PROCEEDING

THE 1st INTERNATIONAL CONFERENCE ON HEALTH ALMA ATA UNIVERSITY 2018

"OPTIMIZING THE ROLE OF HEALTH PROFESSIONALS TO IMPROVE MATERNAL AND CHILD HEALTH IN SUPPORTING SUSTAINABLE DEVELOPMENT GOALS (SDGs)"

Keynote Speakers

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2018
ICHAA

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Theme:

"Optimizing The Role Of Health Professionals To Improve Maternal And Child Health In Supporting Sustainable Development Goals (SDGs)"

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PREFACE

Assalamu'alaikum Wr.Wb.

Praise be to Allah SWT who has bestowed His grace and help, so this proceedings entitled *"Optimizing the Role of Health Professionals to Improve Maternal and Child Health in Supporting Sustainable Development Goals (SDG's)"* can be completed.

This seminar will be the first International Seminar which is going to be conducted by the Faculty of Health Sciences of Alma Ata University on February 25, 2018 at Sahid Jaya Hotel, Yogyakarta. This International Seminar is organized as an effort to improve our understanding toward global maternal & child health and nutrition problems development and their quality services system to achieve SDG's. In addition, this international seminar is also a mean to expose researches conducted by many researchers from universities and practitioners in Indonesia and neighborhood countries and to disseminate them to more people.

This Proceeding contains articles resulted from various disciplines researches related to medicine, nutrition and dietetics, pharmacy, nursing, obstetrics and hospital management. This proceeding, hopefully, can be a reference for students, lecturers, and health practitioners. Furthermore, the issuance of these proceedings can be used as a reference in the development of future research, as well as a reference in an effort to improve health services.

Eventually, thank you to all those who have assisted in these articles completion and preparation of this proceeding.

Wassalamu'alaikum Wr.Wb.

Yogyakarta, 25th February 2018

ICHAA Committee

CONTENTS

IMPACT OF MATERNAL CONSUMPTION WITH CHINESE HERB-ENRICHED DIET ON NURSING INFANTS

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ABSTRACT

Background: *Chinese herbs are traditional diet for postpartum women in many countries. However, the potential effects of maternal consumption with Chinese medicines on nursing infants have not been well investigated.*

Objectives: *To identify the association between health of breastfed infants and maternal diet with Chinese herbs.*

Methods: *Healthy infants fed with exclusively breast milk at 25 to 45 days of age were eligible for enrollment in this study. Those with gestational age less than 34 weeks, birth weight less than 2000 grams, or illness were excluded. Growth, stool pattern and jaundice were examined as infant outcome. A multivariate logistic regression model was used to assess the health risk for breastfed infants at maternal intake with Chinese herbs.*

Results: *A total of 790 infants were enrolled into this prospective study. There was a decline of jaundice in infants of maternal diet with modified Si-wu-tang when compared to those without modified Si-wu-tang. In addition, infants of maternal diet with sesame oil chicken more often defecated. A combination of maternal consumption with modified Si-wu-tang, Sheng-hau-tang, Eucommia ulmoides, and sesame oil chicken was related to a decline of jaundice and an increase of stool passage. There was no significant correlation of maternal diet with infant growth. The multivariate logistic regression analysis demonstrated greater risk of frequent stooling at maternal diet with sesame oil chicken and lower risk of jaundice at maternal diet with modified Si-wu-tang.*

Conclusions: *To our knowledge, this study is the first to identify a relationship between maternal consumption with Chinese herb-enriched diet and infant health at age of one month. The results suggest maternal intake with Chinese herb-enriched diet is safe for nursing infants. Maternal diet with modified Si-wu-tang may serve as an alternative strategy to prevent breast milk jaundice.*

Keywords: Breast Milk, Chinese Herb, Jaundice; Stool, Weight

INTRODUCTION

Chinese herbal medicines have been a traditional management for postpartum women in some countries (1). These herbal supplements are part of traditional custom aimed at accelerating the recovery of puerperal mothers during one-month period. The commonly-used Chinese herbal diets include Eucommia ulmoides, Sheng-hau-tang, Si-wu-tang, and sesame oil chicken (2-4). First, Eucommia ulmoides is ingested by postpartum women to enhance the convalescence of the uterus (2). It is one of the oldest herbs used to treat many diseases in Asian population (5-7). Second, Sheng-hau-tang is consumed to relieve the abdominal discomfort and eliminate the lochia (8). The ingredients of Sheng-hau-tang consist of Angelica sinensis, Ligusticum chuanxiong, Prunus persica, Zingiber officinale, and Glycyrrhiza uralensis. Third, Si-wu-tang is used to regulate menstruation and relieve menstrual pain (9). It is composed of Angelica sinensis, Ligusticum chuanxiong, Rehmannia glutinosa, and Paeonia lactiflora (10). Fourth, sesame oil chicken is believed to benefit postpartum women by supplying protein intake and increasing peripheral circulation (11). There are an increasing number of mothers consuming Chinese medicines during the first month after delivery for a ritual deemed beneficial to convalescing mothers (4, 12).

Breast milk has been regarded as the best resource of nourishment for infants (13). It's noteworthy that Chinese herbal medicines ingested by postpartum mothers may affect the health of breastfed infants. Thus extensive scientific studies to determine the therapeutic efficacy and potential harmful effects of the various herbal ingredients toward nursing infants are warranted. However, the impact of maternal intake with Chinese medicines on infant outcome was not well surveyed (14, 15). The current prospective study was conducted to evaluate the possible effect of maternal consumption with Chinese herb-enriched diet to breastfed infants at one month of age. The data provide clinical implications in infant care of maternal consumption with Chinese herb-enriched diet.

MATERIALS AND METHODS

This prospective study involved exploratory research conducted through examination of infant health and interviews with nursing mothers. Infants fed with breast milk at 25 to 45 days of age were eligible for enrollment in well-baby clinics of the Chang Gung Memorial Hospital at Taipei between January 2013 and March 2017. Those fed by either formula or combination of breast milk and formula were not enrolled into this study. In addition, infants with gestational age less than 34 weeks, birth weight less than 2000 grams, or illness (such as significant congenital anomaly) were excluded. Growth, stool pattern and jaundice examined in well-baby clinics were regarded as infant outcome. The Institutional Review Board of Chang Gung Memorial Hospital approved the study protocol (number 100-0226C, 103-5219B, 201601104B0). Informed consents were obtained from the mothers of enrolled infants.

Each infant had a transcutaneous bilirubin (TcB) measurement using a portable BiliCheck device (Spectrx Inc, Norcross, GA). The BiliCheck system averaged the spectra of five replicate measurements on the forehead to give a bilirubin estimate. Concurrent weight was measured to investigate the rate of weight gain. The devices for measuring the weight and TcB value were the same through the whole study period. Demographic data — including gender, delivery mode, birth weight and gestational age — were collected from birth records.

Two questions were asked from parents or guardians of enrolled infants.
(A) Stool pattern: The stool pattern was

determined by the frequency of stool output, which was classified into two categories for subsequent analysis: (1) more than four times per day; (2) four or fewer than four times per day.

(B) Maternal diet: Intake of four traditional Chinese diets during the postpartum period was asked, including:
   (1) Eucommia ulmoides
   (2) Sheng-hau-tang
   (3) modified Si-wu-tang (defined as a consumption of Si-wu-tang which was prescribed by traditional Chinese physicians or cooks)
   (4) Sesame oil chicken (chicken flavored with sesame oil and rice wine).

The statistics were compiled using a commercially available program (SPSS 19.0 for Windows, SPSS Inc., Chicago, Illinois, USA). Categorical variables were analyzed using the chi-square test. For comparison between groups with quantitative variables, the null hypothesis that there was no difference between each group was tested by a one-way analysis of variance. A multivariate logistic regression model was used to assess the health risk of nursing infants in relation to maternal intake with Chinese herb-enriched diet by adjusting for possible confounders–including neonatal factors (gestational age, birth weight, delivery mode, and sex at birth) and maternal diets (Eucommia ulmoides, Sheng-hau-tang, modified Si-wu-tang, and Sesame oil chicken). Odds ratio (OR) and 95% confidence intervals (CI) were expressed after adjusting for the control variables. Significance was defined as $p < 0.05$.

RESULTS AND DISCUSSION

A total of 790 infants fed by breast milk were enrolled into this study. Their demographic data were listed in **Table 1**.

Table 1. Demographic Data of Enrolled Infants (n=420).

Birth data of infants	Number	%
Gender		
Male	410	51.9
Female	380	48.1
Birth weight (g)		
2000~2499	47	5.9
2500~3999	728	92.2
4000~4200	15	1.9
Gestational age (w)		
34 ~ 36	55	7.0
37 ~ 42	735	93.0
Delivery mode	508	64.3
Vaginal delivery	282	35.7
Cesarean section	410	51.9

Maternal Intake With Chinese Herb-Enriched Diet

The most common Chinese herb-enriched diet consumed by postpartum mothers was Sesame oil chicken, followed by Eucommia ulmoides, Sheng-hau-tang, and modified Si-wu-tang **(Figure 1)**. The findings indicate that oral supplementation of certain Chinese herb-enriched diet is very popular for convalescing mothers during the postpartum period (1).
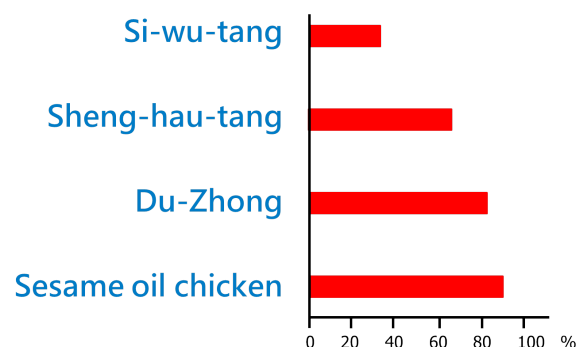
Figure 1. Common Chinese herb-enriched diet consumed by postpartum mothers.

There was no significant correlation of maternal diet with infant weight gain **(Figure 2)**.
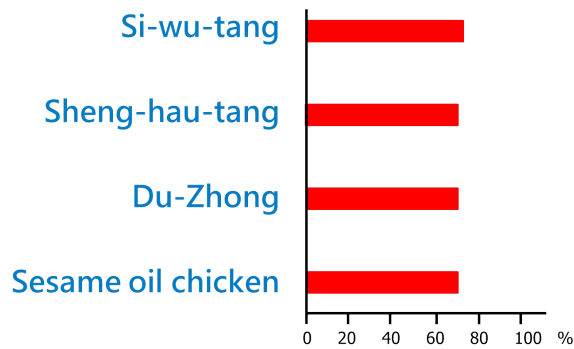
Figure 2. Weight gain > 30 g/day.

