application and the support coming from GASURKES KIA, Puskesmas Purwoyoso, and Semarang Health Office can be used as an alternative to support the pregnant women to access and to use "SAYANG BUNDA" application.

The presence of supporting dimensions from many parties is expected to deal with the inhibiting ones in the use of "SAYANG BUNDA" application, and thereby many more pregnant women in Puskesmas Purwoyoso's work area will access and use the application and it can improve the 4-visit antenatal care coverage in Puskesmas Purwoyoso.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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Original Research

The Relation Between Knowledge and Experience of Facing Flood Toward The Anxiety Level of Head Families in The Flood-Prone Areas

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Abstract

Families who reside in the surrounding flood-prone areas require flood preparedness to undertake preparedness so that family members do not create new problems such as anxiety. This study aims to determine the relationship of knowledge with experience in dealing with the level of anxiety of household head anxiety. This research is a cross-sectional descriptive correlation study and the sample used in this study is 225 households. The results of the study using the Anova test showed that the knowledge and experience of dealing with floods were related to the anxiety of household heads in disaster-prone areas ($p = 0.001$; $\alpha = 0.05$). Multivariate of results were found that the most related factor was an experience. This study recommends that the family knowledge needs to be increased through simulation training to deal with floods by involving the Regional Management Agency, the local government and the Public Health Center

INTRODUCTION

Flood disasters can cause adverse effects in various areas of community life that can be in the form of material losses or moral losses. This often causes the rise of mental conditions because of the loss of property and families due to the disaster.[1]

The flood that occurred in 2014 was the biggest flood in the Asian region with the widest area coverage including 52 events throughout various Asian countries that led to the death of as many as 3559 people. The event should be taken seriously so that it requires special attention in the form of anticipatory efforts or activities so it will not cause bad impacts on people's lives in the future.

Shown that three respondents residing along the riverbank experienced anxiety and fear of the possibility of having a greater flood. They also feared if the dike cannot contain the water, it somehow threatened them, because if the dike falls their houses will be perished.[2] This shows that people who live around disaster-prone areas can experience anxiety.

Anxiety is a condition that involves a person's physical, self-perception and relationship with others. It is also one of the reactions that can strengthen individuals to

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react upon an action or step when facing threats.[3] When people in flood-prone areas feel threatened, the efforts should be made to reduce these impacts through preparedness activities.

Preparedness is an activity that carried out strategically in an effort to anticipate disasters through effective planning and through active steps from the community and all elements in the government and is a priority disaster phase in disaster management. Preparedness that needs to be done before a disaster comes is based on factors including prior experience, knowledge, emergency planning and resource mobilization.[4] So that the husband as ahead of the family can make preparedness as the person responsible for providing protection and a sense of security to his family.

The results of a preliminary study found that the disaster-resilient village that formed by the government in Lempake Samarinda City was expected to be able to assist the community in dealing with floods by trying to make the necessary preparedness in dealing with floods. However, the factors that underlie the preparedness itself were experience, knowledge, resource mobilization, emergency planning and anxiety felt by household heads who live in disaster-prone areas, were not clearly illustrated.

Therefore, researchers are interested in finding out more about the picture of preparedness factors that were owned by the head of the family and their relation to the level of anxiety in dealing with flooding.

METHODS

The design used in this study was descriptive correlational. The number of samples in this study was 225 people obtained through total sampling. Data retrieval using a questionnaire, where respondents are given an explanation first about the research conducted, then given the time and freedom to make decisions about their involvement in research. Data collection questionnaire for variables used the Community Disaster Preparedness Index for knowledge and experience factors consisting based on the 23 question items given. As for anxiety variables, the Hamilton Anxiety Rating Scale instrument consists of 14 statement items.

Researchers used the ethical principles of research that include self-determination, confidentiality, and privacy, justice, benefit, and nonmaleficence. Researchers provided information/explanations of the research first, then provide freedom to prospective respondents to the decision of their involvement in research activities. Researchers also maintained the confidentiality of respondents in all aspects of the identity and content of the questionnaire. This study upheld the principle of justice, all respondents were treated equally. In addition, this research also prioritized the goodness and interests of respondents.

In the next step, the data were processed using univariate, bivariate and multivariate. The univariate analysis looks at the characteristics, knowledge, and experience as well as the anxiety of household heads. The bivariate analysis looks at the relationship between knowledge and experience in dealing with floods with the anxiety of family heads. Researchers used the Anova statistical test to determine the relationship between knowledge and experience with family head anxiety. Further analysis by multivariate used a multiple logistic regression test to see which factors are most associated with household head anxiety.

RESULTS

The results showed that the average head of the household was 41.32 years old with an age range of 26-68 years. The sex of the head of the family was dominated by men as much as 91.1%. The education of the head of the family was mostly 40.8% high school.

and the occupation of the largest head of the family was Private / Civil Servants as much as 42.2%. While the average household head income was below <Rp.2,256,000, of which was 53.8%.

Table 1 shows that the average for knowledge of the preparedness of household heads is 8.28 with a standard deviation of 2.39 and it is believed that 95% of the household's preparedness knowledge in dealing with floods ranges from 7.96 to 8.59. The average factor of family head preparedness experience was 6.98 with a standard deviation of 2.01 and it was believed that 95% of family head preparedness experience is in the range of 6.71-7.24.

Regarding anxiety level shown that the majority of family heads experienced mild anxiety which is 47.6% and the least number of family heads had moderate anxiety which was 23.1%.

The results of the bivariate analysis in table 1 show that there was a relationship between knowledge and experience in dealing with floods with the level of anxiety of household heads in flood-prone areas (p=0,001; α = 0,005). And with the post hoc test showed a significant difference which was knowledge and experience in dealing with disasters with mild anxiety, moderate and severe head of household.

Table 1.
Distribution of Preparedness Factors and Anxiety Level of Family Head (n=225)

Indicators	Anxiety Level		
	Low N=107	Moderate N= 52	Severe N=66
	Mean	SD	95% CI
Knowledge	8,28	2,39	7,96 – 8,59
Experience	6,98	2,01	6,71 – 7,24

The results of multivariate modeling of the relationship of knowledge and experiences in dealing with flooding were related to the level of anxiety of household heads with age, gender, education, employment and income as a confounding variable. The results of the final modeling analysis of table 2 show that there was a relationship with the knowledge and experience of dealing with floods with the level of anxiety of household heads. Experience is the most dominant factor due to the level of anxiety of family heads.

Table 2.
Head of family Analysis of Knowledge Relations and Experience with Anxiety (n=225)

Indicators	Anxiety	N	Mean	p
Knowledge	Low	107	9.80	
	Mild	52	8.07	0.000
	High	66	5.96	
Experience	Low	107	7.61	
	Mild	52	8.23	0.000
	High	66	4.96	

ANOVA One Way Test. Post Hoc Temhane analysis: Mild vs. moderate p <0.05; mild vs severe p <0.05; Moderate vs Weight p <0.05.

Table 3 also shows that the most related to the level of anxiety of household heads are experienced in dealing with flood disasters, where the OR obtained from the experience variable is 5.1 which means that the family head who has preparedness experience has a 5.1 chance of not having anxiety.

The findings in this study are a model of the formation of a disaster prepared village in an effort in the pre-incident phase which includes mitigation or prevention and preparedness to avoid potential disasters such as community and population preparedness in disaster or emergency situations and preparedness when an area is at risk and has the potential to be at risk disaster emergency situation. the experience of communities who have been given training on earthquakes, floods and landslides in Turkey to see disaster preparedness and management.[5] A year later an evaluation was carried out on 400 people who had attended training one year before and 400 people who had not attended the training. The results show that there is a demographic social relationship, preparedness experience with cognitive, behavioral and psychological. The results of the regression analysis also showed that participants who had attended the training

had the ability and showed preparedness behavior.

Before a disaster occurs, efforts need to be made in the form of plans that are made together actively when facing a disaster, monitoring disaster risk events and making warnings that require attention from the community itself and the local government. These efforts can be increased by having experience in managing disaster preparedness in flood-prone areas. This is in line with research the other research on perceptions and preparedness in Bangladesh showing 75% of respondents who have had experience of earthquakes and tsunamis, have carried out activities to reduce the risk of natural disasters coming back.[6] With the experience of disaster preparedness management in disaster-prone areas that have been carried out before, it will have an impact on reducing the symptoms or problems that cause anxiety. This is also supported by another research found that using a qualitative study of respondents in Japan who have an interest in disaster preparedness and have self-help groups to be able to manage anxiety when they are dealing with disasters.[7] There are three themes associated with perceived anxiety, which are storing needed items, staying in a safe place and friends who can be invited to share to avoid anxiety. This shows the need for the closest support groups that the local community has to exchange ideas, information, and experiences in preparing so that local residents can jointly prepare properly when their regions face flooding by forming discussion groups.

Table 3.
Head of family Final Modeling Results of Preparedness Factors for Anxiety Rates

Indicators	B	p	OR	CI 95%
Knowledge	-7,689	0,003	0,000	0,000-0,070
Experience	8,415	0,000	5,125	3,968-5,130
Constant	19,048			

DISCUSSION

The results of this study found that the average head of family experienced mild anxiety was 47.6%. Anxiety occurs when individuals have difficulty facing problems, situations and life goals as a result of the stress of life faced, where the anxiety is influenced by predisposing and precipitation factors. Predisposing factors are factors that can affect a person experiencing stress which includes biological, psychological and socio-cultural. And precipitation factors that can challenge, threaten or prosecute individuals who need additional energy and can result in tension and stressor, which includes experiencing or witnessing trauma, threats to physical integrity and threats to the self system[6]. This is in line with research conducted on families who were in the pre-disaster storm, showing that stressors experienced are significantly related to anxiety symptoms, as well as the sources that cause damage and trauma are significantly related to anxiety symptoms[7].

