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Sada InCoM Midwifery

Proceedings of The 1st Kusuma Husada International Conference For Midwives

THE ROLE OF MIDWIFE IN DEVELOPMENT MIDWIFERY PRACTICE

January 11, 2020
Surakarta, Central Java Province, Indonesia
STIKes Kusuma Husada Surakarta

Co-Host and Patners

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PREFACE

Kusuma Husada International Conference for Midwifery (InCoM) is the first international conference in the Kusuma Husada Surakarta, School of Health Science whose aim is to invite midwifery students from various countries and universities, midwives and health professionals to share their knowledge, experience, and innovation in order to improve the professionalism of midwives through evidence-based practice. Specific aims for the InCoM are to provide an opportunity for midwives to develop expertise in research in the international, build international networks among students of midwifery education and midwifery practice, and developing innovative thinking and the ability of midwives in practice in the field of midwifery.

International Conference for Midwifery (InCoM) was conducted by Midwifery study program of the Kusuma Husada Surakarta, School of Health Science, Central Java, Indonesia. The conference was held on the 11th of January 2020 and was attended by 262 participants. The overall program this year was considered to run smoothly.

We received paper submissions from Indonesian midwives and midwifery educators in several provinces and accepted 18 full papers. The organizing committee would like to thank all the authors who submitted their work for consideration and the participants of InCoM for making the conference a great success. We would like to thank all the committee members for their invaluable work. We would also like to express our deepest gratitude to all the invited speakers (Prof. Caroline Homer, Prof. Chien Huei Kao, Ph.D, Dr. Emi Nurjasmi, M.Kes, and Erlyn Hapsari, SST, M.Keb).

Surakarta, February 25th, 2020

The commitee

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The Effect Of Slow-Deep Breathing Technique On Dysmenorrhea Intensity Among The Graduate Diploma Of Midwifery Students Of Stikes Kusuma Husada Surakarta

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***Abstract*—Objectives: The study aimed to analyze the effect of slow deep breathing technique on dysmenorrhea intensity. Method: Experimental analytic with pre- and post-test one group design was applied in this study. Thirty student midwives received slow deep breathing technique as the experimental group and had the pain intensity measured by Numeric Rating Pain scale before and after the intervention. The Wilcoxon test was used for analysis of the data. Results and Discussion: Most of the respondents in the study experienced mild pain after slow deep breathing technique intervention. The results of the *Wilcoxon* test showed that there was an effect of pre- and post- after slow deep breathing technique intervention with p value 0,001. Conclusion: Slow deep breathing technique is effective to reduce menstrual pain. The benefit of this study is to give an alternative of non-pharmacological therapy for adolescence girls to do their daily activities without being disturbed by dysmenorrhea.**

Keywords— dysmenorrhea, slow deep breathing

I. INTRODUCTION

Menstruation is a natural cycle in which blood from the uterus sheds through the vagina, and usually causes emotional changes. Some women experience symptoms such as upper leg pain, breast pain, fatigue, irritability, loss of balance, carelessness and sleep disturbance, or other severe symptoms including dysmenorrhea [1,2]. Many women need bed rest due to extreme painful periods as these symptoms interrupt their daily routines. Some women may also feel nauseous, vomiting, and fainting . Additionally, dysmenorrhea may be associated with recurrent school absenteeism in adolescent girls and work absenteeism in women of reproductive age that force them to rest at home [3].

The prevalence of painful periods across the world is high. According to research findings in France, it varies widely, ranging from 20% to 90% of women's menstruation. In the United States, almost 90% of women suffer from dysmenorrhea, and approximately 10-15% of them experience severe menstrual cramps that affect their daily activities. It is reported that the percentages of primary dysmenorrhea and secondary dysmenorrhea in Indonesia are 54.89% and 9.36%, respectively. Around 1.07% - 1.31% of women experiencing painful periods seek medical advice to get treatment of these symptoms [4,5,6,7]

There are two methods to manage pain, pharmacological approaches (sedative and analgesic) and non-pharmacological approaches (physical activity and cognitive behavioral therapy). Physical activity includes massage, vibrator, hot and cold compress, light exercise (jogging, gymnastics, and cycling), and sleeping on the back with a leg / knee propped up by a pillow. Cognitive behavioral therapy consists of relaxation, distraction, and slow deep breathing [8,9,10]

Slow deep breathing technique is a relaxation technique with slow breathing using chest or stomach breathing that aims to provide relaxation effects. This technique regulates deep and slow breathing to increase the amount of oxygen in the body and stimulate the release of endorphins. It also affects on reducing the sympathetic nervous system response and increasing the parasympathetic nervous system response throughout the body, which leads to a relaxed state. [11,10].

In a preliminary study, we interviewed thirty three graduate diploma of midwifery students of STIkes Kusuma Husada Surakarta about the experience of dysmenorrhea. All of the students (100%) suffered from dysmenorrhea. It is reported that these symptoms disrupt their concentration and focus while studying.

Based on the background above, the researchers are interested in conducting a study of the effect of slow deep breathing technique on dysmenorrhea intensity among the graduate diploma of midwifery students of STIkes Kusuma Husada Surakarta. The aim of this study was to analyze the effect of slow deep breathing technique on dysmenorrhea intensity among the graduate diploma of midwifery students of STIkes Kusuma Husada Surakarta One

II. MATERIAL AND METHOD

Procedure

The dependent variable in this study was the intensity of dysmenorrhea and the independent variable is slow deep breathing technique. Research variables were categorical scale. Numeric Rating Scale (NRS) was utilized to measure the intensity of pain, ranging from 0 (no pain) – 10 (worst pain). The data were collected using an observation checklist for the participants regarding the scale of pain felt before and after the intervention

Data Analysis

The univariate analysis was used in this study with respondent characteristics described in the numbers and percentages. Data was entered into Statistical Package for the Social Sciences (SPSS) version 17.0 for bivariate analysis. The Wilcoxon test was used for analysis of the data as the measured variables were ordinal scale.

III. RESULTS

Based on the table below, it was reported that before intervention using slow deep breathing technique, most of the students (63.3%) experienced moderate pain. After intervention (slow deep breathing technique), approximately 63% of participants experienced mild pain.

The difference of dysmenorrhea intensity before and after intervention was tested using the Wilcoxon test. The table 1 illustrated the results of the test were Asym.sig (0.001) and p-value (0.001) <0.05, there was an effect on the dysmenorrhea intensity before and after slow deep breathing technique applied..

Table 1 Dysmenorrhea intensity before and after slow deep breathing technique intervention

Dysmenorrhea intensity	**SDB**				**Asymp. Sig**
	Before		After		
	n	%	n	%	
No pain	0	0	7	23,3	0,001
Mild pain	8	26,7	19	63,3	
Moderate pain	19	63,3	4	13,3	
Severe pain	3	10	0	0	
Worst pain	0	0	0	0	
Total	30	100	30	100	

IV. DISCUSSION

We performed a checklist observation in 17–20 years old midwifery students to assess the intensity of menstrual pain. In our study, we found that respondents suffered from mild pain (26.7), moderate pain (63%), and severe pain (10%) before slow deep breathing technique treatment. There was a reduction after treatment in the percentage of dysmenorrhea (76.6%) with 63.3%, (mild pain) and 13.3% (moderate pain). This study also found that slow deep breathing technique reduces the intensity of dysmenorrhea. It was in line with a study conducted at Muhammadiyah University, Semarang, Central Java, that the prevalence of menstrual pain among participants before and after treatment (relaxation technique using slow deep breathing) was 62% (moderate pain) and 70% (mild pain), respectively. Another study reported that percentage of dysmenorrhea before slow deep breathing technique treatment was 100% with 70.6% (moderate pain), 23.5% (severe pain), and 5.9% (mild pain). After treatment, there was a reduction in the percentage of dysmenorrhea was 47.1% (mild pain) and 52.9% (severe pain). These studies have shown that relaxation technique using slow deep breathing technique could reduce dysmenorrhea intensity among female students [12,13]

In addition, studied about relaxation technique and music therapy as approaches to reduce menstrual pain intensity and found that relaxation technique was effective to decrease the intensity of menstrual pain. Another study also reported that slow deep breathing technique reduced the intensity of dysmenorrhea [10,14]

Endometrium produces and release large amounts of prostaglandins during menstrual period, which induces hyper contractility of the uterus and leads to uterine hypoxia and ischemia. This condition is associated with pain in menstruation cycle [15]. Slow deep breathing technique can decrease the intensity of menstrual pain because deep breathing releases endorphins as a natural pain relief from the body and close the defense mechanism by inhibiting prostaglandins so pain is not delivered to the central nervous system and increase parasympathetic nervous system response throughout the body including the uterus.

A study by Aningsih et al. reported that slow deep breathing technique given for 15 minutes increased a sensation of comfort, reduced uterine tension, and improved blood circulation. A good deep slow breathing technique combined with quiet environment and calm mind could make a significant effect on reducing the intensity of pain [13,16,17].,

V. CONCLUSION

Slow deep breathing technique can be an alternative of non-pharmacological therapy for adolescent girls to decrease menstrual pain intensity as the results of this study have shown statistically significant about the effectiveness of the technique in reducing dysmenorrhea.

The practical implication of the findings is slow deep breathing technique can be used to reduce the intensity of periods pain for women.

Slow deep breathing technique can be applied as a non-pharmacological treatment program by women to decrease dysmenorrhea intensity as this technique is safe and easy. Further research should compare other non-pharmacological pain managements which have not been done in this study. Further researchers are also expected to be able to conduct a research with more respondents and longer duration of the study

ACKNOWLEDGMENT

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EFFECT OF ACUPRESSURE ON FATIGUE LEVEL OF POSTPARTUM MOTHERS IN SURAKARTA REGIONAL GENERAL HOSPITAL

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***Abstract*—Objectives: Fatigue is a major problem experienced by postpartum mothers. Fatigue usually happens in the first week of the postpartum period during taking in and taking hold phase. Non-pharmacological therapies are of great importance for helping ease fatigue. One of which is acupressure therapy. Acupressure originated from acupuncture, where acupressure massage techniques developed from acupuncture. Acupressure stimulates acupoints with a thumb or fingertip compression technique that aims to expedite the flow of energy throughout the body, which can eliminate various symptoms of fatigue and reduce tension in the body. This study aims to determine the effect of acupressure on the fatigue level of postpartum mothers in Surakarta Regional General Hospital. This study is a pre-post quasi-experiment conducted among 86 postpartum mothers in Mawar Ward of Surakarta Regional General Hospital. In the intervention group, respondents given acupressure experienced a significant difference (p-value = 0.000) compared to the control group (p-value = 0.802). The result of the Mann-Whitney's Test showed that acupressure had an effect on the postpartum mothers' fatigue level (p-value = 0.006)**

***Keywords*— Postpartum; fatigue; acupressure**

I. INTRODUCTION

The postpartum period begins after the delivery of the placenta until the return of the reproductive organs to normal conditions, such as before pregnancy, that lasts up to 6 weeks [1, 2]. During this postpartum period, health professionals play an essential role in monitoring the condition of postpartum mothers. Nonoptimal monitoring can cause mothers to experience various problems, even more so, it can lead to postpartum complications. Postpartum mother can experience complications such as baby blues (moodiness and lack of confidence), depression (loss of energy, feeling guilty and hopeless), and psychosis (when a mother experiences hallucination and tries to harm her baby) [3].

According to the Global Health Survey by WHO, US normal birthrate was the lowest for 64%, while in Indonesia, the normal birthrate reached 90.2%. According to Profil Dinas Kesehatan [4,5], Central Java ranked 24th with 90% of normal birth where Surakarta's normal birthrate was 95.7% [6].

Postpartum mothers experience discomfort such as fatigue, lower abdominal cramps, and worry. Previous studies have shown that the percentage of postpartum mothers who experienced fatigue reached 50-54%, which affected their health and new role as mothers. Fatigue usually happens in the first week of postpartum and last only one to two days [7]. Mothers experience postpartum fatigue due to a lack of sleep during labor and post-delivery, prolonged labor, and the demands of caring for babies, such as breastfeeding [2]. Based on the concept of psychological adaptation during postpartum, mothers experience three phases, which are taking in, taking hold, and letting go, where fatigue happens during the taking in and taking hold phase [8].

Non-pharmacological therapies are of great importance for helping ease fatigue. The treatments are relaxation, distraction, therapeutic touch, acupressure, aromatherapy, hydrotherapy, massage and music therapy [2]. Acupressure originated from acupuncture, where acupressure massage techniques developed from acupuncture [9]. Acupressure stimulates acupoints with a thumb or fingertip compression technique that aims to expedite the flow of energy throughout the body, which can eliminate various symptoms of fatigue and reduce tension in the body [10,11]. The benefits of acupressure work optimal if given twice a week, to last anywhere from 2 to 30 minutes each time [12].

According to a preliminary study in Surakarta Regional General Hospital on October 16, 2017, there were a total of 2,398 births with 1,022 normal births (42.6%) and 1374 nonspontaneous births (vacuum extraction, induction C-Section) from January to September. The study found 96 patients of normal birth (9.4%) in January, 135 patients (13,2%) in February, 121 patients (11.8%) in March and August, 126

(12.3%) in April and July, 110 patients (10.8%) in May, 78 patients in June (7.7%) and 109 patients (10.7%) in September. Our study also derived data from the unstructured interview with 3 spontaneous postpartum mothers and 3 C-section postpartum mothers. We found that mothers experienced fatigue in the lower waist area due to pregnancy and lack of sleep before or after labor, as labor requires a lot of energy. At the same time, c-section postpartum mothers said that they felt anxious because they assumed that the stitches would affect their activities when returning home. They also felt worried that their breastmilk would not come out. From these preliminary results, our research aims to study fatigue in normal postpartum mothers.

The purpose of this study was to determine the effect of acupressure therapy on the fatigue level of postpartum mothers in Surakarta Regional General Hospital.

II. MATERIAL AND METHOD

The data collection was conducted from January to March 2018. A quantitative study with a pre and post-test control group was utilized with a convenience sampling technique. Respondents were 86 postpartum mothers in Surakarta Regional General Hospital, where 43 people were assigned to the intervention group, and 43 people were assigned to the control group. The instrument used in this study was a 22-question fatigue level questionnaire.

III. RESULTS AND DISCUSSION

a. Based on Age

Table 1.Distribution of agein intervention and group controls

Group	Age of repondents		
	Mean	Median	Modus
Intervention	27	27	27
Control	28	28	21

The study showed that the average age in the intervention group was 27 years old and 28 years old in the control group. Some studies have indicated that there is an elevated risk of fatigue and not the ideal age for childbearing age for women aged less than 20 or older than 35 [13]. On the other hand, the ideal age for childbearing is between 20 and 35 as the reproductive system is mature [14].

Researchers believe that women aged less than 20 predispose their experience and readiness in childbearing age. Mothers who lack experience and readiness to take care of their children would affect their psychology and physical, which makes them prone to experiencing fatigue. Meanwhile, the ideal childbearing is the productive age where mothers are more ready to control themselves and take care of their children.

b. Based on Education level

Tabel 2. Distribution of education level in intervention and control groups

Variables	Intervention Group		Control Group	
Occupation	F	%	F	%
Civil servants	2	4,6	1	2,3
Private sectors	14	32,6	16	37,2
Housewives	27	58,2	26	60,5
Total	43	100	43	100

The study showed that the average of both intervention and control groups were high schoolers or vocational students, 27 respondents (58.2%), and 22 respondents (51.2%), respectively. Meanwhile, postpartum mothers with low or high education had the same opportunity to experience fatigue during labor because fatigue happens are not only based on the mother's education level but also the knowledge, birth process, and rest.

Researchers believe that education level can affect fatigue in postpartum mothers, because mothers who get higher education, gain more knowledge. Mothers will continue to seek new information related to pregnancy, childbirth, and breastfeeding so that they will know what to expect during those whole processes. At the same time, they will also be aware of the exacerbating factors of fatigue, such as lack of sleep before and during labor and lack of rest.

c. Based on Occupation

Table 3. Distribution of occupation in intervention and control groups

Variables	Intervention Group		Control Group	
Pendidikan	F	%	F	%
Primary school	2	4,6	8	18,6
Middle school	14	32,6	12	27,9
High school/ vocational school	25	58,2	22	51,2
Bachelor	2	4,6	1	2,3
Total	43	100	43	100

The study showed that the majority of intervention and control groups respondents worked as housewives, 27 respondents (62.8%), and 22 respondents (60.5%), respectively. Previous research from [15] supported this study result that housewives had a higher depression rate than working mothers, which are ten times greater. Postpartum depression happens due to total exhaustion, which can cause mothers to feel unable to do something and become frustrated due to her physical weakness.

Researchers believe that full-time housewives have more household tasks such as cleaning, cooking, and educating their children. All of those responsibilities affect the mother's resting hours that lead to experiencing a lack

of sleep. Mothers are at a higher risk of fatigue, especially during pregnancy, and after the delivery process, they will be difficult to rest as it relates to their new role to breastfeed their children.

d. Based on Pregnancy

Table 4. Distribustion of pregnancy in intervention and control groups

Variables	Intervention Group		Control Group	
Pregnancy	**F**	**%**	**F**	**%**
Primigravida	**16**	**37,2**	**8**	**18,6**
Multigravida	**27**	**62,8**	**35**	**81,4**
Total	**43**	**100**	**43**	**100**

The study showed that the majority of both intervention and control groups were multigravida pregnancy, 27 respondents (62.8%), and 35 respondents (81.4%), respectively. Previous research from [16] supports this result that multigravida mothers have more experience to take care of their children.

Researchers believe that postpartum mothers in primigravida and multigravida affect the level of fatigue. Primigravida's mother never had any experience to prepare for her birth and the care of the baby beforehand. They only gained knowledge from the family and neighborhood without them doing by themselves first. On the other hand, multigravida's mothers had already had previous childbirth experiences so that they might anticipate physical limitations more realistically and already aware of what postpartum mothers can do after giving birth.

e. Fatigue score of postpartum mothers on pre-test and post-test in intervention group

Table 5. Fatigue score of postpartum mothers on pre-test and post-test in intervention group

Variables	Data Distribution		
	Mean	**Median**	**Standar Deviation**
Pre-test	**84,4**	**90**	**12,9**
Post-test	**97,3**	**100**	**9,8**

The pre-test and post-test results in the intervention group increased. The results obtained from the post-test is higher than the pre-test. The median value of the postpartum fatigue pre-test and the post-test in the intervention were 90 and 100, respectively. This result means that there was an increase in the level of postpartum fatigue, but mother's fatigue is reduced.

Acupressure is a finger prick therapy by putting pressure and massaging on the body's specific points based on the principles of acupuncture. Pressure or massage along the meridian line can eliminate the existing blockages and improve the body's natural balance, which affects a positive impact on physical, mental, and social conditions. Acupressure is useful for a variety of ailments and pains and reduces tension and fatigue [9,17].

The study showed that postpartum mothers given acupressure said that after the therapy, they felt a lighter body and more comfortable in carrying out their activities. Thus, acupressure on some particular points made respondents more relaxed, which led to a lower fatigue score.

f. Fatigue score of postpartum mothers on pre-test and post-test in control group

Tabel 6. Fatigue score of postpartum mothers on pre-test and post-test in control group

Variables	Data Distribution		
	Mean	Median	Standar Deviation
Pre-test	92,5	96	9,7
Post-test	91,6	95	11,3

The results of the pre-test and post-test scores in the control group decreased where the pre-test values were higher than the post-test. The study showed that the median of postpartum fatigue was 96 in the intervention group and 95 in the control group. By this means, there was no increase in postpartum fatigue, and fatigue was increased.

Researchers believe that during the postpartum period, mothers are susceptible to increased fatigue levels. Some factors that influence fatigue caused by a lack of rest or prolonged childbirth. If fatigue is not immediately addressed, thus, will make the mother feel more stressed.

g. Analysis of pre-testand post-test in intervention and control groups

Tabel 7. *Wilcoxon test*

Reseach indicators	Z	*p-value*
Fatigue level of intervention group	-5,716	0,000
Fatigue level of control group	-250	0,802

From the Wilcoxon test, the study found that there was a difference in the level of postpartum fatigue in the intervention group with a p-value of 0,000 <0.05. Meanwhile, in the control group, there was no difference in the postpartum fatigue level with a p-value of 0.802> 0.05.

The level of fatigue of postpartum mothers in the intervention and control group was different because respondents in the intervention group were given acupressure, which is a complementary therapy that aims to reduce fatigue. Acupressure given was putting pressure and massaging 30 times in a clockwise direction to strengthen the mother's lost energy on certain acupoints. The acupoints used were Hegu, Xuangzhang, Tichong, and Taxi. Acupressure is also effective in relieving various symptoms that accompany the disease by balancing the flow of the body's qi [18].

From the SPSS, there were 20 respondents from the control group experienced a significant increase. This increase can be due to there sponsibility of caring for their babies and from family factors. The responsibility of caring for a baby happened when rooming-in allow smotherand baby together in the same room after birth for the duration of hospitalization. This arrange ment makes breastfeeding easier as them other does not have to go back and for the to the nursery room to visit her baby. A hospital with the rooming-in unit allows the family to stay with the mother so that she can ask for help from the family. By this means, it can minimize the increase in fatigue in postpartum mothers.

According to the results of the discussion above, it explains that the birth process can cause fatigue. The exacerbating factors include lack of sleep before and during labor, stress, and lack of rest. Non-pharmacological therapy to help ease fatigue is giving *acupressure* to reduce fatigue.

Acupressure in volves giving stimulation on certain acupoints of a sensory nerve to continue to the spinal cord, mesencephalon, and pituitary complex of the hypothalamus, which all those nerve system sactivate to release endorphins. Endorphins later provide calmand comfort and affect or educe fatigue in postpartum mothers. The significant improvement in the control group was attributed to the responsibilities of caring for babies (inpatientcare) and family factors (families in the hospital).

h. Effect of acupressure on fatigue level of postpartum mothers in Surakarta Regional General Hospital

Table 8. *Mann-Whitney test*

Effect of acupressure on fatigue level of postpartum mothers	p-value
	0,006

The labor process requires a lot of energy. Mothers may experience fatigue, lack of sleep, lack of rest, pain, and stress because of a new role.

Excessive fatigue on postpartum may lead to an increased risk of reproductive organ infection. The infection happens because of a weak immune condition, which may result in death if mothers do not get appropriate care and monitoring. Fatigue can also delay the mother's social status in domestic work and care for her baby, and also increase postpartum depression [19].

From the Mann Whitney test, the research obtained p-value = 0.006 <0.05 so that Ha is accepted, and Ho is rejected. Thus, there was an effect of acupressure on the fatigue level of postpartum mothers.

IV. CONCLUSION

a. The average age in the intervention group was 27 years old and 28 years old in the control group. The average of both intervention and control groups were high schoolers or vocational students, 27 respondents (58.2%), and 22 respondents (51.2%), respectively. The majority of intervention and control groups respondents worked as housewives, 62.8%, and 60.5%, respectively. Also, the majority of both intervention and control groups were multigravida pregnancy, 62.8%, and 81.4%, respectively.
b. The median of postpartum fatigue score in pre-test and post-test in the intervention group were 90 and 100, respectively.
c. The median of postpartum fatigue score in pre-test and post-test in the control group were 96 and 95, respectively.
d. There was a difference in the pre-test and post-test scores in the intervention group with p-value = 0,000 (α <0.05). There was no difference in the pre-test and post-test scores in the control group with p-value = 0.802 (α> 0.05)
e. There was an effect of acupressure on the fatigue level of mothers with p-value = 0.006 (α <0.05)

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Prevention Early Marriage Modules (CENIKMA) To Decrease Early Marriage In Adoloscents

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Abstract—**Objectives: The purpose of this study was to provide provisions for parents not to make decision to marry off their children in their teens. Method:Literature review to arranged intervention theory. Modul arranged and developed by Derek Rowntree stages, tested in Situbondo districts to fifteen parents who have daughter 14-16 years old. Results and Discussion: Expert validation was obtained average overal value of the contents module 3,625 (good). The field trials preliminary and main field result all of mothers have increase of knowledge after reading the module for three days in their home self. Analysis of module effective by pretest and postest value 34,7%. Conclusion:Prevention Early Marriage Modules (CENIKMA) effective to increase knowledge after reading the module for three days in their home self.**

Keywords – prevent; adoloscent marriage; parents

I. INTRODUCTION

Early marriage was the global problem and need attention to the low and middle contries in the world [1]. Early marriage was marriage when the adoloscent before 20 year old when they are ready to get a marriage [2]. The percentage of girls who are married early are larger than boys [3]. United Nations Emergency Children's Fund (UNICEF) showed more than 700 billions women get marriage while they are before 18 years old and more than 250 billions womens get marriage in 15 years old [4]. Early marriage taked way children rights of health, nutrition, education, exploitation and victims for children recognizedas such International. According estimated to UNICEF a day in the world 40.000 children get marriage [5]. Indonesia include the country with higher of early marriage in the world grade thirty seven, higher number two showed by Association Of South East Asian Nation (ASEAN). In 2010, there are 158 country with legal minimum of marriage 18 years old and Indonesia still beyond that. In 2018, early marriage before 16 years old was higher in East Java (18,44%), West Sulawesi (18,32%), Middle Kalimantan (17,31%), South Kalimantan (23,67%), West Java (23,43%), Jambi (23,1%) and West Nusa Tenggara (23,17%). Religious Affair Office Probolinggo districts (KUA) noted early marriage in coastal areas in 2016 estimated 40,67% adoloscent get marriage. In 2019, 4.096 (45%) adoloscent get marriage. Higher data for early marriage in adoloscent showed in Paiton Districts (48,6%) and Gending Districts (29,9%).

Deterimant factor of early marriage such as self decision, arranged marriage, poverty and parents ecudation [4]. Early marrriage caused to high school fees, parents hope if marry off their children, they reduce the burden of life and became parents motivation to get higher profit and a lot of money. Parents want to get a rich people who marry off their daugther [6]. Beside sufficient of their daughter, they hope decrease quality of live of their family. Culture take effect for early marriage. Culture make community believe that marriage was nature process must be followed and suppport although bride and groom before 18 years old.

Negative effect of early marrige influence for growth and development, mental and emotional well being for adoloscent girl [7]. Early merriage caused drop out adoloscent girl from school [8]. Health risk for effect from early sexual intercouse as pregnancy, sexual transmitted diseases, mortality in mother, malnutrition and infant mortality [9]. The youth not receiving adequate information about reproductive health services [10]. In midwifery, early marriage caused prenatal mortality, diabetes gestasional, hypertensi gestasional and preterm labour [11].

II MATERIAL AND METHOD

A. Procedure

This research use development grade by Derek Rowntree as 1) planning, 2) written plan, 3) written and editing. Planning as th activity phase of designing and planning modules.In this phase, identification and characteritic analysis parents who used to the modules. The author survey to fifteen mothers who have a daugther 14-16 years old. This Modules became development to short and tigth in order to be understood with all levels of education. 8 of 15 mothers (53.33%) aged 35 years, 4 mothers (26.67%) aged 40 years and 3 mothers (20.00%) aged 52 years. 7 of 15 mothers (46.67%) educated elementary school, 4 mothers (26.67%) educated junior high school and 4 mothers (26.67%) educated senoir high school. 5 of 15 mothers (33.33%) does not work and just as a regular housewife, 4 mothers (26.67%) working as a trader in the market, 5 mothers (33.33%) working as a mobile fish merchant and 1 mother (6.67%) work as a housekeeper. 8 of 15 mothers (53.33%) Ever heard of an early marriage from television, 4 moms (26.67%) Hear early marriages from

neighbors and 3 mothers (20.00%) to hear early marriages from local village devices. 10 of 15 mothers (66.67%) Want to marry a child early and 5 mothers (33.33%) still confused when to marry the child.