There was a significant decline of jaundice (defined as a TcB value ≥5 mg/dL) in infants of maternal diet with modified Si-wu-tang than those without modified Si-wu-tang **(Figure 3)**.
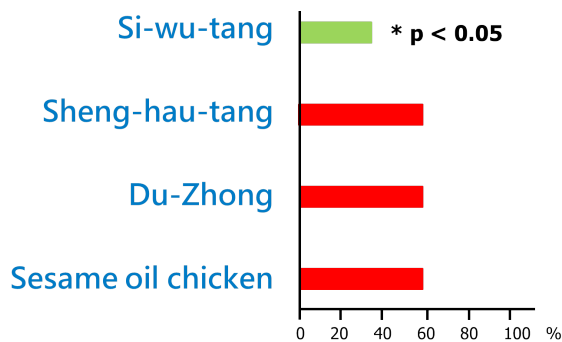
Figure 3. Jaundice defined as a TcB value ≥5 mg/dL.

Furthermore, infants of maternal diet with sesame oil chicken were more likely to have stool passage > 4 times per day than those without sesame oil chicken. We speculate that sesame oil or alcohol may serve as contributors to frequent stooling. The possible mechanism may be an activation of gastro-colic reflex after ingestion of certain foods (16).
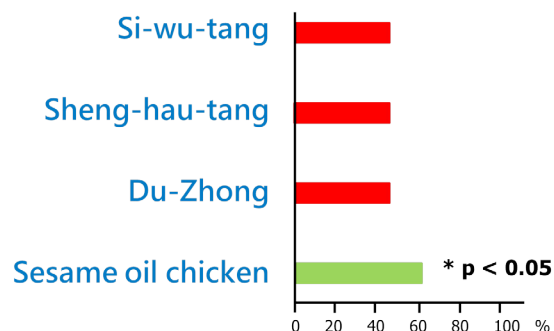
Figure 4. Stool passage > 4 times/day.

A multivariate logistic regression model was used to assess the risk of maternal intake with Chinese herb-enriched diet on infant health **(Table 2)**. After adjusting for possible confounders, the results showed a greater risk of stool passage > 4 times per day in infants of maternal consumption with sesame oil chicken carried. Furthermore, maternal diet with modified Si-wu-tang carried a lower risk of breast milk jaundice. There was no significant correlation of maternal intake with infant weight gain.

Table 2. Risk Assessment of 4 Commonly Used Chinese Regimens by Multivariate Logistic Regression Analysis (N=790)

Maternal diet	p value	Adjusted OR	95% CI
Modified Si-wu-tang			
Weight gain ≤ 30 g/d	0.441	0.812	0.501–1.442
Jaundice (TcB ≥ 5 mg/dL)	<0.001	0.317	0.209–0.512
Stool frequency > 4 times/d	0.585	1.002	0.715–1.801
Sheng-hau-tang			
Weight gain ≤ 30 g/d	0.817	1.177	0.677–1.614
Jaundice (TcB ≥ 5 mg/dL)	0.744	1.096	0.620–1.595
Stool frequency > 4 times/d	0.449	1.212	0.799–1.955
Eucommia ulmoides			
Weight gain ≤ 30 g/d	0.315	1.747	0.691–4.485
Jaundice (TcB ≥ 5 mg/dL)	0.887	0.944	0.449–1.714
Stool frequency > 4 times/d	0.660	1.451	0.765–2.454
Sesame oil chicken			
Weight gain ≤ 30 g/d	0.618	1.248	0.633–2.378
Jaundice (TcB ≥ 5 mg/dL)	0.345	1.108	0.688–2.136
Stool frequency > 4 times/d	0.009	2.312	1.205–3.972

CONCLUSION AND RECOMMENDATION

The current study depicts the association between maternal intake with Chinese herb-

enriched diet and outcome of otherwise healthy infants at age of one month. We used weight gain, jaundice, and stool pattern as indices of infant outcome because they are common problems among apparently well infants fed with breast milk (17, 18). Our data demonstrated a significant relationship between maternal ingestion with Chinese herb-enriched diet and infant health. Administration of traditional Chinese diets to nursing mothers may affect infant jaundice and stool pattern.

This study aimed at verifying the possible impact of 4 Chinese regimens consumed by postpartum women on the health of their nursing infants. There are some critical findings in this study. First, infants of maternal diet with sesame oil chicken more often defecated. Second, maternal consumption with modified Si-wu-tang carried lower risk of breast milk jaundice. Third, maternal consumption with Chinese herb-enriched diet did not affect infant growth. In conclusion, we have identified potential relationship between maternal intake with certain Chinese herb-enriched diet and the health of breastfed infants. Maternal administration of Chinese herb-enriched diet may have pharmacological substances and therefore multiple actions on their nursing infants. The results suggest Chinese herb-enriched diet consumed by mother should be safe for breastfed infants. Our data provide clinical implication for a therapeutic strategy to prevent breast milk jaundice.

ACKNOWLEDGEMENTS

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THE SOCIAL SUPPORT THEIR FAMILIES WITH CHILDREN SUFFERING FRO ACUTE LIMFOBLASTIC LEUKEMIA IN SPACE ESTELLA 2 INSKA RSUP DR. SARDJITO YOGYAKARTA

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ABSTRACT

Background: Acute Limfoblastic Leukemia is disease fierceness blood cells derived from bone marrow characterized by proliferation cells white blood cells with manifestation the abnormal in blood, and gives rise to a disturbance in arrangement cells leukocytes. Chemotherapy is first priority in the treatment of leukemia, which requires maintenance period of every two or three years. The care that a long it will make the impact physically and psychologically good for children and their families. Families are needed and when the treatment, the family had to cover the financially and emotional. In this condition families need the social support derived from that of a other so its burdens can be reduced.

Objectives: Knowing support social relationship with their families have children suffer Acute Limfoblastic Leukemia in the Estella 2 installation child health RSUP dr. Sardjito Yogyakarta.

Methods: The kind of research that is used is the correlation with cross sectional descriptive approach. The sample collection technique using the sampling method of purpose, with an examination alisastatistic uses rank the sperm. The research was conducted in the Estella 2 RSUP dr Sardjito Yogyakarta in January ended in february 2017 with the number of respondents as many as 41 people.

Results: The majority of the social support the family the highest (41.5%), while the burden on the perceived family of mostly in the category of low which are (39,0%). The results of the analysis statistic shows that there is a significant relation exists between social support with their families. The correlation value (r = -0,876) and (pvalue = 0,000), with the direction of negative correlation which means the higher social support received families then the lower its felt family.

Conclusion: There are a significant relation exists between social support with a load of families who have child got Acute Limfoblastic Leukemia in space Estella 2 RSUP dr Sardjito Yogyakarta.

Keywords: Social Support, Families Support, Children, Leukemia

INTRODUCTION

Cancer is the growth of abnormal, growing rapidly, uncontrolled and not rhythmic to infiltrate through the body normal so can affect the functioning of the body. Cancer is one non infectious disease a health problems in the world at large, including indonesia. The prevalence of cancer in the total indonesian is 1,4 per thousand

people, is highest in Yogyakarta Special Region that 4,1% followed Central Java 2,1%, Bali 2,1% and Jakarta 1,9% (1,2). It is estimated that 2% -4% of all cases of cancer attack in children, and prevalence of highest overall performance is leukemia 30% -40% of all of cancer disease in children. Registration cancer children in devision hemato-oncology the RSUP dr Sardjito Yogyakarta get there cancer new child for five years from 2011-2015 of 920 children, consisting of 305 a solid tumor and 614 children are blood or leukemia cancer that 63% or 390 child is acute limfoblastik leukemia.. Leukemia fierceness disease blood cells derived from bone marrow that characterized by proliferation of white blood cells with the manifestation of the presence of abnormal cells in the blood and gives rise to a disturbance in the arrangement cell leukocytes. The development of very fast and an accumulation of malignant cells shall be overflowing enter into the bloodstream and spreading to other organs of the body. Symptoms often appear like fever, pale, bruise, peteckie, bone pain because of the infiltration of any unidentified leukemia, limp, there is enlargement of the liver and spleen.

Priority major in handling leukemia is to chemotherapy more or less took her year (3). Chemotherapy treatments are aiming to slow or kill the growth of leukemia present in the body. In addition to kill cells leukemia, chemotherapy could hinder the growth of sel-sel normal produced by spinal cord resulting in can generate side effects as the depression bone marrow, alopesia, mukositis, mielosupresi, nausea, vomiting, abnormality function of the heart, allergies, which could put additional care days. Care long it will cause discomfort, increase stress and impact on the quality of life of both psien and the physically, psychological, spiritual, economic status and on the dynamics of the family (4) and can create conflicts and make otang being heedful, offended, and

sometimes incapable of control, this will be a burden for family.Their families is the stress family as the effects of the family that led to an increase stress emotional and family economy (5). Their families are divided into two are the objective is obstacles in family when cares for its offspring sick, and load subjective which is emotional distress which includes anxious, sad, guilt, and despair.

The impact of the general perceived families with children leukemia is high for economic burden, the treatment, emotions family, the stress of condition, limited in social experience, and lack of information relating to treatment. These conditions and social support indispensable. Social support is a form of social interaction in which there is a mutual give and receive are real, so individuals engaged can pay attention, love and a good for the. Parents have children suffer all need to get social support, because indirectly support from people around to send a physical burden and psychological, feel comfortable, loved, loved ones, consideration, and valued by others. Social support could include emotional support, instrumental, information, and awards.Social support will also affect mannerisms parents, lowering fear, affect in decision making. . Based on research Fauzia with a title relations social support to patience mother have children people leukemia at the foundation love the cancer bandung show is the relationship between a social patience mother, the value r = 0,994.This is because with the support of high social will make level patience mother is a higher (6).

Based on studies introduction that researchers done through interview on three pendampin children had leukemia in the estella 2 RSUP dr. Sardjito Yogyakarta got that when the diagnosed leukemia they are shocked, she did not believe diagnose, sad, stress, desperate, confused and crying. Are suffering wrongdoing his son. In a state of as that with a

sense of responsibility they accompanying his son in the treatment of.At the hospital parents will help each other, entertaining, support each other so that interwoven brotherhood among them. Interacting with each other, a sense of sepenanggungan about, us and providing support it will reduce the emotionally.Information on disease, care, the treatment, insurance management, obtained from health team that can add hospital insight parents. Service providers nursing must be able to identify family response to situations children hospital, explore form of support from received, so as to improve the quality of care of nursing.Based on the phenomenon above writer interested to analyze further on the social support their families in the estella 2 installation child health RSUP dr. Sardjito Yogyakarta

MATERIALS AND METHODS

The kind of research this is descriptive quantitative research to a draft cross sectional. Population in this research is of families who have child got all who undergo chemotherapy and.The sample collection in this research using a technique purposive the sampling method of, and in this research were 41 respondents. Using analysis univariat data available for analysis and analysis by test bivariat statistics rank the spearman.Independent variable in this research was social support and variable dependent is a load of the family. Respondents in this research was of families who have got all child who undergo chemotherapy and in the Estella 2 child health installation RSUP dr. Sardjito Yogyakarta.