Experience in dealing with disasters can provide capabilities that have been done before so as to help prevent physical and psychological impacts of individuals when in a potentially flooded area such as symptoms of anxiety that can be felt and can evacuate quickly and act accordingly when the warning is given so that the impact occurring due to a disaster can be avoided. The results of other research found that experience has seven different influences on the preparedness process, namely: encouraging thinking and speaking; increase awareness and knowledge; helping individuals understand the consequences of a disaster; develop trust; develop preparedness; affect emotions and feelings, and encourage community interaction on disaster issues.[8]

Changes in preparedness behavior will have a positive impact, so there is a need for mutual coordination and communication between groups in the community so that

recommendations and first handling can be done immediately during an emergency which can reduce the level of anxiety. To predict preparedness, behavioral models usually use variables at the level of individual analysis, such as risk perception and assessment of the effectiveness of possible actions (response-efficacy). The other research on 629 Dutch citizens in The Hague in an area below sea level shows that the influence has a direct and indirect effect on the level of preparedness. Where more and more people participate in their communities the more they are prepared and the better use of social networks in facilitating citizens' preparedness for danger.[9]

Anxiety can have an impact on life and make individuals feel uncomfortable, but with anxiety can help give warnings to individuals about the coming danger so it is expected to help improve the ability of individuals to carry out activities to fight danger and threats.[10] Most of the family heads in Lempake Village are facing flooding mostly experienced mild anxiety. According to the researchers' opinion, this could happen because the Lempake Kelurahan area is an area designated as a disaster-resilient region and already has disaster volunteers so that the possibility of local residents already have the preparation and capability in flood preparedness.

Anxiety can have an impact on life and make individuals feel uncomfortable, but the anxiety can help give warnings to individuals about the coming danger so it is expected to help improve the ability of individuals to carry out activities to fight danger and threats.[11] This thing is in line with the research of showing three respondents whose homes are along the river banks, feel anxiety and fear of greater flooding and fear that if the embankment cannot hold water, their residence will sink down.[2] This is also supported by research showing the results that 23% of respondents experience psychosocial stress when they are in a region prone to storms.[12]

Relation of knowledge with the level of anxiety of the Head of Family.

In this study, knowledge about flood preparedness was related to the level of anxiety of household heads in disaster-prone areas ($p = 0.001$; $\alpha = 0.05$). Further analysis showed that there were significant differences in knowledge with a mild, moderate and severe head of household anxiety. This is in line with research conducted showing that education is associated with increasing disaster preparedness capability and also showing that disaster-related training is very effective given to individuals with higher education.[13] This is also in line with research using multi-regression analysis that the factors that most contribute to disaster preparedness are prior knowledge and experience of disasters.[14] And research conducted which shows that the clarity of information received by disaster victims is very helpful in overcoming anxiety disorders and other physical complaints due to stressors experienced.

According to differences in knowledge between individuals can also be influenced by several external factors, namely environmental and socio-cultural and internal factors namely education, work, and age, where knowledge can be obtained through education or information obtained. Information is needed by individuals in threatening situations in order to be able to solve problems faced by both personal problems or family problems that can have a direct impact on daily life. Information provided and in accordance with the conditions and situations can suppress the emergence of new stressors because relevant information will have a positive impact on individuals. The results also showed that 23% of respondents answered no to the questions about temporary shelters that were known before the disaster. This shows that there is still a lack of information about where to evacuate if there's a flood coming.

The results showed that 63% of family heads had sufficient knowledge in dealing with floods, this was due to the lack of information about preparedness given directly to the community. Research conducted on people's perceptions about floods and preparedness in Japan, shown that some respondents who do not have enough knowledge about disaster preparedness have high concerns about the dangers posed by disasters that could arise suddenly and do not understand the preparations and efforts made in dealing with floods.[15] This explained that when people did not have enough knowledge, then the individual can not make readiness in dealing with disasters and can cause anxiety. This is supported by research stated in his research in the Philippines that respondents' knowledge must be prepared before a disaster event to increase knowledge and ability to deal with disasters through training and seminars.[16]

Relation of Preparedness Experiences with the level of Anxiety of the Head of Family.

Relationship of Preparedness Experiences with Levels of Head of Household Anxiety In this study experience in dealing with floods was related to the level of head of household anxiety in disaster-prone areas ($p = 0.001$; $\alpha = 0.05$). Further analysis showed that there were significant differences in experience factors with a mild, moderate and severe head of household anxiety. Previous experience in dealing with floods made individuals able to respond to readiness when needed so that they can avoid the feeling of stress and anxiety when the area has the potential to experience disaster again. The experience of the head of the family in preparing preparedness was in the moderate category (69.8%), where there were 22% of respondents who did not prepare according to the management training that had been followed, because when faced with flooding previously only made preparations in accordance with the emergency at the time.

Previous experience can increase preparedness in facing disasters and provide information on disasters indirectly to individuals about the impact of disasters so that they can do better activities in carrying out disaster preparedness.[16,17] In line with research conducted on floods and preparedness shows that the experience of having been prepared before had a high relationship with community preparedness in dealing with flooding.

The previous experience can provide capabilities that have been done previously so as to help prevent physical and psychological impacts of an individual when in a potentially flooded area such as anxiety symptoms that can be felt and can evacuate quickly and act accordingly when the warning is given so that the impact occurs due to disaster can be avoided.

Research conducted explained that the factor reported contributing to anxiety in daily life was a history of previous stress and natural disaster events of 22.8% which was a source of stress in life.[18] Previous experience could increase preparedness in the face of natural disasters that can provide more information to individuals to do things that are likely to have an impact on preparedness to be better.[19] There were several studies that indicate that previous experience provides a positive relationship to preparedness that can be influenced by the effectiveness of the preparedness and frequency of experience in dealing with disasters.[20]

There are still family heads who experience severe anxiety because they are currently in a potentially catastrophic region, namely the condition of the house is located close to the source of the flood and during this research, there is often rain with high enough rainfall so that the head of the family experiences anxiety when a sudden flood occurs especially at night. Based on this, it is expected that the head of the family has good experience in preparedness by having an independent group to exchange

experiences so that each head of the family can have different preparedness experiences.

This is in accordance with explaining the previous experience in pre-disaster preparedness is related to the preparedness and stress behavior of respondents and respondents who have made preparedness in the face of a disaster can make individuals not easily experience anxiety which can have a detrimental impact.

CONCLUSION

This research found that most of the anxiety possessed by the head of the family was low anxiety, but there were still those who experienced moderate and severe anxiety. The results showed that knowledge and experience in dealing with flooding were related to the level of anxiety of household heads. Further analysis found that there was a significant difference between knowledge and experience in dealing with floods with a mild, moderate and severe head of household anxiety in flood-prone areas. With experience in dealing with flooding was the most related factor to the level of anxiety of household heads in flood-prone areas.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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Case Report

Increased The Adolescent Self-Identity Using The Peplau-Erickson-Stuart Model

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Abstract

Without proper stimulation, self-identity formation in adolescents may lead to inferiority, and further to the mental health problem. It is important to give positive stimulation for adolescents and psychoeducation for the family properly and effectively to improve adolescence identity development. As we know, adolescence is a period of age which is considered to be problematic and crucial for them to set their remarkable foundation regarding the interaction with the surrounding people and environment. This research was aimed to find out the result of therapeutic group therapy for adolescent and family psychoeducation toward the improvement of adolescence development. A case report was used as the method of the research, in which 5 clients were given health education care according to the problem faced by the family during the adolescence development stimulation. The special therapy given was the adolescence therapeutic group therapy and family psychoeducation. The result of therapeutic group therapy is the ability to improve family and adolescence self-identity development within the 10 aspects of adolescence stage; biological, psychosexual, cognitive, language, moral, spiritual, emotional, psychosocial, talent, and creativity. The result of the research was expected to be an input for the Department of Health, especially for the administrator of the community health program in dealing with adolescence mental problems. The research is also expected to be the evidence-based practice in the community of mental health nursing.

INTRODUCTION

Mental health is welfare represented by happiness, balance, satisfaction, self-achievement, and optimism. Mental health can also be described as having a positive attitude, improvement, development, self-actualization, unity, freedom, and also own the convenient perception between reality and the ability to adapt to the surrounding environment.[1] Mental health is also a condition where an individual realizes his or her ability, able to control stress, and productively works and gives a contribution to society. Therefore, it can be concluded that mental health is referred to welfare where an individual realizes his or her ability, able to relieve stress, has the suitable perception between reality and the ability for the adaptation with the surrounding environment, owns self-actualization, and able to productively

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works and gives a contribution to the society.[2]

Improvement and development simultaneously happen in our life. The development is accomplished according to the pattern of each development stage which is also the result of the previous development stage and the requirement for the next stage. Adolescence is a crucial stage in which adolescent starts to form self-identity, independence, and eager to be involved in a mission.[3] Some factors affect adolescence mental health is biological, psychological, and sociocultural factors. Besides, health, environment, and individual attitude are also the supporting factors which influence adolescence mental health development. The environment means family, school, and peer group for the adolescence. In this case, the government has been facilitated by adolescence development by providing non-formal health care. It is done by giving optimum guidance to adolescents' intellectual development and stimulating adolescents' creative thinking and problem-solving ability.