The aim of modules was give out to mothers who have daughter 14-16 years old about efect from early marriage for adoloscent. Outline of the content of material of modules developed with literatur review, research to adoloscent developed and physical or phsycological impact from early marriage. Mothers role hopes could to take a decision to marry off their children [12]. In this study, author determine print module as learning. Modules as media that are easily accesed at any time by mothers. Modules size are also designed to be easily carried by mothers In addition to keep houshold of parents as learner, author also have the ability to wrote material in print modules. Mothers need support to understood content for modules. Implementation modules done in the meet up every month with health center for the reason to got support from medical personnal. Preapare to written, author arranged the ideas into modules. Author want to bring up mothers to understood about adoloscent development and impact physic and phsychologies from early marriage. Written phase and editing as activity to made and written modules, as modules became worthy modules.

B. Data Analysis

Draft of modules sent to expert person to validity process. There are four expert person as one pediatrician, two obstetrician and expert media. Expert person opinion used to reference to modules revision. Validity test as preliminary field test in coastal district of Situbondo to fifteen parents who have daugther 14-16 years old than main field trials in coastal district of Probolinggo. Data analysis taken by expert pearson and respondent. The analysis of qualitative data based on development ideas in research process. Obtained data analysis with to score compare pre test and post test. Score compared used to showed difference score before and after read on the modules for parents.

III RESULTS

Expert Validation

Expert pearson as one pediatriian, two obstetrician gave score about modules aspect to aim of topics, up to date of topics and language. Media expert gave score about ascpect of appearance, practicality, write and picture illustration.

Table 1. Score by expert pearson

Component	Expert pearson			
	1	2	3	4
Learning objectives	4	4,3	2,3	
Topics up to date	4	3,5	2,5	
Language	4	4,5	3	
Display				4,25
Practicality				5
Writen				3
Pictures illutration				3
Average	4	4,1	2,6	3,8
All average	3,625 (Good)			

The result or expert pearson as all of component from prevent teenage marriage modules (CENIKMA) such as language, display, practicality, writen and picture illustration have average score as 3,625 or good categori.

Preliminary field test

Preliminary field test for fifteen mothers who have daugther 14-16 years old in the coastal district of Situbondo. Mothers who have selected with different education level from elementry school until higer school to ensure modules caugth readed by all mothers from all eduction levels. Before gave prevent teenage marriage modules (CENIKMA), knowledge of parents about impact early marriage measured with qustionaire (pre test) and the result was all parents have less knowledge of impact early marriage. Mothers gave three days to read prevent teenage marriage modules (CENIKMA) in their home self and measured of knowledge in the fourth days. Result from preliminary fields test parents have decreased knowledge for physic and phsychological impact from early marriage with good criteria.

Less knowledge caused by lack of experience and mothers exposure with information about physic and phsycological impact from early marriage what changed knowledge, attitude and behavioral [13]. Prevent teenage marriage modules (CENIKMA) could be decreased parents knowledge.

Preliminary field test showed prevent teenage marriage modules (CENIKMA) valid to used to measured tools to main field test.

Main field test

Main field test participate to fifteen mothers who have daughter 14-16 years old in coastal district of Probolinggo. Parents knowledge about physic and phsychological impact from early marriage measured before parents gave prevent teenage marriage modules (CENIKMA) (pre test). After mothers gave three days for read the modules, reset knowledge measured about physic and phsychological impact from early marriage (post test).

Modules effectivenes test

Modules effectiveness measured knowledge before pre test and after post test about physic and phsychological impact from early marriage.

Table 2. Result pre test and posttest

Phase	Average score
Pre test	17,19
Post test	23,15
Increased	5,96
Increased Percentation	**34,7%**

Decreased of knowledge about physic and phsychological impact from early marriage occur as a result of the sensing process a particular object [14]. Sensing process with read prevent teenage marriage modules (CENIKMA) what before through validity test and done to peliminary field test.

Module feasibility test

Module feasibility test used questionaire with Likert scale. Stuffing from respondent collected and taken average score on each aspect.

Table 3. Result of Module feasibility test

Component	Average score
Learning	3,76
Function and modules size	3,6
Language and phrasa structure	3,79
Layout	3,83
Tipografi	3,59
Ilustration	3,68
Colour	3,78
Average score	3,72
Conclusion	Very good

Result from modules feasibility test as all of modules aspect score 3,72 or with very good criteria.

IV. DISCUSSION

Dari hasil penelitian, diketahui bahwa mayoritas ibu berusia 35 tahun. Responden dengan umur yang semakin dewasa tingkat kematangan dan kekuatan seseorang akan lebih baik dalam berpikir maupun bekerja, sehingga dapat mendukung pencegahan pernikahan dini remaja [15]. Mayoritas ibu berpendidikan sekolahd dasar. Sekolah dasar merupakan pendidikan yang paling rendah sehingga mempengaruhi tingkat pengetahuan ibu tentang pernikahan dini dan dampaknya [16]. Mayoritas ibu adalah tidak bekerja, sehingga tidak dapat membantu perekonomian keluarga. Mayoritas ibu telah memiliki niat untuk menikahkan anak secara dini karena perekonomian keluarga menengah ke bawah sehingga akan mengurangi beban mereka.

Adanya pelatihan untuk ibu yang mempunyai anak gadis berusia 14-16 tahun telah memberikan kontribusi yang besar dalam merubah tingkat pengetahuan ibu tentang dampak pernikahan dini. Terjadi peningkatan pengetahuan dari yang sebelumnya tingkat pengetahuannya buruk, meningkat menjadi baik meskipun hanya dengan jangka waktu 3 hari.

Dari penelitian ini diketahui bahwa sebenarnya masyarakat terutama ibu yang memiliki anak gadis sangat memerlukan pendidikan kesehatan secara berkesinambungan tentang dampak pernikahan dini. Pendidkan kesehatan sebaiknya diberikan oleh tenaga kesehatan seperti bidan, perawat atau dokter serta kader kesehatan.

V.CONCLUSION

Prevention teenage marriage modules (CENIKMA) effective for decreased knowlede and attitude after parents read three days in their home self.

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Effectiveness Of Giving Mint Leaf Extract (Mentha Arvensis Linn) And Breathing Relaxation Techniques In The Level Of Menstruary Pain In Adolescent Adolescents

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***Abstract*—Objectives: This study aims to determine the effectiveness of giving mint leaf extract and deep breathing relaxation techniques to the level of menstrual pain in young women. Single blind research method. Measurement of menstrual pain levels using a numerical scale of 0-10. Interventions using self-made mint leaf extract, deep breath relaxation techniques and a combination of mint leaf extract and deep breath relaxation techniques. The study was conducted on 45 young women divided into 3 similar groups, namely the mint leaf extract treatment group, the deep breath relaxation technique treatment group and the mint leaf extract combination treatment group and the deep breath relaxation technique. Data analysis to see the difference in effectiveness of giving mint leaf extracts and deep breathing relaxation techniques in adolescent girls to the level of menstrual pain between before and after the intervention was given, the data was not normally distributed using the Wilcoxon Test with previously tested the normality of data with the Shapiro Wilk test. The results of the research that has been done, found a difference in the level of menstrual pain before and after the intervention in group I with a significance value smaller than the value of p 0,000 (p <0.05), there are differences in the level of menstrual pain before and after intervention in group II with a significance value smaller than the value of alpha p 0.008 (<0.05) and there is a difference in the level of menstrual pain before and after intervention in group III with a significance value less than alpha value of p 0,000 (<0.05), from the results of data analysis using the Wilcoxon test it can be concluded that there are differences in the effectiveness of giving mint leaf extract and deep breathing relaxation techniques to the level of menstrual pain in young girls.**

Keywords—*mint leaf extract, deep breath relaxation techniques, menstrual pain levels, young women*

I. INTRODUCTION

Menstrual pain is cramping and excessive pain experienced by a woman during menstruation. Menstrual pain is often referred to as dysmenorrhea. The incidence of menstrual pain according to World Health Organitation (WHO) is an average of more than 50% of women in each country experiencing menstrual pain. The incidence of menstrual pain in Sweden is 72%, in the United States it is estimated that 90% experience menstrual pain and 10-15% of them experience severe dysmenorrhea which causes inability to perform activities, while the incidence in Indonesia is 55% of productive women [1].

Menstrual pain results from endometrium containing high amounts of prostaglandin during the luteal phase in the menstrual cycle, causing strong myometrial contractions and being able to constrict blood vessels that cause ischemia, endometrial disintegration, bleeding and pain. In general menstrual pain occurs discomfort in 1-2 days before menstruation and most severe pain during the first 24 hours of menstruation [2].

Menstrual pain experienced by each woman is different, some are slightly disturbed, so disturbed that they are unable to carry out daily activities until they have to take a break and even have to be absent from work/school [3].

Factors causing menstrual pain in adolescent women are nutrition, medication, physical activity, the environment and stress (physical, emotional and mental). The predisposing factor for menstrual pain is from psychosocial factors [4].

Handling that can be given to reduce menstrual pain is by giving pharmacological therapy such as analgesic medication, hormonal therapy, therapy with non-steroidal drugs, anti-prostaglandins and cervical canal dilation [5]. Besides non-pharmacological therapy is also needed to reduce menstrual pain. One non-pharmacological therapy is to use deep breathing relaxation techniques. This technique is based on the belief that the body responds to anxiety that stimulates the mind due to pain or disease conditions [6].

In the management of menstrual pain, it is more effective to combine two or more non-pharmacological methods available. One type of combination is giving mint leaf extract and deep breathing relaxation techniques. Both of these methods are effective methods in reducing menstrual pain [7].

Mint leaves are good for the body, such as cooling the digestive tract, or if an upset stomach helps relieve the pain. Mint leaves are very thirsty plants. It grows in the well-drained Mucklands in Indiana, Michigan and Wisconsin. It also grows well in Oregon, Washington, Idaho, South Dakota and Montana. The aroma of mint found in mint leaves is

useful for reducing nausea, headaches and pain during menstruation [8].

The impact of menstrual pain (dysmenorrhoea) can result in a woman being forced to leave her work and disrupt daily activities and sometimes even can make someone helpless or faint [9].

The way to overcome dysmenorrhoea or menstrual pain can be done in two ways, namely by nursing (compressing with hot water bottles, regular exercise, rest and relaxation, yoga) and medical measures (analgesics, estrogen and progesterone administration, and supplementation) and non-pharmacological measures (giving mint leaf tea) [7].

Based on the description above, the problem formulation is: "What is the effectiveness of giving mint leaf extract and deep breathing relaxation techniques to the level of menstrual pain in young women?"

The purpose of this study was to analyze the effectiveness of giving mint leaf extract (Mentha piperita L.) and deep breathing relaxation techniques to the level of pain in young women.

II. MATERIAL AND METHOD

This type of research is a quasi experimental design with non randomized control group pretest posttest (Sastroasmoro, 2008). The research subjects were divided into four groups: the experimental group and the control group. Pre test and post test in the form of a direct assessment of the menstrual pain scale using a scale of 1-10, pre test carried out before the intervention is given. The experimental group with interventions in the form of mint extract, deep breathing relaxation exercises and the combination of mint extract and deep breathing relaxation techniques, while the control group is without any intervention. Interventions carried out as much as 1x a day for 1 day.

This research was conducted at the STIKes Kusuma Husada Surakarta campus located on Jl. Jaya Wijaya No.11 Kadipiro Mojosongo Surakarta in January to August 2018.

The population in this study were teenage girls who experienced menstrual pain in the 2017/2018 academic year at STIKes Kusuma Husada Surakarta totaling 45 subjects. The sampling technique with non-probability sampling technique with consecutive sampling, which is taking all samples that meet the inclusion and exclusion criteria during the study.

The ingredients used are 5-10 pieces of fresh mint leaves, 450 ml of water, sugar or other sweeteners (add to taste). The equipment used is to boil water (French Press), cups, spoons, filters and glass lids, teapots, measuring cups and watches.

Data analysis technique is to use univariate analysis showing the frequency distribution, standard deviations, average values, maximum values and minimum menstrual pain levels. Bivariate analysis, to compare the level of menstrual pain with the independent variable is mint leaf extract and deep breathing relaxation techniques, while the dependent variable is the level of menstrual pain. In this analysis the statistical test used was the independent group t test (unpaired - t test), while the paired t test was used to determine before and after treatment. For health use 95% confidence intervals. The initial stage of statistical testing is done by conducting a data normality test with the Shapiro Wilk test because the respondent is less than 50 for each variable. As for the results of the normality test data obtained normal distribution, then using the paired t test.

Data interpretation is Ho: there is no difference in the effectiveness of giving mint leaf extract and deep breathing relaxation techniques to the level of menstrual pain in young women, while Ha: there is no difference in the effectiveness of giving mint leaf extract and deep breath relaxation techniques on the level of menstrual pain in young women.

III. RESULTS

a. Mint leaf extract on the level of menstrual pain in young women.

Table 1 Results of measurement of menstrual pain levels before and after administration of mint leaf extract (N = 15)

Group I	Mean	Minimal pain level	Maximum pain level
Before the intervention	3.00	2	4
After the intervention (30 menit)	1.93	1	3

Examination of menstrual pain levels is performed at the beginning and end of the study. The results showed that the mean initial menstrual pain level was 3.00, the average end pain level was 1.93. The mean initial pain level was 3.00 with a minimum value of 2 and a maximum of 4. The average final pain level of 1.93 with a minimum value of 1 and a maximum of 3.

Table 2: Test for normality of menstrual pain levels before and after administration of mint leaf extract (N = 15)

Group I	Mean	SD	Sig.
Before the intervention	3.00	0.926	0.001
After the intervention (30 minute)	1.93	1.033	0.000

Based on table 2 above it can be seen that the results of normality test using Shapiro Wilk results before the intervention is carried out for 30 minutes, the significance value is smaller than the alpha value (0.001 <0.05) and after the intervention the significance value (0.000 <0.05) then H0 rejected. Data on the level of menstrual pain before and after intervention (30 minutes) in group I is not normally distributed, so using a non-parametric test with the Wilcoxon test the results of the difference in significance with the value of Z = -3,557 value of P = 0,000 (<0.05) so it can concluded that there were significant differences before and after giving mint leaf extract, this can be seen in the following table:

Test Statistics[a]

	Postest K1 - Pretest K1
Z	-3,557[b]
Asymp. Sig. (2-tailed)	,000

b. Deep breathing relaxation techniques for menstrual pain levels in young women.

Table 3 Results of measurement of menstrual pain levels before and after the administration of deep breathing relaxation techniques (N = 15)

Group II	Mean	Minimal pain level	Maximumum pain level
Before the intervention	3.07	2	4
After the intervention (30 minute)	2.67	1	4

Examination of menstrual pain levels is performed at the beginning and end of the study. The results showed that the average level of initial menstrual pain was 3.07, the average level of late menstrual pain was 2.67. The average level of menstrual pain 3.07 with a minimum value of 2 and maximum 4. The average level of final menstrual pain 2.67 with a minimum value of 1 and a maximum of 4.

Table 4 Test the normality of menstrual pain levels before and after the administration of deep breathing relaxation techniques (N = 15)

Group II	Mean	SD	Sig.
Before the intervention	3.07	0.594	0.001
After the intervention (30 minute)	2.67	0.976	0.070

Based on table 4 above, it can be seen that the results of normality test using Shapiro Wilk results before the intervention is carried out, the significance value is smaller than the alpha value (0.001 <0.05) and after the intervention the significance value (0.070> 0.05) then H0 is rejected. The level of menstrual pain before and after the intervention (30 minutes) in group II was not normally distributed, so using a non-parametric test with the Wilcoxon test the results of differences in significance with the value of Z = -2.121 value of P = 0.034 (<0.05) so it can be concluded there is a significant difference before and after the administration of deep breathing relaxation techniques, this can be seen in the following table:

Test Statistics[a]

	Posttest K2 - Pretest K2
Z	-2,121[b]
Asymp. Sig. (2-tailed)	,034

c. The combination of mint leaf extract and deep breathing relaxation techniques to the level of menstrual pain.

Table 5 Results of measuring the level of menstrual pain before and after administering a combination of mint leaf extract and deep breathing relaxation techniques (N = 15)

Group III	Mean	Minimal pain level	Maximumum pain level
Before the intervention	3.07	2	4
After the intervention (30 minute)	2.13	1	4

Examination of menstrual pain levels is performed at the beginning and end of the study. The results showed that the average level of initial menstrual pain was 3.07, the average level of late menstrual pain was 2.13. The average level of menstrual pain 3.07 with a minimum value of 2 and a maximum of 4. Average level of final menstrual pain 2.13 with a minimum value of 1 and a maximum of 4.

Table 6 Test for normality of menstrual pain levels before and after administration of a combination of mint leaf extract and deep breathing relaxation techniques (N = 15)

Group III	Mean	SD	Sig.
Before the intervention	3.07	0.799	0.006
After the intervention (30 minute)	2.13	0.990	0.025

Based on table 6 above, it can be seen that the results of the normality test using Shapiro Wilk results before the intervention is done, the significance value is smaller than the alpha value (0.006 <0.05) and after the intervention the significance value (0.025 <0.05) then H0 is rejected. The level of menstrual pain before and after the intervention (30 minutes) in group III had an abnormal distribution, so using a non-parametric test with the Wilcoxon test the results of the difference in significance with the value of Z = -3,500 value of P = 0,000 (<0.05) so it can be concluded there is a significant difference before and after giving a combination of mint leaf extract and deep breathing relaxation techniques, this can be seen in the following table :

Test Statistics[a]

	Posttest K3 - Pretest K3
Z	-3,500[b]
Asymp. Sig. (2-tailed)	,000

IV. DISCUSSION

a. Mint leaf extract on the level of menstrual pain in young women

Based on the tabulation table the results of measurements of menstrual pain levels before and after administration of mint leaf extract intervention and deep breathing relaxation techniques, showed that the level of menstrual pain has decreased. There are differences in the level of menstrual pain before and after the intervention of mint leaf extract and deep breathing relaxation techniques. Menstrual pain experienced by young women is a process of strong myometrial contractions in the lining of the uterus so that the blood vessels become narrowed (ischemia, endometrial disintegration, bleeding and pain). Menstrual pain causes symptoms of stomach discomfort [7].

When observing the research subjects prior to the intervention they were known to appear to feel pain in the abdomen and dizziness, thus causing fear and feeling

discomfort when attending lectures. If this condition is not treated immediately, the impact will be caused by interfering with the activity until the loss of concentration (unconscious/unconscious) due to withstand the pain experienced. Given the complications that will occur, sufferers should take medication to reduce complaints experienced. With non-pharmacological treatment it is hoped that it can have a decreased effect on menstrual pain and minimize the use of pharmacological drugs because continuous use can cause adverse effects to the body. Non-pharmacological treatment is given in the form of mint leaf extract, mint leaf content is menthol (73.7-85.8%), menthone and methyl acetate [10]. In addition, monoterpene, menthofuran, sesquiterpene, triterpene, falvonoid, carotenoid, tannin and several other minerals are also found from mint leaves [11]. Menthol found in mint leaves can reduce headaches and pain during menstruation [8].

After being given mint leaf extracts in the experimental group, menstrual pain was seen with complaints of abdominal pain which could be reduced because menthol contained in mint leaves had antispasmodic properties, thus reducing contractions in the myometrium. Dizziness complaints in the experimental group also decreased due to mint leaves as a carminative (sedative) drug. Whereas in the control group given a placebo that is white water without mint leaves. So that in the experimental group decreased levels of menstrual pain.

Mint leaf extract is a healing that comes from nature by using mint leaves as raw material. Mint leaves contain menthol so it is often used as a raw material for medicine [12]. Menthol found in mint leaves has antispasmodic, carminative and diaphuretic drugs. Besides mint leaves also help treat infections. Mint leaves can reduce the level of menstrual pain so there are no complaints due to menstrual pain. Extract is a process of withdrawal of soluble chemical contents so that it is separated from the insoluble material by liquid solvents [13]. The use of mint leaf extract is indicated to reduce the level of menstrual pain.

In this study the technique of intervening in the form of mint leaf extract is done for 1x a day when menstrual pain is experienced. But do not rule out the existence of other influences that can reduce the level of menstrual pain, for example nutrition, rest, relaxation, yoga, activity, psychological state and hormonal influences. Thus mint leaf extract can reduce the level of menstrual pain in young women. Efforts to reduce the clinical symptoms of menstrual pain in adolescent girls in addition to using pharmacological drugs can also use non-pharmacological. Mint leaves contain menthol essential oil which can reduce the level of menstrual pain in young women.

b. Deep breathing relaxation techniques for menstrual pain levels in young women

Based on the results of the study it was found that by administering deep breathing relaxation techniques to young girls effectively could reduce menstrual pain in young girls. The practice of deep breathing relaxation techniques in adolescent girls with menstrual pain due to breathing exercises and relaxation techniques reduces oxygen consumption, respiratory frequency, heart frequency, and muscle tension, which stops the cycle of pain-anxiety-muscle tension. So that menstrual pain experienced by adolescents can be suppressed or can be controlled by the relaxation of deep breathing exercises, teenage girls with menstrual pain can easily control the pain experienced. Deep breath relaxation exercises are methods with Evidence Based Practice that are very practical in their use, are effective and efficient in reducing menstrual pain and are easy to practice. Society, especially teenage daughters, is easier to practice deep breathing relaxation, so that the use of pharmacological drugs used to suppress pain (anti-pain) can be suppressed.

From the results of this study it can be concluded that there are differences in the level of menstrual pain before and after being given breathing relaxation exercises in which using the Wilcoxon test p values <0.05 were obtained. This shows that the null hypothesis is rejected.

c. The combination of mint leaf extract and deep breathing relaxation techniques to the level of menstrual pain.

Based on the results of the study it was found that by giving a combination of mint leaf extract and deep breathing relaxation training techniques to teenage girls could effectively reduce menstrual pain in young girls. Providing a combination of mint leaf extract and deep breathing relaxation training techniques for teenage girls with menstrual pain because the combination of these methods is very efficacious in reducing menstrual pain by being given mint leaf extract so menstrual pain will decrease or even disappear coupled with relaxation exercises in deep breathing of the teenage daughter who experience menstrual pain will more easily control the pain they experience without the need for pharmacological drugs. So that menstrual pain experienced by adolescents can be suppressed or can be controlled with a combination of mint leaf extract and deep breathing relaxation exercises, girls with menstrual pain can easily control the pain they experience. The combination of mint leaf extract and deep breathing relaxation exercises are methods with Evidence Based Practice that are very practical in their use, effective and efficient in reducing menstrual pain and easy to practice. Society, especially young women, is easier to make a combination of mint leaf extract and deep breathing relaxation exercises, so the use of pharmacological drugs used to suppress pain (anti-pain) can be suppressed.

From the results of this study it can be concluded that there are differences in the level of menstrual pain before and after being given a combination of mint leaf extract and deep breathing relaxation exercises where by using the Wilcoxon test p values <0.05 were obtained. This shows that the null hypothesis is rejected.

CONCLUSION

a. Based on the results of research by giving mint leaf extracts and the provision of breathing relaxation techniques in effect on reducing the level of menstrual pain for teenage girls.

b. There was a difference in the level of menstrual pain before and after the intervention by giving mint leaf extract with a significance value smaller than the alpha value of p 0,000 (p <0.05).
c. There was a difference in the level of menstrual pain before and after the intervention by administering deep breathing relaxation techniques with a significance value less than the alpha value of p 0.008 (p <0.05).
d. There was a difference in the level of menstrual pain before and after the intervention by giving a combination of mint leaf extract and deep breathing relaxation training techniques with a significance value less than the alpha value of p 0,000 (p <0.05).

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Effect Of Husband Support And Pregnancy Readiness On Anxiety Level In First Trimester In Sibela Health Center Working Region

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***Abstract*—Purpose: This study aims to determine the effect of husband support and pregnancy readiness on mother's anxiety level in first trimester in Sibela Health Center. Method: This cross-sectional study used multiple regression analysis with quota sampling technique of 51 pregnant mothers. Result and discussion: Multiple linier regression analysis indicated that the pregnancy readiness was significant with p-value=0.003 (p<0.05). Conclusion: All three variables were statistically significant.**

Kata kunci : support, husband, anxiety, pregnancy, trimester 1

I. INTRODUCTION

Every married couple dreams of pregnancy to raising children. When they become parents, they expect their children to care for them when they become older adults. On the other hand, the unintended pregnancy outside of the marriage becomes dilemmatic as mother faces heavy burdens such as physical and psychological changes due to the hormonal influence, and social pressure. Later, the difficulty in unintended pregnancy can harm the fetus, especially in early pregnancy. Unmarried mothers will experience a period of sharp hormonal changes that lead to frequent nausea and vomiting, which associate with a weak body and psychological disorders. All of these common discomforts may alleviate if mothers feel happy and content. Happiness and contentment may happen when mothers are ready to have babies.

Pregnancy readiness is essential as the fetus's growth and development depend on the mother's physical and psychological state. Pregnancy readiness includes three aspects, which are physical, mental, and material [10]. Allah SWT has indeed predestined His servants to pair together to appease and love one another. When partners build commitments, they provide comfort for each individual. A woman will feel comfortable when she is on the side of her partner or husband, including a pregnant mother. Comfort happens when mothers engage in stress-free activities, which lead to an increase in endorphin hormone (endogenous morphine). The endorphin hormone's rise will make the mother feel happy, which induces a feeling of comfort [10]. Some other factors which also make mother happy are loyalty and mutual care. A husband's care is not only limited to accompanying their wife to see a doctor or midwife but must also be giving inner security to the pregnant mother.

Along with husband care, they can support pregnant mothers by giving emotional, instrument, appreciation, and information supports [5]. These husband's supports will stimulate the pituitary gland brain to produce the pregnant mother's endorphin hormone. This endorphin hormone is a natural hormone to reduce pain and boost pleasure, which results in feeling happiness and reduce anxiety in the first trimester. Besides anxiety, the mother also experiences frequent vomiting, emesis, morning sickness, dizziness, and tiredness in the first trimester.

According to the phenomenon in Sibela Health Care, the husband's role remained limited in showing support to pregnant mothers. The husband only provided instrumental, appreciation, and informational supports, but not emotional support. This lack of husband emotional support happened when a pregnant mother experienced an unintended pregnancy, which later interfered with the mother's mental state and disrupted their fetus growth and development in the first trimester. This study's primary purpose was to evaluate the effect of husband support and pregnancy readiness on the anxiety level of pregnant mothers in the first trimester in Sibela Health Center.