RESULTS AND DISCUSSION

Table 1. A Frequency Distribution Characteristic of A Child And Suffering From All of The Families in Space Estella 2 Kesehatan Installation Children RSUP dr. Sardjito Yogyakarta (N = 41)

No	Caracteristics	Frequency (f)	Percent (%)
1	Child Age		
	1 – 5 age	13	31,7
	6 – 10 age	19	46,3
	11 – 15 age	7	17,1
	16 – 20 age	2	4,9
2	Sex		
	Male	25	61
	Female	16	39
3	Time of Treatment		
	Induction	18	43,9
	Consolidate Detail	14	34,1
		9	22,0
4	Family Age		
	21 – 30 age	11	26,9
	31 – 40 age	16	39,0
	41 – 50 age	14	34,1
5	Sex		
	Male	7	17,1
	Female	34	82,9
6	Education		
	Primary School	5	12,2
	Junior High School	19	46,3
	Senior High School	17	41,5
7	Jobs		
	Co-workers	5	12,2
	Civils	1	2,4
	Farmer	2	4,9
	Staffs	2	4,9
	Jobless	31	75,6
8	Relationship		
	Father	7	17,1
	Mother	34	82,9
	Total	41	100,0

Based on **table 1**, It can be seen that the majority of the age of child that is suffering all at the age of 6 to 10 years, 19 of a child (46,3%) sexes dominated by men 25 of the child (69%) with the medication most many phases induction namely 18 anak (43,9%) .**Table 1**, It was known that the families who was accompanying a child for a medical check up to chemotherapy the majority of women 34 (83%) of respondents, a relationship with the son was of mother, to the days of 31 - 40 years there are 16 (39%), with the majority of junior high school education 19 (46,3%) and most widely not working or as a housewife which is there are 31 (75%) of respondents.

Table 2.The Distribution of Social Support The Head of A Family Having Child Got All in The Estella 2 RSUP dr. Sardjito Yogyakarta

Social Support	Frequency (f)	Percent (%)
Low	8	19,5
Medium	16	39,0
High	17	41,5
Total	41	100.0

Based on **Table 2**.It can be seen that of all respondents namely 41 people social support received by the majority of the highest 17 respondents (41.5%).

Table 3.The Distribution of Their Families That Have Children Suffering From All In Estella 2 RSUP dr. Sardjito Yogyakarta

Social Support	Frequency (f)	Percent (%)
Low	16	39,0
Medium	12	29,3
High	13	31,7
Total	41	100,0

From the **table 3.** note that their families have children all the majority of low at 16 people (39,0%).

Table 4.The Social Support Their Families Have Children Suffer All in The Estella 2 RSUP Dr Sardjito Yogyakarta

Dukungan Sosial	Beban Keluarga			Total	Nilai
	Rendah	Sedang	Tinggi		
Low	0	0	8 (19,5%)	8 (19,5%)	P-Value 0,000
Medium	1 (2%)	10 (24,4%)	5 (12,2%)	16 (39,0%)	
High	15 (36,4%)	2 (5%)	0	17 (41,5%)	R = -0,876
Total	16	12	13	41	

Based on **table 4.** The results of the study it can be seen that from 41 respondents supported low high social with their families there are 15 people (36.4%) .While being supported inferior social and their families high there was eight people (19.5%) .In addition some respondents which has support of the existing social but the load is still quite high is 5 a person (12.2%) .The results of the study shows that there are the relationship between social support with a load of families who have child got all.Mixed statistical results by using the spearman rank correlation test between social support their families or the value of a correlation coefficient (r = -0,876 to the value of probability (pvalue = 0,000), (p & it is; 0.05) .

Based on the research done sexes child afflicted all the majority Male the 25 of 41 a comparison 1,6: 1, dominated at age 6-10 year. It is appropriate explanation (4) that all common in children Male than female with insident 3 to 4 cases per 100.000 children aged under 15 years.Research Ariawati (14) also got the age when the diagnosis enforced ranges from 2-14 years with median 5,5 year. In this study the majority of the treatment in phase induction, this is because in phase induction during the not life threatening boy and chemotherapy continue to achieve remission. The distribution of respondents at this research on the basis of sex majority of woman dominated at the age of 31-40 years and majority of woman related as mother, the group including in age young adults, age mature enough in experience life and ripeness people to assist the child afflicted all as caregiver in following treatments chemotherapy who take a long time. Adulthood viceroy also mature enough to play a role as a treatment of eden also in social support and relatively able to understand their families and overcome physically and psycology. She plays an important role as caregiver, moreover role as a mother had skillful and basis instinct in treating a family member falls sick. Overall women have traits more attention, and more sensitive with of

surrounding conditions. Education respondents to research most junior been able to understand when health workers provide information about health problems could be beneficial for care family.Most respondents are not working as a housewife the 31 people (7).

Based on the research done social support obtained for the have children suffer all the majority of high.This social support is crucial for parents because it can to motivate family in the protocol accompanying undergoing treatment. Support society is a form of behavior or interaction interpersonal shown by providing aid in other individuals referring to administering comfort, tending, respect to the social, could include emotional support, instrumental, information, and judgment. Support emotional may include attention, to accompany, giving support, in a parent accompanying children hospital. Support information can be advice, guidance, understanding of disease, protocol treatment, procedures bpjs management and administration. Support instrumental in research it will be providing period of family and friends to simply listening torrent of the or emotion, see, accompany assistance children chemotherapy, aid for treatment.Support the assessment by means of charging a dollar fifty parents as caregiver good.Social support obtained high as for the have children suffer all undergo treatments chemotherapy always be given information about the development of a disease, the children, something about the schedule chemotherapy, schedule control and in medicine for the next, besides the patient family assist each other in management of procedure, in addition there are many NGOs and foundation (8).

Support great social required for family or parents have children suffer all, to support the and motivation in an effort to improve health status good for for children or himself as caregiver. Their families have children is suffering from all

the charges not light resulting in quality of life for families.In this study get their families the majority of low, but there are a few have a high. The felt the average family on the type of its objective into factors which had.The perceived of families who have suffered all children can affect behavior parents who gave birth to an emotional and critical (6).Factors affect their families include the effects of chemotherapy affect two days care. Financially is an important factor that affects the parents, while the child suffer all to live a treatments chemotherapy costing more expensive. Although medical treatment and hospitalizations guaranteed by BPJS but for living expenses daily still needs to the little.The condition of their families is consistent with the theory Mohr (7) and who (8) stating that family members are major parties who bears a physical burden, emotional, and financial because of a family member falls sick. The direct effect of felt of families were stress, desperate, sad, concerned about the future of, cannot be active in community social activities, relatively a long time and financial quite a lot of money, will heavier state of parents.. The result of this research also shows that there are a significant relation exists between social support with a load of families who have child got all with the value of (r = -0,876) and the value of (pvalue = 0,000).

This fits in with the research Sutalaksana (9) who said there were a good relationship between social support there came to be a mother that have children people with acute leukemia limfoblastic. Another study done Fetriyah (10) stated that they found the relationship between satisfaction receives support with anxiety mother who is cleaning up after a child cancer.The result of this research with a value of correlation (r = -0,876) shows of that direction of a negative correlation, it means the higher social support is given or received by parents as caregiver burden that was felt to be

olaeh parents will be more low. A physical burden and psychologically experienced by parents as caregiver is a response that normal to stressor . Families are trying to adapt changes that goes with using mechanisms kopping (11). Families with children have suffered all demands sacrifice economy, social, psychology more than normal family. Hence a support social is needed. The availability of support obtained will menfasilitasi in the process of adapting and mechanisms koping family. Parents by social support high more optimistic, anxiety lower, better able to adapt to stressor, skillful in an effort to fulfill their needs so that the burden of felt lighter.

The effect of social support on health and welfare function simultaneously. Social support adekuat will make cognitive function, physical, and health emotion get better, and affect the family adjustment to events in life with a experienced (12). The result of this research also got that support received high but the weight felt still in the category of high also. This is because there are children all that in patient care and endure chemotherapy in phase induction or the earliest phase and family have not know very much various information such as understanding disease, understanding protocol chemotherapy, procedures BPJS management, insurance program, and also have had little interact with fellow the patient family another. Besides financially a factor the heavier burden acquired during care. Treatment in children with all cannot be separated from the view that in providing services besides focusing on a patient, nurses also had to provide a service nursing academies in the family. The family was the essential element in the care of, the remembrance of the son was an important part of the family. In the provision of the care of nursing required family involvement for the son of always need parents seek treatment and during treatment at the hospital. The needs of security and comfort for parents during accompanying

children hospital was an important part to reduce the impact of psychological good against for children or the family. This can also make the parents have children suffering from all in all things (13). Of all to give the effect of important for the family function. Families are given the task more complex, greater responsibility, greater attention, financing, uncertainty over the future, limited sufficiency economy, emotionally, reaction to the stigma community, social isolation, and lost social opportunities in normally. Family to be the most powerful to situations that happens to any family members as a feeling grieving that is an emotional response, desperate, sorry, and anxiety. An emotional response will always appeared at the time when event that causes emotional states ineffective and will create an imbalance between expected and reality. This could trigger the emergence of grief and prolonged potentially progressive, blend in individual, repeated and permanent. At the time of this condition parents have children suffering from all will use a method of management to overcome them that can be derived from koping personal (internal or support a person who valuable health and teams (external). If a method of management used effective so comfort parents would rise and management if inherited methods are not effective that occurs are low comfort deep sorrow and increase so that the burden of the higher (14;15).

CONCLUSION

1. Characteristic of a child who suffered all by age most is ages 6-10 years 19 children the majority male the 25 children, who dominated in phase induction the 18 children.

2. Characteristics of the and as an assistant child for treatment by age group majority 31-40 age 16 years respondents, predominantly female that also is mother

patients with 34 respondents, are not working as a housewife education the majority junior secondary school the 19 people.

3. Social support received olen families with children suffer all the majority of high at 17 respondents.

4. The perceived of families who have suffered all the most in the category of respondents low at 16 .

5. There was a correlation between social support their families have children suffer all in the estella 2 installation child health RSUP dr. Sardjito Yogyakarta with the correlation sperm says (r = -0,876) and value (pvalue = 0,000).

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THE PROVISION OF INFORMATION ON NEONATAL DEVELOPMENTAL CARE IMPROVES THE NURSE KNOWLEDGE IN CARING FOR LOW BIRTH WEIGHT BABIES (LBWB)

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ABSTRACT

Background: Low Birth Weight Babies (LBWB) in Indonesia remains at relatively high rate, reaching UP TO 16.9%, alongside other health problems during treatment. The role of child nurses is desirable in LBWB treatment and provision of treatment environment that supports the baby growth and development. Neonatal Developmental Care (NDC) is one of treatment interventions that pay attention to the growth and development of LBWB.

Objectives: This research is aimed to determine the effects of NDC information provision on nurse knowledge.

Methods: The design used was quasi-experimental, before and after design, with 21 respondents in the control and experimental groups. The data analysis employed Paired T-Test.

Results: There are effects of NDC information on nurse knowledge in the LBWB treatment (P-value 0.00).