The nursing care is given to the self-identity formation, either the professional or specialist nurse was given using Peplau's interpersonal model. It is possible since the self-identity formation in adolescents may be reoccurred as they did not feel comfortable during the nursing caregiving process. According to Peplau (1991), a nurse should have the value, uniqueness, art, and nursing science-based interpersonal relationship in delivering the health practice. Those aspects help nurses to build a therapeutic relationship with the adolescent. Peplau (1991)stated that the therapeutic relationship will achieve the goals when the nurse accomplished 4 stages of the relationship, which are orientation, identification, exploitation, and resolution.[3]

The therapy given by a nurse for the family is family therapy, group therapy, psychoeducation therapy, supportive therapy, self-assistance therapy, and therapeutic group therapy.[4] On the other hand, the most suitable therapy for the adolescence development stage is group therapy and environmental therapy. One of the therapy techniques used to optimize adolescence development is therapeutic group therapy (TGT). It is a group therapy that enables the members to share their experiences, to help each other, and to find problem solving and anticipation, by giving an effective way to control stress.[5] TGT is aimed to defend the homeostasis on either the possible spontaneous changes or continuous event. TGT helps the member to prevent health problems, training and developing group member potency, and also improve member's self-quality in order to be able in solving any problems of life.[6] This therapy is given to all the age levels based on its development stage. It can also be done in a group and individually by stimulating development and improvement.

One of the research about adolescence self-identity was showed about the identity achievement status, as the subject taken was the college students who are in the last stage of adolescence age.[7] On the other hand, other research showed that therapeutic group therapy significantly improved the family's cognitive and psychometric ability in stimulating children's development.[8] It improved the cognitive and psychometric ability at 45.5% from the initial 38.5%. The other study stated that self-improvement and self-identity are significantly improved after therapeutic group therapy.[9] On the other hand, the other group which was not given the same treatment could not show any significant improvement. Adolescence is a crucial stage for problems and to form a solid basis for the internal competence which enables an individual to adapt and interact with the surrounding environment.[6]

The nursing care for the adolescents in this study used Peplau interpersonal relationship approach and the development

theory from Erickson. The theory stated that a therapeutic relationship as the interpersonal process which involved nurse and client communicative interaction in order to identify and solve the client's problem. During the therapeutic relationship, it is suggested that the nurse employs his or her self as the instrument to defend and build the relationship with the client. This way, it is expected for the client to be able to deliver all of his or her feelings and the nurse can further draw the solution in the following nursing care. In applying the interpersonal relationship to the client, the nurse as an outsider carried the orientation and identification stage during the adolescence analysis. After the analysis, the nurse carried the exploitation stage, which was the nursing care practice. After that, the resolution stage was applied using the interpersonal relationship theory of Peplau during the evaluation of the nursing care applied.

METHODS

The nursing care applied was using the case report model. It was a detail report about signs, symptoms, diagnosis, treatment, and also the follow up on a client. It is usually applied for an unusual or new event either on a group or individual client. The case report in this study reported the case on the client from RW 04 Mulyaharja with the adolescence self-identity therapy by the specialist nurse as explained in table 1. The intervention plot was in accordance with the interpersonal theory of Peplau and the theory of Erickson started from the analysis, nursing diagnosis, nursing care practice and nursing care practice result, client's support system, and also the difference after the application of the intervention. The data gained was primary data from scanning format and evaluation instrument (pre-post) on the adolescent self-identity diagnosis. There were 5 healthy adolescents taken as clients. All of the clients were finished with specialist nursing care practice, therapeutic group therapy, and family psychoeducation.

RESULTS

From table 1, we can see that in the physical and psychosocial aspect, the average improvement was mainly on the weight gain aspect from 60% to 100%, with the overall average 80% to 100%. Besides, for the cognitive and linguistic aspect, the highest improvement was on able to suspect with the improvement from 60% to 100%, with the overall improvement of 84.61% to 98.46%. For the moral and spiritual aspect, we can see the understanding of the ethical value, religious and social value of 80% to 100% with the overall value was from 85.71% to 100%. From the emotional and psychosocial aspect, we can see the improvement in able to not forcing the parents to follow their demand from 60% to 100%, with the average value of 83.33% to 96.66%. From talent and creativity, the significant improvement was on the ability in delivering questions and opinions from 60% to 100%, with the overall value of 65.71% to 94.28%. It can be concluded that the biggest deviation was on the emotional and psychosocial aspects with 14.29%.

First, the clients were given specialist nursing practice which was consisted of 5 sessions. The first session, identify the personal problem faced by the caregiver or the parents with the adolescent in the family. In the second session, the method of stimulating adolescence improvement was explained. After that, stress management was carried in the third session. Burden's management was carried on the fourth session, and the use of the supportive family system in the fifth session.

From table 2, we are able to see the characteristic, predisposition factor, and the precipitation factor of the five clients. Client Ms. S owned the ability of Female, 14 years old, second grade of junior high school, parents are labors whose income below the provincial minimum wage, having 5 siblings. Ms. S is healthy, without any serious disease history, normal eating pattern, the weight gain in accordance to

the development, client is able to deliver her opinion, able to critically speak about problem, able to differentiate which is good and bad, loves to try new thing, has many friends, able to adapt in the new environment, extrovert, cheerful, involve in some social activities.

The following (Table 3) is the explanation about the ability of adolescence self-identity formation from the development task before and after the intervention of therapeutic group therapy and family psychoeducation.

Table 3 explained about adolescence self-identity ability involved: able to objectively assess himself/herself at 80% which represents 100% improvement. The achievement in the self-identity formation stage depends on the problem-solving process in the previous stage. If an adolescent failed in the previous development task, the result may influence the following stage. The next, about the ability to figure in the future, was improved from 60% to 100%. The ability to make a decision was improved from 60% to 100%. The love of the individual self-was improved from 40% to 100%. The ability to interact with others was improved from 80% to 100%. The responsibility was improved from 60% to 80%. Adolescents started to represent their independence by 100%. And they were able to solve the problem with assistance was improved from 80% to 100%.

Table 1
TGT Effectiveness toward self-identity achievement on adolescent in RW 4 Mulyaharja District

No	Adolescence Change	Pre		Post	
		Number of clients	%	Number of clients	%
1	Physical & Psychosexual Aspect				
	a. The appearance of puberty signs	4	80	5	100
	b. Weight gain	3	60	5	100
	c. Height improvement	4	80	5	100
	d. Interest to sex opposite	4	80	5	100
	e. Improved sexual fantasy and imagination	4	80	5	100
	f. Improved self-interest	5	100	5	100
	Average	4	80	5	100
2	The cognitive and linguistic aspect				
	a. Able to think about the causative effect	3	60	5	100
	b. Able to suspect	4	80	5	100
	c. Able to decide	4	80	5	100
	d. Able to gather idea, thinking, and concept	4	80	5	100
	e. Able to analyze	4	80	4	80
	f. The change in people perception	5	100	5	100
	g. Able to understand others	4	80	5	100
	h. Able to think systematically	5	100	5	100
	i. Able to think logically	4	80	5	100
	j. Able to think idealistically	5	100	5	100
	k. Able to solve the problem	4	80	5	100
	l. Improved linguistic ability	4	80	5	100
	m. Mastering special linguistic term (slang language)	5	100	5	100
	Average	4.23	84.61	4.92	98.46
3	Moral & Spiritual Aspect				
	a. Understand the ethical value, religious and social norms.	4	80	5	100
	b. Care on others' need	4	80	5	100
	c. Have a good manner toward parents and teachers	5	100	5	100
	d. Good to friends	4	80	5	100
	e. Start to obey the rule in society	5	100	5	100
	f. Diligently do the religious practice	4	80	5	100
	g. Enjoining good and forbidding wrong	4	80	5	100
	Average	4.28	85.71	5	100

No	Adolescence Change	Pre		Post	
		Number of clients	%	Number of clients	%
4	Emotional & psychosocial aspect				
	a. Able to not forcing the parents to follow their demand	3	60	5	100
	b. Able to control themselves	5	100	5	100
	c. Emotionally stable	4	80	5	100
	d. Able to adapt to the environment	4	80	5	100
	e. Give concern to other	4	80	4	80
	f. Get achievement	5	100	5	100
	Average	4.16	83.33	4.83	96.66
5	Talent & creativity aspect				
	a. own the improving special talent	3	60	5	100
	b. follow extra activities	3	60	5	100
	c. critical	3	60	4	80
	d. curious	4	80	5	100
	e. able to deliver opinion and question	3	60	4	80
	f. interested in the new experience	4	80	5	100
	g. interested in challenging	3	60	5	100
	Average	3.28	65.71	4.71	94.28