II. MATERIAL AND METHOD

A. Procedure

A non-experimental cross-sectional study was utilized with a quota sampling technique. The study was conducted for 51 pregnant mothers in midwifery clinics among Sibela Health Center Working Region from February to December 2018. Respondents were in primigravida pregnancy and trimester I and

		Freq	%t	Valid %	Cumulative %
Valid	Higher education	3	8.8	8.8	8.8
	Middle and high schooler	15	44.1	44.1	52.9
	Primary education	16	47.1	47.1	100.0
	Total	34	100.0	100.0	

determined with the following formula:

$$n = \frac{N}{1 + N(d^2)}$$

$$n = \frac{51}{1 + 51(0{,}1^2)}$$

$$n = \frac{51}{1{,}51}$$

n=34

Ket: n = number of sample
N = number of population
d = confidence interval

All questionnaires had been tested for its reliability and validity among 30 respondents in Banyuanyar Health Center, who had almost the same characteristics as Sibela Health Center Working Region. The validity test used for anxiety level questionnaire was the product moment formula. The number of 30 samples taken met the criteria of minimum questionnaire trials (Singarimbun & Efendi, 1995) where distribution of values will be closer to the normal curve.

Second, the husband support questionnaire obtained 6 invalid items (number 5, 7, 10, 22, 27, and 29) with the value of r count <0.361. The husband support reliablity test used was Cronbach's alpha with unreliable item (number 17) with the valuer of r <0.361. Last, the questionnaire of the pregnancy readiness questionnaire was declared all reliable.

Table 17. Husband support and anxiety level

		Anxiety level			Total
		Mild	Moderate	Severe	
Husband Support	Yes	9	5	1	15
	No	8	7	4	19
Total		17	12	5	34

B. Data Analysis

A multiple regression analysis was utilized to study the effect of independent variables (husband support and pregnancy readiness) on its dependent variable (anxiety level of pregnant mothers in trimester 1). All the variables are categorized ordinal scale.

III. RESULTS AND DISCUSSION

Table 1. Distribution of education level

The study showed that 18 respondents were high school and higher education graduates.

Table 2. Distribution of occupation

		Freq.	%	Valid %	Cumulative %
Valid	Enterpreneur	2	5.9	5.9	5.9
	Civil Servant	3	8.8	8.8	14.7
	Housewives	20	58.8	58.8	73.5
	Private Sectors	6	17.6	17.6	91.2
	Labor	3	8.8	8.8	100.0
	Total	34	100.0	100.0	

The study showed that 58.8% respondents were housewives.

Table 3. Mother's age on anxiety level

		Anxiety level			Total
		Mild	Moderate	Severe	
Age	<20 years old	2	0	0	2
	20-35 years old	15	12	5	32
Total		17	12	5	34

The study showed that 94.1% respondents were productive age group according to Government of Indonesia and World Health Organization (WHO).

Table 4. Age of marriage on anxiety level

		Anxiety level			Total
		Mild	Moderate	Severe	
Marriage	< 1 year	12	8	5	25
	>1 year	5	4	0	9
Total		17	12	5	34

The study showed 12 out of 34 respondents had mild anxiety level whose pregnancies occur at the age of marriage less than 1 year.

Table 5. Pregnancy readiness on anxiety level

		Anxiety level			Total
		Mild	Moderate	Severe	
Pregnancy readiness	Ready	13	7	0	20
	Not ready	4	5	5	14
Total		17	12	5	34

The results of the study showed that pregnant mothers who were ready physically and omentally experienced mild and moderate anxiety levels compared with pregnant mothers who were not ready physically and mentally. The study showed that 13 pregnant mothers who are physically and mentally ready in pregnancy experienced mild anxiety level. Data above shown that husband supports influenced pregnant mothers to experience less anxiety than those who did not get supports from their husbands. Support in the study included instrumental, information, emotional and appreciation from the husbands.

Education is a conscious effort to prepare students through guidance, teaching, and/or training activities for their future roles. Education can also be interpreted as a process of humanizing humans, adapted to the development of social situations and conditions [7]. According to the Education Act No. 20 of 2003, national education functions to develop capabilities and shape the character and civilization of a nation dignity in the context of educating the life of the nation. National education also aims to develop the potential of learners to become human beings who believe and have faith in God the Almighty, with good character; healthy body; full of knowledge, capability, creativity, independence; to become a be a democratic and responsible citizen. According to article 14, the formal education consists of primary, middle and high school education and higher education where in table 1, the study showed that 52.9% respondent were categorized from middle school to higher education level. This research believed that the ability of the way of thinking or respondent's analysis is good. This means that respondents had been able to distinguish the good and the bad for the family, similarly for their first pregnancy. Every woman should think that pregnancy is a pleasant experience, not something to be feared or considered as a scourge. Mothers should instill positive thinking as early as possible so that they are ready to prepare themselves mentally and physically and to welcome their future pregnancy.

Occupation becomes essential to earn money and meet needs [7]. The characteristics of someone's occupation can determine their socioeconomic status and health problems. Besides that, occupation is also a medium of social interaction for women to so that they are able to provide a vehicle for exchanging opinions, knowledge and information [2]. The study showed that most primigravida mothers were housewives with mild anxiety level, on the other hand, housewives also experienced severe anxiety level. This research believes that housewives with full domestic household chores experiences harder work rather than housewives with part-time housewives who have other activities outside. Housewives start their activities early until late at night. As household chores take women's time, even more so pregnant mothers if they do it alone, pregnant mothers will feel burden which alleviate to their increased anxiety level. On the other hand, any household assistance will make pregnant mothers feel easier. This research believes that women are more prone to stress than men [8].

The more ageing, the biological level can make problem for women as there is an age limit of producing eggs. As age can determine the physiological and psychological factors, according to table 3, about 98% experienced their first pregnancy between age of 20 and 35 year. The study believes that the respondents were already aware of their reproductive health as the risk of getting pregnant at the age of <20 years and> 35 years bring more benefits to women [2]. The study also showed that respondents age of 20-35 years old experienced more anxiety. The anxiety may trigger higher psychological issues and stressors which. At the same time, more anxiety level happened on the group of productive people based on Government of Indonesia and WHO). Besides, the length of marriage can also trigger anxiety on pregnant mothers. The longer wait time for expecting children may trigger worry for fertility. The study showed 12 out of 34 respondents had mild anxiety level whose pregnancies occur at the age of marriage less than 1

year. This might affect from estrogen and progesterone hormone. As the ovary produces those two hormones, the age and fertility influence each other. This means that women's biological clock may affect the egg-related decline in fertility. Therefore, fertile spouses who have been married for more than 1 year will feel anxious and worried about not having children.

IV. CONCLUSION

The result of the study showed that three variables had effects to analysis of multiple linear regression (p-value = 0.003, where p- value <0, 05). The biggest influence is on pregnancy preparation for primigravida mothers.

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Effect Of Soybean On Improvement Of Hemoglobin Levels In Adolescent Girls

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***Abstract*-Backgrounds The problem of nutrition in adolescence is anemia. Symptoms are often experienced include lethargy, weakness, dizziness, dizzy eyes, and pale face. Anemia can have an impact on adolescents, among others, lower body resistance so easily affected by disease, decreased activity and learning achievement due to lack of concentration. Iron requirements can be met by consuming Fe tablets but supplements have side effects ie if taken with large doses can cause damage to the lining of the intestine, pH abnormalities, shock and liver failure. Alternative to meet the needs of iron with the consumption of foods containing high iron, namely soybeans. The iron content in 100 grams of soybeans contains 15.7 mg.**

Objective To analyze the effect of the consumption of soybean juice to changed hemoglobin levels.

Research Method Quasy experiment non randomized pretest and posttest with control group design. Hemoglobin measurements using mutiple quick check.

Results The study was conducted on 60 respondents consisting of a control group and the experimental group for 7 days. The average changes hemoglobin levels in adolescent girls a control group more less 0.2 gr/dl than experimental group. The results of the independent t-test found there's influence consumption of soybean juice to change the levels of hemoglobin.

Conclusion The provision of soybean juice significantly affect change the levels of hemoglobin.

Keywords: Soybean, Hemoglobin Levels, Adolescent Girls

I. INTRODUCTION

Adolescence is a transition from childhood into adulthood marked by a number of biological, cognitive, and emotional changes. Biological changes include height gain, hormonal changes, and sexual maturity (Dietitians, 2003). Adolescents need optimal nutrient intake for growth and development (Chuningham, 2007). Nutritional problems commonly experienced in adolescence include anemia. Symptoms are often experienced include lethargy, weakness, dizziness, dizzy eyes, and pale face. Anemia can cause various effects in adolescents, among others, lower endurance so easily affected by disease, decreased activity and learning achievement due to lack of concentration (Dendougui, 2004). Prevalence of anemia in the world ranges from 40-88%. The adolescent population is 26.2% consisting of 50.9% male and 49.1% female. In Indonesia the prevalence of anemia is 57.1% suffered by female adolescents, 27.9% suffered by Fertile Women (WUS) and 40.1% suffered by pregnant women (Depkes RI, 2013). It is estimated that the amount of iron released by the body is about 1.0 mg / day for women plus 0.5 mg lost due to menstruation. The amount of iron absorbed is only about 10% then the recommended consumption for adult women per day is 15 mg. One's iron requirement can be fulfilled by taking supplements of Fe tablets, but supplements have some side effects, iron contained in supplements if consumed with large doses can cause damage to the lining of the intestines, pH abnormalities, shock and liver failure. Alternatives to meet iron needs can be done with the consumption of foods containing iron. High iron content can be obtained in soybeans. The content of iron soybeans in 100 grams that contain 15.7 mg of iron (Fidler, 2003).

II. MATERIAL AND METHOD

This study aims to analyze the effect of the consumption of soybean to changed levels of hemoglobin in adolescent girls. This study design used Quasy experiment non randomized pretest and posttest with control group design. The study was conducted during July - September 2017 in Kudus, Central Java. This study consisted of two groups, namely soybean treatment group and the control group who receive treatment unwith soybean. Total samples were 60 respondents divided into two groups: the treatment group and control groups and every groups consisted of 30 respondents. Calculations were conducted with technique of insidental sampling. Independent variable in this study is soybean; the dependent variable is the level of hemoglobin. Analysis of data used paired t-test and independent t-test and normality test used kolmogorov smirnov.

Hemoglobin Level and Oxygen Saturation Measurement

Hemoglobin level was measured by using multiple quick check and oxygen saturation was measured by using oxymetri. After respondents fill out treatment, researchers get the data results and do re-checking for completeness of data.

Treatment procedures

Respondents of soybean (intervention group) who received everyday until 7 day. After that, in 8 day researchers measured hemoglobin level (post test).

III. RESULTS

The level of hemoglobin and oxygen saturation before and after treatment

Table 1. The level of hemoglobin before and after treatment

Mean	Control group		Treatment group	
	Pre	Post	Pre	Post
Hemoglobin	11,77gr/dl	12,31gr/dl	12,09gr/dl	12,83gr/dl

Table 1 shows that respondents from control group before being given soyben the levels of hemoglobin 11,77 gr/dl and after given soybean increase to 12,313 gr/dl.

All data is a normal. Therefore, the test used the parametric *test, paired samples t-test,* is presented as follows:

Table 2. The level of hemoglobin before and after treatment in both groups of adolescent girls.

Variable	SD	mean	*p value*
Hemoglobin levels Post Test - Pre Test Control Group	0,79	0,54	0,001
Post Test – Pre Test Treatment Group	1,31	0,74	0,004

Table 2 shows that paired samples t-test showed $p<0.05$ on each treatment then it is concluded that all data collected had significant differences between the before and after in each treatment.

Table 3 *Independent Samples t-test,* the levels of hemoglobin before and after treatment in adolescent girls

Variable	Control Group (n = 30)	Treatment Group (n = 30)	*p value*
Hemoglobin levels Post Test	12,31333	12,8333	0,048

Table 3 shows the *p* value <0.05. It means that there is significant difference between the treatment group and control group.

IV. DISCUSSION

The study was conducted on 60 adolescent girls at the Academy of Midwifery Kudus dormitories, divided into 2 groups, 30 adolescent girls in the control group who consumed mineral water and 30 adolescent girls in the treatment group who consumed soybean to see changes in hemoglobin levels.

In the control group and treatment group, hemoglobin were examined before intervention, then after pretest, intervention was given mineral water consumption in the control group and consumption of soybean in treatment group for 7 days. On the eighth day re-examination of hemoglobin levels in the control group and treatment group (posttest).

In Indonesia, many teenagers who do not get used to breakfast and consume less foods containing nutrients reaches 50%, therefore adolescents in Indonesia are susceptible to anemia. In accordance with research Permaesih (2005) which states that breakfast habits are significantly associated with the occurrence of anemia, respondents who do not usually eat breakfast at risk of anemia 1.6 times.

The mean hemoglobin levels of the control group were lower than the average hemoglobin levels of the treatment group consuming soybean. After an intervention, the mean hemoglobin levels in the control group experienced an increase of 0.54 g / dl. The mean hemoglobin levels of the treatment group that consumed the soybean for 7 days increased by 0.74 gr / dl.

Adolescents are encouraged to consume iron-containing foods every day so that the iron reserves in the body are not reduced and do not suffer from anemia because in adolescence there are physical changes that require the nutritional needs of adolescents. Nutrition needs during adolescence, energy (active activity), protein (forming new cells), fat (energy source and forming nerve cells / transport of vitamins, minerals, and water), fiber (helping the digestion process) Fe and Zinc (acting for the formation of body tissue), calcium, phosphorus and vitamin D (bone / tooth formation), vitamin B1, niacin and riboflavin (carbohydrate metabolism), vitamin B6, folic acid and vitamin B12 (Soetjinngsih, 2004). This study proves that by consuming soybeans can increase the hemoglobin levels in young women because soybean preparations have lower phytic acid content.

V. CONCLUSION

There was a different mean of hemoglobin levels in both group before and after treatment. Adolescent girls are advised to consume iron in 100 grams of soybeans that have been processed in 200ml water into soybean is very useful in increasing hemoglobin so as to prevent and treatment in overcoming anemia in adolescent girls.

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The Correlation Between Anemia In Pregnant Women And Low Birth Weight Baby At Banjarnegara Regency

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***Abstract*—Background: The causes of LBW are anemia incidence of pregnant women during pregnancy, lack of nutritional supplements of the fetus during pregnancy, pregnancy complications, pregnancy hyperthyroidism, and premature birth. Banjarnegara is a region in which territory consists of lowland and highlands. The numbers of LBW incidences in the highlands area reached 126 babies. The case of LBW in Banjarnegara could be included as the top 10 cases of LBW in Central Java. Babies born with low birth weight need serious treatment because the babies easily experience hypothermia that can be a major cause of infant death.**

Objective: The objective of the study was toinvestigatethe correlation between anemia in pregnant women and low birth weight baby incidences in BanjarnegaraRegion.

Method: The type of this study was quantitative using case control study with retrospective approach. The population in this study was all newborns who had low birth weight in Primary Health Centers in Banjarnegara area. Sample taking location was random allocation, and the subjects of the study used simple random sampling with 73 samples with case group and control group ratio 1: 1. Then, the total samples were 146 samples. Bivariate analysis used Chi Square, and logistic regression was used as multivariate analysis.

Results: The results of statistical tests showed that the correlation between anemia and the occurrence of LBW had a meaningful value, indicated by the value of ρ = 0.00. The OR value obtained 5.55 CI 95% (2.4-12.8)

Conclusion: Pregnant women with anemia were 5.55 times higher risk inthe incidences of LBW compared to pregnant women who did not have anemia.

Keywords— Anemia, LBW, Pregnant Mother

I. INTRODUCTION

Infant Mortality Rate (IMR) is the number of infant deaths (0-11 months) per 1000 live births within one year. IMR illustrates the level of public health problems related to the causes of infant mortality, the level of antenatal care, the nutritional status of pregnant women, the success rate of the MCH and family planning program, and environmental and socio-economic conditions. If the IMR of a region is high, it means the health status of the region is low [1]. Indonesia as a developing country, still has a high infant mortality rate (IMR). Based on the results of the Indonesian Demographic and Health Survey (IDHS) in 2007 showed a figure of 34 per 1000 live births and decreased in 2012 which amounted to 32 deaths per 1000 live births and the majority of infant deaths occurred in neonates. This shows that IMR in Indonesia has decreased markedly [2].

As we know that the target of Sustainable Development Goals (SDGs) 4 is to reduce the infant mortality rate (IMR) to 23/1000 live births. Preliminary results of the 2015 Intercensal Population Survey showed IMR 22/1000 live births. This means that SDGs 4 target in reducing IMR has been reached [3].

The IMR of Central Java Province has the same number as the national standard, which is 32 per 1,000 live births. This shows that IMR in Central Java Province tends to be stagnant [4]. The causes of LBW occur, among others, because pregnant women experience anemia, lack of nutrition during pregnancy, pregnancy complications, hyperthyroid pregnancy and premature birth. Babies born with low birth weight need serious treatment, because in these conditions the baby is prone to hypothermia and imperfect formation of body organs which will usually be the main cause of infant death [5],this is in accordance with research conducted [6],that gemmeli and mothers with anemia are factors that influence the incidence of LBW.

Based on Riskesdas in 2013, the prevalence of LBW in Indonesia was still 10.2% and in 2010 which was 11.1%, this shows the percentage of babies with low birth weight (LBW) decreased slowly, but it is still a government policy as a program evaluation by the Indonesian Ministry of Health [1].

The still high infant mortality rate (IMR) is caused by many factors including the high cases of preterm birth (LBW), late detection at the community level, limited facilities available, especially referral services, limited ability of officers to conduct risk detection, limited competence, officer compliance with SOP is not optimal, other factors of the mother's condition, especially nutritional status (KEK, Anemia and Chronic Disease) [7]. Babies with low birth weight are 40 times at risk of dying. Complications include hypothermia, hypoglycemia, fluid and electrolyte disturbances, patent ductus arteriosus, infections, intraventricular hemorrhage and apnoe. Furthermore, these complications will experience developmental and growth disorders, vision problems, hearing loss, chronic lung disease resulting in increased mortality and high costs of care needed [8]. One way to prevent LBW is by taking preventive measures, including checking at least 4 pregnancies, providing

health education about fetal growth and development, planning pregnancy and childbirth at reproductive age, and increasing the level of maternal education and economic status of the family [9].

Iron deficiency anemia (ADB) is anemia that occurs due to reduced iron in the blood. ADB is a health problem, in addition because it is associated with a high prevalence also due to complications caused. In various countries including Indonesia, it is known that the prevalence of ADB in pregnancy varies and the difference is quite high. ADB prevalence in developed countries is around 8%, while Indonesia is a developing country around 36% [10]. According to the Household Health Survey the prevalence of ADB in pregnant women in Indonesia decreased from 73.30% in 1986 to 63.50% in 1992, 50.90% in 1995 and 40.10% in 2001 Based on the results of Riskesdas 2007, the prevalence of anemia in pregnant women decreased significantly, namely 24.5%. Based on data obtained, in Banjarnegara District the number of LBW babies in all puskesmas in 2016 was 206 out of 2,532 babies born. Most cases are anemia, KEK and gemmeli. Judging from the geographical situation Banjarnegara Regency is divided into highlands, medium and low. Of the 206 babies who have had LBW, it turns out that if it is assessed that the highest number of LBW is located in the health center area which is included in the highlands, this is in line with research conducted [11]., states that oxygen saturation in the highlands is 15% lower than air saturation. in the lowlands. That causes low oxygen levels so that the supply of oxygen to the fetus is disrupted. Mothers who live at high altitude are at risk of developing fetal hypoxia which causes neonatal asphyxia and affects the fetus due to oxygenation disorders and causes LBW [12].

The coverage of pregnant women who received 90 Fe tablets in Central Java Province in 2015 was 92.13 percent, a slight decrease when compared to the 2014 coverage of 92.5 percent. The regencies / municipalities with the lowest percentage of Fe giving were Surakarta, namely 80.9 percent, followed by Banjarnegara 84.1 percent, and Semarang 87.3 percent [7].

A preliminary study took 10 samples of pregnant women who were having their babies examined at Puskesmas 1 Wanadadi said that they were given blood-added tablets every time they had a pregnancy check but only 10 of the 4 people who drank them were drained completely and consistently every day, 6 patients who did not drink Fe for reasons of smell, nausea and forget. Given the number of LBW in the Banjarnegara District Health Center is still high, the author is interested in taking research "The Correlation Between Anemia In Pregnant Women And Low Birth Weight Baby At Banjarnegara Regency".

II. MATERIAL AND METHOD

This type of research is a quantitative study that aims to determine the relationship of anemia in pregnant women with the incidence of low birth weight babies. The approach used in this research design is a case control study. Where factors are studied using the retrospective approach. The population in this study were all newborns who experienced LBW events in the Banjarnegara Community Health Center area in 2016 with a total of 206 LBW. The sample size used was 73 samples with a comparison of case groups and control groups 1: 1, then the total sample to be taken was 146 samples with inclusion criteria. complete maternal cohort records, pregnant women living in the highlands and lowlands. The instrument used was a checklist that contained the required data.

III. RESULTS

1. Univariate analysis

To see a description of the frequency distribution of each independent and dependent variable, a univariate analysis is presented in table 4.1

Table 4.1 Frequency Distribution Based on Independent and Dependent Variables Tabel 4.1 Distribusi Frekuensi Berdasarkan Variabel Independen dan Dependen

Variable	Category	
	Case Low birth weight f (%)	Control Normal Birth Weight f (%)
Anemia status		
Anemia	41(56,2)	64(87,7)
No anemia	32(43,8)	9(12,3)

Based on table 4.1, anemic results obtained in the case group of 56.2%.

2. Bivariate Analysis

Table 4.2 Results of Anemic Cross Tabulation in Pregnant Women towards LBW

Status	Category		*P*	OR	CI 95%
	Case Low birth weight f (%)	Normal Birth Weight Control f (%)			
Anemia	41(28,1)	64(43,8)	0,000	5,55	2,4-12,8
No Anemia	32(21,9)	9(6,2)			

Table 4.2 shows that the relationship between anemia and LBW incidence has a significant value, indicated by the value of ρ = 0.00. The OR value obtained was 5.55 CI 95% (2.4-12.8). This can be interpreted that pregnant women with anemia have a 5.55 times greater risk of giving birth to a baby with LBW.

IV. DISCUSSION

1. Relationship between Anemia of Pregnant Women with LBW

The results of data analysis showed that the percentage of anemia in the LBW group was greater than the group of babies of normal birth weight, respectively 21.9% and 6.2%. The results of this study are in line with research conducted [13]. which shows that anemia increases the incidence of LBW by 6.5%.

Bivariate analysis test using chi-square showed that the relationship between anemia and LBW incidence had a significant value, indicated by the value ρ = 0.00. The OR value obtained was 5.55 CI 95% (2.4-12.8). This can be interpreted that pregnant women with anemia have a 5.55 times greater risk of giving birth to a baby with LBW. The results of this study are significant with several studies that show a significant relationship between anemia and the incidence of LBW. The results of the study by Lone et al., (2004) showed that anemic pregnant women had a 1.9 times greater risk of giving birth to a baby with LBW than pregnant women who were not anemic [14].

In multivariate analysis the relationship between anemia variables with LBW events by including other variables. There is a significant relationship between anemia variables with LBW events seen from the OR values obtained at 4.4 CI 95% (1.9-10.73). And the contribution to LBW events was 20%.

Case control studies conducted by Elhassan, et al. (2010) of 1224 subjects at Medani Hospital in Sudan showed maternal anemia results having OR 9.0 for LBW events with CI = 3.4-23.8 and P value <0.001. The results of research conducted by Putri (2014) in Yolanda (2016) in Samarinda District Hospital showed that anemia increased the risk of LBW by 4.08 with a P value of 0,000 [13].

Anemia status in pregnant women is a health condition of pregnant women that is closely related to blood Hb levels which are less than the normal standard of pregnant women which is 11 gr%. The prevalence of anemia in pregnant women in Indonesia is still high at 63.5%. A pregnant woman who has a Hb level <11 gr% or anemia will result in a lack of blood supply to the body so that the distribution of nutrition from the mother to the fetus will be disrupted which will result in disruption of fetal growth and development and giving birth to LBW

Anemia in pregnancy tends to increase the incidence of LBW. This can occur because anemia is the direct cause of prematurity and fetal growth is stunted. Another mechanism that contributes to the incidence of LBW is immune depression in patients with anemia which increases morbidity due to infection, such as urinary tract infections [15]. The incidence of anemia in this study was not only due to low nutrient intake during pregnancy but also due to lack of consuming iron tablets. This can be seen from the administration of iron tablets during pregnancy which is less than 90 tablets because pregnant women are not diligent in checking their pregnancy every month

V. CONCLUSION

Based on the results of research and discussion, the following conclusions can be drawn:

1. Pregnant women with anemia are 5.55 times more likely to experience LBW compared to pregnant women without anemia.

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Hemoglobin Level Analysis Of Student Achievement

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***Abstract*-Hemoglobin is a protein molecule in red blood cells that functions as a medium of oxygen transport from the lungs to all body tissues and carries carbon dioxide from the body's tissues to the lungs. About two-thirds of the body's iron is present in hemoglobin red blood cells. Hemoglobin levels less than 12 gr% will cause anemia. The main factor causing anemia is lack of iron intake. Anemia in adolescents can have an impact on decreasing work productivity or academic ability in school, due to lack of enthusiasm for learning and concentration. Academic achievement is one's success in learning. The purpose of this study was to determine the effect of student hemoglobin levels on learning achievement. The research methods are dependent T-test and dependent T-test. Paired sample t-test results obtained Sig value of 0,000 (p <0.05) which means it can be concluded that there is an impact or effect of giving hemoglobin levels on learning achievement.**

Keywords: Hemoglobin Levels, Adolescent Anemia, Learning Achievement

I. INTRODUCTION

Adolescent anemia is one of the public health problems, because the prevalence is above 20% [1]. Some studies have found a high prevalence of anemia in adolescents, including the results of [5]. studies, each of which received 41%, 25% and 88%, respectively. Anemia in adolescents is a state of hemoglobin levels in the blood lower than normal values. The threshold values for anemia according to WHO 2001 are for ages 5-1 1 year <11.5 g / L, 11-14 years 5 2, O g / L, adolescents over 15 years for girls <12, O g / L and boys <3, O g / L.

The emergence of anemia can be caused by a lack of food sources that contain iron, because iron is an important compound as a constituent of hemoglobin and this occurs because of improper dietary care, irregular and does not balance the adequacy of nutritional sources needed by the body [3]. With the occurrence of anemia in adolescents can have an impact on decreased work productivity or academic ability in school, due to the lack of enthusiasm for learning and concentration. Anemia can also interfere with growth where height and weight become imperfect. In addition, endurance will decrease so that it is susceptible to disease [4].

Boys and girls in their infancy need more energy, protein and other nutrients than other age groups. Sexual maturation in adolescents causes increased iron needs. The need for iron in adolescent girls is higher than for male adolescents, because it is needed to replace the iron lost during menstruation.