Conclusions: There are effects of NDC information on nurse knowledge in the LBWB treatment and can be used as one of the nursing interventions in optimizing LBWB treatment with regard to child growth and development.

Keywords: LBWB, Neonatal Developmental Care, Nurse Knowledge

INTRODUCTION

The number of Low Birth Weight Babies (LBWB) in Indonesia is still considerably high. WHO noted Indonesia ranked ninth in the world with a percentage of LBW more than 15.5 percent of the births every year (1). The percentage of LBWB in 2014 tends to increase from 2012 at 3.8%, 2013 at 5.2%, to 2014 at 5.7%. The LBWB percentage is obtained from babies born with weight less than 2500 gram (2). Infant mortality cases in Bantul Regency in 2015 are amounted to 105 cases. The biggest cause of infant mortality due to LBWB is 30 cases. AKB in 2015 is 8.35/ 1000 live birth (3).

LBWB remains a problem in the health sector, particularly perinatal health. The incidence and death rate of LBWB caused by complications, for example, are: asphyxia, infection, hypothermia, and hyperbilirubin which are still high. It is expected that nurses as the cutting edge of LBWB treatment have adequate knowledge and skills according to the available competence and facilities (4, 5).

In accordance with research, growth and development treatment is aimed to minimize the effects of long term and short term hospitalization due to physical problems, psychology and emotion (6). The role of nurses is highly crucial in minimizing the effects of hospitalization in infants with LBWB, but many nurses do not have sufficient knowledge about growth and development treatment. Therefore, the provision of information is needed about neonatal developmental care as the nurses' knowledge improvements regarding the care of growth and development in babies with LBWB (7).

Based on preliminary study undertaken at Bantul Regional General Hospital, by observing the data of Audit Maternal Perinatal (AMP) in 2016, the incidence of LBWB happens to 388 babies, in 2.729 birth number which means at 0.14%. Meanwhile, the newborn mortality rate in 2016 is 28, and 17 LBWB. Thereby, the BBLR mortality rate is 0.04%. The number of Perinatology nurses is 21, including the Head of Ward and nursing caretakers.

The Neonatal Developmental Care by nurses at Panembahan Senopati Bantul Regional General Hospital is based on observation to the things already implemented: Kangaroo Mother Care (KMC), nesting; and some have also reduced the lamp usage at night. The neonatal developmental care that has not implemented is the room noise tools, such as compressors, CPAP alarm and ventilator alarm, afternoon and night irradiation, unavailability of Standard Operating Procedure (SOP), neonatal developmental care, and ignorance to open disinfectant close to the incubator and baby box. According to interviews with perinatology nurses, during the last 5 years, they have never received neonatal developmental care information in particular and comprehensive.

The present research is aimed to determine "The Effects of Provision of Information about Neonatal Developmental Care on Nurse Knowledge in Caring for LBWB at Panembahan Senopati Bantul Regional General Hospital".

MATERIALS AND METHODS

The present research employed quasi-experimental research design, before and after design. The sampling method used in this research was saturated sampling of 21 nurses with the following criteria: a) The nurses were willing to be research respondents; b) The nurses were caretaking nurses who handled LBWB, and c) The nurses were not on leave, either on annual leave or maternity leave.

The approach model used by researchers in this research was done through several activities: refreshment of NDC material, simulation and implementation of NDC in Perinatology room. The material refreshment activity was given directly by the researchers to several nurses in the perinatology room using handouts and power point material. The tool used in this research data collection was questionnaire knowledge on NDC. The data processing research employed Paired T-Test formula to determine the difference of knowledge, before and after the provision of NDC information (8).

RESULTS AND DISCUSSION
1. **Univariat Analysis**
   a. **The Characteristics of Respondents based on Age and Employment Duration**

Table 1. Distribution of Respondents based on Age and Employment Duration at the Perinatology Room of Panembahan Senopati Bantul Regional General Hospital August 2017 (n = 21)

Variables	Mean	SD	Min-Max
Age	31,90	6,07	23-43
Employment Duration	6,19	5,65	1-22

Source : Primary Data, 2017

Based on **Table 1**, it is explained that the average age of respondents is 31.90 years, with age variation of 6.07 years. The youngest respondent age is 23 years old, and the oldest respondent is 43 years old. The employment period of respondents in the perinatology room after investigation is 6.19 years in average, and employment period 5 variation of.65 years. The employment period of the respondents is at least 1 year and 22 years at maximum.

The respondents in this study are nurses aged 23-43 years. It demonstrates that the age of respondents is the productive age to work. The employment period is from 1 year to 22 years. The variation of employment period is 5.65, meaning that the average employment period in the Perinatology Room is 6 years. It is because the hospital policy for nurse rotation is done once every 1 year and the appointment of new employees.

Based on the characteristics of the nurses involved in this research, the age can affect the understanding ability and the mindset of a person. Increasing age increases the ability to understand and the mindset; thus the knowledge is gained better. According to research conducted Ho-Mei and Chen, all respondents have a productive age of 26-30 years (44.4%), hence the respondents with productive age do jobs that require responsibility. The research results are in line with the previous research. The age of the respondents is the productive age of 23-43 years. The average age of the respondents working in the Perinatology Room is 32 years (9).

Experience is the best teacher. A person with many years of work experience will get vast knowledge. A person's experience is not only derived from formal education, but also from training or health seminars attended. The training will make a person more skilled in doing something, as training can increase cognitive ability and affect the behavior and mindset to be more positive (10,11).

b. The Characteristics of Respondents Based on Education

Table 2. Distribution of Respondents based on Education at Panembahan Senopati Bantul Regional General Hospital August 2017 (n = 21)

Variable	N (21)	% (100)
Education		
D3	19	86,36
D4	1	4,76
S1	1	4,76

Source: Primary Data, 2017

According to **Table 2**, it is explained that the majority of respondents' education level is Diploma III of Nursing, as many as 19 people (86.36%), Diploma IV as many as 1 person (4.76%), and Bachelor Program of Nursing as many as1 person (4,76%). Education is an effort to develop personality and abilities in and out of school and it lasts a lifetime. The education that one undertakes will make it easier for them to receive information.

2. Bivariate Analysis
a. The Differences in Nurses' Knowledge Before and After the Provision of NDC Information

Table 3. Distribution of Nurse Knowledge before NDC Information Provision at Panembahan Senopati Bantul Regional General Hospital August 2017 (n=21)

Variable	Mean	SD	Min-Max
Knowledge	15,04	2,74	9-19

Source: Primary Data, 2017

Based on **Table 3**, the average score of knowledge before NDC information is 15.04 from a total score of 22, a minimum score of 9 and a maximum score of 19. It indicates a lack of information through seminars on NDC. It is supported by respondents who have never had

previous information about NDC.

It is in line with previous research: nurse knowledge before being provided with information on NDC telling that there are many nurses who have less knowledge because they have not received structured information about developmental care (11).

Table 4. The Distribution of Nurse Knowledge After NDC Information Provision at Panembahan Senopati Bantul Regional General Hospital in August 2017 (n = 21)

Variable	Mean	SD	Min - Max
Knowledge	21,95	0,21	21-22

Source: Primary Data, 2017

Table 5. The Analysis of Mean Difference of Knowledge Before and After the *Neonatal Developmental Care* Information Provision 2017 (n = 21)

Variables	Measurement	n	Mean	Improvement	SD	P *value*
Knowledge	Before	21	15,05	6,9	2,747	0,000
	After	21	21,95		0,218	

Source: Primary Data, 2017

Based on **Table 4,** the average knowledge after being given with NDC information is 21.95 from total score of 22. The score variation is 0.21, minimum score of 21 and maximum score of 22. Based on **Table 5.** above, it is known that the average knowledge before being given with NDC information is 15.05 and 21.95 after, making the increase at 6.9. The variation of knowledge data before intervention is 2.747 and after intervention is 0.218. Further results obtain p value of 0.000 which means there is significant difference between before and after the provision of information, because p value 0.000 < 0.05. It is in line with the theory that states more information can affect or increase one's knowledge, and knowledge raises awareness, and ultimately one will behave according to the knowledge they have (10).

Based on the above, the provision of NDC information is very important to increase the knowledge of nurses in caring LBWB so as to improve professional services. The information obtained, both formal and non-formal, can affect a person in a short term, thus producing changes in knowledge improvement. The information obtained will be able to stimulate one's mind and ability to improve knowledge. The more information people get, the wider and bigger the information they get (9). Such information can be obtained through seminars or training on NDC.

It is also in line with research on the effects of lactation education programs on NICU nurses who demonstrate that educational programs are effective in improving nurses' knowledge and attitude (10). Factors that affect the educational process, in addition to input factors, are factors of methods, materials, implementing educators, and the tools used (12,13). The method of information provision is group discussion method through material refreshment, demonstration and simulation through video, and distribution of booklet. This method is chosen due to limited number of respondents.

To improve the understanding of the materials in this research, besides using print media and booklet, the researcher also used electro-cultural media in the form of LCDs and laptops to display material sand videos about NDC. It proves to be effective with improvement in the ability of nurses in providing support for developmental care in LBWB babies (14).

CONCLUSION AND RECOMMENDATION

Conclusion

1. The average age of respondents is 32 years, with average working period in perinatology of 6 years, and the education in majority is Diploma III of Nursing.
2. The score nurses' knowledge on NDC before intervention is lower than after intervention.
3. The nurses' knowledge about NDC after intervention has increased significantly.
4. There is a significant increase in the mean score of knowledge before and after being given with NDC information.

Recommendation

1. For Panembahan Senopati Bantul Regional General Hospital
   a. Further dissemination of NDC to all health workers who care for LBWB is supported by the policy of the Hospital.
   b. The hospital as policy holders should establish permanent procedures on NDC and disseminate procedures regularly.
   c. There is a need for a specific orientation of NDC for nurses who are being rotated from other rooms or newly-enrolled personnel into the perinatology ward.
   d. The Head of the Ward should cooperate with other units related to the application of NDC.
2. For Future Research
   a. This research should be a reference for similar research, by paying attention to the adequate number of respondents in the control group of the research.
   b. It is expected that further research will identify the long-term effect of provision of NDC information from affective and psychomotor aspects of nurses in caring for LBWB.

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STATUS OF MATERNAL EMPLOYMENT RELATIONS WITH TEMPER TANTRUM OCCURRENCE IN TODDLERS

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ABSTRACT

Background: *Temper tantrum is an episode of extreme anger and frustration, which seems like a loss of control as characterized by crying, shouting, and harsh or aggressive body movements such as throwing things, rolling on the floor, banging own head, and stomping to the floor. Children who have a history of often experiencing temper tantrums are at risk of emotional disturbance and behavioral disorders at later stages of development.*

Objectives: *The purpose of this study is to know the relationship between maternal employment status with the incidence of temper tantrums in toddler.*

Methods: *The population in this study were all mothers of toddler-age children enrolled as students in early childhood and equal in Bangunjiwo area, Bantul, Yogyakarta. The samples were 85 respondents taken with cluster sampling.*

Conclusions: *Fisher's Exact Test showed the results of 0,0001 which means that there is a relationship between maternal employment status and the incidence of temper tantrums in toddler age children. While the result of OR value analysis is 1.054 which means working mother, 1,1 times are more likely to have child with tantrum temperature more severe than mothers who are not working.*

Keywords: Employment, Temper Tantrum, Toddler

INTRODUCTION

Toddler's childhoods continue to improve his ability to control the environment and are pleased with the success of his new skills venture. This success makes them repeat efforts to control the child's environment. Incompetence in controlling can lead to negative behavior such as breaking things, stomping on the wall, screaming as hard as he can and clearly demonstrating ego and self-power in themselves and growing temper tantrums (1).