Table 2.
Case Description

Client's Initial	Case Description
Ms.S	Female, 14 years old, second grade of junior high school, parents are labors whose income below the provincial minimum wage, having 5 siblings. Ms. S is healthy, without any serious disease history, normal eating pattern, the weight gain in accordance to the development, client is able to deliver her opinion, able to critically speak about problem, able to differentiate which is good and bad, loves to try new thing, has many friends, able to adapt in the new environment, extrovert, cheerful, involve in some social activities.
Ms. N	Female, 17 years old, first grade of vocational high school, parents are entrepreneurs whose income above the provincial minimum wage, has 1 sibling. Ms. N is healthy, without any serious disease history, normal eating pattern, the weight gain in accordance to the development, client is able to deliver her opinion, able to critically speak about problem, able to differentiate which is good and bad, loves to try new thing, has many friends, diligently does the prayers, active in school organization activities, able to adapt in the new environment, extrovert, cheerful, involve in some social activities. The client has had a conflict with the peer around her school and house environment.
Ms. Y	Female, 18 years old, the third grade of vocational high school, parents are whose income below the provincial minimum wage, having 3 siblings. Ms. Y is healthy, without any serious disease history, normal eating pattern, the weight gain in accordance to the development, client is able to deliver her opinion, able to critically speak about problem, able to differentiate which is good and bad, loves to try new thing, has many friends, diligently does the prayers, active in school organization activities, able to adapt in the new environment, extrovert, cheerful, involve in some social activities. There is a history of chronic disease in the client's family. The aunt and father of Ms. Y suffered from hypertension. Ms. Y had been hospitalized when she was 10 (varicella) and 15 (fever, throat problem). The client has an irregular eating pattern with coffee consumption habits since she was 13, at least 1 glass per day.
Mr. S	Male, 14 years old, second grade of junior high school, the parent is a driver whose income below the provincial minimum wage, has 2 siblings. The client has gastritis history and had been hospitalized a year ago, smoking since he was 13, have had alcohol when he was 12. The client also had a conflict with the peer from school and the house environment. The client rarely does the prayer and never joins the social activities. There is a history of chronic disease in the client's family. The grandfather and mother of the client suffered from hypertension.
Mr. P	Male, 15 years old, the third grade of junior high school, his father was a police officer, but then dropped out from the office because of scamming scandal, the father is now jobless with the income below the provincial minimum wage, has 3 siblings. The client has an irregular eating pattern with coffee consumption habits since he was 13, at least 1 glass per day. There is a history of chronic disease in the client's family. The mother of the client suffered from hypertension. The client is an introvert, silent, and rarely joins the social activities.

Table 3
Ability in self-identity formation pre and post specialist therapy for clients in RW 4 Mulyaharja District

Self-identity		Count	%
Able to objectively assess himself/herself	Pre	4	80
	Post	5	100
	Delta		20
Able to figure the future	Pre	3	60
	Post	5	100
	Delta		40
Able to make decision	Pre	3	60
	Post	5	100
	Delta		40
Love himself/herself	Pre	3	60
	Post	5	100
	Delta		40
Able to interact with others	Pre	4	80
	Post	5	100
	Delta		20
Responsible	Pre	3	60
	Post	4	80
	Delta		20
Independent	Pre	5	100
	Post	5	100
	Delta		0
Able to solve a problem with the assistance	Pre	4	80
	Post	4	100
	Delta		20

DISCUSSION

The case and care management by specialist nurse delivered the therapeutic group therapy and family psychoeducation for 5 adolescence clients who were in the self-identity formation stage. From the result, it could be seen that all of the aspects of adolescence development were improved. The family was able to take care and facilitate clients, while the clients are able to use the supporting source from the inside and outside the family to deal with health problems.

After therapeutic group therapy, the biological development of clients was improved. On the other hand, from the literature review, there was no study explained the influence of the therapy toward biological development. According to other studies that the optimum stimulus such as maintaining body health, a healthy lifestyle, maintain cleanliness, regular exercise, immediate treatment for illness, and a healthy diet was able to affect the physical and biological development. There was a significant improvement in adolescence psychosexual development after the therapy. In terms of distortion, an adolescent may interact with homosexual activity. The orientation may also be affected by the appearance and gender identity formation.[10] Based on the other case study on gay adolescents, it was stated that gay adolescents were trapped in gender identity confusion.[11] In this case, group therapy was able to strengthen and improve adolescents' self-identity. Besides, group therapy also enables adolescents to give positive feedback to others, giving chance to build self-identity and learn from normal people. Gender identity is able to influence sexual orientation. As mentioned by Freud, the normal characteristic of a genital psychosexual stage was within the adolescence stage (12-18 years old). It can be seen from the sexual attraction,

improved sexual fantasy, and the improved interest in their own appearance according to their gender[1] The result of the study concluded that psychosexual development was improved in line with the biological development in a form of hormonal change and physical change, especially in the reproductive organs. This way, the therapy needs at least 6 sessions to accomplished.

The ability in cognitive development was not significantly improved before and after the TGT. According to Piaget, the adolescence period is the period where the thinking pattern of an individual changes from the concrete to formal operational. The formal operational thinking involves the ability to think abstractly, think hypothetically, able to use future perspective, able to figure out the possibilities and consequences from things happened, and the development of the ability in making the decision. Able to relate an idea, thinking or concept, analyze and solve the problem, start to think ideally, logically, and systematically to solve the problem.[9] The cognitive development was not improved as to achieve cognitive development require more abstract thinking training. During the cognitive stimulation session, the researcher only applied two sessions of therapy which involved the explanation about cognitive ability should be accomplished by adolescents and also the game to stimulate thinking ability, asking ability, and problem-solving ability. And then, during the linguistic development stage, there was a significant improvement after the therapeutic group therapy intervention. Referred to the result of other research was expected that the entire individual has learned about all the linguistic and performance skill to well understand and produce certain language when they enter the adolescence period.[12] The linguistic development was supported by the operational formal cognitive ability. Cognitive development definitely improves linguistic ability. The correlation between development and self-identity was that self-identity came from self-assessment and observation. The combination of the developments from all of the aspects of the development formed the characteristic of an individual that differentiates one to another. An adolescent who has accomplished the formal operational development is able to think logically, make the hypothesis, imagine his or her future identity, and able to solve the problem.[13] The problem in linguistic development may involve the difficulty in delivering the opinion, the unsystematic sentence, and the inability to understand some words in their own language. It is possible as linguistic ability requires the intensive and comprehensive process, despite the fact that adolescents commonly have been trained to speak, delivered the opinion, and asked the question.

The ability to moral development was improved after the application of therapeutic group therapy. The result of the research was not in line with other studies which concluded that the therapeutic group was able to help the member in changing maladaptive attitudes. Ethical value and system was the main instrument to control the impulse during the self-identity formation. During the therapy, the therapist should actively apply positive moral values such as respecting the other group members, presenting a well-mannered attitude, obeying the rule, and applying discipline value. After the therapeutic group therapy, spiritual development was also improved. The adolescents tended to be more interested in religious value, try to apply the value, and stay away from the religious forbid. There was no study examining the influence of group therapy on spiritual development. The moral development can be improved by respecting the noble value, differentiate between good and bad, right and wrong, and also possess a good attitude.

After the therapeutic group therapy, the emotional development of the adolescents was improved. It meant that group therapy

significantly influenced emotional development such as improving adaptive skills, giving more concern to others, able to control demand and anger. The emotional development would also form an individual character in reacting to a problem. Psychological problems, dynamic psychological state, the complexity of ego defense, and adolescent's character are able to influence self-identity formation.[14] According to other research that group therapy enables adolescents to express emotion and behavioral problems, give feedback on the annoying behavior of others, learn how to tolerate, and give chance to practice new behavior.[15] In group therapy, adolescents are able to learn how to care and love each other, and how to restrain temperament. The group therapy was given to adolescents for two weeks to show a significant result to restrain anger in adolescents. There was also an improvement in the psychosocial development of adolescents. The result of this nursing care was in line with the conclusion of other research which stated that group therapy builds a healthy relationship, especially with the opposite sex.[16] It will further stimulate future realization, create balance in the family, build openness, productivity, love, and able to avoid conflict, confrontation, and also temperamental behavior in the family. The group intervention was proven to be effective for adolescents since adolescents are easier to accept the peer's opinion more than the adult's opinion. It is the opinion which usually emphasizes on the importance of relationship, the importance of group's norms for the socialization, the cooperation between group members, and the group which is able to listen very well.

There was an improvement in talent and creativity development after therapeutic group therapy. According to other research that talent can be trained to be a special skill in a certain area. In order to dose, training, knowledge, experience, and motivation are needed.[17] During the sixth session of the therapy, the researcher has given the talent stimulation by giving the knowledge about the importance of talent and also giving the chance to show some talents such as singing, poetry, storytelling, including how to give the reward for the performance. The only problem was not all of the clients agreed to perform in front of others. Some of them also have the talent of which impossible to be demonstrated in that session, such as swimming, playing football, and playing badminton.

CONCLUSION

Most of the clients for the therapeutic group therapy were from early and mid-stage of adolescence, mostly females, mostly the first children in the family with two or three siblings. All of the adolescents in the group went through positive improvement and skill. The ability of family for the self-identity formation was also improved. All of the mothers had been used the available health care. The therapeutic group therapy was applied within the 10 aspects of adolescence stages (biological, psychosexual, cognitive, language, moral, spiritual, emotional, psychosocial, talent, and creativity). The interpersonal model by Peplau, Erickson, and Stuart were suitable for the adolescents. It was possible since the stages of the interpersonal relationship involved orientation, identification, exploitation, and resolution stages were applicable for the adolescence and enable the students to easily apply the nursing care.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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Original Research

Increased the Intensity of Elderly Visit to Posyandu with Family Support

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Abstract

The decline in health, especially in the elderly will affect the independence and quality of life of the elderly. The role of the family is needed to motivate the elderly in health checks to health services. One of the health services for the elderly is the elderly Posyandu which is an integrated health service for the community-based elderly. Based on data the level of elderly visits to Posyandu the elderly shows that the level of elderly visits to the Posyandu of the elderly is relatively low. The low number of elderly visits to Posyandu is influenced by several factors, one of them is the support from the family. The low number of elderly visits to Posyandu is influenced by several factors, one of them is the support from the family. The purpose of the research was to found out the relationship between family support and the intensity of elderly visits to PosyanduSumber Sehat. This research used a quantitative descriptive correlational study with a cross-sectional design. The sample in this study was 82 elderly respondents with a purposive sampling technique. The results showed that good family support was 46 (56,1%) and less family support was 36 (43,9%). The intensity of elderly visits in the low category was 48 (58.5%) and there were 34 (41.5%) with high visit intensity. There was a significant relationship between family support and the intensity of elderly visits to posyandu.