Academic achievement according to Bloom is revealing one's success in learning. According to [2], in general, there are two factors that influence one's academic achievement, namely internal factors and external factors. Internal factors include physical factors and psychological factors. Physical factors are associated with general physical conditions such as vision and hearing. Psychological factors concern non-physical factors, such as interests, motivation, talent, intelligence, attitude and mental health. External factors include physical factors and social factors. Physical factors concern the conditions of the place of learning, learning tools and facilities, subject matter and conditions. Learning achievement is the result or level of ability that has been achieved by students after following the teaching and learning process within a certain time either in the form of changes in behavior, skills and knowledge and then will be measured and assessed which is then realized in numbers or statements. Learning achievement in school is greatly influenced by general abilities as measured by intelligence quotient (IQ). High IQ can predict success on learning achievement, but cannot guarantee success in the community. Student achievement is not solely due to student intelligence, but there are other factors that can affect learning achievement [1].

II.MATERIAL AND METHOD

This research uses the method used in this study is the quasy experiment method with a one group pretest-posttest design. The number of research samples were 50 young women, sampling using purposive sampling. The research location is STIKes Kusuma Husada Surakarta.

Data Analysis Techniques In this study for data analysis using the statistical test method used is the Paried Sample Test that is by testing the hypotheses of two variables related to the value of the standard significance level α = 0.05

III. RESULTS

1. Univariate Analysis

Tabel 1.1 Distribution of Respondents by characteristics of age, education Characteristics

Characteristics Respondents	Variable	
	Amout	%
Age		
18 years	17	34
19 years	26	52
20 years	6	
21 years	1	12
		2
Education		
SD	0	0
SLTP	0	0
SLTA	50	100

Based on table 1.1 shows that the majority of respondents in the study were 19 years old, as many as 26 people (52%), and based on the level of education the majority of senior high school graduates were 50 respondents (100%).

Tabel 1.2 Results of measuring hemoglobin levels (N = 50)

Variabel	Mean	Minimum Hb Value	Maximum Hb value
Before Intervention	10.10	7.8	11
After the Intervention	10.58	8.2	12.2

Based on table 1.2 shows that the examination of hemoglobin levels was carried out at the beginning and end of the study. The results showed that the average initial Hb level was 10.10 g / dl with a minimum value of 7.8 g / dl and a maximum of 11 g / dl, the final average Hb level was 10.58 g / dl. with a minimum value of 8.2 g / dl and a maximum of 12.2 g / dl. The full picture can be seen in Figure 5.1 below.

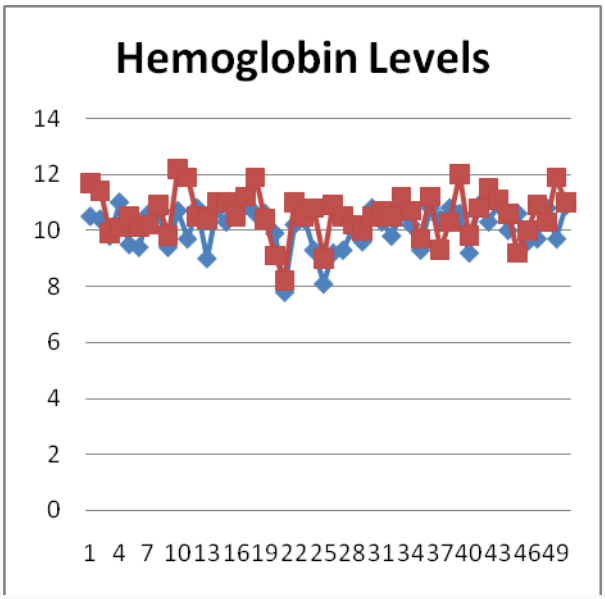
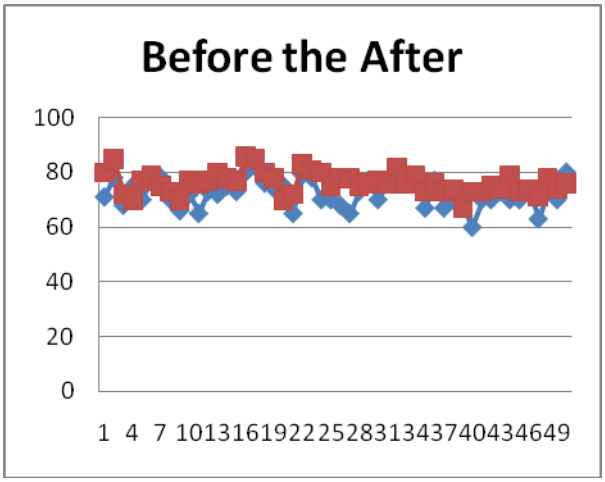


Figure 2.1 Hemoglobin levels before and after treatment

Table 2.2 Results of analysis of hemoglobin levels on student achievement (N = 50)

Variable	Mean	N	Maximum Hb value
Before Intervention	72.34	60	82
After the Intervention	76.32	67	86

Based on table 2.2 shows that the research was carried out at the beginning and end of the study. The results showed that the mean initial value was 72.34 with a minimum value of 60 and a maximum of 82, the average final value of 76.32. with a minimum value of 67 and a maximum of 86



2. Bivariate Analysis

Table 2.1 Test for normality of hemoglobin levels on student achievement (N = 50)

Variable	Mean	SD	Std. Error Mean	Sig
Before Intervention	72.3400	4.98410	.70486	.461
After the Intervention	76.3200	4.04788	.57246	.913

Based on table 2.1 above, it can be seen that the results of the normality test are intervened for 10 days, the significance value is greater than the alpha value, the learning achievements of students before and after the intervention are normally distributed so that using the paired sample t-test results can be seen in table 5.7 below

Table 2.2 Paired sample t-test for hemoglobin levels on student achievement (N = 50)

			95% CI			
Intervensi	Mean	SD	Lower	Upper	T	*Sig*
Therapy	-3.98	.4.17226	-5.16574	-2.79426	-6.745	0.000

Paired sample t-test results obtained t value: -6.745 and Sig value of 0.000 (p <0.05) which means it can be concluded that there is an influence of hemoglobin levels on student learning achievement

IV. DISCUSSION

1. Characteristics of Respodents

Based on the results of research conducted by 50 respondents. Obtained respoden age showed that the majority of the age of 19 years as many as 26 people (52%), this study is in line with research [5], entitled "The relationship of anemia and characteristics of pregnant women in Alianyang Pontianak health center" which states anemia occurs does not depend on age, but there are other factors that are more dominant, one of which is the emergence of anemia can be caused by a lack of food sources that contain iron, because iron is an important compound as a constituent of hemoglobin and this occurs because of the care of eating patterns that are wrong, irregular and do not balance the adequacy of nutritional sources needed body)[5].With the occurrence of anemia in adolescents can have an impact on decreased work productivity or academic ability in school, due to the lack of enthusiasm for learning and concentration. Anemia can also interfere with growth where height and weight become imperfect. In addition, endurance will decrease so that it is susceptible to disease [3].

Based on the level of education in this study the majority of high school educated as many as 50 respondents (100%). The majority experienced an increase in hemoglobin levels after consuming green spinach juice, guava and honey, because respodents obeyed the researcher's advice such as food diets. With higher education, someone will tend to get good information from other people like the mass media. Conversely, a lack of education will hamper one's development and attitude towards newly introduced values[2]. Analysis of the effects of combination therapy of green spinach juice, guava, and honey on hemoglobin levels

Paired sample t-test results obtained value of t: -6,745 and Sig value of 0,000 (p <0.05) which means it can be concluded that there is an effect of providing combination therapy of guava green spinach juice and honey on student achievement

Academic achievement according to Bloom [2], is revealing one's success in learning. By consuming spinach juice routinely and following all the restrictions that have been agreed upon so that the research works well there is an increase in hemoglobin levels and learning achievement. Because one of the effects of anemia on adolescents decreases work productivity or academic ability in school, due to lack of enthusiasm for learning and concentration. Anemia can also interfere with growth where height and weight become imperfect. In addition, endurance will decrease so that it is susceptible to disease[4].

V.CONCLUSION

Based on research with paired sample t-test values obtained Sig 0,000 (p <0.05) which means that it can be concluded that there is an impact or influence of hemoglobin levels on learning achievement

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This research is the duty of the author.

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Relationship Between Exclusive Association With Diarrhal Events In Age 0-6 Months In Puskesmas Gambirsari Surakarta

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***Abstract*—Objectives: Population of the study was all postpartum mothers who gave birth normally and vaginal births in the area of Public Health Center Gambirsari Sector II Surakarta. Sample in this study was postpartum mothers from March to August 2019 (23 postpartum mothers). Results and Discussion: The table of exclusive delivery relationship with diarrhoea incidence rate in babies aged 0-6 month in Gambirsari Health center Surakarta also shows p value of 0.006 and this figure is significant (p < 0.5). This value indicates the relationship between exclusive *"ASI"*-feeding and diarrhea incidence rate.**

Keywords— ***Exclusive breastfeeding, diarrhea, infants aged 0-6 months***

I. INTRODUCTION

Mothers after childbirth faces various obstacles, one of them is the perception that is not consistent with health advice. The new paradigm of postpartum care emphasizes that postpartum mothers are healthy mothersand it is physiological events, therefore, the principle of postpartum care is oriented on the maternal independence. The roles as parents arerelated to participation or cooperation between mothers and family (husband) and other family members [13]. The other obstacles in the postnatal care are still found as people's assumption that postpartum mothers are sick mothers, their mobilization is inhibited, their types of food are restricted, colostrum breastfeeding is inhibited so that the needs of postpartum mothers are prioritized for full bedrest. The involvement of extended families in the infant care has thus far been misinterpreted, in which infant care is left to other family members [5].

This condition makes puerperal women feeling unprepared on their development and care for themselves and their babies. Therefore, the importance of learning in the postnatal period aims to adapt mothers and families to participate in the mothers and newborn care through postnatal education. One of the ways to optimize postnatal education efforts is family involvement. Having family support through the FCMC approach is expected to have optimal abilities to adapt maternally during the puerperium and the ability to care for babies [4].

II. MATERIAL AND METHOD

A. Procedure

This study is an analytical observational research with a type of latitude or Croos Sectional study to determine the exclusive "ASI" -feeding relationship to diarrhea incidence in babies aged 0-6 months. This latitude method is a method of observing free variables (exclusive feeding) with dependent variables (the incidence of diarrhea in babies) only once at the same time [1]

B. Data Analysis

Respondents in this study were divided into two groups, namely the control group and the intervention group. The control group was only observed in the hospital, and the intervention group was observed and intervened in the form of hold relax therapy for 15 minutes and one time a day for three days.

III. RESULTS

This research was conducted from January 2019 in the area of Public Health Center Gambirsari, Banjarsari Subdistrict, Surakarta Sector II with 28 postpartum mothers as the sample of this study. We collaborated with community health workers and had home visits to postpartum women. On the first home visit, we explained the purpose of the study and asked the respondents to fill the questionnaires about the mother's attitude in postpartum care. Then, we made an agreement with respondentsrelated to their willingness accompanied by family and community health workers and health workers and implemented Family Centered Maternity Care method in postnatal care for 5 days. Finally, we gave questionnaires to postpartum mothers related to postpartum maternal attitudes.

This study consisted of three characteristics of respondents such as age, parity and education that the data can be seen in the following table.

1. Age

Table 5.1 Distribution of Frequency : Respondent Characteristics by Age

Age	N	Percentage (%)
< 20 years	2	8,7
20-35 years	19	82,6
>35 years	2	8,7

: Respondent Characteristics by Education

Education	N	Percentage (%)
Secondary school	4	17,4
High school	15	65,2
University	4	17,4
Total	23	100

Source (Primary data,2019)

Based on table 5.2, the majority of respondents had high school level about 15 respondents (65.2%).

3. Occupation

Table 5.3 Distribution of Frequency Respondent Characteristics by Occupation

Occupation	N	Percentage (%)
No occupation	12	52,2
Occupation	11	47,8
Total	62	100

Source (Primary data,2019)

Based on table 5.3 the majority of respondents did not work about 12 respondents (52.2%).

Data obtained from the study was analyzed using the Wilcoxon test analysis method as to determine differences in the attitude before and after the intervention because the data was not normally distributed then using the Wilcoxon test. The following are the results of the analysis of the research data.

1. Test of the effect of the implementation of the FCMC approach to the Postpartum Mother's Attitude.
2. The Test of the Effect of the Application of the FCMC approach to the Postpartum Mother's Attitude between pre and post-test group can be seen in the following table:

Attitude	Pre-Test	Post-Test	p-value
Mean (SD)	44,9 (1,3)	49,5 (2,1)	0,000*
Median	45,0	49,0	
	(41,0-47,0)	(44,0-52,0)	

*) Uji Wilcoxon

Total	23	100

Source (Primary data,2019)

Based on table 5.1, the majority of respondents aged 20-35 years was 19 respondents (82.6%).

2. Education

Table 5.2 Distribution of Frequency

3. Overview of Respondent Attitude Scores in Accordance with Indicators

Fig. 1. Variable/Attitude indicator	Fig. 2. Pre-Test	Fig. 3. Post-Test	Fig. 4. Nilai p
Fig. 5. **Perineum care**			
Fig. 6. Mean (SD)	Fig. 7. 7,9 (0,28)	Fig. 8. 8,08	Fig. 10. 0,46*
		Fig. 9. (0,51)	
Fig. 11. Median (Rentang)	Fig. 12. 8,0	Fig. 14. 8,0	Fig. 16.
	Fig. 13. (7,0-8,0)	Fig. 15. (7,0-9,0)	

IV. DISCUSSION

The exclusive of"ASI"-feeding only provides "ASI" without the addition of any food except drugs or vitamins. "ASI"-feeding is one of the attempts that babies are not susceptible to diarrhea. One of the causes of diarrhea is that babies are not given "ASI" exclusively. According to Riskesdas 2007 stated that the incidence of diarrhea in babies aged 29 days – 11 months is the most vulnerable age group infected with diarrhoea disease.

"ASI"-feeding is exclusively able to decrease the baby's pain and mortality rate as the infant given the "ASI" exclusively has a better immune system compared to babies who are not exclusively "ASI"-feeding. According to Matodang, et al (2008) that immunoglobulin "ASI" is not absorbed but contributes to the local immune system of the intestines. "ASI" also increases Ribs in the mucous membranes of the respiratory tracts and the baby saliva gland.

Table of exclusive "ASI"-feeding relationship with diarrhea incidence rate for infants aged 0-6 months at the Gambirsari Clinic in Surakarta showed that the incidence of diarrhea in infants who received an exclusive "ASI" of 5 babies (25%) And this figure is lower than the incidence of diarrhea in babies does not get an exclusive "ASI" of 15 babies (75%). The number of babies who have never been diarrhea is higher in a group of babies who received exclusive "ASI", which is 25 infants (62.5%) Compared to the babies who do not get exclusive "ASI", which is 15 babies (37.5%). Based on the data, there is a result that the incidence of diarrhea in babies who do not get the exclusive "ASI" is higher than that of babies who get exclusive "ASI". These results indicate that babies who do not have exclusive "ASI" are more susceptible to diarrhea.

"ASI" is not only be a nutritional source can provide protection to babies through the various immune substances they contain. Although the mother is undernourished though, "ASI" still contains essential nutrients sufficient for babies and is able to cope with the infection through phagocytes and immunoglobulin cells (Hypoasir and Kurniati, 2008). While according to Sunardi (2008), in "ASI" there is an antigen on Helicobacter Jejuni to the conversion of diarrhea. Its level in the kolostum is high and decreases at the age of 1 month and then settled during lactation.

The table of exclusive delivery relationship with diarrhoea incidence rate in babies aged 0-6 month in Gambirsari Health center Surakarta also shows p value of 0.006 and this figure is significant ($p < 0.5$). This value indicates the relationship between exclusive "ASI"-feeding and diarrhea incidence rate. The same relationship has also been proved by Maretha (2016) in his research that connects the exclusive "ASI"-feeding with the incidence of baby diarrhea in Nanggalo Padang Puskesmas area. The results of the study show the number $p = 0.014$ which is significant and meaningful ($p < 0.5$). In accordance with the civil research on the relationship of exclusive delivery with acute diarrhea incidence rate in babies aged 0-1 years in thePadang City Kuranji Clinic show the results showed the number $p = 0.001$ which is significant and meaningful ($p < 0.5$).

V. CONCLUSION

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

Characteristics of the majority of respondents aged 20-35 years about 19 respondents, the majority of Secondary Education about 15 respondents and mothers do not work about 12 respondents.

The average postpartum maternal attitude score in perineal care at pretest is 44.9

The average postpartum maternal attitude score in perineal care at the post-test is 49.4

Statistical test results show that the value of ρ is 0,000 (<0.05), which means that there is an effect on the implementation of the family centered maternity care method.

Acknowledgment

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The Pregnancy Preparation Knowledge Increase of The Risky Bride Candidates through Preconception Health Education

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Abstract-------**Introduction: Every bride candidate is a prospective mother who is responsible for the quality of newborn babies. Unfortunately the awareness of bride candidates on preconception health is low so they bring risk factors affecting pregnancy and outcome. The lack information about preconception health is one of the causes of the large number of bride candidates at the pregnancy risk. Objectives: This research analyzed effects of preconception health education with booklet on knowledge of pregnancy bride candidates at risk. Method:The quasi-experiment research of pre-posttest design with control groups was conducted in 4 Offices of Religious Affairs in Surakarta. 60 bride candidates were divided into control and intervention groups comprising 30 subjects/group selected by consecutive sampling. Comparison of increased knowledge between the two groups was tested with the Mann Whitney test. The booklet effect on the knowledge of bride candidates at the pregnancy risk was calculated from the value of Risk Ratio (95% CI). Result: There is an increase in knowledge of 80.9% for bride candidates who get preconception health education with booklets. Subjects who get preconception health education with a booklet had 1.14 times the opportunity to experience an inrease in knowledge compared to the control group. Conclusion: The conclusion of this research is preconception health education with booklet can increase pregnancy preparation knowledge of bride candidates at risk.**

Keywords: Education, Preconception Health, Booklet, Knowledge, Bride Candidates at Risk

I. INTRODUCTION

Preconception is the period before the pregnancy. Women's health status during preconception or before pregnancy determines the health of the mother and baby during pregnancy, childbirth, and postpartum. Care received at this period is one component of health services needed by every woman. Every bride candidate is a prospective mother who is responsible for the quality of newborn babies. [1,2]

The previous studies showed that a lot of women enter the pregnancy period with lacking self-awareness, knowledge, attitudes, and behavior related to preconception health which influenced their overall health [1,2]. Data on Basic Health Research (Ministry of Health of Republic Indonesia) in 2013 stated that there were Women of Reproductive Age who have Chronic Energy Deficiency (CED) without pregnancy (20.8%), CED with pregnancy (24.2%), the age> 18 years are obese (32.9%), anemia (23.9%), and anemia with pregnancy (37.1%). It also mentioned that there were women who are active smokers (2.1%) and women who have a habit of chewing tobacco (4.8%) [3].

Health education is one of the main components of preconception care. Studies shows that preconception education increase understanding about preconception health, increase self awareness of preconception health, motivate the women to change their attitudes, lifestyle, and behaviour in improving their health status during the preconception period [2].

Preconception health education is delivered to all of women in the reproductive age, especially women with risk factors for pregnancy. The media is one of the factors that determine the success of health education [4]. The booklet is one of the health education media that is widely used because it is able to provide complete information on a topic but is presented concisely. This research analyzed effects of preconception health education with booklet on knowledge of pregnancy bride candidates at risk

II. MATERIAL AND METHOD

This quasi experiment pre and post test with control group study was conducted in Surakarta from January through March 2018. The subjects of this study

were bride candidates registered in 4 Office of Religious Affairs in Surakarta. A total 60 samples divided into an intervention group (30 samples) and the control group (30 sample). The intervention group was a group that was given education about preconception health including physical pregnancy preparation, nutrition, tetanus immunization, reproductive organ health, and mental health with a booklet, while the control group was a group that was given education through a general program from Office of Religious Affairs. The research group was selected by simple random sampling technique, while the samples in each research group were selected by consecutive sampling technique.

Data collected by characteristics and knowledge questionnaires. The knowledge questionnaire was developed from the *A Reproductive and Sexual Health for Bride Candidates* Pocketbook from the government and preconception health booklet. It has been tested for its validity and reliability, while the preconception health booklet has been reviewed by media experts and Obgyns. Data were tested by Mann Whitney test and Chi Square test.

III. RESULT

The result showed that most of the respondents in the control and intervention group were aged 21-34 years (83%-87%), had high school education (77%-83%), and were workers (80%-83.3%). The characteristics of the respondents from the two groups are in Table 1.

TABEL 1: RESPONDENTS' CHARACTERISTICS ON CONTROL GROUP AND INTERVENTION GROUP

Characteristics	Group		p Value
	Control n = 30 (%)	Intervention n = 30 (%)	
Age			**1.000***
16-20 years	**5 (16.7)**	**4 (13.3)**	
21-34 years	**25 (83.3)**	**26 (86.7)**	
Education			**0.298****
≤Junior High School	**7 (23.3)**	**5 (16.7)**	
Senior High School	**11 (36.7)**	**17 (56.7)**	
College	**12 (40)**	**8 (26.6)**	
Occupational status			**0.739****
Unemployed	**5 (16.7)**	**6 (20)**	
Worker	**25 (83.3)**	**24 (80)**	
Income			**0.605****
Low (≤ Rp 1.500.000,-)	**15 (50)**	**17 (56.7)**	
High (>Rp 1.500.000,-)	**15 (50)**	**13 (43.3)**	

NB:*) Fisher Test, **) Chi Square Test

There was a significant difference (p=0.000) in knowledge increase between the two groups after education. In the control group there was an increase in knowledge by 40.1%,whereas in the intervention group, there was an increase in knowledge by 80.9% (Table 2)

TABLE 2: THE KNOWLEDGE INCREASE OF THE RISKY BRIDE CANDIDATES AFTER EDUCATION

Knowledge (Score 100)	Groups		p -value *
	Intervention n = 30	Control N = 30	
Before Education			
Median	**50.00**	**50.00**	
Range	**41.67-66.67**	**41.67-66.67**	
After Education			
Median	**87.50**	**70.83**	
Range	**75.00-100.00**	**62.5-87.5**	
Increase (%)	**40.1**	**80.9**	**0.000***

NB:*) Mann-Whitney Test

The effect of preconception health education with the booklet is calculated from the value of Risk Ratio (95% CI). Respondents who received preconception health education with a booklet had 1.14 times the opportunity to experience an inrease in knowledge compared to the control group (Table 3).

TABEL 3: THE EFFECT OF PRECONCEPTION HEALTH EDUCATION WITH THE BOOKLET

Group	Low n (%)	High n (%)	Total	p Value*	RR (CI 95%)
Control	11 (36.7)	19 (63.3)	30 (100%)	0.037	1.14
Intervention	5 (16.7)	25 (83.3)	30 (100%)		

NB: *) Chi Square Test

IV. DISCUSSIONS

Table 1 indicated that there was no significant difference in respondents' characteristics (age, education, occupation, and income) (p>0.05) between two groups. It showed that both groups were homogeneous and they could be compared.

Health education is an attempt to achieve changes in health behavior by emphasizing the provision of information or increased knowledge and attitude. One of the success of health education is determined by the educational media used [4,5]. The booklet is one of the health education media that allows

the presentation of information in more detail than the leaflet, but is more concise than the book [5].

The result of the analysis in table 2 indicated that education with the booklet in this study is effective in improving preconception health knowledge of the risky bride candidates. There was an increase in knowledge by 80.9% in the intervention group, whereas in the control group there was only an increase in knowledge by 40.1%. This is in line with Lanita's research (2015) which shows that health education can significantly increase knowledge with a value of p <0.05 [6]. Other studies conducted by Priani (2019) also provide results that preconception education with booklets is effective in increasing knowledge about physical health, nutrition, and lifestyle in the period before pregnancy / preconception [2]. Knowledge, awareness, and attitude are behaviour change predictors. Efforts to increase knowledge are the initial steps needed to increase awareness, attitudes, and individual positive behavior. About 75-87% of the most knowledge is obtained through the eyes [4].

Interesting finding in this study is on intervention group getting the preconception health education with the booklet. The preconception health knowledge of the respondents in the intervenion group had the opportunity to increase by 1.14 times compared to the control group after education. Table 3 showed that there were 5 respondents with lack knowledge and 25 respondents with good knowledge in the intervenion group. However in the control group, after being educated, there were 11 respondents with lack knowledge and 19 respondents with good knowledge. Health education is one way to improve one's knowledge. The media is one of the factors that determine the success of education. The media allows somebody to increase understanding of the information conveyed [7]. The booklet is able to help increase material absorption and focus information knowledge received by somebody [8]. Some research results show that the booklet is one of the effective health education media in increasing the knowledge of an individual's reproductive health. Priani research (2019) states that preconception health education with a booklet given to prospective brides is effective in increasing the knowledge and attitudes of couples in preparing for pregnancy [2]. Related research conducted by Irawati (2019) also mentioned that the booklet could be used to improve the knowledge and health attitudes of the prospective brides in preventing a risky pregnancy [7].

V. CONCLUSION

The findings in this study indicate that preconception health education with booklets on risky bride candidates effectively increases the knowledge of the risky bride candidates in pregnancy preparation. There was an increase in knowledge by 80.9% in the intervention group, whereas in the control group there was only an increase in knowledge by 40.1%. The preconception health knowledge of the respondents in the intervenion group had the opportunity to increase by 1.14 times compared to the control group after education.

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Prevalence And Risk Factors Of Postnatal Depression In Asia: A Narrative Review

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***Abstrac*-Postpartum depression is a mood disturbance that can occur within the first year after childbirth. The prevalence of PPD varied from 0.5% to 60.8% worldwide and from 5.2% to 74.0% in developing countries [1]. This narrative review aimed to update the current prevalence and explore risks factors among women experienced postpartum depression in Asia. A search of electronic databases from January 2016 to January 2020 such as Scopus, CINAHL, MEDLINE, PUBMED, and Sciencedirect was conducted. Thirty one articles met the inclusion criteria. Analysis revealed 6 themes: socio-demographic factors, psychological factors, child-related factors, physical factors, obstetric factors, and cultural factors. From relevant studies in eighteen Asian countries, the prevalence of maternal depression varied from 4.8% to 49.6% with the lowest prevalence in Turkey and the highest prevalence in Jordan. The risk factors of postnatal depression in Asia were socio-demographic factors (maternal age, educational level, low income, occupation, living in an extended family, smoking habit of husband, drinking habit of the husband, management of birth cost by borrowing, selling or mortgaging assets, immigration, poor relationship with mother in-law, poor relationship with husband, and ethnicity), psychological factors (antenatal depression, stressful life events, history of previous depression, family history of depression, childcare stress, dissatisfaction with husband and family, self-esteem, low psychological well-being, domestic violence, and social support), child-related health problems), physical factors (poor quality of sleep, inadequate resting during pregnancy, exercise after giving birth, appetite changes), obstetric factors (unplanned pregnancy, parity, breastfeeding, complications during antenatal and intranatal period, the history of abortion, diabetes mellitus, postpartum haemorrhagic, anaemia, hypertension, multiple pregnancy, and hypotiroidism), and cultural factors (gender baby preference and inconsistency of expected sex). It is concluded that the prevalence of postpartum depression in Asia varies greatly and most studies conducted in Asian countries emphasized social and demographic factors and psychological factors. Moreover, obstetric, physical, and child-related factors which can develop postpartum depression have not been fully explored. To overcome the gap in the review, it needs further researches about postpartum depression in Asian countries particularly in exploring these factors. Longitudinal studies using large samples are encourage generating samples into population. In addition, more qualitative researches are required to explore mother's experiences in postnatal period factors (infant birth weight, infant**

Keywords: postpartum depression, risk factors, prevalence

I. INTRODUCTION

Postpartum depression (PPD) is one of commonly public health issues experienced by mothers in the postnatal phase. It is a non-psychotic depressive episode which starts in the postnatal period and occurs at any time within one year after childbirth [2]. The symptoms of postnatal depression are severe mood swings, sadness, anxiety, sleep and appetite disturbance, worthlessness, poor concentration, thoughts of harming the baby and suicide attempts (American Psychiatric Association 2013 [3]). A recent systematic review and meta-analysis from 56 countries reported that the prevalence of postnatal depression worldwide was 17.7% ranging from 3% (Singapore) to 38% (Chile) [4]. In Asian countries, the prevalence of postnatal depression varied from 3.5% to 63% with Malaysia was the lowest and Pakistan was the opposite [5].