Temper tantrums are episodes of extreme anger and frustration, which seem to lose control as characterized by crying, shouting, and harsh or aggressive body movements such as throwing things, rolling on the floor, banging their heads and stomping to the floor (2).

A study by Potegal and Davidson on the composition of temper tantrum behavior in children, showed that the prevalence of tantrums increased from 87% at 18-24 months to 91% at the age of 30-36 months and then decreased to

59% a the age of 42-48 months (3).

Temper tantrums should be handled appropriately so as not to endanger a child himself and disrupts the child's emotional development at a later stage. Research conducted by (4) on tantrum behavior using Achenbach Child Bahaviour Checklist showed that children who have a history often experience temper tantrums, at risk of emotional disturbance and behavioral disorders at a later stage of development.

The main role of a mother is to take care of the household which includes caring for children and educating and guiding the child (5). Mothers who do not work can provide plenty of time to always accompany and monitor the emotional development of children so as to have quality time with their children, the time for togetherness is not necessarily always better than working mothers. This is because most of the time they have solely to clean and take care of the house (6).

MATERIALS AND METHODS

This research is an analytic observational research with cross sectional approach to find out the relationship between maternal job status with the occurrence of temper tantrum in children aged toddler. This research was conducted at Early Childhood Education Post (PAUD) and equivalent in Bangunjiwo, Bantul, Yogyakarta in September-October 2016.

The population in this study were all mothers from toddler-age children registered as students in PAUD and equivalent in Bangunjiwo, Bantul, Yogyakarta. Based on data from Kemendikbud, there are 13 Early Childhood Education Posts (PAUD) and equivalent in Bangunjiwo, Bantul, Yogyakarta, with a total population of 307 people. By calculating the minimum number of samples, 85 samples were obtained. Samples were taken by cluster sampling and PAUD determination was done with lottery technique.

The independent variable in this study was the mother's job status as measured by questionnaire. Data is classified as working mom and not working. Respondents were said to be working mothers if they work regularly outside the home and it was said that mothers did not work if those mothers did not have jobs or mothers who worked at home.

Temperature of tantrum as the dependent variable was measured using questionnaire. The questionnaire used Likert scale with the choice of answers never, rarely, often, and very often. Measurement results were then categorized into three levels of mild, moderate, and heavy tantrums.

After all data were obtained, then the data were processed with SPSS and analyzed by bivariat using chi square test After all data were obtained, then the data were processed with SPSS and analyzed by bivariate using chi square test.

RESULTS AND DISCUSSION
Characteristics of Research Subject

Characteristics of research subjects in this study include maternal age, maternal education, maternal employment status, and maternal occupation. Character data distribution of research subjects can be seen in **Table 1**.

From **Table 1.** it appears that the respondents were mostly aged between 20-30 years and 31- 40 years old, in which they were at their productive age for work. The last education of the majority of respondents were up to senior high school level (57.6%) and only 23.6% who received education until college level diploma and bachelor degree.

Most of the respondents were unemployed mothers (61.2%). Housewives and mothers who were included in the category of unemployed mothers. While the working mother was 33 respondents (38.8%), where most of the women (54.6%) worked as private employees.

Table 1 Characteristics of Respondents

Characteristic	N	%
Age		
20-30	54	63,5
31-40	28	33
>40	3	3,5
Total	85	100
Last Education		
Elementary	2	2,4
Junior	14	16,5
Senior	49	57,6
Diploma	10	11,8
Bachelor	10	11,8
Total	85	100
Employment Status		
Unemployed	52	61,2
Employed	33	38,8
Total	85	100
Type of Occupation		
Civil Servants	6	18,2
Private	18	54,6
Labor	7	21,2
Entrepreneurship	2	6
Total	33	100

Table 2 Genesis Frequency Distribution of *Temper Tantrum*

Characteristic	N	%
Temper Tantrum		
Light	80	94,1
Medium	5	5,9
Weight	0	0
Total	85	100
Form of *Temper Tantrum*		
Stomping	193,7	57
Hit	177	52,1
Head banging	90	26,5
Kick	129,5	38,1
Slam doors	153	45
Throw and damage goods	177,5	52,2
Crying loudly	188	55,3
Whine	203	59,7
Yelling and screaming	213	62,8
Cursing and swearing	161,5	47,5

Temper tantrum variables were divided into three categories: mild, moderate, and heavy

tantrums. Categorization was based on the measurement results of the questionnaire used. Temperature of tantrums in children of toddler age in PAUD area of Bangunjiwo, Kasihan, Bantul, can be seen on in **Table 2**. In the table, it shows the frequency distribution for temper tantrum variable.

Most of the respondents had children with mild tantrum temperatures of 80 respondents. No respondents had children with severe tantrums. The most common form of tantrum temper were yelling and screaming, and the most rarer was head-banging.

Bivariate Analisis

The relationship between maternal status and the incidence of temper tantrum in toddler age children can be seen in **Table 3**. The table is the result of bivariate analysis of the two variables by using chi square test.

Table 3. Relationship of Mother Employment Status with Temper tantrum Occurrence in Toddler Age Children

Variable	*Temper tantrum*				Total		OR	p
Occupation Status	Mild		Moderate					
	N	%	N	%	N	%		
Unemployed	49	94,2	3	5,8	52	100	1,054	0.0001
Employed	31	93,9	2	6,1	33	100		
Total	80		5		85	100		

The result of the analysis of the relationship of maternal employment status to the occurrence of temper tantrums in toddler age children found that there were 2 (6.1%) working mothers who had children with moderate temper tantrums. While in mothers who did not work there were 3 (5.8%) mothers who had children with moderate temper tantrums.

Based on the Chi-Square test results obtained the value of the expected count of 50%, it is not eligible to use Chi-Square on the value of Continuity Correction. Because the value of Chi-Square is not eligible, then the test results seen from Fisher's Exact Test.

Fisher's Exact Test score shows 0.0001 results which means there is a relationship between the status of the mother's occupation with the incidence of tantrums in children aged toddler. While the result of OR value analysis is 1.054 which means working mother, 1,1 times are more likely to have child with temper tantrum more severe than mothers who are not working.

Discussion
Mother's Age

Most respondents were in early adulthood. Adulthood is divided into 3 period, ie early adulthood (18-40 years), middle adulthood (40-60 years), and advanced adulthood (> 60 years). Early adulthood is marked by the completion of puberty and the genital organs have developed and are capable of reproducing. At this time the individual will experience certain physical and psychological changes along with adjustment problems (7).

Age is one of the factors that affect the readiness of couples in carrying out the role of parenting in their children. Age that is too young or too old causes less optimal role of parenting (8). It is not known exactly the relationship between maternal age and the incidence of temper tantrums, but it is believed that the age of the mother affects the mother's parenting and emotional intelligence. Where the pattern of parenting and emotional intelligence is one of the factors that influence the temperature tantrums in accordance with research conducted by (9,10)

Mothers' Education

Based on table 2 it is known that the majority of the last education respondents are high school level as many as 49 people (57.6%). Temper tantrums in children are closely related to parenting patterns. Factors affecting the parenting of children according to the education of parents (11). Parental education and experience in child care will affect their preparation for parenting.

Mothers' Occupation

The majority of respondents were housewives and 33 people were working mothers. Based on Table 2 of 33 working mothers 54.6% worked as private workers, 21.2% worked as laborers, and 18.2% worked as civil servants. Mothers who did not work had more time and opportunity to nurture children directly than working mothers.

Relationship of Mother Employment Status with Tantrum Temper Occurrence in Toddler Age Children

Fisher's Exact Test shows the result of 0.0001 which means there is a relationship between the status of the mother's work with the incidence of tantrums in children aged toddler. While the result of OR value analysis is 1.054 which means working mothers, 1,1 times more chance to have child with temper tantrum more severe than unemployed mothers. The results of this study are in line with study entitled Risk of Temper tantrums Differences on Preschoolers between Working Mothers and Non-Workers in RA MAN 2 Kelurahan Gebang Patrang Subdistrict Jember District. Lusiana's research shows that there is a difference of risk of tantrum temperatures on working mothers and mothers that are not working (12).

Working mothers tend to have a time together with their children shorter than mothers who do not work. The intensity of interaction and nurturing is also not as much as mothers who are not working. According to the lack of maternal role in fulfilling the basic needs of children certainly have a bad impact for the development of the child itself. If the role of the mother is unsuccessful then the child will experience impaired growth and development, where temper tantrum is allowed to develop into

emotional and behavioral disorders (13).

One cause of temper tantrums by Zaviera is looking for attention. In children with working mothers, care is mostly done by caregivers or families. The time when the mother is not working and able to interact directly with the child, a child's opportunity to express themselves. One of them by seeking attention. Limitations of children in expressing their wishes often frustrate children and lead to temper tantrums (14).

Mothers who are working in this study have a minimum work time of 7 hours per day thus the time available to interact with the child is during the night or during leisure time, this resulted in attention to the development of children to be reduced, attention and intensity of poor quality can lead to children less attention and save feelings of annoyance at his parents. According to temper tantrum can also be used as a tool for children as an outlet of anger (15).

Mothers who work, often still have to complete the work at home office thus the time to communicate with children diminish. On the other hand, at the age of toddler the child is in the stage of growth and development. In this phase children experience various obstacles, disturbances, and difficulties that require the help of others, especially mothers (16). When the child needs help and the mother does not pay attention because it is completing the job, it will arise frustration in the child that triggers the emergence of temper tantrum. At this stage should the mother give special attention to the optimization of child growth. One of the most important factors related to maternal and child interactions is the provision of early stimulation (17).. Reduced maternal and child interaction means also the reduction of giving early stimulation for children. It can make a child experience disruption in its development, one of which is language development. Children who have speech disorders will have limitations in expressing their desires. Unfulfilled desires make the child angry thus it can bring temper tantrum.

CONCLUSION AND RECOMMENDATION

The results showed that there is a correlation between the status of maternal employment and the incidence of temper tantrums in toddler-age children (p = 0.0001).

Based on the above conclusions, there are some suggestions, especially for parents. Every parent should pay more attention to the temper tantrums behavior in children, because temper tantrums that are not handled properly can have a negative effect on children's behavior as children get older.

For educators in the school to better provide its role as a provider of information and mentoring in the school environment about all things related to temper tantrum of toddler-age children.