INTRODUCTION

As a person ages, the physiological function will decrease due to the aging process thereby increasing the risk of many non-communicable diseases appearing in the elderly. In addition, the degenerative process will reduce the body's resistance to infectious diseases. Degenerative diseases commonly suffered by the elderly are hypertension (57.6), arthritis (51.9), stroke (46.1), COPD (8.6) and DM (4.8).[1]

One of the government's efforts to improve the welfare and health status of the elderly is by organizing elderly *Posyandu* activities. This health service program approach is focused on integrated services by prioritizing promotive and preventive efforts on elderly health through empowerment and the active role of the community. The health service program is expected to be able to detect early on the health problems experienced by the elderly.[2]

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The elderly *Posyandu* that is still actively held today is one form of health services for the elderly, one of which is the *Posyandu* Elder "Sumber Sehat" located at Rw 05 Kangkung Village. The list of the attendance rates of the elderly in the health source *posyandu* for the period January 2018 - December 2018, shows that the coverage rate of elderly visits to the health source *posyandu* is only 14.2%. This proves that the attendance rate is still very far from the expected coverage rate of 80% set by the Ministry of Health of the Republic of Indonesia.[1]

The low rate of absence of the elderly to the Posyandu for the elderly is influenced by several factors including the age of the elderly, the knowledge of the elderly about the benefits of the Posyandu, employment, the elderly attitude towards the use of the Posyandu, infrastructure, geographical location (distance of the elderly home to the location of the elderly Posyandu), the role of health workers and family support.[3]

Family support is very important in motivating the elderly to check their health conditions for health services because of the good physical and emotional family relationships. The existence of a family becomes something that is very needed by the elderly where the family can accompany and accompany the elderly to visit the *Posyandu* for the elderly.[4]

Family support includes informative support in the form of advice, direction, and explanation. Instrumental support is the provision of tangible or physical assistance which can be in the form of goods, services, and supporting infrastructure advice including providing time opportunities. Emotional support in the form of giving attention, trust so that someone becomes convinced that other people are able to give love and affection to him and support assessment in the form of a positive assessment of the individual which includes feedback and approval.[5]

Based on the results of research conducted by another research that the highest level of support from families is good support at 88.1% and less support at 11.9%. The majority of respondents received support from families, but in practice controlling their health respondents did not get full support from families, this indicated there were still 26.3% of families not taking time for respondents, and 24.9% did not want to take respondents to check into services health.[6]

The results of a preliminary study conducted by researchers on November 10, 2018, by conducting interviews with 8 elderly people at the Posyandu elderly healthy sources, the results show that as many as 3 elderly people said that the factor that caused the elderly not to attend the posyandu was the healthy source because they forgot the posyandu schedule for the elderly and there were no family members who took the elderly to the elderly posyandu implementation site. Lack of support from families due to family members busy with their work so that families tend not to have much time to accompany and accompany the elderly.

METHODS

This type of research is a quantitative study that uses a descriptive correlational design with an approach carried out in a cross-sectional way. In this study the population was the elderly who participated in the *Posyandu* elderly activities of Sumber Sehat in the last 3 months, amounting to 104 respondents. The sampling method used in this study is to use purposive sampling so that the sample becomes 82 respondents. This research was conducted at the Sumber Sehat elderly *posyandu* and in every elderly house registered following the elderly *posyandu* located in Rw 05 Kangkung Village. *Data* collection tool with a questionnaire sheet. The research process took place from 12 -25 July 2019. analyzed by univariate and bivariate (Spearman Rank Correlation test).

RESULTS

Characteristics of respondents most of the respondents included in the category of elderly 76 (92.7%), the majority of elderly women were 69 (84.1%), education as many as 48 (58.5%) respondents did not attend school, the elderly worked as farmers 44 (53.7%), and 37 (45.1%) respondents lived with children.

Based on table 1 above shows that of 82 respondents there are 46 elderly (56.1%) get good family support while for the lack of support as many as 36 elderly (43.9%). Based on table 1 above shows that of the 82 respondents there were 48 elderly (58.5%) with low visit intensity. While 34 elderly (41.5%) with high visits.

Table 1
Frequency Distribution of Elderly Characteristics in Posyandu

Indicators	f	%
Age		
Elderly	76	92,7
Old Age	6	7,3
Gender		
Male	13	15,9
Famale	69	84,1
Education		
No school	48	58,5
Elementary school	32	39
Middle school	2	2,4
Occupation		
Does not work	31	37,8
Farmers	44	53,7
Entrepreneur	7	8,5
Status of Stay		
Son	37	45,1
Couple	24	29,3
Spouse and Children	20	24,4
Sibling	1	1,2
Family support level		
Support	46	56,1
Less Supportive	36	43,9
Intensity of Visit Posyandu		
Low	48	58,5
High	34	41,5

The results of the study revealed that the average visit intensity score was 5.9024 with a median value of 6. The highest value was 11 and the lowest value was 1 and the standard deviation was at 2.20826. The data normality test results using Kolmogorov-Smirnov obtained a p-value of 0,000 so that the data obtained were not normally distributed, then the categorization is based on a median value of 6.

The results of the study revealed that the mean family support score was 13.41 with a median value of 15. The maximum value was 18 and the minimum value was 2 with the standard deviation being at 3.607. The results of normality test data using Kolmogorov-Smirnov obtained a p-value of 0,000 so that the data obtained were not normally distributed, then categorization is based on a median value of 15.

Table 2
Description of Family Support for the Elderly in Posyandu

Variable	Mean	SD
Family support	13,41	3,607
Intensity of Visits	5,9024	2,16373

Table 3 shows that the majority of respondents who received active family support participated in posyandu for elderly with high intensity of visits as many as 28 (34.1%) respondents, and a small portion of respondents who did not get support from families not actively participated in elderly Posyandu with low intensity of visits as much as 12 (14.6%) respondents. The Spearman Rank Correlation test results obtained p-value = 0,000 meaning there is a significant relationship between family support and the intensity of elderly visits to the Sumber Sehat elderly posyandu in Rw 05 Kangkung Village.

Table 3
Relationship between Family Support and Intensity of Elderly Visit to Posyandu

Family Support	Intensity of Visit				p
	High		Low		
	f	%	f	%	
Support	28	34,1	18	22,0	0,000
Less support	24	29,3	12	14,6	

DISCUSSION

The results showed that the majority of respondents received support from families as many as 46 respondents (56.1%) while respondents who lacked family support were 36 respondents (43.9%). The size of the support given by the family is closely related to the family's understanding of the perception of the benefits of health services for the elderly.

Support can be described as a feeling of belonging or belief that other people can play an active role in everyday life. Family support that is realized by giving attention, being sympathetic, and giving help and encouragement will lead to a feeling of being more stable and safe in the elderly.[7,8]

Family support includes informative support in the form of giving information in solving a problem which includes giving advice, direction, and explanation, instrumental support is providing tangible assistance or fisk which can be in the form of goods, services and advice supporting infrastructure to help or help others including giving time opportunity. Emotional support in the form of giving attention, trust so that someone becomes convinced that other people are able to give love and affection to him as well as assessment support in the form of a positive assessment of individuals consisting of social support which includes feedback and approval.[5]

The results showed that most of the elderly were not actively participating in the elderly posyandu with a low intensity of visits of 48 respondents (58.5%). While the rest are 34 elderly (41.5%) with high visit intensity. Factors that influence the intensity of elderly visits to posyandu elderly are gender. Based on the results of this study showed that the majority of the elderly who participated in the Posyandu for the elderly were women, amounting to 69 elderly (84.1%). Most of the elderly who are male do not attend the posyandu for the elderly because they are still active at work, therefore they tend to not have much time to attend the posyandu for the elderly.

Another factor that influences the intensity of elderly visits to posyandu is work. In this study, it is known that some are still working as farmers, amounting to 44 elderly (53.7%). Work is an activity that is carried out by someone continually to get compensation. This is caused because the elderly do not want to depend either financially or otherwise on the family. Most of the elderly want to live independently by not relying on family.

The Spearman Rank correlation test results obtained a p-value of 0,000 ($p < 0.05$) so that it can be concluded that there is a significant relationship between family support and the intensity of elderly visits to the posyandu of healthy elderly sources. The correlation coefficient (r) of 0.586, the value is in the range of a strong relationship level (0.51 - 0.75). These results are in line with another research which concludes that there is a relationship between family support and the level of depression in the elderly at the Posyandu Sejahtera GBI Setia Bakti Kediri.[9]

Family support is very instrumental in encouraging the interest of the elderly to participate in elderly Posyandu activities. The family can be the main support for the elderly if they always take the time to accompany or take the elderly to the posyandu, remind the elderly if they forget the posyandu schedule and try to help overcome all problems with the elderly.[4]

This is consistent with the theory Friedman which states that the family can function as the main support for its members so that members view that people who are supportive are always ready to provide help and assistance if needed.