Postpartum depression has short and long-lasting consequences for mothers and their infants. Postnatal depression has been correlated with adverse effects not only on mother' morbidities, 'but also on the physical, cognitive and emotional development of their children' ([6], p.10) including bonding impairment between mothers and their newborns [7]. Women with PPD had lower emotional bonding with their babies within 2 – 3 months after childbirth [8]. Postnatal depression also improves the hazard of negative infant feeding outcomes including initiating and maintaining breastfeeding, the shorter duration of lactation, lowers level of lactation self-efficacy, and increased lactation difficulties [9].

The negative effects of PPD on mothers and their ability to care their infants underlie the importance of detecting and treating postpartum depression. Around 50% of cases of postpartum depression was undetected, therefore, women suffering PPD do not receive any treatments world [10]. Many screening tools and diagnostic instrument have been utilised to detect postpartum depression in the world, however, the Edinburgh Postnatal Depression Scale (EPDS) was the most common used to measure this depression. It is a self-reported questioner which consists of 10 items to describe mother's feeling in the past seven days ranging from 0 to 30 (a higher score indicating a higher possibility of postpartum depression) [11]. Early screening and prevention using this tool is needed to identify risk factors of PPD which later provides timely prevention

interventions, however, numerous studies have been published with inconsistent results regarding this issue.

Asia, one of the most populous continents, has five geographical regions including Western Asia, Central Asia, South Asia, Southeast Asia, and East Asia. Asian countries have various languages, social, economic and cultural settings, and viewpoints of psychological health which influence mothers' mood in the postnatal period [5]. The aim of this review is to conduct a narrative review of the literature in updating the current prevalence and exploring risk factors among women experienced postpartum depression in Asia. This will give more understanding about phenomena of maternal depression in Asia.

The following questions guided the review:

1. What is the prevalence of postpartum depression in Asia?
2. What are the factors increasing the risk of maternal depression in Asia?

II. MATERIAL AND METHODS

A narrative review of literature was undertaken the study to update the recent prevalence and explore risk factors of postpartum depression in Asian countries.

Procedure

Search strategy

A search of electronic databases was conducted using keywords and advanced search term strategies including plotting to subject headings and truncation of specific words in to choose relevant literature. Databases such as MEDLINE, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Sciencedirect, Scopus, and PubMed were selected to identify specific fields of information about the prevalence and contributing factors in an elevated risk of postnatal depression. Boolean Logic Operators was used as a strategy to combine keywords in these databases by utilizing AND and OR. In addition, pertinent keywords were determined to focus on aspect for terms and user-centred terms including alternative words, synonym and different spelling. Common uses of keywords to portray depression in the postpartum phase were shown in the table below.

TABLE 1: KEYWORDS USED IN THE SEARCH STRATEGY OF THE REVIEW

"Postpartum Depression"	"Protective Factors"
"Postnatal Depression"	"Asia"
"Puerperal Depression"	"Asian Countries"
"Maternal Depression"	"Asian Women"
"Puerperal Disorders"	"South Asia"
"Depressed Women"	"East Asia"
"Prevalence"	"Central Asia"
"Risk Factors"	"South East Asia"
"Contributing Factors"	"Western Asia"

Inclusion and exclusion criteria

Over decades, large number of studies has been published related to depression among women in postpartum period. Hence, the inclusion and exclusion criteria have been decided to limit the scope of literature findings and identify relevant studies which described about risk factors for postnatal depression.

Inclusion and exclusion criteria:

1. Primary sources
   Systematic reviews, meta-analysis, letters to the editor, editorials, discussion papers, brief research summaries, commentaries, conference abstracts and grey literature studies were excluded in the search findings. All qualitative, quantitative or mixed methods research articles that reported prevalence and risk factors of depressed woman after giving birth were included in the review.
2. Postpartum depression assessment tools
   Sources had to state the assessment methods for postnatal depression to show the reliability and validity of the studies.
3. Human studies
4. Articles published in the last 5 years (from 2016 to 2020)
5. Articles in English language.
6. The identification the time of postpartum depression assessment.
   Depression experienced by mothers with over 1 year of postpartum period was excluded
7. Risks factors of postpartum depression
   The association between variables as risk factors and postpartum depression were clearly described using appropriate approaches.

Study selection, critical appraisal, and data extraction

The process of the literature review is presented in by using flowchart adapted from Ferrari (2015) [12]. 608 records were screened from several databases and 206 duplicated articles were rejected. Of the remaining 402 articles, 324 were excluded after screening titles and abstracts, as they were not relevant in the review. A further 78 articles were assessed in full text version and 47 articles were removed for review as these articles had no clear methods described. In addition, some articles reported postpartum depression for more than one year after giving birth. Finally, the author found 31 articles which met the inclusion criteria of the review.

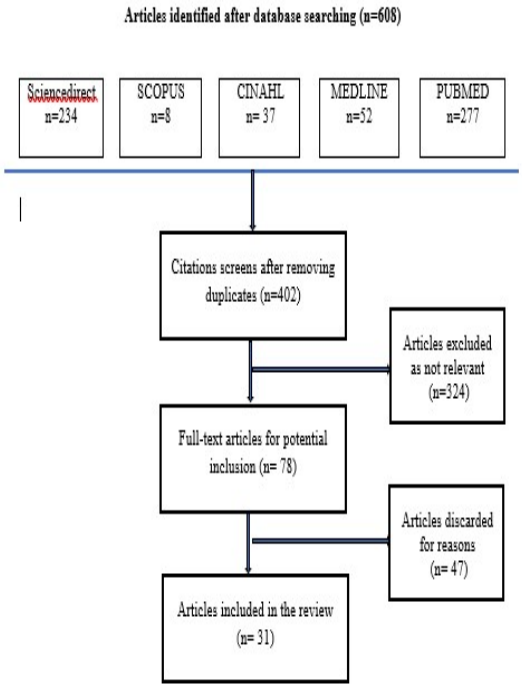

Fig. 1 Flowchart of literature retrieval process adapted from Ferrari (2015)

The data from selected studies was extracted such as author(s), year, country of origin, sample size, Instruments for assessing PPD, cut off score, time assessment, and prevalence of postpartum depression as described in table 2.

To determine the methodological quality of retrieved studies, the Critical Appraisal Skills Programme (Critical Appraisal Skills Programme (CASP) 2019) was utilised to appraise quantitative studies in the review [13]. The critical appraisal tools were required to evaluate the studies, investigate the reliability between the research problems and methods, and assess whether the findings were pertinent to the practice [14].

III. DATA SYNTHESIS

Study designs of 31 retrieved studies consisted of seventeen cross-sectional studies and fourteen cohort studies. A descriptive narrative synthesis was undertaken for this review. Firstly, retrieved articles were fully read and the results were coded independently into two themes based on the aim guiding the review: (1) prevalence of postpartum depression in Asia; (2) risk factors of postnatal depression in Asia. The risk factors of postnatal depression in Asia were categorised into socio-demographic factors, psychological factors, child-related factors, physical factors, obstetric factors, and cultural factors.

IV. RESULTS

A total of 31 studies conducted in 18 countries were selected in the review. Described in relation to regions in Asia, 10 studies were conducted in South Asia (Bangladesh n=2, India n=3, Pakistan n=2, Nepal n=2, Srilanka n=1), 13 in Western Asia (Turkey n=2, Jordan n=2, Israel n=3, Iran n=3, Uni Emirate Arab n=1, Palestine n=1, Syria n=1), 4 in Southeast Asia (Thailand n=1, Vietnam n=2, Indonesia n=1), and 4 in East Asia (Japan n=2, China n=1, Taiwan n=1). All retrieved studies were written in English. Thirty one articles used a quantitative design (17 cross-sectional studies and 14 cohort studies). Additionally, time assessments for detecting postpartum depression varied from one week to one year after giving birth. Sample sizes of the selected studies in the review ranged from 84 to 96.131. Most respondents were recruited from hospitals / university hospitals / maternity and child health clinics (n=14, 45.2%) and public health centres (n=10, 32.2%), urban and rural areas (n=5, 16.1%), and the electronic patient databases (n=2, 6.4%).

Measurements of postnatal depression

Some instruments are used to detect the symptoms of postnatal depression in Asian mothers. In this review, the self-reported Edinburgh Postpartum Depression Scale (EPDS) was the most commonly used (93.5%n=29), Hamilton rating scale for depression (3.2%, n=1), and the Depression, Anxiety, and Stress Scale (DASS) (3.2%, n=1). All of retrieved articles included in the review used various local language version of EPDS, HRS and DASS. Cut off scores for postpartum depression instruments in the selected studies varied for each instrument, for instance, the EPDS (8/9 – 13) and DASS (8), but cut off score for Hamilton rating scale for depression in one study was not described (Table 2).

TABLE 2: DATA FROM SELECTED STUDIES IN THE REVIEW

No	Countries	Authors	N	Instruments For assessing PPD	Cut off	Time Assessment	Prevalence
East Asia							
1	Taiwan	Lin et al. 2019	234	EPDS	12/13	1 month	5.1%
2	China	Xiong & Deng 2019	1124	EPDS	≥13	6 months	18.%
3	Japan	Iwata et al. 2016	3769	EPDS	≥8/9	1, 2, 4, and 6 months	8.4%
		Honjo et al. 2018	96.131	EPDS	≥9	1 month	9%
South Asia							
4	Bangladesh	Azad et al. 2019	376	EPDS	≥10	1 year	39.4%
		Sharmin et al. 2019	400	EPDS	≥13	6–8 months	25.7%
5	India	Agarwala et al. 2019	410	EPDS	≥10	6 months	21.5%
		Joshi &Raut 2019	300	EPDS	≥10	1 year	19%
		Bhuvana et al. 2016	236	HRS	-	6 months	31.4%
6	Pakistan	Anjum & Batool 2019	400	EPDS	≥10	1 year	41%
		Shah & Lonergan 2017	434	EPDS	≥10	6 weeks – 1year	17.3%
7	Nepal	Maharjan et al. 2019	330	EPDS	≥13	12 weeks	15.2%
		Bhusal & Bhandari 2018	346	EPDS	≥12	4-14 weeks	17.1%
8	Srilanka	Fan et al. 2020	1349	EPDS	≥10	10 days &10weeks	15.5% & 7.8%
South East Asia							
9	Thailand	Phoosuwan et al. 2019	449	EPDS	≥11.5	1&3 months	6.47%&6.68%
10	Vietnam	Do et al. 2018	116	EPDS	≥12	1 year	27.6%
		Vo et al. 2017	600	EPDS	12/13	4 weeks – 6 months	19.3%
11	Indonesia	Norbaeti et al. 2019	166	EPDS	≥12	6 months	19.88%
Western Asia							
12	Turkey	Topatan&Demirci 2019	84	EPDS	≥12	4 weeks, 6 months, a year	22.6%
		Shahin & Seven 2019	497	EPDS	≥13	4 - 6 weeks	4.8%
13	Syria	Roumieh et al. 2019	1105	EPDS	≥13	4 - 6 weeks	28.2%
14	Jordan	Mohammad et al. 2018	365	EPDS	≥13	6–8 weeks	49.6%
		Mohammad et al. 2019	324	DASS	≥8	6-8 weeks	45.4%
15	Israel	Adler et al. 2019	27.520	EPDS	≥10	-	4.9%
		Simhi et al. 2019	1000	EPDS	≥10	9 weeks	8.4%
		Shwartz et al. 2019	1128	EPDS	≥10	6 weeks to 6 months	10.3%
16	Iran	Afshari et al. 2019	505	EPDS	≥13	2 weeks – 6 months	38.8%
		Zarghani et al. 2019	2279	EPDS	≥13	Within 12 weeks	20.1% & 17.8%
		Abdollahi et al. 2016	1910	EPDS	>12	6 months	19%
17	UEA	Alhammadi et al. 2017	504	EPDS	≥10	1 week to 6 months	33%
18	Palestine	Qandil et al. 2016	101	EPDS	≥11	1 week to 6 months	27.7%

EPDS = Edinburgh Postpartum Depression Scale, DASS = Depression Anxiety and Stress Scale, HRS = Hamilton Rating Scale

Prevalence of postpartum depression in Asia

From relevant studies in eighteen Asian countries, the prevalence of postpartum depression was from 4.8% to 49.6% in one week - one year after childbirth. The lowest and the highest prevalence of postpartum depression were in Turkey and Jordan, respectively. These countries were located in western region of Asia. Eighteen cross-sectional studies showed a prevalence rate of postpartum depression ranging from as low as 4.9% to as high as 49.6%. On the other hand, the prevalence of postpartum depression in thirteen cohort studies was varied from 4.8% to 31.4%.

Based on screening tools for postpartum depression, we found 29 studies using translated and validated EPDS into various local language versions to detect the symptoms of postpartum depression with the range of cut – off scores retrieved was 8/9 to 13. These studies revealed wide variation in the prevalence of postpartum depression was 4.8% to 49.6%. Hamilton rating scale was used in one study in India with the prevalence of postpartum depression at 31.4% in 6 months after childbirth [15]. One study in Jordan reported a maternal depression prevalence of 45.4% in 6 – 8 weeks postpartum using Depression Anxiety and Stress Scale (DASS) (cut – off score ≥8) [16]. The variation of postnatal depression in Asia may indicate the actual prevalence in each nation or probably from methodological limitations among studies.

Risk factors of postpartum depression in Asia

Sociodemographic factors

The factors which fall into this category were maternal age, educational level, low income, occupation, living in an extended family, smoking habit of husband, drinking habit of the husband, management of birth cost by borrowing, selling or mortgaging assets, immigration, poor relationship with mother in-law, poor relationship with husband, and ethnicity.

One of socio-demographic factors, maternal age, was identified as a potential trigger of postnatal depression. The majority of postpartum depression cases were found among Indian mothers in the age of 21 – 25 years (55.4%) and in the age of 16 – 20 years (24.3%) [15][15]. This finding was consistent with a study by Sharmin et al. (2019) and Iwata et al. (2016) that reported younger mothers (under aged 20 years) had significantly higher of EPDS score than older mothers (above aged 31 years) [17, 18]. In addition, identifying these symptoms in the one year after postpartum using EPDS score showed a significant decline in accordance with increased age, 'suggesting that PPD disappears more rapidly among older mothers' [19], p. 517. On the other hand, Xiong and Deng (2019) and Adler et al. (2019) found that older mothers were associated with postpartum depression [20, 21] and Shwartz et al. (2019) did not find any links between maternal age and the symptoms of postpartum depression [22]. These inconsistent findings from a number of studies indicate that more research into the association between mothers' age and postpartum depression is needed.

There were contradictory findings between educational level and maternal depression. No significant differences were identified in the educational level between mothers with postnatal depression symptoms and mothers without postnatal depression symptoms in Nepal and China [20, 23, 24]. Seven studies reported a significant association between lower educational level and postnatal depression in Vietnam, Bangladesh, India, Turkey, Syria, Israel, and Iran [19, 22, 25-29]. Lower level of education of the mothers may affect the access of health education and health care and adaptation of healthy behaviour. Mothers with higher level of education might have understood the information about physical and psychological changes and complication that might have happened in their body after giving birth [23]. Inconsistent with prior findings, mothers in India with higher level of education were linked with depression during postnatal period. Educated mothers might work outside, therefore, they had the lack of time to take care their baby and household chores. Additionally, stress at work might also increase the risk of postpartum depression They also might learn from any sources about the symptoms of postpartum depression and provide adequate information when they completed the EPDS [30].

Some studies found that low income was not correlated with the prevalence of postpartum depression in Nepal, Turkey and China [19, 20, 24]. On the contrary, A study by Phoosuwan et al. (2019) found that mothers in Thailand had a temporary job and low individual income [31]. They might also be worry about their economic well-being, later may develop the symptoms of postpartum depression. This is in line with a study by Mohammad et al. (2018) among Syrian refugee mothers in Jordan that had a limited chance to earn money [32]. The other factors, occupation was documented to be significant factors for maternal depression. Employed women are more likely to experience postpartum depression than unemployed women. Women who left their job due to pregnancy are more common to have postpartum depression [26]. Hence, women could not make financial contributions to the family and became financially dependent on their spouse [33]. On the contrary, three studies did not report similar findings [16, 20, 34].

Living in an extended family was more likely to develop postpartum depression [28, 29, 35]. In Japan, the risk of postpartum depression differed by the family members a mother lived since she was pregnant. Approximately 26.9 % of mothers living with parents-in-law tended to have postnatal depression. On the other hand, living with their spouse, children, or parents were linked with a decreased risk for postpartum depression. Therefore, high level of spouse's support for childcare may be required to minimize the effect of living with other family members [35]. The other socio-demographic factors such as smoking habit of husband, drinking habit of the husband [24], management of birth cost by borrowing, selling or mortgaging assets [26], immigration [36], poor relationship with mother in-law [20, 24], poor relationship with husband [15, 23], and ethnicity [21, 22, 24] were associated with postpartum depression.

Psychological factors

Regarding psychological factors, antenatal depression, stressful life events, history of previous depression, family history of depression, childcare stress, dissatisfaction with husband and family, self- esteem, low psychological well-being, domestic violence, and social support were all associated with postpartum depression. Antenatal depression was a strong predictor of depression among postpartum women in several studies [26, 29, 37]. Bangladeshi women who suffered depression during pregnancy had almost three times greater risk of postnatal depression than those who did not [26]. It is consistent with two studies in Iran [29, 37]. Routine screening for depression during pregnancy should be applied to detect antenatal depression and improve women's mental health. Therefore, frequent contacts with health care workers may ease to identify changes in pregnant women's mental health. Mothers and their family members should be educated about depression during antenatal dan postnatal period; hence, they could seek for help when needed [38].

Numerous studies reported that stressful life events were another strong predictor of postpartum depression [22, 23, 28, 31, 34, 37, 39-41]. Afshari et al (2019) stated that stressful life events also contributed in fourfold the odds of developing depression in Iran [37]. Experiencing high stressful life including family member's death, separation or divorce, job loss, moving to a new home, poor relationship with husband, financial issues, and infant illness were linked with depressive symptoms in postnatal period [41]. The presence of high perceived stress may decrease the individual's ability to adapt any changes in life circumstances. Intranatal and postnatal period is a critical and challenging phase which can worsen mood changes and may contribute in the development of postpartum depression. Stressful life events increase negative feeling among mothers including hopeless and helpless feelings that later elevate postpartum depressive symptoms [23]. Norbaeti et al (2019) reported that childcare stress was known to trigger postpartum depression [41]. Mothers experienced psychological changes after giving birth to adapt the presence of their baby. Women with more trouble sleeping and more feeding pattern within one month after delivery had high scores on the Childcare Stress Inventory which later was at risk to develop postpartum depression. The other psychological factors such as history of previous depression [23, 37], family history of depression [24], dissatisfaction with husband and family [23, 25], self-esteem [41], and low psychological well-being [31] also triggered the development of postpartum depression.

Postpartum depression was also most common for women that experienced domestic violence during and after pregnancy [23, 26]. Domestic violence 'may affect mental health and impair access to health services, the adoption of healthy behaviour and the support from family and society, as well as result in feeling of loneliness, low self-esteem and depressive symptoms' [23] pp. 272-3). Several studies reported the significant association between maternal depression and social support [16, 22, 23, 31-35, 40]. Women who did not get their husband's support were as six times as likely to have symptoms of postnatal depression compared to those who got their husband's support [33]. Women may also have difficulty to express their feelings and problems to their husbands. Suppression of these feelings and emotions may worsen the depressive symptoms during postpartum period [23]. Interestingly, several studies have showed contrary results, in that social support was not associated with postpartum depression within one month after childbirth [26, 30, 41]. In Indonesia, social support is influenced by the traditional culture. Women after delivery are valued by their extended family. They are also helped by their mothers and/ or sisters to take care the baby and do house chores [41].

Child-related factors

Thirteen studies explored about the association with child factors and postnatal depression [17, 19, 22-24, 26, 27, 30, 34, 37, 39-41]. A study in the United Arab Emirates reported that infant birth weight was a strong predictor of postpartum depressive symptomatology. Having a baby with a higher birth weight (more than 4000 grams) did not show statistically significant differences in EPDS scores. Lower birth weight infant (less than 2500 grams) was related to a diagnosis of postpartum depression [39]. However, these findings were inconsistent with some studies [26, 27].

Maharjan et al. (2019) found that infant health problems were related with postpartum depressive symptoms [24]. The infant health may affect their mother's mood after childbirth. This is in line with studies conducted among women in Vietnam and Turkey [19, 34]. We documented the association of postpartum depressive symptoms with any types of infant illness including diarrhea, breathing problems, malnutrition [17], and congenital abnormalities [37].

Physical factors

Few findings revealed the association between physical factors and postpartum depression. Several studies revealed that postpartum depression was related to poor quality of sleep [15, 30], inadequate resting during pregnancy [23], exercise after giving birth [30], appetite changes [15]. Agarwala et al. (2019) found that bad quality of sleeping led to poor physical health among postpartum women in India [30]. Mothers with poor quality of sleep were 38.6 times more likely to experience postnatal depression within six months after delivery. An elevated risk for maternal depression among Nepalese women was also linked with inadequate resting during pregnancy [23].

A study in Vietnam found that less exercise after childbirth contributed in almost fivefold the odds of developing depression [34]. Exercise in the postpartum period could help mothers to have a quick recovery, regain strength and relieve stress. Inadequate resting during pregnancy could also trigger depression among postpartum women. Lack of rest during pregnancy may affect the transition of parenthood in carrying out their responsibilities to care for the baby. Adequate rest allows women to build communication and relationship with husband and other family members that lead to decreasing the chance of depression [23].

Obstetric factors

Obstetric factors that were found to be linked with postpartum depression are unplanned pregnancy, parity, breastfeeding, complications during antenatal and intranatal period, the history of abortion, diabetes mellitus, postpartum haemorrhagic, anaemia, hypertension, multiple pregnancy, and hypotiroidism. Palestine women who had their pregnancy was unplanned were 2.4 times more likely to have postpartum depression compared to women who had their pregnancy was planned. Four studies reported similar findings among women in Iran, Bangladesh, Nepal, and Israel [22, 24, 26, 37]. On the other hand, Mohammad et al. (2018) and Topatan & Demirci (2019) found that unplanned pregnancy had no risks of postpartum depression [19, 32]. Three studies revealed a significant association between breastfeeding and postnatal depression [17, 31, 33]. Women who experienced postpartum depression were more likely to stop breastfeeding earlier [17]. On the other hand, a study by Topatan et al. (2017) did not find similar findings [19]. Additionally, Maharjan et al (2019) found no association between difficulty in breastfeeding and postpartum depression [24].

The association between parity and postpartum depression was investigated in 10 studies [15, 16, 18, 20, 25, 30, 36, 38, 42, 43]. Primipara (women with one child) posed a significant threat for mental health among mothers and thus elevated a greater risk for postpartum depression [18, 20, 25, 36]. In contrast, several studies reported that multiparous women (women with two or more children) had higher EPDS scores than primiparous women [15, 30, 38]. This finding was congruent with other studies found that multiparous women particularly women with three or more children [42] and women with more than four children [16, 43], was linked with the development of postpartum depression. Depressive symptoms of multiparous women in the postnatal period may be caused by having family pressure about baby gender (particularly male infants), still birth, history of abortion, and having anomalies in the previous children of consanguineous marriage [15].

There is contradictory evidence about the association between postpartum depression and complications during antenatal and intranatal period. Women experiencing complications during pregnancy and labor were not at risk for developing postpartum depression [22-24]. These findings were inconsistent with a number of studies [25, 28, 30, 43]. A study of 410 women in India within six months after giving birth revealed that women with delivery complications were 10.7 times more likely to have postpartum depression [30]. Two studies stated that women giving birth prematurely had no significant risk to develop postpartum depression [22, 26]. Mode of delivery had also no correlation with a diagnosis of postpartum depression [16, 19, 23, 38].

The history of abortion was a contributory factor of postpartum depression [23, 30, 40]. This is contrast with the study conducted among Israel mothers in which they found no association between previous history of abortion and postpartum depression [22]. An increased risk for maternal depression among women was also linked with diabetes mellitus [15, 21, 25]. Diabetes mellitus elevated the rate of postpartum depression among Israeli women, by more than two-fold [21]. 'It is possible that the diseases in pregnancy seem to be a psychological burden for women, with remarkable effects on developing PPD' [25]p. 3. Regarding the other obstetric factors, women with postpartum haemorrhagic [40], anaemia [15, 21, 40], hypertension [15, 40], multiple pregnancy [23], and hypotiroidism [15]were more likely to report postpartum depressive symptoms.

Cultural factors

Few studies reported the association between cultural factors and postpartum depression. This review found two cultural factors which developed a diagnosis of postpartum depression in Asian countries such as gender baby preference [16, 17, 20, 34, 42] and inconsistency of expected sex and actual sex of the baby [20]. The baby gender preference was embedded in the culture of each nation. For example, some studies reported that sex preference of the infant was not related with postpartum depression [27, 30, 32, 44]. However, Chinese culture valued for male offspring, therefore, the birth of female baby may invoke the negative reaction of family members and later trigger the depressive symptoms among postpartum women [20]. Similar findings were reported that 27.8% of depressed mothers during postpartum in Vietnam did not expect their baby's sex (mostly wished for male child, but delivered female child) as Confucian tradition and patriarchal system which prefer sons to pass down family's inheritance and family line [34]. It is also consistent with a study by Qandil et al. (2016) among women in Palestine [42]. The birthing of female babies was correlated with developing maternal depression among women in Jordan and Bangladesh [16, 17].

Another cultural factor that has been found as having a possible role in the occurrence of postpartum depression was an inconsistency between expected fetal sex and actual sex. In China, the utilization of ultrasonography was banned for sex determination, therefore, women and their families did not know the actual sex of the baby before delivery. Depression among Chinese mothers was more likely to occur when they were disappointed about the sex of baby (not the one desired) [20].

V. DISCUSSIONS

This review provides updating the current prevalence and exploring risk factors among women experienced postpartum depression in Asia. A total of 31 English studies from 18 countries were selected and summarized in the review. All retrieved studies were written in English. Publications in Asian languages which probably provided important data were not included, leading to limited generalisation of the literature review. Several articles from Central Asia were excluded in the review because the articles were written in the native languages (non-English).