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THE RELATIONSHIP BETWEEN KNOWLEDGE, ATTITUDES, ACTIONS RELATED TO THE CLEAN AND HEALTHY BEHAVIOR AND NUTRITIONAL STATUS WITH DIARRHEA EVENTS IN ISLAMIC BOARDING SCHOOL

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ABSTRACT

Background: *diarrhea is often cause extraordinary events with many sufferers in a short time. In a boarding school environment, diarrhea is one of the most common infectious diseases. The Clean and Healthy Behavior and nutritional status are included in the concept of balanced nutrition, applied to address health problems related to nutrition in Indonesia, including diarrhea.*

Objectives: *to evaluate the relationship between knowledge, attitudes, actions related to The Clean and Healthy Behavior and nutritional status with diarrhea events in Islamic Boarding School. This research will provide methods for proper management and prevention of diarrhea with improvement of personal health quality.*

Methods: *respondents for this cross sectional study were taken using consecutive sampling system. The sample size consisted of 116 students aged <18 years and had experienced diarrhea in the last 3 months. Respondents were then measured weight and height, filling out identity data and validated questionnaires. Data were then analyzed using Spearman test.*

Results: *the category of knowledge, attitudes and actions are mostly included in good (58,6%), good (91,4%), and poor (94,8%), respectively. The relationship with diarrhea events is significant (p = 0,015; p = 0,006; p = 0,000), respectively. Respondents are mostly included in normal nutritional status (51,7%) with significant relationship (p = 0,029).*

Conclusions: *there is a significant relationship between knowledge, attitudes, actions related to The Clean and Healthy Behavior and nutritional status with diarrhea events in Islamic Boarding School.*

Keywords: Boarding School Diarrhea, Nutritional Status, The Clean and Healthy Behavior

INTRODUCTION

Diarrhea is irritable bowel disorder characterized by defecation for more than 3 times a day with liquid stool consistency, can be accompanied by blood and/or mucus (1). Diarrhea is the 13th leading cause of death with a proportion of 3,5%. While based on infectious diseases, diarrhea is the 3rd leading cause of death after TB and Pneumonia (2).

The incidence and period prevalence of diarrhea for all age groups in Indonesia were 3,5% and 7,0%, respectively. East Java province

is slightly higher than overall population in Indonesia, which is 3,8% and 7,4%, respectively (1).

In a boarding school environment, diarrhea is one of the most common infectious diseases. Based on data from *Balai Kesehatan Santri dan Mahasiswi* (BKSM), Islamic Boarding School's health center of Gontor for Girls 1 in East Java, diarrhea is one of the 5 most diseases, with the incidence of diarrhea from January to April 2016 is 237 students.

Many factors can affect the incidence of diarrhea in Indonesia. Factors from food and hygiene sanitation are among the many causes of diarrhea. The causes of diarrhea include infection (bacteria, viruses, parasites), malabsorption, allergies, poisoning, immunodeficiency, and other causes (3).

The clean and healthy behavior plays an important role in the incidence and management of diarrhea. Lacking (inadequate) of water, sanitation, and hygiene (WASH) will cause some health problems[5]. Infectious germs of Face-Oral that cause diarrhea can be transmitted into the mouth through food, drink or objects contaminated with feces, such as fingers, food or drinking boxes that have been washed by contaminated water (4).

Malnourished children is at risk of infected bacteria associated with diarrheal diseases. The relationship between diarrhea and malnutrition is two directions: diarrhea causes malnutrition while malnutrition worsens the course of diarrheal disease (5). Prolonged diarrhea causes malnutrition in patients; on the other hand, malnourished children will be at higher risk of diarrheal complications (6,7).

The aims of this research is to evaluate the relationship between knowledge, attitudes, actions related to The Clean and Healthy Behavior and Nutritional status with diarrhea events in islamic boarding school environment. This research will provide methods for proper management and prevention of diarrhea with improvement of personal health quality.

MATERIALS AND METHODS

Respondents for this cross sectional study were taken using consecutive sampling system. The sample size consisted of 116 students aged <18 years and had experienced diarrhea in the last 3 months. Respondents were measured weight and height to obtain BMI data (nutritional status). The tools used are digital scales that have been calibrated and microtoise. Category of nutritional status used WHO (for Asia) category.

The tools used to measure of knowledge, attitudes, and actions are the original questionnaires that have been tested for validation by 30 respondens, the results of validation from 55 initial questions to 36 questions only. Furthermore, respondents were asked to fill out the identity data and validated questionnaire about The Clean and Healthy Behavior, which is devided into 3 categories (knowledge, attitudes, and actions).

Categorization is said to be poor if the score is <60% of the total questions in each category. Based on this, the knowledge category is stated poor if the score <18 (total score is 30), the attitude category is stated poor if the score <7 (total score is 11), and the category of action is stated poor if the score <9 (total score is 15). All data were then analized using Spearman test.

RESULTS AND DISCUSSION

The results of this study presented in the tables below which consists of distribution of respondents with diarrhea, distribution of characteristics respondents and cross tabulation between variables and diarrhea events.

Table 1. Distribution of Respondents With Diarrhea

Category	N	%
Diarrhea Yes No	 74 42	 63,8 36,2
Total	116	100

Table 1 shows the distribution of respondents who are included in the category of diarrhea or non diarrhea in accordance with the questionnaire. From 116 respondents, 63,8% included in the diarrhea category, ie defecating more than 3 times a day with liquid consistency stool, may be accompanied by blood and/or mucus.

Table 2. Distribution of Characteristics Respondents

Variable	n	%	P-Value*
Age 10–12 years 13–15 years 16–18 years	 1 76 39	 0,9 65,5 33,6	 0,808
Pocket money <500000 >500000	 70 46	 60,3 39,7	 0,508

(*) = significant (p<0,05)

Characteristics of respondents can be seen in **Table 2**. The respondents of this study were whole girls. This is because the study was conducted in the boarding school for girls. The results showed that most respondents aged 16-18 years, with pocket money at most less than 500.000 rupiah per month. The relationship between age and diarrhea is not significant. There is also no significant relationship between pocket money and diarrhea.

Table 3. Cross Tabulation Between Variables and Diarrhea Events

Variable	n	%	p-value*
The Clean and Healthy Behavior			
Knowledge Good Poor	 68 48	 58.6 41.4	 0,015*
Attitudes Good Poor	 106 10	 91.4 8.6	 0,006*
Actions Good Poor	 6 110	 5.2 94.8	 0,000*
Nutritional status			
Underweight Normal Overweight Obesitas	25 60 14 17	21,6 51,7 12,1 14,7	 0,029*

(*) = significant (p<0,05)

In **Table 3.** most of respondents have good scores on knowledge category (58,6%), although the numbers do not vary much with those with poor scores. 91,4% of respondents got good scores for attitudes category. However, most respondents have poor scores for actions category (94,8%). We can see that there are significant relationship between The Clean and Healthy Behavior categories with diarrhea events. Knowledge category is significantly related to diarrhea, as well as the attitudes category and the actions category.

Most of the respondents were include in poor and normal BMI category for nutritional status. The result on the nutritional status of respondents concluded that there is a significant relationship between the value of BMI with diarrhea.

Implementation of clean living behavior can create healthy households, significantly (8). This is because the individual factors have an important role in maintaining personal health

and the surrounding environment. Some studies have revealed that knowledge related to The Clean and Healthy Behavior is closely related to the incidence of infection, including diarrhea. As a study in Pakistan, which stated that children <15 years of age with good knowledge of clean and healthy life have a smaller incidence of diarrhea than children with poor knowledge (9).

Attitudes and actions of person can also determine the high or low risk of someone affected by infectious diseases, including diarrhea. A study conducted on elementary school stated that children who are used to wash hands do not experience diarrhea (10).

In this study, the clean living action observed included washing hands with soap and running water, using clean water, using healthy latrines, and doing daily physical activity. And the results are surprising. Many respondents have good scores for knowledge and attitude related to The Clean and Healthy Behavior, but their action scores are not so good.

The better the action on healthy living, the lower the risk of diarrhea in students of Islamic boarding school. This statement is supported by Lawrence Green's behavioral theory which stated that behavior can be influenced by predisposing, enabling, and reinforcing factors. Predisposing factors that influence the incidence of diarrhea include knowledge and attitudes related to a clean and healthy life, beliefs, tradition, and social norms. Some of the enabling factors that affect the incidence of diarrhea are hand washing faucet facilities and its affordability (11). Facilities of hand washing faucets are already located in the Islamic boarding school area, but there are no hand-washing soaps at all, which cause low scores of attitude category (hand washing with soap).

The reinforcing factors that affect diarrhea are the role of *ustadz* or *ustadzah* (teachers) who support the creation of good behavior. Health education has an important role related to all three factors above in improving the behavior of clean and healthy life[11]. Health education that needs to be given to students in preventing diarrhea is washing hands with running water and soap, improving water quality, and enforcing the application of waste disposal in place (12).

Table 3. also shows that nutritional status is significantly related to diarrhea events. Some studies stated that malnutrition is significantly related to diarrhea events (13,14) Children with poor nutritional status are at risk of exposure to bacteria associated with diarrheal diseases. The relationship between diarrhea and malnutrition is two directions: diarrhea causes malnutrition while malnutrition worsens the course of diarrheal disease (6). Prolonged diarrhea causes malnutrition in patients; on the other hand, malnourished children will be at increased risk of diarrheal complications (7).

Malnutrition will decrease immune function and will increase the risk of infectious diseases such as diarrhea (15). Malnutrition predisposes to infection because of its negative effects on mucosal defenses by triggering changes in host immune function. Decreased immune function may include delayed hypersensitivity, decreased lymphocyte response, decreased T-lymphocyte, decreased phagocytic function due to decreased complement and cytokines, and decreased immunoglobulin A (IgA) (16).

People with poor nutritional status are more likely to experience diarrhea, malaria, respiratory infections, and also have a greater likelihood of suffering with longer duration of illness. People who are poorly nourished are more likely to experience symptoms due to a common infection that will weaken the body. It is unclear whether due to certain macronutrient or micronutrient deficiency conditions that cause increased in morbidity (17).

CONCLUSION AND RECOMENDATION

There is a significant relationship between

knowledge, attitudes, actions related to The Clean and Healthy Behavior with diarrhea events. The relationship between nutritional status and diarrhea is also significant.

Recommendation for Islamic boarding schools, especially, improvements in The Clean and Healthy Behavior are urgently needed. Supported by the provision of necesary infrastructure. Good knowledge creates a good attitude, and with the support of all parties (teachers, fouders, friends, parents, etc), it can create good daily actions. However, further research is needed regarding other risk factors that may affect the incidence of diarrhea in the boarding school environment.

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THE LEVEL OF KNOWLEDGE AND INCOME OF TRADERS WAS NOT ASSOCIATED WITH THE USE OF PROHIBITED FOOD ADDITIVES IN STREET FOOD OF ELEMENTARY SCHOOL CHILDREN AT BANTUL DISTRICT IN INDONESIA

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ABSTRACT

Background: Elementary school children is very close to street food, however the safety is still alarming. Indonesian Food and Drug Regulatory Agency's survey in 2015 showed, there were 47% samples did not met the food safety requirements. The trader's level of knowledge and income were allegedly has relationship with the use of prohibited food additives (PFA).