CONCLUSION

The most family support given to the elderly is a good support of 46 respondents (56.1%). The intensity of elderly visits to posyandu for the elderly with healthy sources is mostly in the low category of 48 respondents (58.5%). There is a relationship between family support with the intensity of elderly visits to Posyandu elderly.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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Original Research

Decreased The Anxiety Scale of Hemodialysis Patients With The Spiritual Emotional Freedom Technique (SEFT) and The Autogenic Relaxation

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Abstract

Problems that can be rendered by hemodialysis include anxiety, relationships in marriage, and disobedience in diet and medicine, limitations in lifestyle and threat of death. The purpose of this study was to find out the effectiveness comparison between the Spiritual Emotional Freedom Technique (SEFT) with autogenic relaxation to decrease the anxiety scale of hemodialysis patients. The research design employed Quasy Experiment Without Control Group Design. The results of independent t-test analysis in the Emotional Spiritual intervention group Freedom Technique (SEFT) obtained results p = 0,000, in the Autogenic Relaxation intervention group the results were p = 0,000. The results of the independent t-test analysis showed that p = 0.184. The study indicates that there was no difference between the Spiritual Emotional Freedom Technique (SEFT) and Autogenic Relaxation on decreasing the anxiety scale of hemodialysis patients. It is looked forward that the Hospital can enforce independent interventions such as Spiritual Emotional Freedom Technique (SEFT) and Autogenic Relaxation to degrade the anxiety scale of hemodialysis patients.

INTRODUCTION

Kidney failure is one of the frightening diseases due to there is no cure for it. The incidence of this disease has been increasing rapidly and the sufferer can be anyone both male and female (old or young), and young is no guarantee for not affected by this disease.[1]

One of the management efforts for patients with chronic kidney failure is through hemodialysis. Clients who will undergo hemodialysis experience depression, fear, and anxiety. Many impacts of this disease like excessive anxiety and not being handled properly. This becomes the obstacle in overall behavior and leads to the emergence of symptoms of mental disorders.[2] The effort that can be done to overcome the anxiety of patients through hemodialysis; such as *Emotional Spiritual Freedom Technique*, which combines the Spiritual power and Energy psychology and uses autogenic relaxation is a relaxation that comes from within oneself in the form of words or a few short sentences can also be thoughts that can make our minds at ease.[3]

There are many studies that have done in term of SEFT, which are useful for overcoming emotional problems, another research has proved that SEFT therapy can reduce high blood pressure.[4] There is an

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influence of autogenic relaxation therapy on depression among the elderly.[3] While other respondents told that they involved more in activities in the nursing home. Other researchers who found that there was a significant influence between autogenic relaxation therapy on anxiety levels in third-trimester primigravida mothers.[5]

METHODS

This research used numbers; it gets to start from data collection, interpretation, and description of the results. Besides that, to allow a better understanding of research will be presented through tables, graphs, charts, pictures or other views. This study was an experimental Quasy to investigate the comparison between the effectiveness of the Emotional Spiritual Freedom Technique (SEFT) and Autogenic Relaxation on the anxiety scale of hemodialysis patients. The type of this research used a quantitative method by using a quasi-experimental design; pre-post equivalent test without control group design, in which this study contained initial measurements (Pre-test) and final measurements (Post-test). The conclusion is obtained by comparing the pre-test and post-test data between treatment groups. The measurements were carried out 2 times toward 2 groups, namely group 1 with Spiritual Emotion Freedom Technique (SEFT), and group 2 with Autogenic Relaxation.

RESULTS

Anxiety Scale in Hemodialysis Patients Before and after Spiritual Emotional Freedom Technique (SEFT) Intervention.

Based on Table 1 can be seen that the anxiety scale in hemodialysis patients prior to the Spiritual Emotional Freedom Technique (SEFT) intervention is 7 respondents (46.7%) experiencing moderate anxiety.

Table 1 can be seen that the anxiety scale in hemodialysis patients after the Spiritual Emotional Freedom Technique (SEFT) intervention, namely 11 respondents (73.3%) experienced mild anxiety. table 1 shows that p-value = 0,000 is obtained, it can be concluded that there is an influence between the Spiritual Emotional Freedom Technique (SEFT) on the anxiety scale of hemodialysis patients.

Table 1. Anxiety Scale in Hemodialysis Patients Before and after SEFT Intervention

Indicators	pre		post		p
	f	%	f	%	
There is no anxiety	0	0,0	2	13,3	
Mild anxiety	3	20,0	11	73,3	
Medium anxiety	7	46,7	2	13,3	0,000
Severe anxiety	5	33,3	0	0,0	
Panic	0	0,0	0	0,0	

Anxiety Scale in Hemodialysis Patients Before and after Autogenic Relaxation Intervention.

Base on Table 2 can be seen that the anxiety scale in hemodialysis patients prior to the intervention of Autogenic Relaxation is 11 respondents (73.3%) experiencing moderate anxiety. Based on Table 2 can be seen that the anxiety scale in hemodialysis patients before the intervention of Autogenic Relaxation is 8 respondents (80.0%) do not experience anxiety. Based on Table 2 obtained p-value = 0,000, it can be concluded that there is an influence between autogenic relaxation on the anxiety scale of hemodialysis patients.

Table 2. Anxiety Scale in Hemodialysis Patients before and after Autogenic Relaxation Intervention

Indicators	pre		post		p
	f	%	f	%	
There is no anxiety	0	0,0	8	53,3	
Mild anxiety	1	6,7	3	20,0	
Medium anxiety	11	73,3	4	26,7	0,000
Severe anxiety	3	20,0	0	0,0	
Panic	0	0	0	0,0	

Comparison between Spiritual Emotional Freedom Technique (SEFT) and Autogenic Relaxation on the Reduction of the Anxiety Scale of Hemodialysis Patients

Based on Table 3, p-value = 0.184 is obtained, it can be concluded that there is no difference between the Spiritual Emotional Freedom Technique (SEFT) and autogenic relaxation on the decrease in anxiety scale of hemodialysis patients.

Table 3. Comparison between the Spiritual Emotional Freedom Technique (SEFT) and Autogenic Relaxation for Reducing Anxiety Scale in Hemodialysis Patients

Indicators	SEFT	Autogenic Relaxations	p
Anxiety Scale, mean (SD)	17,07 (4,250)	14,53 (5,805)	0,184

DISCUSSION

The results of this study showed that the majority of anxiety scales in hemodialysis patients before giving intervention of the *Spiritual Emotional Freedom Technique (SEFT)* were 46.7% of 7 respondents or moderate anxiety. Based on the research results from the majority of respondents before giving Emotional Spiritual Freedom Technique (SEFT) intervention to reduce anxiety in chemotherapy patients at SMC Telogorejo Hospital on a moderate anxiety scale.[6] Anxiety is an emotional condition with the emergence of discomfort in a person, and is a vague experience accompanied by feelings of helplessness and uncertainty caused by something that is not yet clear.[7]

The results of this study indicated that the majority of disorders scale in hemodialysis patients after conducting intervention *Spiritual Emotional Freedom Technique (SEFT)* were 73.3% of 11 respondents, which was in mild anxiety. The related study that has done there found significant differences between levels of depression, anxiety, and stress before and after SEFT intervention ($p < 0.05$), between the intervention group and the control group ($p < 0.05$).[8] SEFT intervention helps to reduce depression, anxiety, and stress among chronic kidney failure patients. Spiritual is able to build self-confidence, bring calm, relax, and feel the presence of God Almighty, as a result, it can stimulate the hypothalamus for reducing the production of CRF *(Corticotrophin Releasing Factor)*. Moreover, it further stimulates the anterior pituitary gland to reduce the production of ACTH *(Adreno Cortico Tropin Hormone).* This hormone stimulates the adrenal cortex to reduce the secretion of stress hormones like cortisol, so that heart rate, high blood pressure, and muscle tension.[9]

The results of this study indicated that the majority of anxiety scale in hemodialysis patients before giving the Autogenic Relaxation intervention was moderate anxiety from 11 respondents (73.3%). Based on research results the majority of respondents before giving the autogenic relaxation intervention to reduce anxiety in pre-operation patients at Ungaran District Hospital were on a moderate scale. The way to overcome anxiety through relax effort.[10] Relaxation is an essential way that is treated to reduce muscle tension, which can improve pulse, blood pressure and breathing. An autogenic relaxation is a simple form that can have extraordinary effect.[11]

The results of this study indicated that the majority of anxiety scale in hemodialysis patients after conducting Autogenic Relaxation intervention was 8 respondents (53.3%) without anxiety. Based on research results the majority of respondents after giving an autogenic relaxation intervention to reduce anxiety in pregnant women at BPM Lismarini and BPM Kustirah Palembang was on a scale of no anxiety [12]

The purpose of the practice of autogenic relaxation is to emphasize self-suggestion to be more calm, light and warm so that the body relaxes. The changing occurs during

and after carrying out autogenic relaxation effects on the work of the autonomic nerve. Emotional gives the response and the calming effects caused by this relaxation change the sympathetic dominant physiology into the dominant parasympathetic system.[13]