Methodological issues in the retrieved studies need to be addressed. Thirty one articles (100%) used a quantitative design that consisted of 17 cross-sectional studies and 14

cohort studies. Based on the level of evidence based on National Health and Medical Research Council (2009), cohort studies and cross-sectional studies were in level III-2 and level IV, respectively. The use of cross-sectional studies might limit the ability to draw conclusions particularly causal relationships for the symptoms of postpartum depression. There is no agreement on the best time for detecting postpartum depression. This review found different time in measuring PPD varying from one week to one year after giving birth. Sample sizes of the selected studies in the review ranged from 84 to 96.131. Small sample sizes and convenience sampling are also common limitations in the review which may hamper generalisability and representativeness of the findings [5]. Most respondents were recruited from hospitals / university hospitals / maternity and child health clinics (n=14, 45.2%) and public health centres (n=10, 32.2%), urban and rural areas (n=5, 16.1%), and the electronic patient databases (n=2, 6.4%).

All of retrieved articles included in the review utilised various local language version of EPDS, HRS and DASS (initially developed in English version and then translated into local languages). Nevertheless, the majority of selected articles did not present adequate evidence of psychometric properties (validity, reliability, specificity, and sensitivity) of these translated versions, therefore, the results of the studies may be questionable. Cut off scores for postpartum depression instruments in the selected studies varied, for instance, the EPDS (8/9 – 13) and DASS (8), but cut off score for Hamilton rating scale for depression was not clearly described. Different cut-off scores of EPDS and DASS (from 8 to 13) utilized to identify postpartum depression, leading to difficulties in comparing research findings from different studies.

The prevalence of postpartum depression in Asia varies greatly in this review from 4.8% to 49.6% in one week - one year after childbirth with slightly lower than the prevalence examined in a literature review by Klainin and Arthur (2009). These widely prevalence may reflect the actual magnitude of postpartum depression among Asian countries. In addition, these differences in reported prevalence may be the results of methodological limitations including type of instrument and cut-off score utilised, time of assessment performed, adequate evidence of psychometric properties (validity, reliability, specificity, and sensitivity) of instrument translated versions[45].

This review categorised the risk factors of postnatal depression in Asia into six factors such as socio-demographic factors, psychological factors, child related factors, physical factors, obstetric factors, and cultural factors. The first three domains were consistent with prior reviews about risk factors of postpartum depression in Asia [5, 46]. Particularly, most factors seem to be similar to these previous reviews conducted in Asia including antenatal depression, stressful life events, history of previous depression, childcare stress, dissatisfaction with husband and family, self- esteem, domestic violence, social support, unplanned pregnancy, breastfeeding, complications during antenatal and intranatal period, the history of abortion, infant birth weight, infant health problems, maternal age, low income, and gender baby preference [5, 46]. Nevertheless, there are several unique factors such as poor quality of sleep, inadequate resting during pregnancy, exercise after giving birth, appetite changes, infant birth weight, smoking habit of husband, drinking habit of the husband, management of birth cost by borrowing, selling or mortgaging assets, and ethnicity are never mentioned as contributing factors for postpartum depression in prior reviews. Moreover, most studies conducted in Asia emphasized social demographic and psychological factors. The other factors including obstetric factors, physical factors, and child-related factors which can develop postpartum depression have not been fully explored in Asian countries. Only few studies have been conducted to describe an interaction between cultural practices and postpartum depression, hence, further researches are needed to explore this factor.

VI. CONCLUSION

It is concluded that the prevalence of postpartm depression in Asia varies from 4.8% to 49.6%. The risk factors of postnatal depression in Asia are categorised into six factors such as socio-demographic factors, psychological factors, child related factors, physical factors, obstetric factors, and cultural factors. Most studies conducted in Asian countries emphasized and psychological factors and social and demographic factors. Moreover, obstetric, psychological, physical, and child-related factors which can develop postpartum depression have not been fully explored. To overcome the gap in the review, it needs further researches about postpartum depression in Asian countries particularly in exploring these factors. Longitudinal studies using large samples are encourage generating samples into population. In addition, more qualitative researches are required to explore mother's experiences in postnatal period.

VII. LIMITATIONS

This review only presented the prevalence of postpartum depression and the risk factors of postpartum depression in a descriptive way. Only 31 studies from 4 regions in Asia (18 countries) are available and non-English publications were excluded in the review. Several articles from Central Asia were excluded as were written in the native languages (non-English). Publications in native languages which probably provided important data were not included, leading to limited generalisation of the literature review. In addition, the majority of retrieved articles did not present adequate evidence of psychometric properties (validity, reliability, specificity, and sensitivity) of translated versions for measurement of postpartum depression, therefore, the results of the studies may be questionable.

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Parity and the Level of Wealth on the Contraception Use in Indonesia (Analysis of Indonesian Health Demography Survey 2017th)

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Abstract -- The use of contraceptive methods is influenced by several factors including parity and income. The purpose of this study was to determine the relationship between wealth level and parity on contraceptive use (2017 IDHS data). This research used quantitative descriptive methods with cross sectional design of Indonesian Demographic and Health Survey on Reproductive Health Components of childbearing age in 2017. The sampling technique this study was purposive sampling with inclusion criteria of women who used contraception while the exclusion criterion was incomplete or missing data so that the data received as respondents is 8736. The results showed that parity or number of children and the level of wealth had significant relationship in the selection and use of contraception among women of childbearing age in Indonesia with p-values of 0.008 and 0.009.

Keyword – Contraception; Parity; Wealth; Indonesia

I. INTRODUCTION

Based on the 2010 Population Census in a 10-year period (2000th– 2010th), Indonesia's population increased by 32.5 million from 205.8 million to 237.6 million (Central Bureau of Statistics, 2010th). The average Indonesian Population Growth Rate has declined from 1.97% (1980th-1990th) to 1.45% (1990th-2000th). However, in the last 10 years, Population Growth Rate increased again to 1.49% [(1)]. One of the six indicators of maternal health, targeted by MDGs in 2015 and related to family planning services, is the number of family planning participation (CPR) and unmet need for family planning. The family planning participation rate (CPR) in the period 2002th-2007th reached 61.4% [(2)], this was interpreted as the Family Planning Service program in Indonesia that has not increased in indicators of family planning services, especially CPR.

Based on the results of the IDHS (2012), the Total Fertility Rate (TFR) in Indonesia was still at 2.6 and the unmet need was still high at 8.5% whereas the target to be achieved in 2014th was 6.5%. High and low social status and economic condition will affect the development and progress of family planning program. This progress is closely related to the ability to purchase contraceptive devices [(3)]. Mashfufah (2006) reported a significant relationship between economic level / wealth and contraceptive use. Respondents with low economic level were 2.66 times more likely to use contraception compared to respondents with high economic level and had the opportunity to use contraception as much as 2.85 times [(4)].

Mantra (2006) revealed that the possibility of woman getting pregnant after childbirth depends on the number of children born. A woman may use contraception after having a certain number of children and also the age of the child who is still alive. The more often a woman gives birth to a child, the more risk she will have in labor [(5)]. This means that the number of children will greatly affect the health of the mother and can improve the family's standard of living to the maximum. A study by Purba (2009) [(6)] reported that respondents with more than 2 children used contraception (38.9%). While those who had children ≤ 2 people use contraception (15.2%) and did not use contraception (84.8%). Statistical test results showed there was a relationship between the number of children and the use of contraception (Sig = 0.016). The purpose of this study was to determine the relationship between wealth level and parity on contraceptive use [(7)].

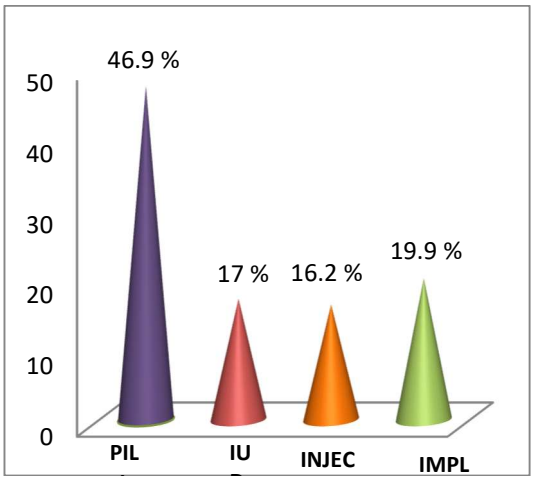
This study has been approved by the ethical health (ethical clearance) from the Health Research Ethics Commission of Respati University, Yogyakarta with No. 126.3 / FIKES / PL / V / 2019.

II. MATERIAL AND METHOD

The research utilized a descriptive quantitative method with cross sectional design analyzing the Indonesian Demographic and Health Survey Data on Reproductive Health Components of Fertile Age Women in 2017. The independent variable in this study were parity and the level of wealth, while the dependent variable in this study was contraception use. The sampling technique in this study was purposive sampling with the inclusion criteria of women who use contraception while the exclusion criterion was incomplete data or missing data so that the data 8736 respondents were used. To determine the interaction of two variables, the chi-square (x2) statistical test was used to analyze the data.

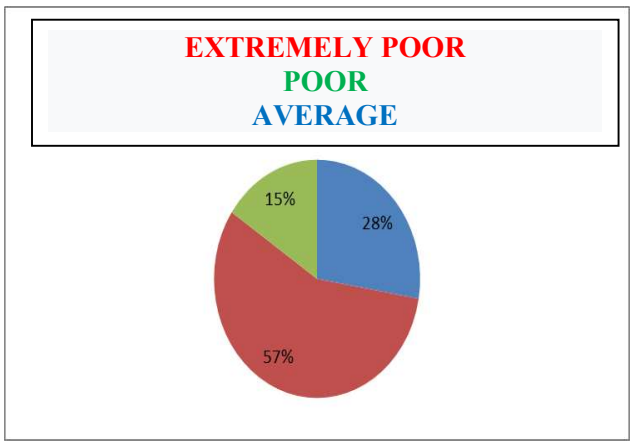
III. RESULTS

1. Contraception use



The chart illustrated contraception use among women in childbearing age in Indonesia. The majority of respondents (46.9%) selected pills as their contraception.

2. Level of wealth



The chart showed that 57% used contraception among women in childbearing age with poor wealth (4960 childbearing women).

3. Parity

Based on the chart above, contraceptive users among women in childbearing age were multipara (5133 respondents or 59%).

4. Relationship between wealth level and the use of contraception among women in childbearing age

Table 1. Relationship between wealth level and the use of contraception among women in childbearing age

Wealth	Contraception				Total	p-value
	Pills	IUD	injection	Implant		
Extremely Poor	1164	365	374	514	2417	0,008
Poor	2313	854	811	982	4960	
Average	622	265	227	245	1359	
Total	4099	1484	1412	1741	8736	

The results showed that the level of wealth affected the type of contraceptive use among childbearing women. The results of data analysis using Chi Square showed that there was a significant relationship between the level of wealth and the type of contraceptive use among childbearing women in Indonesia with the p-value of 0.008 (<0.05).

5. Relationship between parity and contraception use in fertile age women

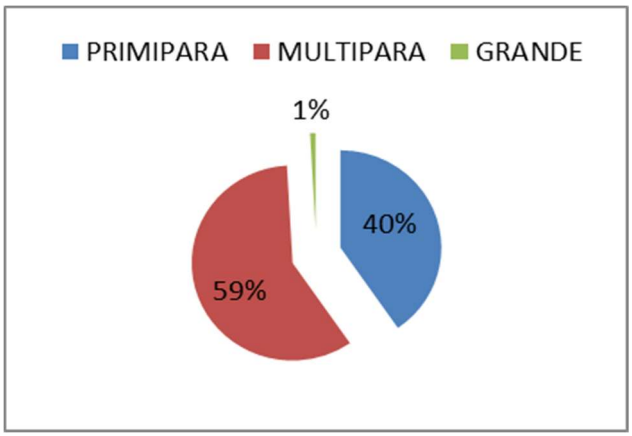


Table 2. Relationship between parity and contraception use in fertile age women

Parity	Contraception				Total	p-value
	Pill	IUD	Injection	Implant		
Primipara	1701	592	521	713	3527	0,009
Multipara	2374	877	876	1006	5133	
Grande	24	15	15	22	76	
Total	4099	1484	1412	1741	8736	

Based on Table above, it is known that the use of contraceptives in women of childbearing age mostly multipara with the most contraceptive use was pills. Based on statistical test results, the p-value was 0.009, hence, there was a significant relationship between parity and contraceptive use among women of childbearing age in Indonesia

IV. DISCUSSION

The results of the study showed that the level of wealth among women in childbearing age who used contraception at the poor level (4960 respondents) with the most using contraceptive pills was 2313. From the results of the study showed that the level of wealth among women of childbearing age who used contraception at the poor level (4960 respondents) with the most using contraceptive pills was 2313. The results of data analysis using Chi Square showed that the p-value of 0.008 (<0.05) and there was a significant relationship between the level of wealth and the type of contraceptive use among women in childbearing age in Indonesia.

Family income is closely related to the needs in the family. Individual income is one of the factors that influences the acceptance and decision making of innovation. Our research showed that contraceptive pill users were most commonly used by women in childbearing age in Indonesia with low or poor wealth. Arliana (2013) in her study stated that the desire of women of childbirth age to become family planning acceptors is still high even though their income is low, as pills are cheaper than other contraceptive [(8)]. This study is in line with research conducted by Asiva (2015) reported respondents use more hormonal contraception in low income families. It can be assumed that the higher the average income of the family per month, the higher the purchasing power of respondents for contraception [(9)].

The results showed a significant relationship between parity and contraceptive use among women in childbearing age in Indonesia with a p-value of 0.009. Hartoyo, et al (2011) stated that family participation in the family planning program occurs when the number of children in the family are in line with the perception of the ideal number of children or when the number of children born alive exceeds or equals the number of children desired by the family. A study conducted by Fienalia (2012) reported that respondents with children > 3 have a 3.9 times greater chance of using long-term contraception than women with children 0-2 [(10)].

V. CONCLUSION

The results showed that the level of wealth and parity had a significant relationship in the use of contraception in Indonesia with statistical results showing a p-value <0.05. The type of contraception used most by Indonesian women was short term contraception.

VI. SUGGESTION

It is suggested that increasing knowledge of society about family planning and contraception may broaden their horizons and eliminate negative issues that develop in the community about the Long-Term Contraception Method such as Implant, IUD, and permanent contraception, the role of coordinators from each sub-district may be maximized for family planning counseling.

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Traditional Massages for Postpartum Recovery : A Qualitative Study

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***Abstract*—Women's reproductive health will affect their life cycle, both pregnancy and childbirth, therefore, care and willingness to stay healthy and prosperous are needed. In 2013, WHO reported that almost 800 (99%) women died every day due to complications during pregnancy and childbirth, the case occurred in developing countries. High maternal mortality rate (MMR) in Indonesia showed that Indonesian women were not prosperous in reproductive health. The tradition of postpartum care according to Javanese customs is aimed to maintain physical health (including: treatment with the use of pilis, sequencing, walik container, and wowongan). Objective: To explore significant benefits of traditional massages in the postpartum recovery process. Methods: Qualitative Study of Phenomenology. Sampling technique used purposive randome sampling with 5 key informants. Data obtained from interviews with 5 key informants then triangulation with 2 triangulation informants. Results: The results showed the informants understood about the puerperium which lasted 40 days. The informant said that his body had become fresher or fitter and breast milk became smoother. Conclusion: The difference in knowledge is motivated by the education of each informant. The informant felt the benefits of performing a postpartum traditional massage in the form of a body that returned fresh and breast milk is swift.**

Keywords – Traditional Massage, Postpartum, Recovery

I. INTRODUCTION

Women's reproductive health will affect their life cycle, both pregnancy, childbirth and childbirth, therefore care and willingness to stay healthy and prosperous are needed. In 2013, WHO recorded that almost 800 (99%) women died every day due to complications during pregnancy and childbirth, such cases occurred in developing countries (WHO, 2014). High maternal mortality rate (MMR) in Indonesia showed that Indonesian women are not yet prosperous in reproductive health.

The results of the 2007 Indonesian Demographic Health Survey (IDHS) showed that Indonesia was ranked third after Laos and Cambodia as the ASEAN countries with the highest maternal mortality rate (228 / 100,000 live births). In 2015 the government hopes that the number could be reduced to 102/10000 live births (Ministry of Health, 2013). In fact, the results of the 2012 IDHS survey showed the number of MMR increased to 359 / 100,000 live births (Kemenkes, 2014). Still far from the target SDGs of 70 / 100,000 live births (depkes.go.id).

Cultural beliefs in postnatal care are still widely encountered in the community. They believe that the culture of postnatal care can have a positive and beneficial effect on them. A study conducted in the state of Andhra Pradesh on 100 post partum mothers at Tirupati temple, reported that the beliefs and cultural beliefs of postnatal care adhered by the people including limiting fluid intake, food (only eating vegetables), wearing belly wrap, not having a bath, not going out with footwear, not sleeping during the day even they believe that collustrum is not good for children (Bhvaneswari, 2013).

Similar to India, Javanese beliefs or customs regarding maternity care are well preserved, passed and still used in the modern era. These beliefs have positive and negative effects from medical perspectives. A study by Manurung (2009) found that the traditions of childbirth care according to Javanese customs were personal hygiene maintenance care (mandatory bathing, puerperal irrigation using boiled water betel leaf, and menapali stomach to the vagina using betel leaf), care to maintain bodily health (treatment with the use of pilis, sorting, walik container, and wowongan), treatments to maintain the beauty of the body (treatment with the use of parem, sitting alone, sleeping in a half-sitting position, the use of octopus, and drinking herbal medicine packaging), and special care (drinking coffee and drinking wejahan herbal medicine).

A preliminary study conducted by researchers randomly through the interview process of 6 women who experienced childbirth without post-natal massage. Most of them reported that there were complaints during the postpartum period, even those complaints that lasted up to 6 months after delivery. These complaints included feeling numb in the hands and feet, swollen feet and aches throughout the body. The aim of the study was to explore significant benefits of traditional massages in the postpartum recovery process.

II MATERIAL AND METHOD

Qualitative Study of phenomenology. Sampling technique using purposive randome sampling with 5 key informants. Data obtained from interviews with 5 key informants then triangulation with 2 triangulation informants

III RESULTS

The results showed the informants understood about the puerperium which lasted 40 days. All informants said that their bodies became fresher or fitter and breast milk became smoother.

IV.CONCLUSION

The difference in knowledge is motivated by the education of each informant. There are benefits from doing a traditional postpartum massage in the form of a body that is refreshed and the milk is smooth.

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The Effect of the Implementation of Family Centered Maternity Care Models on Postpartum Women's Attitude in Perineum Care in the Area of Public Health Center Gambirsari Surakarta

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***Abstract*— Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) in Indonesia are higher than the other Southeast Asia countries. To solve these problems, the utilization of an appropriate educational model for postnatal women is required with involving the family as social support. This study aimed to analyze the effect of the implementation of the FCMC model on postpartum mothers' attitude in the puerperium care in the Public Health Center of Gambirsari Sector II Surakarta. The length of this study was approximately one year from January to Desember 2019. Wilcoxon test was used as the data was not normally distributed (p-value 0,000). There is an effect in the implementation of FCMC model on postpartum mother's attitude in postpartum perineal care. It is concluded that there is an average increase score before the implementation of the FCMC model on postpartum mothers' attitude in the puerperium care (44.9) and after the implementation of the FCMC model on postpartum mothers' attitude in the puerperium care (49.4) with p-value 0,000. There is an effect in the implementation of FCMC model on postpartum mother's attitude in postpartum perineal care.**

Keywords-- FCMC, postpartum, attitude, perineum care

I. INTRODUCTION

Mothers after childbirth faces various obstacles, one of them is the perception that is not consistent with health advice. The new paradigm of postpartum care emphasizes that postpartum mothers are healthy mothers and it is physiological events, therefore, the principle of postpartum care is oriented on the maternal independence. The roles as parents are related to participation or cooperation between mothers and family (husband) and other family members (Sulistyawati 2009). The other obstacles in the postnatal care are still found as people's assumption that postpartum mothers are sick mothers, their mobilization is inhibited, their types of food are restricted, colostrum breastfeeding is inhibited so that the needs of postpartum mothers are prioritized for full bedrest. The involvement of extended families in the infant care has thus far been misinterpreted, in which infant care is left to other family members (Istiqomah, 2018).

This condition makes puerperal women feeling unprepared on their development and care for themselves and their babies. Therefore, the importance of learning in the postnatal period aims to adapt mothers and families to participate in the mothers and newborn care through postnatal education. One of the ways to optimize postnatal education efforts is family involvement. Having family support through the FCMC approach is expected to have optimal abilities to adapt maternally during the puerperium and the ability to care for babies (Indriyani, 2016)

As the problems mentioned above, an approach can be utilized to build Postnatal Education Model that is focused on postpartum mothers by involving family as social support. The benefits of the model are the optimization of mothers' understanding about their roles in adapting maternally and caring their infant and the active involvement of family. The impact of an increased understanding among postpartum women is that mothers will have optimal competencies and abilities about motherhood roles. This also contributes to the optimization of the health status for mothers and their baby; hence, it can reduce maternal and infant mortality (Indriyani, 2016). This study examined several aspects including the role of health workers and health institutions in optimizing motherhood competency among postpartum mothers to reduce maternal and infant mortality rates and the role of the family with the FCMC approach in optimizing motherhood competency among postpartum mothers to reduce maternal and infant mortality.

We conducted a preliminary survey by interviewing coordinator midwives and community health workers in the integrated health care post. We found that there was the lack of knowledge among postnatal women and the lack of attitude in the postnatal care. When we had a preliminary

visit in the integrated health care post, we found that three women after childbirth had no experiences in the puerperium wound care and balanced nutrition as some family members believe that high protein food is prohibited. This can be concluded that there is the lack of family roles in the postpartum period. Based on the background above, this study was conducted to provide more information about postpartum care with the title in this study "the effect of the implementation of family centered maternity care models on postpartum women's attitude in perineum care in the area of public health center Gambirsari Surakarta".

II. MATERIAL AND METHOD

A. *Procedure*

1. Location and Time
   The study was conducted for approximately one year from January to December 2019 in the area of Public Health Center Gambirsari Sector II Surakarta.
2. Population and Sample
   Population of the study was all postpartum mothers who gave birth normally and vaginal births in the area of Public Health Center Gambirsari Sector II Surakarta. Sample in this study was postpartum mothers from March to August 2019 (23 postpartum mothers).

B. *Data Analysis*

This study used quasi experiment method with "One Group Pretest-Postest" without comparison group. The attitude was measured before treatment (pre-test) and after treatment (post-test). Univariate and Bivariate data analysis was utilized in the study to analyze the data. Univariate analysis consists of frequency distribution and percentage for categorical data types (age, education, occupation, parity). We used Wilcoxon test as it tests the hypotheses of two variables related to the value of the standard significance level $\alpha = 0.05$.

III. RESULTS

This research was conducted from January 2019 in the area of Public Health Center Gambirsari, Banjarsari Subdistrict, Surakarta Sector II with 28 postpartum mothers as the sample of this study. We collaborated with community health workers and had home visits to postpartum women. On the first home visit, we explained the purpose of the study and asked the respondents to fill the questionnaires about the mother's attitude in postpartum care. Then, we made an agreement with respondents related to their willingness accompanied by family and community health workers and health workers and implemented Family Centered Maternity Care method in postnatal care for 5 days. Finally, we gave questionnaires to postpartum mothers related to postpartum maternal attitudes.

This study consisted of three characteristics of respondents such as age, parity and education that the data can be seen in the following table.

1. Age

Table 5.1 Distribution of Frequency : Respondent Characteristics by Age

Age	N	Percentage (%)
< 20 years	2	8,7
20-35 years	19	82,6
>35 years	2	8,7
Total	23	100

Source (Primary data,2019)

Based on table 5.1, the majority of respondents aged 20-35 years was 19 respondents (82.6%).

2. Education

Table 5.2 Distribution of Frequency: Respondent Characteristics by Education

Education	N	Percentage (%)
Secondary school	4	17,4
High school	15	65,2
University	4	17,4
Total	23	100

Source (Primary data,2019)

Based on table 5.2, the majority of respondents had high school level about 15 respondents (65.2%).

3. Occupation

Table 5.3 Distribution of Frequency Respondent Characteristics by Occupation

Occupation	N	Percentage (%)
No occupation	12	52,2
Occupation	11	47,8
Total	62	100

Source (Primary data,2019)

Based on table 5.3 the majority of respondents did not work about 12 respondents (52.2%).

Data obtained from the study was analyzed using the Wilcoxon test analysis method as to determine differences in the attitude before and after the intervention because the

data was not normally distributed then using the Wilcoxon test. The following are the results of the analysis of the research data.

1. Test of the effect of the implementation of the FCMC approach to the Postpartum Mother's Attitude.
2. The Test of the Effect of the Application of the FCMC approach to the Postpartum Mother's Attitude between pre and post-test group can be seen in the following table:

Attitude	Pre-Test	Post-Test	p-value
Mean (SD)	44,9 (1,3)	49,5 (2,1)	0,000*
Median	45,0 (41,0-47,0)	49,0 (44,0-52,0)	

*) Uji Wilcoxon

3. Overview of Respondent Attitude Scores in Accordance with Indicators

Variable / Attitude indicator		
Perineum care		
Pre-Test	Post-Test	score
Mean (SD)		
7,9 (0,28)	8,08 (0,51)	0,46*
Median (Rentang)		
8,0 (7,0-8,0)	8,0 (7,0-9,0)	

IV. CONCLUSION

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

a. Characteristics of the majority of respondents aged 20-35 years about 19 respondents, the majority of Secondary Education about 15 respondents and mothers do not work about 12 respondents.
b. The average postpartum maternal attitude score in perineal care at pretest is 44.9
c. The average postpartum maternal attitude score in perineal care at the post-test is 49.4
d. Statistical test results show that the value of ρ is 0,000 (<0.05), which means that there is an effect on the implementation of the family centered maternity care method.

V. RECOMMENDATION

1. Respondents
   To improve postpartum mothers' attitude in postpartum care and emphasize the involvement of family or social support. Postpartum care provided by health workers is expected to be applied by postpartum mothers during the puerperium.
2. Public health center
   To hold postnatal classes which can provide postnatal education and implement the family centered maternity care methods to reduce MMR and IMR.
3. Health workers
   To provide education on postnatal education routinely with postpartum care sources and implement family centered maternity care methods to reduce MMR and IMR.
4. Future research
   Need further research on postnatal education with the implementation of family centered maternity care methods with the presence of comparison group which can compare postnatal mothers' attitude in postpartum care.