Objectives: To determine the use of PFA in street food of elementary school children in Bantul district, and to know whether the trader's knowledge and income associated with the use of PFA.

Methods: This cross-sectional study involved 68 elementary schools that were randomly selected. From each schools selected, taken one trader as respondents purposively. Any suspected foods sold by the traders were tested for the content of the PFA. Prohibited food additives contents in street foods were examined qualitatively. The traders were classified as user if at least one among foods they sold was detected contains borax/formalin/rhodamine-B. Trader's knowledge about PFA was taken by questionnaire. Trader income was define as per capita income, calculated based on the average net income per day multiplied by the number of selling days in a month, then divided by the number of family members. Data were analyzed with Mann Whitney and chi-square test ($p<0.05$).

Results: Fifty two point nine percent respondents were using PFA. Most of PFA used was formalin (50%). There were no relationship between traders knowledge with the use of PFA ($p=0.193$), but only 44.1% respondents knew that borax is prohibited to be used as food preservatives. The average knowledge score of the users group slightly lower than the non users group (78.3 vs 80.5; $p=0.197$). There were no relationship between traders income per capita with the use of PFA ($p=0.841$). The average income per capita of the users group slightly higher than the non users group (Rp. 307.400 vs Rp. 299.000; $p=0.842$).

Conclusions: Prohibited food additives still widely used. Strengthening regulations related to the supervision of the distribution and use of PFA is urgently required.

Keywords: Food Additives, School Children, Street Food

INTRODUCTION

Humans consume food to sustain their lives and nutritional needs, not only to be healthy but also to be smart, creative, innovative, and fit. Therefore, food consumed should be safe, free from compounds that can interfere with health, both from food itself and from outside, and also free from materials that can harm and disrupt health (1).

School age is a period of growth and development of children into adolescence, so that adequate intake of nutrients, as well as food security consumed is very important to note, including food snacks. More than 99% of school children buy snacks at school to meet their energy needs while in school. Nevertheless, Indonesian Food and Drug Regulatory Agency's monitoring results in 2014 show that 23.82% of the 10,429 samples of school children's snack foods tested, were not met the food safety requirements. The snacks contained hazardous substance abuse, presence of microbial contaminants and/or food additives excess. These problems indicate a lack of awareness among producers, sellers, and buyers of the importance of food security (2).

The results of a healthy school study conducted by the Center for Physical Quality Development of the Ministry of National Education in 2007 at 640 elementary schools in 20 provinces studied, as many as 40% do not have a canteen. Meanwhile, from those who have had canteen (60%) as much as 84.3% of canteens do not meet health requirements. (3). From the results of Indonesian Food and Drug Regulatory Agency's survey in 2015 derived from 4 samples of most problematic food types which are sold in the school during the period 2010-2014 (colored drinks and syrup, ice, meatballs, and jelly), there were 47% samples did not met the food safety requirements.(4)

In 2011, Indonesian Food and Drug Regulatory Agency also conducted sampling and laboratory testing of school food snacks taken from 866 Elementary Schools scattered in 30 cities in Indonesia. From the results of testing of prohibited food additives, namely borax and formalin, performed on 3,206 samples of school food snacks products consisting of wet noodles, meatballs, and snacks, it was found that 94 (2.93%) samples contained borax and 43 (1.34%) of the samples contained formalin. The test results of rhodamine B content conducted on 3925 samples of school food snacks products consisting of ice, red drinks, syrups, jelly, and snacks found that 40 (1.02%) of the sample contained rhodamine B (5).

Chronic formalin consumption may result in irritation of the mucous membrane and is carcinogenic (6). While continuous consumption of borax can interfere with bowel digestion, disorders of the nervous system, depression and mental disorders (7). For rhodamin B, its use can lead to liver damage, and even liver cancer (8).

Low level of trader's knowledge is one of the things that can affect the use of PFA. Based on the results of previous study on street foods and salted fish traders, most producers have a low level of knowledge about food additives (9, 10). The reason of using PFA are due to the durability of the food generated to be better and cheaper price so that producers can earn more profit. The trader's earnings level may also affect the use of PFA. Some school snack producers add PFA to reduce production funds. This is done because the price of food ingredients are increasingly expensive so difficult for traders to meet these foods (11). Traders with low incomes will have a bigger chance to add PFA on the reason that their product price will relatively cheaper (12), so that the gains can remain high.

Bantul District, which is one of the districts of Yogyakarta Special Region, has 17 geographically dispersed districts, ranging from coast to mountain. Diverse geographical

conditions usually lead to diversity in terms of access to food. Especially associated with snack foods in primary school children, researchers want to see the spread of PFA used in foods snacks in Bantul District, and to know the relation between knowledge and income level of traders with the use of PFA on food snacks in elementary school in Bantul District.

MATERIALS AND METHODS

This cross-sectional study was carried out in Bantul District, Yogyakarta, Indonesia, from May to October 2015. The study population consisted of street food traders in elementary school at Bantul District. The sample size was determined based on the single population proportion formula with a 90% CI (13). A total sample size of 68 traders was required.

Sampling was conducted in 2 stages, using simple random sampling technique to choose the elementary school in Bantul District, and then select 1 street food trader purposively from each elementary school selected. If there were no street food sold outside the school or in the school canteen, then it was not included in the study and replaced with another elementary school. Traders who sell street foods that were suspected to contain PFA (borax, formalin and rhodamin-B) with the highest number will be selected to be respondents.

The variables studied were the level of trader's knowledge about PFA, and the average monthly per capita income. The level of knowledge was measured using a questionnaire containing 16 questions that have been validated with validity value > 0.361 and reliability of 0.853 (Cronbach Alpha value). Average monthly per capita income was calculated by multiplying the average earning per day by the number of trading days in a month, then divided by the number of family members.

Testing the content of hazardous chemicals in food samples was qualitatively done in the laboratory. Formaldehyde content test was performed with the aid of $KMnO4$ reagent, the test of borax content was carried out by the curcumin test, and the rhodamine-B test was performed with the help of rhodamine-B test kit. Data were analyzed with Mann Whitney and chi-square test ($p<0.05$). The study protocol had been approved by the Ethics Committee of Alma Ata University Yogyakarta.

Table 1. Subject Characteristics

Characteristics	PFA Use				Total		x^2	p	OR (CI)
	Positive		Negative						
	F	%	F	%	F	%			
Age:									
- <40	17	60,7	11	39,3	28	100	1,154	0,283	1,708
- ≥40	19	47,5	21	52,5	40	100			(0,641-4,551)
Sex:									
- Male	13	56,5	10	43,5	23	100	0,179	0,672	0,804
- Female	23	51,1	22	48,9	45	100			(0,293-2,209)
Family members:									
- < 4 persons	6	33,3	12	66,7	18	100			0,333
- ≥ 4 persons	30	60,0	20	40,0	50	100	3,778	0,052	(0,108-1,034)
Education:									
- Primary	23	53,5	20	46,5	43	100	0,014	0,906	1,062
- secondary and high	13	52,0	12	48,0	25	100			(0,396-2,849)

RESULTS AND DISCUSSION

Subject Characteristics

The results of the study in Table 1 show that from a total of 68 traders most respondents were ≥40 years old (48.5%), female, graduated from primary school (63.2%), and had family members of ≥4 persons (73.5%). The mean age of respondents was 40.35 (± 10.75) years and the mean number of family members were 4.07 (± 1.20) persons. There were no significant associations between subject characteristics with the use of PFAs, but there were a tendency that the younger age (<40 years old), male, and the higher number of family members (≥4 persons), had a higher percentage of PFAs use.

PFAs Used in Street Foods

Research conducted on 68 elementary schools in Bantul Regency spread over 17 districts could get a sample of street foods that were suspected to contain dangerous chemicals as much as 107 samples. Types of street foods that were suspected to contain PFAs which often sold were meatballs (22.4%), siomay (12.1%) and chips (10.3%). The previous study conducted in Solo showed similar results that street food in elementary school was dominated by the type of meatballs with a variety of processing or variations presentation (14).

Of the 98 snack items tested, there were 15 items (15.3%) which stated positively containing borax. Meatball was the most often found to contained borax. Of the 98 sample items tested, 25 items (25.5%) were proven positive to contained formalin. Sausage was the most often found to contained formalin. However, if grouped according to the basic ingredients of making food, the type of meatball was the type of food that most often contain formalin (meatballs, puncture meatballs, and fried meatballs). While related to the use of rhodamin-B, from 15 samples tested, there were 7 items (46,7%) snacks which stated positive containing rhodamin-B. The most common type of snack containing rhodamin-B was jelly.

Some previous studies provided different results. Research that conducted in Semarang City, indicating that there were 9% of school children's snack samples which was positively contain borax (15). Furthermore, other research results show that 45% of snack samples were positively containing formalin (14). While research in North Sumatera showed that 9,7% samples tested were positive for rhodamine-B (16). Research in Central Jakarta also provides almost the same result, 10% samples tested were positive for rhodamine-B (17).

The variations of these results was suspected due to regional characteristic differences research, characteristic of food samples snacks taken, and of course the difference method used to detect the presence of PFAs. Nevertheless, the results of the studies consistently showed that street foods in elementary schools had not been free from contamination of hazardous chemicals. This was certainly need to get more attention and continuous handling seriously from the authorities, because of the impact of consuming PFAs was very harmful. Consumption of borax can continuously interfere with intestinal digestion motion, abnormalities in the nervous system, depression and mental disorder (7). Consumption formalin may cause chronic irritation on mucous membranes and also carcinogenic (6). Continuous use of rhodamine-B can cause liver damage, and even liver cancer (8).

Trader's Knowledge and Income

The trader's level of knowledge was one of the factors affecting behavior. The results showed that most street foods traders in elementary school in Bantul District have a good knowledge (57.4%), but there was no relationship between the levels of knowledge with the use of PFAs (p=0,193). However,

there was a tendency that the lower level of knowledge had a higher percentage of PFAs used (Table 2). From the analysis of questions in the questionnaire it was known that only 44,1% respondents knew that borax is prohibited to be used as food preservatives. The mean knowledge score of respondents who use PFAs was also lower than the respondents who do not use PFAs (Table 3).

Based on these results it can be concluded that although statistically unrelated but efforts to increase the knowledge of traders still need to be considered because traders with low knowledge have a greater tendency to use PFAs. Knowledge has influence as a beginning for someone to behave (18). While according to the framework of Precede (2004) knowledge is one of the simplifying factors and underlying for the occurrence of certain behaviors. In general people who are well behaved certainly have good knowledge as well (19).