Based on the results of statistical tests (Dependent T-Test), it is known that the value of p value=0,000, then there was an influence between the Spiritual Emotional Freedom Technique (SEFT) on the anxiety scale of hemodialysis patients. %). Based on research results the statistical test results with the Wilcoxon signed-rank test obtained value = 0,000, with a value <(0.05), then H_0 is rejected. This showed there was an effect of SEFT on the anxiety of climacteric women at RW 6, Pedalangan Subdistrict, Banyumanik District, Semarang, Central Java. Suggestion for climacteric women, SEFT therapy can be recommended as an alternative therapy to overcome the anxiety of climacteric women.[9]

Anxiety is an unclear and pervasive concern, which is related to the feelings of uncertainty and harmless. SEFT therapy is useful to help someone becomes more relaxed and able to deal with severe situations or circumstances in his/her life because there is the flow of positive energy systems and this form of positive affirmation that makes SEFT therapy can be effective.[14] Spiritual-based interventions are very suitable for helping in achieving these meditative conditions. Coupled with tapping can stimulate the release of anti-stress hormones so that subjects can decrease anxiety.[15] Furthermore, the SEFT technique is divided into the full and core versions, which stimulate key points along the 12 energy pathways (meridian energy) of the body. Stimulating body meridian points with the same knock intensity for 10-15 minutes can help reduce anxiety and make feelings feel calmer, more comfortable and stimulate the release of endorphins that function as happiness hormones.[14]

Based on the results of statistical tests, it is known that the p-value = 0,000, then H_o is rejected and H_a is received because there was an influence between autogenic relaxation on the anxiety scale of hemodialysis patients. Based on research results *"The Effect of Nursing Interventions on Autogenic Relaxation Techniques on Reducing Anxiety Levels in Preoperative Patients"*. She found there was an influence on the level of anxiety before and after autogenic relaxation techniques on pre-operation patients with p-value 0.001. [10]

Autogenic exercise is used for stress and anxiety management because it is simple and its result is very deep, easy to do, can be done at any time, not related to culture or religion. Importantly, this exercise can control the work of the autonomic nervous system (sympathetic and parasympathetic nervous system balance).[5]

The body feels warm, is a result of peripheral arteries undergoing vasodilation, while decreased body muscle tension results in a mild sensation. Changes that occur during and after relaxation affect the work of the autonomic nerve. Emotional responses and the calming effects caused by this relaxation change the physiological dominant sympathetic into the dominant parasympathetic system.[16]

Based on the results of the independent T-test, pValue = 0.184, it can be concluded that H_a is rejected and H_0 is accepted because there was no difference between the Spiritual Emotional Freedom Technique (SEFT) with autogenic relaxation toward the decreasing of anxiety scale of hemodialysis patients. Complementary therapy is holistic and non-biomedical therapy that has been recognized and can be used as a companion to medical or pharmacological therapy. Basically, complementary therapy in the nursing system aims to achieve harmony and

balance in a person. One of the complementary therapies recommended by researchers is Spiritual Emotional Freedom Technique (SEFT) and Autogenic Relaxation. The advantages of these they do not cause side effects, like cheaper, easier, safer, faster and simpler.[3] It is because SEFT only uses spiritual and tapping elements, in which medically tapping is also not dangerous. So that SEFT therapy can be done by anyone. In addition, SEFT therapy is also universal, meaning it can be used based on the background of the client's beliefs.[17]

Autogenic relaxation is a relaxation technique based on concentration by using body perception that has health benefits to allow the body to feel changes in the body's physiological responses, including emotional, sensory and subjective.[18]

In autogenic relaxation, the thing that becomes the main recommendation is surrender to oneself, it allows various areas in the body (arms, hands, legs, and feet) to be warm and heavy. This warm and severe sensation is caused by a shift in blood flow (from the center of the body to the desired area of the body), which acts like an internal message, soothing and relaxing the muscles around it.[19]

CONCLUSION

The Spiritual Emotional Freedom Technique (SEFT) and autogenic relaxation can reduce the anxiety scale of hemodialysis patients. the two therapies had no difference in reducing the patient's anxiety scale.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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Original Research

Metacarpal Acupressure Reduced Pain in the First Stage of Labor

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Acupressure metacarpal; Pain of stage labor; The spouses

Abstract

Pain during labor will cause psychological disorders for mothers, such as 87% of postpartum blues, 10% of depression and 3% of psychosis. Therefore, intervention to relieve pain level is necessary to prevent complications for mother and fetus during the process and after delivery. One of the simple methods to relieve the pain level of childbirth is metacarpal acupressure. The application of this method is usually only done by health workers, although a spouse or other family member can conduct it. This study aimed to describe the application of metacarpal acupressure by the husband to relieve pain level in first delivery women. The study used a descriptive-analytic design. The population was 40 husbands, who were waiting for their wives at the first stage of labor. The husbands have been trained about Acupressure methods. The sampling method used a consecutive sampling method. The results of the study revealed 75% of husbands did well for practicing acupressure methods, 60% of women claimed they got pain relief after given Acupressure by their husband. The recommendation of this study is the importance of a spouse's presence in first stage labor for reducing the pain of mothers in childbirth.

INTRODUCTION

Most deliveries (90%) is always accompanied by pain while in labor pain is a common thing to happen, the pain of labor is a physiological and psychological process.[1,2] Reported from 2,700 women giving birth only 15% of births take place with mild pain, 35% with moderate pain, 30% with severe pain and 20% of deliveries with severe pain.[3,4] Health statistics of Central Java obtained deliveries by skilled health personnel is not a maximum 82.75%, and in particular, the county Kendal obtained 64.71% figure means about 35% of deliveries are handled by other than medical personnel.[5] Moreover, likely deliveries take a patient's own home. Labor pain can stimulate the release of chemical mediators including prostaglandins, leukotrienes, thromboxane, histamine, bradykinin, substance, and serotonin, which will result in the secretion of stress hormones like catecholamine cause and steroids with consequent vasoconstriction of the blood vessels to weaken intestinal contractions.[6] Excessive secretion of these hormones will cause uteroplacental interference circulation resulting in fetal hypoxia. From the research, pain in childbirth causes women to experience psychological disorders, 87% postpartum blues that occur from 2 weeks to 1 year

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postpartum, 10% and 3% depression with psychosis.[7]

Labor pain is not unbearable encourage maternal looking for some alternatives to treat pain, including use of pain medications such as analgesics and sedatives.[4] While these drugs can give adverse side effects include fetal hypoxia, the risk of neonatal respiratory depression, decreased heart rate and increased maternal body temperature and may cause changes in the fetus.[4,8] Therefore, interventions reduce labor pain is necessary to reduce complications in the mother and fetus during the process and after delivery. Many kinds of methods performed by health workers to reduce pain in childbirth. Non-pharmacologic intervention reduces pain, among others, hypnosis, acupressure, yoga, hydrotherapy, acupuncture, Acupressure breathing, and relaxation techniques.[9] Acupressure metacarpal proven to reduce labor pain but not much done. This method is relatively easy to do by the health worker and his family, especially her husband to help her to reduce the level of labor pain. The importance of the role of the family, especially the husband in a decrease in the level of pain in labor should be recognized as an appropriate strategy because her husband and can act as a psychological support to the wife in labor, so as to reduce morbidity and maternal mortality rates are not directly impact on reducing vulnerability and addressing the impact of the disease. Therefore, the present study aims to describe how her husband practices after getting training methods of Metacarpal acupressure to reduce pain in first stage labor.[10–12]

Labor pain is a pain felt by the mother in labor. From the research, pain in childbirth causes women to experience psychological disorders, 87% of postpartum blues that occur from 2 weeks to 1 year postpartum, 10% and 3% depression with psychosis.[3] Therefore, it is necessary to find a solution to the labor pain that is cheap and practically can be used by mothers to reduce pain in first stage labor. The contribution from the research includes a) providing information about one of the alternatives to reduce labor pain in a nonpharmacologic. b) inform the husband's role in the practice of counter-pressure method to reduce pain levels in the mother during the birth process first stage c) Provide information support the importance of family, especially the husband (spouse) in nursing care in labor.[4]

The delivery process begins with uterine contractions that cause pain and discomfort in women who give birth.[5] Physiological factors Pain: Paths pain starts from the nerve endings (receptors) on the site of tissue damage then formed trajectory spinal afferents to the spinal ganglion in the posterior spinal cord Radik, then delivered to the pathways/ tracts ascending to the pain center of the central nervous system. Psychological factors of pain: Past experiences, value systems associated with pain, family expectations, environment, emotions, culture. *Signal Reception and transmission of pain.* Excitatory nerve pain in the air-channeled myelin faster than non-painful stimuli to the nerve myelin. The nerve fibers are divided into several groups: 1) Air-myelin nerve fibers Receptors are mechanosensitive nerve conduction quickly, respond to mechanical stimuli, such as by the pressure and touch. 2) Air-myelin nerve fibers a mechanothermal nerve receptors that respond to the rapid conduction of mechanical stimuli, such as pressure, touch, and heat. 3) C nerve fibers are not air-poly-modal nociceptor myelin, nerve conduction is slow to respond to some stimulus.[13]