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Quality Analysis Of Health Services In Major Accredited Health Centers In Pekanbaru City In 2019

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Abstract—**Objectives: This study aims to analyze the quality of health services in major accredited health centers (Puskesmas Kota Pekanbaru) in Pekanbaru City. This type of research is descriptive analytic with the number of respondents 50 people who control at the Pekanbaru City Health Center. The results of the statistical test of the quality of administrative services based on the patient's perception of the 72% unsatisfactory reliability dimension, 72% unsatisfactory responsiveness, 80% unsatisfactory assurance dimensions, 68% unsatisfactory empathy dimensions, 44% unsatisfactory tangible dimensions. The results of the statistical test of the quality of doctor's service based on the patient's perception of the unsatisfactory dimension of reliability were 56%, the responsiveness dimension was not satisfactory for 80%, the assurance dimension was not satisfactory, 60%, the empathy dimension was not satisfactory, 64%, the tangible dimension was not satisfactory, 40%. The results of the statistical test of the quality of nurse services based on the patient's perception of the reliability dimension are not satisfactory 60%, the responsiveness dimension is not satisfactory 60%, the assurance dimension is not satisfactory 48%, the empathy dimension is not satisfactory 68%, the tangible dimension is not satisfactory 44%. The results of the statistical test of the quality of facilities and infrastructure based on the patient's perception of the assurance dimension were not satisfactory, 68%, and the tangible dimension was unsatisfactory, 52%. Through accreditation, it is hoped that the Puskesmas management will be able to apply Standard Procedures properly so that patients are satisfied with the services provided.**

Keywords— Service Quality, accredited health center, servqual dimension Introduction

I. INTRODUCTION

The study of patient satisfaction began in 1950s and is growing. Patient satisfaction is an important indicator in evaluating the performance and quality of health services (Al-Abri, 2014). Patient satisfaction refers to a patient's assessment of the services received from a health care provider, which is influenced by the level of expectations and customer experience (Chakraborty & Majumdar, 2011). Feedback from patients is a measure of the quality of health services so that service quality can be evaluated and monitored.

Patient satisfaction is a function that depends to the extent that it is in harmony with the benefits that the patient expects from the service he will receive, the difficulty that the patient is free from suffering, the level of performance that the patient expects from the service to be provided, and the patient's socio-cultural values in relation to the provision of services. (individual and patient family culture, social class and status, personal pleasures and habits, lifestyle, prejudice) (Engiz 2017).

Currently, people want health services that are safer, more high quality, satisfying, and can answer their needs. Therefore, efforts to improve quality and service quality need to be implemented in the management of Puskesmas. Government efforts to accredit puskesmas are closely related to the dimensions of service quality. As mentioned in several standard criteria for puskesmas accreditation assessment, one of which is in the Puskesmas Quality Improvement (PMP) section where it is stated that the improvement of the quality and performance of the Puskesmas is consistent with the values, vision, mission and objectives of the Puskesmas, understood and implemented by the Puskemas leader, the person in charge of efforts Puskesmas and Operators (Ministry of Health, 2014).

Through accreditation, it is hoped that the Puskesmas management will be able to apply Standard Procedures properly so that patients are satisfied with the services provided. The quality provided by the Puskesmas will lead to patient perceptions of the services provided to him (Junaidi, 2008). Based on data from the Indonesian Ministry of Health, the number of health centers in Indonesia is 9759 puskesmas, consisting of 3401 inpatient health centers and 6358 non-inpatient health centers spread across 34 provinces in Indonesia (Minister of Health, 2016).

II. MATERIAL AND METHOD

A. Procedure

Penelitian yang akan dilaksanakan ini dimulai dari tahapan persiapan, desain penelitan, permohonan izin, pengumpulan data, pengolahan data hingga analisa data. Tahapan persiapan dimulai dengan izin penelitian yang merupakan prioritas guna membantu memperlancar penelitian, kemudian studi pendahuluan yang bertujuan menemukan data-data awal, selanjutnya dilakukan identifikasi masalah pokok yang menjadi fokus permasalahan, sehingga dapat dilakukan desain penelitian yang cocok. Tahap proses pengumpulan data diperoleh dari hasil penyebaran kuesioner. Selanjutnya setelah diperoleh data yang lengkap, maka dilakukan pengolahan data. Kemudian data dianalisis untuk melihat kualitas pelayanan kesehatan

B. Data Analysis

Analisis data yang digunakan dalam penelitian ini adalah analisa kuantitatif deskriptif. Analisa kuantitatif menggunakan analisis univariat untuk melihat memperoleh gambaran kualitas pelayanan kesehatan. Analisis univariat pada penelitian ini digunakan untuk mengalisis variabel yang ada secara deskriptif dengan membuat tabel distribusi frekuensi sehingga dapat dilihat deskripsi masing-masing variable.

III. RESULTS

Univariate analysis aims to explain the characteristics of each research variable. The form of univariate analysis depends on the type of data. In categorical data, data summarization only uses a frequency distribution with a percentage or proportion.

A. Sidomulyo Primary Health Service

1. An overview of the quality of administrative services

Tabel 1 Quality of administrative services at Sidomulyo Health Center, Pekanbaru City (n = 50)

Variabel	f	%
Quality of administrative services		
a. Reliability		
- Not satisfy	36	72
- Satisfy	12	24
- Very Satisfy	2	4
b. Responsiveness		
- Not satisfy	36	72
- Satisfy	10	20
- Very Satisfy	4	8
c. Assurance		
- Not satisfy	40	80
- Satisfy	8	16
- Very Satisfy	2	4
d. Emphaty		
- Not satisfy	34	68
- Satisfy	14	18
- Very Satisfy	2	4
e. Tangible		
- Not satisfy	22	80
- Satisfy	22	16
- Very Satisfy	6	4

Based on table 1, it can be seen that 50 respondents, 72% expressed dissatisfaction with the reliability of administrative service quality, 72% of respondents said they were dissatisfied with the responsiveness of administrative services, 80% expressed dissatisfaction with assurance of administrative service quality, 68% were not satisfied with quality empathy administrative services and 80% are not satisfied with the tangible quality of administrative services.

1. Gambaran kualitas pelayanan dokter

Tabel 2 Quality of doctor services at Sidomulyo Health Center, Pekanbaru City (n = 50)

Variabel	f	%
Quality of Doctor's Service		
a. Reliability		
- Not satisfy	36	56
- Satisfy	12	40
- Very Satisfy	2	4
b. Responsiveness		
- Not satisfy	40	80
- Satisfy	10	20
- Very Satisfy	0	0
c. Assurance		
- Not satisfy	30	60
- Satisfy	20	40
- Very Satisfy	0	0
d. Emphaty		
- Not satisfy	32	64
- Satisfy	18	36
- Very Satisfy	0	0
e. Tangible		
- Not satisfy	20	40
- Satisfy	28	56
- Very Satisfy	2	4

Based on table 2, it can be seen that 50 respondents, 56% stated that they were not satisfied with the reliability of the doctor's service quality, 80% of the respondents stated that they were not satisfied with the responsiveness of doctor services, 60% stated that they were not satisfied with the assurance of the quality of

doctor's service, 64% were not satisfied with the quality empathy doctor services and 40% were not satisfied with the tangible quality of doctor services.

2. An overview of the quality of nurse services

Table 3 Quality of nurse services at Sidomulyo Health Center, Pekanbaru City (n = 50)

Variabel	f	%
Quality of Nursing Services		
a. Reliability		
- Not satisfy	30	60
- Satisfy	20	40
- Very Satisfy	0	0
b. Responsiveness		
- Not satisfy	30	60
- Satisfy	20	40
- Very Satisfy	0	0
c. Assurance		
- Not satisfy	24	48
- Satisfy	24	48
- Very Satisfy	2	4
d. Emphaty		
- Not satisfy	34	68
- Satisfy	12	24
- Very Satisfy	4	8
e. Tangible		
- Not satisfy	22	44
- Satisfy	28	56
- Very Satisfy	0	0

Based on table 3, it can be seen that 50 respondents, 60% expressed dissatisfaction with the reliability of nurse service quality, 60% of respondents said they were dissatisfied with the responsiveness of nurse services, 48% expressed dissatisfaction with assurance of the quality of nurse services, 68% were dissatisfied with quality empathy nurse services and 44% were not satisfied with the tangible quality of nurse services.

3. An overview of the quality of facilities and infrastructure

Table 4 Quality of facilities and infrastructure at Sidomulyo Health Center, Pekanbaru City (n = 50)

Variabel	f	%
Kualitas sarana dan prasarana		
a. *Assurance*		
- Not satisfy	26	52
- Satisfy	22	44
- Very Satisfy	2	4
b. *Tangible*		
- Not satisfy	34	68
- Satisfy	16	32
- Very Satisfy	0	0

Based on table 4, it can be seen that 50 respondents, 80% stated that they were not satisfied with the assurance of the quality of service facilities and infrastructure, and 80% were not satisfied with the tangible quality of service facilities and infrastructure.

B. Pekanbaru City Health CenterDescription of the quality of administrative services

Tabel 5 Quality of administrative services at the Pekanbaru (n = 50)

Variabel	f	%
Administrative Service Quality		
a. Reliability		
- Not satisfy	28	56
- Satisfy	16	32
- Very Satisfy	9	12
b. Responsiveness		
- Not satisfy	24	48
- Satisfy	18	36
- Very Satisfy	8	16
c. Assurance		
- Not satisfy	40	80
- Satisfy	8	16
- Very Satisfy	2	4
d. Emphaty		
- Not satisfy	24	48
- Satisfy	20	40
- Very Satisfy	6	12
e. Tangible		
- Not satisfy	18	36
- Satisfy	20	40
- Very Satisfy	12	24

Based on table 5, it can be seen that 50 respondents, 56% stated that they were not satisfied with the reliability of administrative service quality, 48% of respondents said they were not satisfied with the responsiveness of administrative services, 80% stated that they were not satisfied with assurance of administrative service quality, 48% were not satisfied with quality empathy administrative services and 36% are not satisfied with the tangible quality of administrative services.

4. An overview of the quality of doctor's services

Tabel 6 Quality of doctor services at Sidomulyo Health Center, Pekanbaru City (n = 50)

Variabel	f	%
Kualitas Pelayanan Dokter		
a. Reliability		
- Not satisfy	20	40
- Satisfy	20	40
- Very Satisfy	10	20
b. Responsiveness		
- Not satisfy	24	48
- Satisfy	16	32
- Very Satisfy	10	20
c. Assurance		
- Not satisfy	20	40
- Satisfy	16	32
- Very Satisfy	14	28
d. Emphaty		
- Not satisfy	18	36
- Satisfy	16	32
- Very Satisfy	16	32
e. Tangible		
- Not satisfy	10	20
- Satisfy	28	56
- Very Satisfy	12	24

Based on table 6, it can be seen that 50 respondents by 40% stated that they were not satisfied with the reliability of the doctor's service quality, 48% of the respondents stated that they were not satisfied with the responsiveness of doctor's services, 40% stated that they were not satisfied with the assurance of the quality of doctor's service, 36% were not satisfied with the quality empathy doctor services and 20% are not satisfied with the tangible quality of doctor services.Gambaran kualitas pelayanan perawat

Table 7 Quality of nurse services at Sidomulyo Health Center, Pekanbaru City (n = 50)

Variabel	f	%
Quality of Nursing Services		
a. Reliability		
- Not satisfy	22	44
- Satisfy	20	40
- Very Satisfy	8	16
b. Responsiveness		
- Not satisfy	36	52
- Satisfy	18	36
- Very Satisfy	6	12
c. Assurance		
- Not satisfy	22	44
- Satisfy	20	40
- Very Satisfy	8	16
d. Emphaty		
- Not satisfy	22	44
- Satisfy	16	32
- Very Satisfy	12	24
e. Tangible		
- Not satisfy	20	40
- Satisfy	26	52
- Very Satisfy	4	8

Based on table 7, it can be seen that 50 respondents, 44% stated that they were not satisfied with the reliability of nurse service quality, 52% of respondents said they were not satisfied with the responsiveness of nurse services, 44% stated that they were not satisfied with assurance for the quality of nurse services, 44% were dissatisfied with quality empathy nurse services and 40% are not satisfied with the tangible quality of nurse services.

1. An overview of the quality of facilities and infrastructure

Table 8 Quality of facilities and infrastructure at Sidomulyo Health Center, Pekanbaru City (n = 50)

Variabel	f	%
Kualitas sarana dan prasarana		
a. Assurance		
- Not satisfy	22	44
- Satisfy	22	44
- Very Satisfy	6	12
b. Tangible		
- Not satisfy	20	40
- Satisfy	22	48
- Very Satisfy	6	12

IV. Based on table 8, it can be seen that 50 respondents, 44% stated that they were not satisfied with the quality assurance of administrative services and 40% were not satisfied with the tangible quality of administrative services.

V. DISCUSSION

A. Sidomulyo Primary Health Service

1. An overview of the quality of administrative services

Based on table 5.1, it can be seen that of the 50 respondents, 72% expressed dissatisfaction with the reliability of administrative service quality, 72% of respondents said they were dissatisfied with the responsiveness of administrative

services, 80% expressed dissatisfaction with assurance of administrative service quality, 68% were dissatisfied with empathy the quality of administrative services and 80% are not satisfied with the tangible quality of administrative services.

The results of the above research indicate that the tangible and assurance dimensions have the highest value for patient dissatisfaction with the quality of administrative services at Sidomulyo Health Center. The tangibles dimension is the physical appearance of the facility that can be seen and felt directly by the patient such as the cleanliness and comfort of the room, the physical appearance of the tools used, the neatness of the clothes of the officers, and the availability of information media at the Puskesmas. In this dimension, there are two questions posed, namely a clean and tidy appearance officer and an administrative officer explaining the flow of puskesmas services.

The assurance dimension is a guarantee of the competence, politeness and friendliness of Puskesmas officers in providing services. Puskesmas officers who are directly related to patients are doctors, nurses, pharmacists and administrative officers. To evaluate the dimensions of guarantee, four questions are asked to the respondent, namely the administrative officer can be trusted, the patient feels safe with the service of the administrative officer, the administrative officer is friendly in providing services and the administrative officer has the ability to respond to patient complaints.

To increase patient satisfaction with this service attribute, Puskesmas management is expected to recognize, understand and respond to patient preferences. Patients' desires and assessments of the services they receive are subjective and unique. Between one patient and another patient can give a different assessment of the services provided by the same administrative officer. Thus, patient satisfaction will increase when served by administrative officers according to their preferences.

In this regard, Puskesmas management needs to make information media on service costs that are clear and easily seen by patients. Information about service fees should be posted in the vicinity of the place where the patient pays the Puskesmas service fee. The availability of information about service fees that is clear and easily seen by patients is an important thing in applying the principle of transparency of public services at the puskesmas, so that patients can find out the cost of services according to applicable regulations.

2. An overview of the quality of doctor's services

Based on table 5.2, it can be seen that of the 50 respondents, 56% expressed dissatisfaction with the reliability of administrative service quality, 80% of respondents said they were dissatisfied with the responsiveness of administrative services, 60% expressed dissatisfaction with assurance of administrative service quality, 64% were dissatisfied with emphaty the quality of administrative services and 40% are not satisfied with the tangible quality of administrative services

The results showed that the patient's highest dissatisfaction with the quality of doctor's service was seen in the responsiveness dimension, namely 80%. Responsiveness, is the ability and willingness of officers to provide fast and easy service to patients. At the Puskesmas, patients will receive services ranging from administrative staff at the counters, doctors and nurses in the examination room, and pharmacy officers at pharmacies. In this dimension, there are 5 questions posed, namely doctors who are sympathetic to patients in providing services, doctors can be counted on in providing medical services, doctors are on time in providing services, doctors are thorough and accurate in conducting examinations and reasonable waiting times for doctors.

The results showed that the patient's highest dissatisfaction with the quality of doctor's service was seen in the responsiveness dimension, namely 80%. Responsiveness, is the ability and willingness of officers to provide fast and easy service to patients. At the Puskesmas, patients will receive services ranging from administrative staff at the counter, doctors and nurses in the examination room, and pharmacy officers at the pharmacy. In this dimension, there are 5 questions posed, namely doctors who are sympathetic to patients in providing services, doctors can be counted on in providing medical services, doctors are on time in providing services, doctors are thorough and accurate in conducting examinations and reasonable waiting times for doctors.

Waiting time is the time used by patients to get health services from the registration point to entering the doctor's examination room. Patient waiting time is one component that has the potential to cause dissatisfaction. The length of patient waiting time reflects how the hospital manages the service components that are

tailored to the patient's situation and expectations. The category of distance between waiting time and examination time that is estimated to be satisfactory or unsatisfactory for patients includes when the patient arrives, starting from registering at the counter, queuing and waiting for a call to the general polyclinic to be analyzed and examined by a doctor, nurse or midwife for more than 90 minutes (old category), 30-60 minutes (medium category) and ≤ 30 minutes (fast category) (Esti, 2015). Minister of Health Decree No. 126/2018 states that waiting time in Indonesia is determined by the Ministry of Health (Kemenkes) through minimum service standards. Each hospital must follow the minimum service standards regarding this waiting time. The minimum standard of outpatient services based on the Ministry of Health Number 129 / Menkes / SK / II / 2008 is less or equal to 60 minutes.

3. An overview of the quality of nurse services

Based on table 5.7 it can be seen that of the 50 respondents, 44% stated that they were not satisfied with the reliability of administrative service quality, 52% of respondents said they were not satisfied with the responsiveness of administrative services, 44% said they were not satisfied with the assurance of administrative service quality, 44% were not satisfied with empathy the quality of administrative services and 40% are not satisfied with the tangible quality of administrative services.

The results showed that more than half of the patients expressed dissatisfaction with the quality of nurse services in the responsivenees dimension. Responsiveness, is the ability and willingness of officers to provide fast and easy service to patients. In this dimension, there are 4 questions posed, namely nurses providing services quickly, nurses are always available to help, nurses respond immediately to patient requests and nurses are easy to find.

The nurse's response time is a combination of the response time or the response time of the nurse when the patient arrives at the hospital door, to getting a response or response from the emergency room staff with service time, namely the time it takes for the patient to finish (Haryantun, 2008).

From the results of research by Zeithmal and Binner (1996) for the health consumer market, it is that to reach consumer satisfaction, in this case the patient is willing to listen to the patient's complaints, not let the patient wait long, and as a nurse is a professional staff who should be easily accessed by patients (Anjaryani, 2009).

4. An overview of the quality of facilities and infrastructure

Based on table 5.4, it can be seen that of the 50 respondents, 80% said they were not satisfied with the quality assurance of administrative services, and 80% were not satisfied with the tangible quality of administrative services.
Health service infrastructure can be defined as a collaborative process for the utilization of all health facilities and infrastructure effectively and efficiently to provide professional services in the field of facilities and infrastructure in an effective and efficient health service process (Muhammad, 2010). The completeness of good infrastructure is very important in creating customer satisfaction.

Based on research conducted by Riatiani (2017), infrastructure together with service quality has a very strong influence. Thus, if the infrastructure is good, that is, if the infrastructure / facilities needed by the patient are available in a representative manner and are properly used / used, then patient satisfaction will be maximized. These results are in line with the research of Edi Suswardji et al (2012),
so that to be able to provide satisfaction to patients, the factors of health service infrastructure supported by good service quality will undoubtedly create satisfaction with the services expected by patients.

B. City Health Center Pekanaru

1. Quality of administrative services

Based on table 5.5 it can be seen that of the 50 respondents, 56% expressed dissatisfaction with the reliability of administrative service quality, 48% of respondents said they were dissatisfied with the responsiveness of administrative services, 80% expressed dissatisfaction with assurance of administrative service quality, 48% were dissatisfied with empathy the quality of administrative services and 36% are not satisfied with the tangible quality of administrative services.

The results showed that the highest dissatisfaction was in the assurance dimension. In this dimension, there are 4 questions that are asked, namely the administrative officer can be trusted, feel safe with administrative services, feel safe with the service of the administrative officer, the administrative officer is friendly in providing services, the administrative officer has the ability to respond to patient complaints.

Often the source of patient dissatisfaction is due to poor communication that occurs between officers and patients. This often occurs in health care institutions, for example patient complaints about attitudes, behavior,

speech, ignorance, and less communicative officers. This condition of dissatisfaction will have an impact on the low quality of services provided to patients and the patient's flight to other health services that can provide better satisfaction (Mustikasari, 2006).

Effective communication is able to influence the patient's emotions in making decisions about the next medical action plan. This is because by building effective communication, patients feel calm and safe being handled by officers so that they will comply with examination procedures and believe that these officers can help solve their health problems. Meanwhile, ineffective communication will invite problems and result in patient switching to health services that provide better satisfaction (Jannah, 2018)

2. An overview of the quality of doctor's services
   Based on table 5.6, it can be seen that of the 50 respondents, 40% expressed dissatisfaction with the reliability of administrative service quality, 48% of respondents said they were dissatisfied with the responsiveness of administrative services, 40% expressed dissatisfaction with assurance of administrative service quality, 36% were dissatisfied with empathy quality of administrative services and 20% are not satisfied with the tangible quality of administrative services.

   The results showed that the highest dissatisfaction was in the dimensions of reliability and assurance. The dimension of reliability includes 5 questions, namely doctors who are sympathetic to patients in providing services, doctors can be counted on in providing medical services, doctors are punctual in providing services, doctors are thorough and accurate in conducting examinations and reasonable waiting times for doctors.

   Whereas in the assurance dimension there are 4 questions, namely doctors can be trusted, feel safe about doctor services, doctors are friendly in providing services, and doctors have the ability to respond to patient complaints.

   Reasonable waiting time for doctors is often a problem in health services. Doctor's delay has reduced the quality of services provided. The best quality service in a health care organization is the right of everyone. The waiting time can result in worsening of the patient's condition requiring a doctor's consultation. One of the most important ways to improve service quality is by reducing the length of waiting time (Mohebbifar et al, 2013).

3. As stated also by Sinaga (2006) in Yamani (2013) that long waiting times should be a priority concern, because it can lead to worsening disease in patients, families waiting at home to become anxious, inefficiency of service time and loss of working hours that should still be can be used by patients or their families.

4. An overview of the quality of nurse services
   Based on table 5.7 it can be seen that of the 50 respondents, 44% stated that they were not satisfied with the reliability of administrative service quality, 52% of respondents said they were not satisfied with the responsiveness of administrative services, 44% said they were not satisfied with the assurance of administrative service quality, 44% were not satisfied with empathy the quality of administrative services and 40% are not satisfied with the tangible quality of administrative services.

   The results showed that the highest dissatisfaction was in the responsiveness dimension. In this dimension, there are 4 questions asked, namely the nurse provides service quickly, the nurse is always available to help, the nurse responds immediately to the patient's request and the nurse is easy to find.

   A service is considered satisfactory if the service can meet customer needs and expectations. Customer satisfaction is an important basis in measuring the quality of service. The level of patient satisfaction is very dependent on the performance of the service provider. Customer satisfaction is a customer response to the perceived evaluation between previous expectations and the actual performance of the product that is felt after its use. Thus, the level of patient satisfaction is a function of the difference between perceived performance and expectations. If the performance is below expectations, the customer will be disappointed. When performance exceeds expectations, customers will be very satisfied. Patient satisfaction will be achieved if a nurse is able to serve patients well. Responsive to every complaint felt by patients, friendly and polite to patients (Umah, 2015).

Based on table 5.8, it can be seen that 50 respondents, 44% stated that they were not satisfied with the quality assurance of administrative services and 40% were not satisfied with the tangible quality of administrative services.

The results showed that the highest dissatisfaction was in the assurance dimension. In this dimension, there are 4 questions that are asked, namely the cleanliness of the walls, the examination room and the health center examination bed, the cleanliness of the floor, the room and medical equipment in the health center room, the cleanliness of the patient's toilet in the puskesmas and the patient getting health facilities in the examination room as expected.

One part of the Puskesmas physical facility is the service room. The Puskesmas service room is a room used to provide services to the community that are included in the Puskesmas activity program, both compulsory health efforts and health development efforts. Program activities carried out by Puskesmas should be supported by the availability and suitability of space for services. Without the availability of space, the program that is run cannot run optimally (Rukmini, 2013).

The addition of service rooms, spatial arrangements, and the provision of inpatient facilities at the puskesmas are efforts to improve the quality of services to the community according to the needs and demands of the community, puskesmas need to improve various service support facilities while still paying attention to the capabilities of existing resources. This is aimed at realizing quality services, professionalism, safety and (Depkes, 2005). The Puskesmas Service Room is one of the health service environments apart from parks, cleanliness and security. The physical environment is also related to patient comfort and safety, which is one of the dimensions of the quality of health services (Pohan, 2007).

VI. CONCLUSION

Health workers are expected to provide excellent service to patients such as implementing effective communication for patients. The implementation of effective communication by health personnel can be improved through the provision of training by the Puskesmas. The provision of regular training and evaluation will improve the quality of implementing effective communication to patients.

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Weight Gain of Exclusively and Non- Exclusively Breastfed infants in the first 6 Months of Life in Banyuanyar Village, Banjarsari District, Surakarta City.

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Abstract—Exclusive breastfeeding saves more than 30.000 Indonesian children under the age of five. Indonesian Demographic and Health Survey (2007) reported a decrease in the number of babies who were exclusively breastfed by 7.2%. The prevalence of exclusive breastfeeding in Banyuanyar Village remained low, approximately 36.2%. Breast milk is a complex biological liquid which contains all the nutrients needed for infant weight growth. The purpose of this study was to determine the difference in weight gain for infants aged 0-6 months between those who were exclusively breastfed and not exclusively breastfed in Banyuanyar Village. The research method used in this study was a descriptive comparative with a retrospective approach. A sample of 42 infants aged 6-12 months in Banyuanyar Village. Simple random sampling was utilized as a technique of grouping sample. Data were collected using a questionnaire, unstructured interviews, infant weight at HEALTH CARD, then normality data was tested with Shapiro-Wilk. In the first quarter, the results were normally distributed, hence, independent t-test was used for analysing and in the second quarter, the results were not normally distributed, so it was analyzed by the Mann-Whitney U-Test. The results of Independent t-test showed that the p value was 0,000 (<0.05), means that there was a difference between the first quarter of weight gain among infants who were exclusively breastfed and those who were not exclusively breastfed. The Mann-Whitney U-Test results showed that the p value was 0,000 (<0.05), means that there was a difference between weight gain in the second quarter among infants who were exclusively breastfed and those who were not exclusively breastfed.
It is expected that mothers are able to breastfeed exclusively to their babies for 6 months and do not provide additional food as it can inhibit further growth of the baby. Further researchers are expected to conduct further research with other methods.

Keywords— Weight gain, aged 0-6 months, exclusive breastfeeding, non-exclusive breastfeeding.

I. INTRODUCTION

Breast milk is a white liquid produced by the mammary glands located in the breasts of mothers through the process of breastfeeding. Naturally, the breast will be able to produce milk. Breast milk is food that has been prepared for the baby when woman is pregnant. During antenatal period, her breasts change to produce breast milk. Breast milk is the best food from God which is prepared for babies. Breast milk has the highest nutritional value compared to baby food made by humans or milk derived from animals (Khasanah, 2011).

Exclusive breastfeeding means that babies receive only breast milk for 6 months and no other liquids and solids, such as formula milk, oranges, honey, tea, water, bananas, porridge, biscuits, and mashed rice except vitamins, minerals and drugs. After 6 months, complementary food may be introduced for a baby and breast milk is still given until the baby is 2 years or older. Nothing can replace the composition of breast milk, as it is specifically designed for infants, while formula milk has a different composition that can not replace the function of breast milk (Prasetyono, 2009).

Exclusive breastfeeding saves more than 30 thousand Indonesian children under the age of five. Indonesian Demographic and Health Survey (2007) reported a decrease in the number of babies who were exclusively breastfed by 7.2%. At the same time, the number of babies under six months who were given formula milk increased from 16.7% (2002) to 27.9% (2007). The United Nations Children's Fund (UNICEF) concluded that the coverage of exclusive six-month breastfeeding in Indonesia is still far from the world average of 38%. Exclusive breastfeeding is recommended for babies up to 6 months, but in fact that the rate of exclusive breastfeeding in Central Java was 27.35% of 314,253 babies in 2007 (Ministry of Health, 2007). In 2010, the number of babies aged 0-12 months was 10,105 babies and the age of 6-12 months was 5,201 babies in Surakarta. The prevalence of exclusive breastfeeding in Surakarta reached 22.48% of the total 5,201 babies in 2010. While the target of achieving exclusive breastfeeding in the city of Surakarta is 50% (City Health Office of Surakarta, 2010).

Exclusive breastfeeding provides many benefits for babies, including breast milk as the most complete and best nutrition for babies, breast milk increases immune system and intelligence, prevents babies from allergies, and reduces obesity. In addition, breast milk is easily digested by infants and it is not easily contaminated (Khasanah, 2011).

The growth of infants and toddlers can be monitored by weighing, measuring the length and head circumference regularly. Weight is the most important anthropometric measure and most often used in infants. Weight is also utilized to measure the rate of physical growth and nutritional status and to detect abnormalities such as dehydration, ascites, edema, and tumor (Supariasa, 2001). Under normal circumstances, weight will increase along with age, while two possibilities of abnormal circumstances for weight development could develop faster or more slowly (Proverawati and Asfuah, 2009). Normal weight gain among healthy infants in the first quarter is around 700-1000 grams / month, in the second quarter around 500-600 grams / month (Nursalam, 2008).

Breast milk contains two hormones that affect the baby's weight, adiponectin (high protein hormone) and leptin (major roles in fat metabolism). Leptin is a message molecule to inform the presence of fat in the body to brain. The existence of the two hormones can reduce the risk of overweight in infants, as breast milk is a complex biological liquid that contains all the nutrients required for the growth of baby's weight. There is an association between breastfeeding and baby's weight. It explains the reason of baby's weight that is breastfed is lighter than a baby that receives formula feeding (Proverawati and Asfuah, 2009). The weight of babies who are breastfed is lighter than those that get formula milk up to the aged of 6 months. This does not mean that a greater weight gain in infants who receive formula feeding is better than breastfed infants. (Hegar, 2008).

All formula milk has been developed to approximate the nutrient composition of breast milk. The standard for infant formula is the amount of calories, vitamins, and minerals must be in line with the baby's needs, therefore, optimal growth and development can be achieved. Inappropriate formula feeding interferes the growth of the baby, while over-formula feeding puts the baby at risk of obesity. On the other hand, watery formula milk may lead to marasmus or malnutrition (Khasanah, 2008).

The normal pattern of growth and development among babies is not similar due to many factors. Factors that influence infant weight including infant nutritional status, socioeconomic status, and infant health status (Hidayat, 2008). A retrospective study conducted at Baltomore Washingthon DC reported that under optimal conditions, exclusive breastfeeding supported the growth of infants during the first 6 months or more. If this research has been carried out in this developed country, but will the results be the same if the research is carried out in developing countries such as Indonesia (Hegar, 2008).

Based on the above phenomenon about the importance of exclusive breastfeeding of infants with infant weight, the researchers are interested to conduct a study about infant weight in the aged 0-6 months between those who were exclusive breastfed and no exclusive breastfed in Banyuanyar Village, Banjarsari District, Surakarta City.

II. MATERIAL AND METHOD

A. Settings, population, and samples

1. Settings

   This research was conducted in the Banyuanyar Village, Banjarsari District, Surakarta City on 24-26 June 2011

2. Population and samples

   The population in this study was all infants aged 6-12 months who were given exclusive breastfeeding and non-exclusive breastfeeding in Banyuanyar Village, Banjarsari Subdistrict, Surakarta City (58 babies). The sampling technique used in this study was total population sampling (samples were taken from the entire population) (Arikunto, 2006). The samples of exclusive breastfeeding infants in this study were all infants aged 6-12 months who were given exclusive breastfeeding (21 infants). To equalize the exclusive breastfeeding and non-exclusive breastfeeding groups, Simple random sampling was utilized by drawing the non-exclusive breastfeeding groups so that the same number of samples between the exclusive breastfeeding is 21 babies and 21 babies for non-exclusive breastfeeding. In this study, there were inclusion criteria, namely the general characteristics of research subjects from a target population that can be reached and will be examined (Nursalam, 2008).

The inclusion criteria in this study included:

1) Babies who were measured for weight at the age of 0-6 months and were registered at Health Card.
2) Babies who were 2500 grams - 4000 grams at birth.
3) Mothers who were willing to be respondents and had ability to read and write.
4) Mothers who didn't have two babies or toddlers.

B. Research methods

The research method used in the study was descriptive comparative research that was directed to determine whether there were differences in two or more groups in the aspects or variables under the study. There was no manipulation or treatment from the researchers. The design of this study used a retrospective approach. The bivariate analysis in this study utilized the independent sample t-test to find the differences between two groups that were not linked. The process and data analysis in this study used SPSS packages. If t arithmetic> T table, then Ho was rejected, which means there was a significant difference between the weight gain of infants in the first quarter between those who were given exclusive breastfeeding and non-exclusive breastfeeding and the baby's weight gain in second quarter between those who were given exclusive breastfeeding and non-exclusive breastfeeding. A comparison between ά and p value could also be used. If ά was greater than p value, then Ha was accepted.

III. RESULTS

A. Univariate Analysis

1. Frequency description based on breastfeeding

Category	f	(%)
Exclusive breastfeeding	21	36,2
Non ASI Exclu. Breastfe	37	63,8
Total	58	100

The above table described the frequency of breastfeeding. The babies who were given exclusive breastfeeding were 21 babies (36.2%) while those who were given non- exclusive breastfeeding were 37 babies (63.8%).

2. Overview of weight gain for infants aged 0-6 months based on breastfeeding pattern

Group	n	The Average of Weight Increase Per Month					
		1	2	3	4	5	6
Exclusive breastfeeding	21	871,4	833,3	790,5	538	490,5	523,8
Non-exclusive breastfeeding	21	1150	1119	1038	752,4	923,8	771,4

The above table showed an increase of baby weight that were given exclusive breastfeeding in the first quarter of the first month was 871.4 grams, the second month was 833.3 grams, the third month was 790.5 grams. An increase of baby's weight in the second quarter in the 4th month was 538 grams, the 5th month was 490.5 grams, the 6th month was 523.8 grams. While infant weight gain that was given non-exclusive breastfeeding in the first quarter of the first month was 1150 grams, the second month was 1119 grams, the third month was 1038 grams. The increase in body weight in the second quarter in the 4th month was 752.4 grams, in the 5th month it was 923.8 grams, the 6th month was 771.4 grams.

3. The average distribution of baby's weight gain for the first and second quarter

	The Average of Weight Gain in Quarter I and II				
	n	Quarter I		Quarter II	
Group		Mean	SD	Mean	SD
Exclusive breastfeeding	21	831,75	119,48	517,6	63,79
Non-exclusive breastfeeding	21	1102,38	126,74	815,87	195,11
Total	42				

The above table illustrated that baby's weight gain that was given exclusive breastfeeding in Quarter I had a mean value of 831.75, and a standard deviation (SD) of 119.48. Whereas the babies who were given non-exclusive breastfeeding in the first quarter had a mean value of 1102.38 and a standard deviation (SD) of 126.74.

4. Distribution of Infant Weight Gain Status for Quarter I and II

Group	Status of Weight Gain in health card											
	Quarter I						Quarter II					
	Normal		Not normal				Normal		Not normal			
			Increase		No increase				Increase		No increase	
	n	%	n	%	N	%						%
Exclusive breastfeeding	15	71,4	0	0	6	100	17	81	0	0	4	100
Non-exclusive breastfeeding	14	66,7	2	28,6	5	71,4	5	23,8	14	87,5	2	12,5

The table showed the status of weight gain that can be found in the Health Card. Babies with exclusive breastfeeding in the first quarter were mostly normal, 15 babies (71.4%) and not normal as there were 6 babies (100%), no babies experienced rise more. While the infant weight gain status with non-exclusive breastfeeding was mostly normal at 14 babies (66.7%) and a small portion that was not normal consisting of 2 more babies (28.6%) and 5 babies (71.4%) %). In the second quarter the status of weight gain for infants with exclusive breastfeeding was mostly normal 17 babies (81%), and not normal as there were 4 babies (100%), none experienced more increases. While those who were given non-exclusive breastfeeding were mostly abnormal which consisted of more than 14 babies (87.5%), 2 babies (12.5%), and a normal small proportion of 5 babies (23.8%).

B. Bivariate Analysis

1. The difference of weight gain for babies of the first quarter between those who were exclusively breastfed and those who were not exclusively breastfed

Variables	Group	Mean	SD	t	p value
Weight gain	Exclusive breasfeeding	831,75	119,479	7,120	0,001
	Non-exclusive breasfeeding	1102,38	126,742		

The results Independent T test showed that the calculated t value = 7.120 was greater than t table = 2.021 and P = 0.001 (<0.05). This showed that H0 was rejected, which means there was a significant difference between first quarter of infant weight gain that were exclusively breastfed and those that were non-exclusively breastfed.

2. The difference of baby's weight gain of the second quarter of age between those who were exclusively breastfed and those who were not exclusively breastfed

Variable	Group	Mean	SD	Z	P value
Weight gain	Exclusive breasfeeding	517,6	63,79	-4,683	0,001
	Non-exclusive breasfeeding	815,87	195,11		

The results of Mann-Whitney U-Test showed that the P value = 0.001 (<0.05). This showed that H0 was rejected, which means there was a significant difference between weight gain of the second quarter in infants who were exclusively breastfed and those who were not exclusively breastfed.

IV. DISCUSSION

a. Baby's weight gain in the first quarter and second quarter

Infant weight gain was described in table 5.2, babies who were exclusively breastfed and no exclusively breastfed at the aged of 0-6 months showed the average increase among babies per each month, which showed more increases in the 1-3 months than in 4-5 months. Baby's weight increased irregularly, particularly in babies with breastfeeding. If the average increase of body weight ranged from 150 to 250 per week and usually slowed down after 3 months, then it would be even slower after 6 months (Khasanah, 2011). there was time for babies to have rapid growth and weight gain.

The babies with exclusive breastfeeding in the first month were 871.4 grams, the second month were 833.3 grams, the third month were 790.3 grams, the fourth month were 538 grams, the fifth month were 490.5 grams, and the month sixth were 523.8 grams. While babies with non-exclusive breastfeeding, weight gain in the first month was 1150 grams, the second month was 1119 grams, the third month was 1038 grams, the fourth month was 752.4 grams, the fifth month was 923.8 grams, and months sixth was 771.4 grams. However, we could see the difference in the average weight gain of babies per month between those who were exclusively breastfed and non-exclusively breastfed at the age of 0-6 months, the average increase in monthly more non-exclusive breastfeeding babies than exclusively breastfed babies.

b. Analysis of the difference in weight gain among infants in the first quarter between those who were exclusively breastfed and not exclusively breastfed

The results statistical test on the first quarter of weight gain using the Independent T Test with a confidence level of 95% ($\alpha = 0.05$) found that the p value was 0.001 (<0.05) and the calculated value of 7.120, hence, H0 was rejected. There was a significant difference in weight gain in Quarter I in infants who were exclusively breastfed and not exclusively breastfed.

The weight gain of infants who were exclusively breastfed in the first quarter reached an average of 831.75 grams / month while the babies who were not exclusively breastfed reached an average of 1102.38 grams / month. The increase in body weight of babies who were exclusively breastfed and not exclusively breastfed was different, babies who were exclusively breastfed tend to be smaller than babies who were not exclusively breastfed. Similar results were also shown by a study in Baltimore Washington DC, stated that the weight of infants aged 0-6 months who received exclusive breastfeeding was lighter than babies who received formula feeding. This does not mean that the weight of a baby who was greater in infants who received no exclusive breastfeeding was better than babies who received exclusive breastfeeding (Hegar, 2008).

In the first quarter of babies who were exclusively breastfed and not exclusively breastfed, their weight gain status that can be found in the Health Card. There were 15 normal babies who received exclusive breastfeeding and 14 babies who received non-exclusive breastfeeding. Babies who received exclusive breastfeeding in the first quarter did not experience more weight gain, while babies who received no exclusive breastfeeding, there were 2 babies who gained more weight in the first quarter.

A study in the Balerus Republic compared normal growth patterns between infants with breastfeeding and infants with formula feeding. It was reported that babies who were breastfed and who were given formula feeding had similar growth pattern in the first few months. However, at the age of 4-6 months, babies who were given formula feeding gained weight which tended to be faster than babies with breastfeeding. Formula feeding or other supplementary food at less than 6 months will cause babies to be overweight or obese (Roesli, 2009).

V. CONCLUSION

Based on the results of our study "the difference of infant weight gain in the aged 0-6 months between those who were exclusive breastfed and no exclusive breastfed in Banyuanyar Village, Banjarsari District, Surakarta City", can be concluded that:

a. The number of babies who were exclusively breastfed (n=39) was greater than those who were not exclusively breastfed (n=21) in Banyuanyar village, Banjarsari District, Surakarta City
b. Weight gain for infants who were exclusively breastfed tends to experience modest weight gain in the status of weight gain found at Health Card. The average weight gain reached 831.75 grams / month in the first quarter and 517.6 grams / month in the second quarter.
c. Infant weight gain with non-exclusive breastfeeding tends to experience excessive weight gain on the status of weight gain found at Health Card. The average weight gain

reached 1102.38 grams / month in the age of the first quarter and 815.87 grams / month in the second quarter

d. There was a significant difference in first quarter in weight among infants who were exclusively breastfed and those who were not exclusively breastfed (p = 0.001).
e. There was a significant difference in body weight in the second quarter of infants who were exclusively breastfed and those who were not exclusively breastfed (p = 0.001)

VI. RECOMMENDATIONS

1. For researchers
   It is expected to develop a wider range of research using various variables and larger sample sizes.
2. For mothers
   Mothers should prioritize to breastfeed their baby for 6 months and do not provide additional food during the aged of 6 months.
3. For educational institutions
   It is expected to increase the participation of students to provide counseling about exclusive breastfeeding to the community.
4. For health workers
   Local health office should increase socialization and counseling about exclusive breastfeeding gradually to pregnant women, postpartum women, and women of reproductive age to achieve the success of the national program for exclusive breastfeeding.

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Food Hygiene In Nutrition Unit Of Petala Bumi Hospital Riau Province

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Abstract-**Objective: The hospital functions as a place of healing and recovery of disease, one of which is by providing nutritious intake to patients without neglecting the cleanliness starting from the ordering process, processing to food distribution. This study aims to determine food, personal and environmental hygiene in the nutritional installation of Petala Bumi Hospital Riau Province. This research is a qualitative research based on the philosophy of postpositivism. The research sample consisted of 4 people, namely the head of nutrition installation, production, distribution and outsourcing. The variables studied included the reception of food ingredients, storage, processing, serving, distribution, behavior of food handlers, and cleanliness of the work environment. Research instruments in the form of interview guides, observation sheets, and document review as a comparison. The results of this study indicate that the food hygiene at the Petala Bumi Hospital nutritional installation has fulfilled the requirements and is categorized as good, only a few aspects that have not been maximally fulfilled such as the stage of processing food that is good and right can be able to maintain the quality and safety of processed food. Whereas the wrong way of processing can cause excessive nutrient content in food.**

Keywords: Food Hygiene, Hospital Nutrition Installation.

I. INTRODUCTION

Hospital in basic fuction is for recovering of illness, by time hospital's function improve to other community health such as wellness. Government has big role regarding community need, based on law no 44 in year 2009, for improving communiry wellness to the highet level, government need to provide both individual and community health services, with comprehensive promotive, preventive, curative and rehabilitative approach.

Based on inistery of health regulation no. 1096, 2011, Hygiene is health strategy to maintain and protect individual health, such as hand washing, dish washing, discard spoiled part of food. Hygiene devided into 3, food hygiene, personal and environment hygiene. Higiene terbagi atas tiga yaitu higiene (Yulia, 2016). Food hygiene will describe aabout how to process the food, food processing from raw materials to be ready food, food saving ,treating and how to avoid poisoning and destroyed food(Sumiati, 2013). Based of Indonesia ministery of health regulation Menurut no . 1098, 2003 personal hygiene food is person who has direct contact with food processing, equipment for food processing,started from preparing, cleaning, processing, distribution and presentation. Beside that, personal hygiene also discussed about how to keep personal (Irawan, 2016).

Chantika, at al. 2016 stated that food hygiene from the aspect of food handlers which includes being in good health, having a sanitation hygiene course certificate, conducting health checks and the habits carried out by food handlers at the Nutrition unit of Gambiran Hospital, Kediri have not met the requirements. There are still handlers who have suffered from typhoid and suspect tuberculosis.

Petala Bumi Hospital (RSUD) has 14 workers in nutrition unit, whis are section consist of head of nutrition unit, nutritionists, production, distribution, and out-sourcing. The nutrition unit at Petala Bumi Hospital is a place for food processing, serving, and distributing to hospitalize patients.

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Based on observations during pre-research at the nutritional unit of Petala Bumi Hospital in February 2019, it was known that the food processing section that had been processed was not closed after cooking, there might be food risk of contamination and also there are still some parts of the place were messy and not neatly arranged.

II. MATERIAL AND METHOD

Jenis this study was qualitative studym researcher was done idept interview , observation and took picture as documentation for collecting data process. Triangulation was also applied in this study. Miles and Huberman model was used for data analysing

III. RESULT

Result of this study process of organizing food in Petala Bumi Hospital includes budgeting planning, planning of foodstuffs, ordering, storing, processing, washing hands with soap before processing food, seeing the menu to be cooked and distribution. For the purchase of foodstuffs obtained from suppliers or auction agencies, the food ingredients used are also of good quality. Petala Bumi Hospital used package processed food ingredients, and the quality of packaged processed food ingredients is checked before use.

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Foodstuffs that have been received before processing were stored, such as particular storage for meat group, fish and other animal side dishes in the freezer, before put into the freezer, they were cleaned first, cutting based on need , put in plastic, labeled, and then saved. Storage for eggs divided into two, in refrigerator and dry warehouse. Before being stored, eggs were washed and also stored for milk in a special milk room.

Vegetables and fruit are put in a different chiller, before being stored, cleaned and packed in plastic and labeled. Dry food storage is placed in a dry warehouse and when you enter, look at the expayed date first. Wet food ingredients stored in the refrigerator. Meanwhile, the storage of cooked food is immediately wrapped after serving it into the patient's food container, and the rest is stored in a serving hood for leftover side dishes and for jelly or pudding stored in the refrigerator. Then the way to serve cooked food is by putting it in a bowl or bowl then wrapping it.

IV. DISCUSSION

The results of this study indicate that the process of organizing food hygiene at Petala Bumi Hospital is accordance to food processing based on the Regulation of the Minister of Health no 1096 / Menkes / Per / Vi / 2011 concerning Jasaboga Sanitation Hygiene, in general, budget planning, planning have been carried out. foodstuffs, ordering, storage, processing, and distribution. Hospital foodstuff purchases have been obtained from suppliers or auction agencies that provide hospital needs, especially in the nutrition installation section, all aspects provided are in accordance with the desired specifications, both dry packaged processed food and wet food ingredients.

Based on Mirawati., Et al. In 2011 who examined the analysis of personal hygiene and food handling in the administration of patient food at Dr. Mohammad Hoesin Palembang. The results of research by Mirawati., Et al. Were different from the results of this research the study showed that the food administration in the nutrition unit of Dr. Mohammad Hoesin Palembang had not met the requirements, such as food handling aspect, several stages have not been carried out properly. Inspection of the quality of foodstuffs have not been carried out for each category of foodstuffs, storage of foodstuffs has not used temperature standards, and equipment and sanitation facilities have not met the requirements.

Food hygiene at Petala Bumi Hospital has been categorized as good starting from budgeting, ordering foodstuffs, receiving foodstuffs that have been checked for quality and quantity beforehand, storing and servig have special storage space until food will be processed and distributed to patients properly.

V. CONCLUSION

Sebaiknya bangunan instalasi gizi di pisah dari bangunan induk agar ruangan di instalasi gizi tidak pengap dan diharapkan adanya ruangan khusus untuk tempat penyimpanan bahan makanan di instalasi gizi.

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Factors For Implementing International Patient Safety Goals On Nurse Behavior In The Inpatient Room Of The Ibnu Sina Hospital In Pekanbaru

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Abtract-**Patient safety has become a global and serious problem in society. The application of patient safety to inpatients can accelerate the healing process and shorten the length of stay in the hospital and can prevent injury to patients. The success of patient safety can be achieved if the nurse knows exactly something that threatens patient safety during hospital treatment. This study aims to determine the relationship between knowledge of nurses, motivation, supervision, organizational influence, with efforts to implement patient safety in the inpatient room of Ibnu Sina Hospital Pekanbaru in 2019. This type of research is a descriptive correlation study. The population is the nurse executing from five inpatient rooms of the Ibnu Sina Hospital Pekanbaru. Sampling was determined using the Proportioned stratified random sampling technique to 73 respondents. Research instrument for data collection was questioner, chi-square test used as data analysis technique.**

Keyword : International Patient Safety Goals, motivation, knowledge about influence factor of supervision from nursing organization.

I. INTRODUCTION

Patient safety is main point of priority services which responsible by all hospital staff., kemampuan belajar dari insiden dan tindak lanjutnya serta implementasi solusi untuk meminimalkan timbulnya resiko (Depkes, 2008). Patient safety in hospital is a system that prevents the occurrence of unexpected events (Kejadian Tidaj Diharapkan/KTD) due to actions taken or not carried out by medical or non-medical personnels. The system includes: risk assessment, identification and management of matters related to patient risk, incident reporting and analysis

Patient safety is a serious global public health issue. Globally, Patients with an infection risk of 83.5% and evidence of medical error as much as 50-72.3%. Occurs in Europe in various countries. KTD were found with a range of 3.2-16.6%. The incidence of patient safety violations was 28.3% committed by nurses (World Health Organization 2014).

Based on the behavior of nurses in implementing the International Patient Safety Goals, individual and organizational factors suggest that there is an interpersonal relationship with the knowledge of nurses in applying Patient safety because there is a relationship with the head of the room to improve the quality of service in implementing Patient safety.

II. MATERIAL AND METHOD

A. Prosedure

The research place was conducted in the inpatient room of the Ibnu Sina Hospital Pekanbaru. The type of research used in this research is descriptive correlation study with a cross sectional approach. This type of research is used in order to determine any correlation or relationship between variables and other variables. Sampling technique in this study, was Proportioned stratified random sampling, it is technique of taking samples from members of the population randomly and proportionally, this sampling is carried out if the members of the population are heterogeneous (not similar).

The instrument in this study was a questionnaire on the application of nurses in the application of international patient safety goals. And a questionnaire about the factors that influence the behavior of nurses on the International Patient Safety Goals.

B. Data Analysis

The statistical test used in this study was the Chie-Square test with an increase of $p < 0.05$. The results showed that there was a relationship between nurses in implementing the International Patient Safety Goals if the measurement results showed a value of ρ value < 0.05. (Notoatmodjo, 2010).

III. RESULTS

Most of the respondents studied were female as many as 50 respondents (68%). while male respondents were 23

respondents (32%). While looking at the level of education shows that most of the respondents have a Diploma III education as many as 38 respondents (52%), S1 nursing science is 23 respondents (32%), Nurse (S1 profession) 12 respondents (16%), and Masters (S2) totaled 0 respondents.

The relationship of Nurse Motivation and Implementation in International Patient Safety Goals

Nurse motivation	Implementation of *international* patient safety *goals*		Total	P value
	Good	Not Good		
Low	0	11	11	0,000
	0 %	100%	100%	
High	56	6	62	
	90.3%	9.7 %	100%	
Total	56	17	73	
	21.9 %	78.1 %	100 %	

The results show that there were 11 respondents or (100%) nurses have low motivation to implement international patient safety goals, as well as high knowledge and good application of international patient safety goals, as many as 56 respondents (21.9%). The results of statistical tests show that if the p value is 0,000 <0.05.it shows that there is a relationship between nurse motivation and the application of international patient safety goals.

Relationship between Nurse Supervision and the Implementation of International Patient Safety

Supervision	Implementation of *international* patient safety *goals*		Total	P value
	Good	Not good		
Good	56	0	56	0,00
	100 %	0%	100%	
Not good	0	17	17	
	0%	100 %	100%	
Total	56	17	73	
	76.7 %	23.3%	100 %	

The results showed that nurses with good supervision were implemented international patient safety goals 56 respondents (100%) and not good supervision and implementation of international patient safety goals were 17 respondents (100%). The results of statistical tests show that if the p value is 0,000 <0.05. it shows that relationship between nurse supervision and the application of international patient safety goals.

Relation between Organizational Influence and Implementation of International Patient Safety Goals

Organization influence	Implementation of *international* patient safety *goals*		Total	Value
	Good	Not good		
High	54	1	55	0,000
	98.2 %	1.8%	100%	
Low	2	16	18	
	11.1%	88.9%	100%	
Total	56	17	73	
	76.7 %	23.3 %	100 %	

The results showed that nurses with low organizational influence implemented unfavorable international patient safety goals by 2 respondents or (11.1%) and high organizational influence in implementing good international patient safety goals were 54 respondents (98.2%). The results of statistical tests show that if the p value is 0,000 <0.05. it shows the relationship between the influence of nursing organizations and the application of international patient safety goals. This means that there is a significant relationship between organizational influence and nurse behavior in carrying out patient safety. Organizations are formed from individual characteristics as objects and subjects, if an instruction is carried out or fails the cause is the organization.

IV. DISCUSSION

The level of knowledge of nurses has a significant effect on the implementation of universal precautions which include patient safety safety goals. According to Acherbregh (2002) information can change a person to take different actions or act more effectively

Supervision of inpatient room in Ibnu Sina Hospital Pekanbaru which is carried out by the supervisor who runs quite optimally with activities in the form of supervision, guidance, and motivation in accordance with the supervision of nursing services

V. CONCLUSION

1. Factors that influence nurse behavior in implementing international patient safety show that as many as 64 respondents (87%) have good knowledge, as many as 62 respondents (84%) have high motivation, as many as 56 respondents (76%) state that the implementation of supervision is good, as many as 55 respondents (75%) had high organizational influence, and good application of international patient safety goals were 56 respondents (73%).
2. The relationship between nurse knowledge and international patient safety goals shows that nurses with

good knowledge implement good international patient safety goals as many as 56 respondents (87.5%) as well as poor knowledge and implementation of International Patient Safety Goals.

3. The relationship between nurses' motivation and the application of international patient safety goals shows that as many as 11 respondents or (100%) nurses have low motivation to implement international patient safety goals, as well as high knowledge and good application of international patient safety goals as many as 56 respondents (21.9%). The results of statistical tests show that if the results of this study indicate that the relationship between nurses and efforts to implement international patient safety goals in the inpatient room of Ibn Sina Hospital with a value of $0.000 < \alpha = 0.05$.

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