Distribution of pain signals from the spinal cord to the distributed network through Radik posterior spinal nerves stayed in the dorsal horn of the spinal cord and continues to form a complex connection. This is what often makes it difficult to determine which pain is felt, especially in visceral pain. Then the pain signal is delivered to the pain centers in the central nervous system via

pathways spinothalamic pathway before reaching the center of the pain is in the brain stem and then stayed the thalamus. After the thalamus and then the sensation of pain distributed to several somatosensory cortexes of the brain. When the pain signal reaches the brain, the signal does not stop proceeding in which multiple signals to the motor cortex and then down through the spinal cord to the motor nerves. This impulse causes muscle contractions experienced a painful stimulus.[13]

Descending inhibition of pain begins at the somatosensory cortex to the thalamus and hypothalamus channeled. Derived from the thalamus to the mesencephalon then form a synapse with ascending pain pathways in the medulla oblongata and medulla spinally, and inhibit nerve signals ascending. This led to the formation of the body's natural painkillers caused by stimulation neurotransmitter opioids (such as endorphins, dynorphinandenkephalin).[6,13]

Pain signals can be attributed by the autonomic nervous system and the current through the medulla oblongata can cause increased heart rate, increased blood pressure, increased respiratory rate and sweat production. This reaction depends on the intensity of the pain and can lead to depression centers in the cortex.[13]

The transduction process produces a magnification of pain impulses and in-transmission by pain pathways to the spinal cord dorsal horn. In the cornu of the spinal cord impulse modulation of the pain experience, which can be enlarged or reduced. It assists modulation of nerve fibers running nociceptive impulses from the periphery toward the center, and finally accepted the brain as a sensation/perception of pain.[6,13]

Ronald Melzack and Patrick Wall explain the mind and emotions can influence the perception of pain and through the mechanism of the Gate Control Cornus posterior spinal cord. Small nerve fibers and large fibers in the cell synapsed projector (P) which is going through the spinothalamic tract leading to the pain centers of the brain, and also synapsed interneurons inhibitors.

These relationships determine when a painful stimulus is channeled to the brain by several mechanisms as follows. When there is no input of pain, the nerve fibers inhibitors prevent the projector from delivering signals to the brain (gate closes).[6,13] 2) normal somatic sensation when there is stimulation of the larger fibers or just stimulation of large nerve fibers and nerve, the nerve inhibitors projector will be stimulated, but the neural inhibitor prevents nerve signals to the brain projector channel (gate closes). 3) Acceptance of nociceptive pain occurred when the smaller fibers stimulated. This causes the inactivation of the nerves and nerve inhibitors projectors to deliver pain signals to the brain (gate open).[6]

Most women will experience pain during labor. The pain of labor is individualized. Each individual will perceive pain differently to the same stimulus depending on its pain threshold. Pain in childbirth is fundamentally different from the pain experienced by individuals in general. The difference lies in: a) the labor pain is a physiological process, b) Women can know that he will experience pain during childbirth so it can be anticipated, c) adequate knowledge of the birth process will help women to cope with labor pain that is intermittent (periodically), d) the concentration of women in the baby to be born will make it more tolerant to the pain felt during labor.[3]

Factors that affect pain include age, gender, culture, understanding pain, concern, anxiety, fatigue, past experiences, coping patterns, family and social support. Acupressure is one of the techniques that can be used to reduce labor pain. Metacarpal acupressure consists of a fixed given a strong impetus to the point in the

metacarpal during contractions. Acupressure is given in the areas of pain or discomfort when the contractions started. Acupressure is usually performed at metacarpal. Gate Control Theory can give reasons why this action is successful. Gate control theory of Melzack and Wall, 1965 said the pain impulses could be regulated or even inhibited by the defense mechanism along with the central nervous system.10 Defense mechanisms can be found in the cells of the substantial gelatinosa in the dorsal horn of the spinal cord, the thalamus, and the limbic system. This theory says the pain impulse is delivered when an impulse inhibited defense opened and closed when a defense. Efforts to close the defense is a basic pain relief therapy.[14]

Caplan in Friedman explains the family has some support functions namely; a). Informational support: The support is the provision of materials that can provide direct assistance such as the provision of money, the provision of goods, food, and services. This form can reduce stress because individuals can solve problems that relate directly to the material. b) Support the assessment. The form of this support involves the award of the information, suggestions or feedback on the individual circumstances. This type of information can help individuals to identify and solve problems easily. c) Support the instrumental. The support is a source of practical and concrete help, such as the health of people in terms of the need to overcome the pain, eating and drinking, resting, avoiding sufferers of fatigue. d) Emotional support. The form of this support has made people comfortable feeling, sure, cared for and loved by the family so that individuals can face problems with either. This support is very important in the face of a state that cannot be controlled.

METHODS

The method used is descriptive which gives an overview of the practice of husbands to reduce maternal pain in the first stage of labor by using an Acupressure. The population in this study were all women giving birth by normal delivery at the first stage and as a whole, the maternal sample is the normal delivery at the first stage of which is in the Kendal Hospital, with a sample that meets the criteria watchman husband and wife, the first wife.

Consecutive sampling technique sampling.

Data collection was started by selecting respondents based on criteria, then trained Counter-pressure method. The instrument in this study is a set of tools in the form of instruments action steps that are used to guide him into doing Acupressure and set of tools for measuring instruments that have been validated, pain respondents. Applied research ethics approval or informed consent i.e., anonymity with no name, give the patient the freedom to provide flexibility patient rights.

RESULT AND DISCUSSION

Factors that affect reproductive health support to her husband, that knowledge about pregnancy and childbirth, experience, marital status, and socioeconomic status.[5] From the research data obtained 35% of elementary school-educated husbands and 85% of workers are husband's job as a factory worker, shop workers, and other workers. This suggests that the husband's education level and family income is low relatively low.

As seen in Table 1, the husband's support is very important in the delivery process. Because at the time of delivery occurs physiologically severe pain interferes with the mother. From the results, the husband's behavior when trained counter-pressure is 77% of this kind of behavior shows their husband's attention when obtaining information relating to the wife in the delivery process is very large. The behavior of a good husband provides convenience in receiving information in the training of counter-pressure. This is consistent with

the findings that 80% of men can perform actions Acupressure 3 times correctly.

In general, from the results, the practice of the husband to perform acupressure is good (75%) it shows no concern in giving support to the wife in labor. In the face of labor required consultation and support from family, especially her husband. Age is one indicator that can reflect the maturity of someone in the act, including in decision-making. The average age of the husband is 32 years old; it shows the average husband belonged to a young adult. Young adults can show positive behavior in preparing for the future, including in preparing a generation descendant of the family, especially the reproductive, developmental tasks. Minimum age is 18 years old husband (7.5%) of this age is still part of adolescence to early adulthood is possible to still less mature in the decision included in the act of doing spousal support (included in the delivery process). From the research data obtained there is still 23% less good husband in training Acupressure and 25% less well in practice Acupressure. This is possible because the husband is still there under the age of 20 years.

Table 1.
Characteristic behavior while training on counter pressure on the respondent (husband) in Soewondo hospitals, Kendal, 2015

Spouse Behavior while training	Do		Not done	
	f	%	f	%
Husband listens to the goals Acupressure Method	26	60	14	40
Husband listens to the way action reduces labor pain with AcupressureSuami	36	90	4	10
Active husband asked as an explanation	20	50	20	50
The husband can take action to correct the Acupressure least 3 X while training	32	80	8	20
A husband willing to act Acupressure when the wife felt pain in the first stage of labor	40	100	0	0

Age also affects a person responds to pain. Judging from the average age of the respondent (wife) is 28 years showed a majority in the age group 20-30 years, in addition to the average of the respondents were in the productive age, as well as physiologically possible still withstand labor pain. However, in addition to individual pain response, pain is influenced by many things such as the environment, race, certain actions and also the pattern of one's coping in the face of pain.

Table 2.
Characteristics of pain to reduction measures by the respondent (spouse) to Acupressure practice in Soewondo hospitals Kendal, 2014

Acupressure action	Do		Not done	
	f	%	f	%
Husband tells wife Acupressure measures to reduce labor pain	38	95	2	5
Husband gives a wife a position as comfortable as possible on the felt labor pain	20	50	20	50
The husband gave t comfort position before the action of pressure	28	70	12	30
Fourth husband looking for the right spot to apply pressure with Acupressure to reduce the pain of his wife	32	80	8	20
Husband doing a strong push at the point in the metacarpal during contraction using the heel of the hand	36	90	4	10
Husband doing a strong push at the point in the metacarpal the contraction of the thumb	24	60	16	40
The husband asked his wife whether the pain is reduced when performed Acupressure	36	90	4	10
Husband always do acupressure when the wife felt pain during childbirth	28	70	12	30

The result showed that 22% of mothers who received Acupressure measures were primigravida and has had second thoughts, it means the mother has had previous experience of overcoming pain. The results of the study mothers pain after Counter-pressure is reduced pain by her husband as much as 60% of mothers and only a small proportion is 12.5% said the pain increased after the Acupressure by the husband, and 27.5% of mothers said there are no changes in their pain even after given counter-pressure by their husbands. Individual labor pain and many other factors are influential.[11]

Table 3
Table frequency of pain after doing Acupressure by husband in Soewondo hospitals Kendal, 2014

Level of Pain	f	%
Reduced	24	60
Not reduced	11	27,5
Increased	5	12,5
Total	40	100

CONCLUSION

Metacarpal acupressure action performed by the spouses can reduce the pain of a mother in first stage childbirth. From these results, it is suggested that health workers involving husband's birth attendants in the delivery process especially in reducing labor pain.

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CONFLICTS OF INTEREST

Neither of the authors has any conflicts of interest that would bias the findings presented here.

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