Table 2. The Relationship Between Level of Trader's Knowledge and Per Capita Income With The Use of Pfas

| Variables | PFAs Use | | | | Total | | x^2 | p | OR (CI) |
| | Positive | | Negative | | | | | | |
	F	%	F	%	F	%			
Level of knowledge:									
- Low	18	62,1	11	37,9	29	100	1,691	0,193	1,91 (0,717-5,083)
- High	18	46,2	21	53,8	39	100			
Level of per capita income*:									
- Low (<Rp 195.000)	16	51,6	15	48,4	31	100	0,040	0,841	0,907 (0,348-2,359)
- High (Rp ≥ 195.000)	20	54,1	17	45,9	37	100			

*) cut off: median

Table 3. Differences in Mean Knowledge Scores and Per Capita Income Based On The Use Of Pfas

Use of PFAs	Mean Knowledge Score (±SD)	p-value*	Mean per Capita Income (±SD)	p-value*
Positive	78,3 (±13,6)	0,197	Rp. 307.400 (±284.500)	0,842
Negative	80,5 (±12,9)		Rp. 299.000 (±276.800)	

*) Mann-Whitney test

The use of PFAs also had insignificant relationship with trader's per capita income (p=0,841). Respondents with higher level of per capita income had a slightly greater percentage of PFAs used (Table 2). That result in line with the comparison of mean per capita income showed in Table 3. The PFAs users had a slightly higher per capita income compared with the non users. The individual needs will cause desire, and this desire raises the motivation to perform an action (20). One of the needs of these elementary school street foods traders was the financial need. Various efforts will be done by the traders for getting optimal profit targets. They choose to use PFAs because the food production will be lower and they will get more profit.

CONCLUSION AND RECOMMENDATION

Prohibited food additives still widely used. Elementary school children are vulnerable age to diseases such as vomiting and diarrhea, so the consumption of unhealthy foods will be bad. In addition, children are an asset of the nation

that requires protection against exposure to foods that do not meet the requirements for health. Therefore, efforts to prevent unsafe street foods circulation must be done (Wariyah and Sri, 2013). One that can be done in order to control the use of PFAs is to improve the understanding of the community, especially the traders on the hazards of using borax, formalin and rhodamin B by conducting counseling so that it is expected to reduce the number PFAs used. The elementary school children and their parents also need to be educated about the hazards of PFAs. The school also be expected to create a safe and healthy environment in the school, for example by providing a healthy canteen and not allowing harmful street vendors to sell around the school.

ACKNOWLEDGEMENTS

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HIGH DURATION OF SCREEN-BASED ACTIVITY EXPOSURE RELATED TO OVERWEIGHT IN FEMALE STUDENT OF SENIOR HIGH SCHOOL

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ABSTRACT

Background: The prevalence of overweight in teenagers age 16-18 year-old has increased significantly from 1,4% in 2007 to 7,3% in 2013 based on Riskesdas data in Indonesia. While physical activity has been mentioned as one of the risk factors. In Yogyakarta, the prevalence of sedentary activity for more than 3 hours per day was 57,8% for those age ≥ 10 year-old in 2013, and nationally 68,1% for age 15-19 year-old. The screen-based activity duration in children has recommended by The American Academy of Pediatric for not more than 2 hour per day.

Objectives: The objective of this study was to examine the effect of screen-based activity duration on overweight in female teenagers of high school in Bantul District of Yogyakarta Province.

Methods: This cross-sectional study was conducted in senior high school female student in Bantul District, Yogyakarta Province 2017 with 237 subjects selected randomly from 26 schools cluster gotten from PPS (Probability Proportional to Size) sampling method. Screen-based activity duration was collected using daily activity recall for 7 days (Sunday–Monday), and anthropometric data using calibrated digital bathroom scale (weight) and microtoise (height). Types of media been asked to be reported by the students are television, tablet/hand phone, video game and computer use for each day. Mean of screen-based activity was calculated from the sum of 7 days screen-based activity divided by 7. Nutritional status then categorized to overweight (> +1 SD) and not overweight (≤ +1 SD) based on WHO growth reference 2007; and screen-based activity to <120 minutes/day and ≥120 minutes/day.

Results: Sixty two point nine percent female students reported to have screen-based activity for ≥120 minutes/day. Average duration was 187,51 ± 118,91 minutes/day; 98,18 ± 60,92 minutes/day in weekdays and 410,80 ± 300,37 minutes/day in weekend. The highest average duration was in use of tablet/hand phone (77,8 ± 55,3 minutes/day) followed by television (60,3 ± 4,5 minutes/day) and computer/laptop (47,7 ± 50,3 minutes/day), and the lowest was in use of video game (1,6 ± 9,7 minutes/day). Statistical analysis showed a significant correlation between screen-based activity to overweight in senior high school female student (p < 0,05). Students with screen-based activity ≥120 minutes/day are more likely to be overweight (OR 2,49, 95% CI: 1,13-5,50).

Conclusion: Screen-based activity ≥120 minutes/day is known to be one of overweight risk factor in female student of senior high school in Bantul District, Yogyakarta Province.

Keywords: *Physical Activity, Screen-Based Activity, Female Student, Overweight, Indonesian Teenagers*

HISTORY OF ILLNES IS STRONGLY ASSOCIATED WITH PRECONCEPTION ANEMIA

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ABSTRACT

Background: *Indonesian Health Basic Survei on 2014 discovered that highest cause of maternal mortality rate in 2012-2013 was others diseases that suffering pregnant women untill 40.8%, followed by postpartum hemorrhagic until 30.3%, hypertension until 27.1%, 7.3% infection and 1, 8% obstructed labor. Anemia is one of health problems that often occurs in women. Anemia especially in the reproductive age may be causes for Maternal Mortality or Maternal Morbidity. Anemia during pregnancy can be causes of postpartum haemoraghic. The survey result indicates that the causes of maternal mortality can be prevented if they were had earlier detected and earlier anticipated, one of them is preconception anemia. The highest district with anemia at Yogyakarta Province is Bantul, until 25.60%. Sub Distric Sedayu is the second highest pregnancy anemia prevalention and the second highest maternal mortality rate in Bantul. Very Important to Know What does the Factors influencing preconception anemia in Sedayu Subdistrict?*

Objectives: *To determine is the History of Illness associated with preconception anemia of preconception woman in Sedayu Subdistrict?*

Methods: *This study was conducted as observational studies with cross sectional design. The population in this study are all of premarital women in Sedayu Subdistrict, the sampling technique using quota sampling. The research instrument used questionnaires and medical records of the respondents. Data were analyzed by Chi-Square statistical test.*

Results: *The results of statistical test using Chi Square obtained p-value is 0,027 so it can be concluded there is relationship between history of illness and preconception anemia in Sedayu Subdistrict Bantul Yogyakarta.*

Conclusions: *The prevalence of anemia in District Sedayu still relatively high . History of illness is one of the things that cause of preconception anemia at Sedayu Subdistrict. Suggested to all relevant agencies in order to pay more attention and take precautions against the occurrence of early anemia in women.*

Keywords: Preconception, Anemia, History of Illness

INTRODUCTION

Based on the results of Indonesia Demographic and Health Survey (SDKI) 2012, the Maternal Mortality Rate (AKI) in Indonesia has increased, this is indicated by an increase from 228 per 100,000 live births to 359 per 100,000 live births. Indonesia can not achieve the MMR target of decline in Millennium Development Goals (MDGs) set to 102 per 100,000 live births by 2015. While for SDGs The target of MMR reduction is set at 70 per 100,000 live births by 2030. To achieve these targets needs serious efforts , comprehensive and sustainable (1). Maternal Mortality Rate (MMR) in Bantul Regency in 2016 reached 97 per 100,000 live births (2).

Some of the causes of maternal death are a cause which can actually be avoided if known or detected long before pregnant women, so the problem can be handled and anticipated before pregnancy. Anemia is one of the problems that if detected long before pregnancy can be corrected as early as possible (3).

According to the Indonesian Departement of Health in 2013, the causes of maternal deaths in Indonesia in 2013 were bleeding (30.3%), Hypertension in Pregnancy, Pre Eclampsi and Eclampsi (27.1%), infection (7.3%), and old labor (1 , 8%) and other causes of 40.8%, Other causes are meant here are other diseases suffered by women such as cancer, kidney disease, tuberculosis, heart disease and other diseases (1).

The result of Basic Health Research shows that the prevalence of pregnant women's anemia in 2012 in the Special Region of Yogyakarta in the range of 15-39% percent exceeds the national prevalence rate of 11.9%. Anemia in Yogyakarta province is highest in Bantul Regency 25.60% and lowest in Sleman regency 10.19% (4).

Research conducted in 2015 showed that the number of anemia in preconception women in Sedayu District is still high at 39%. The number of anemia in pregnant women, it is necessary to know the status of maternal anemia before pregnancy or at the time before marriage (preconception women) (5).

Basically anemia caused by: 1) disorders of erythrocyte formation by bone marrow; 2). Loss of blood out of the body (bleeding); 3). The process of destruction of erythrocytes in the body prematurely (hemolysis) (6). This study aims to determine is history of illness associated with anemia in the preconception women in Sedayu District, Bantul, Yogyakarta

MATERIALS AND METHODS

The type of research is observasional research, which is observe or measure various research variables according to natural circumstances, without manipulation or intervention. The research approach is cross sectional design (7).

Population in this research is all Preconception Women in Sedayu Subdistrict Bantul Yogyakarta amounts to 99 people. Determination of sample size by quota sampling. This Sampling Technique is recruite the respondent until the number of quota is fulfilled, so that if the data has not fulfilled the quota, the research is considered unfinished.To calculate the sample size we use slovin formula to get the required number of samples.

The research location was conducted in Sedayu District, Bantul Regency, Yogyakarta. Research conducted in 2015 showed that the number of anemia in preconception women in Sedayu District is still high at 39%. The number of anemia in pregnant women, it is necessary to know the status of maternal anemia before pregnancy or at the time before marriage (preconception women) (5).

The study was conducted on February 1 to May 18, 2016. Materials and tools used were questionnaires adopted from Alma Alma

University surveillance system. The tools used to measure hemoglobin in the study were Hemocue, lancet needles, and cotton.

The selection of Hemocue tools as a hemoglobin measuring device is based on the consideration that Hemocue is a Hemoglobinometer or a device for measuring the concentration of hemoglobin in the blood that directly measures blood from capillaries or veins. The advantages of Hemocue are Simple, Portable, the result can be known quickly, battery operated, non-toxic, precise and reliable with 94.1% sensitivity and 95.2% specificity (8)there are multiple techniques with different applications available for Hb estimation. The present work was undertaken to review Hb assessment methods that can work best from the developing country perspective. We reviewed published literature through the PubMed database for studies comparing different techniques of Hb estimation. A search for reports on prevalence of anemia both at the global and national level was also undertaken. A total of 74 articles were included in this review. It was realized that even though there are multiple techniques for Hb estimation, a method which is quick, valid and reliable is needed to detect anemia. Direct cyanmethemoglobin method has been the gold standard for hemoglobin estimation but other methods like hemoglobin color scale, Sahli technique, Lovibond-Drabkin technique, Tallqvist technique, copper-sulfate method, HemoCue and automated haematology analyzers are also available. Each method has a different working principle and its own advantages and disadvantages. Despite conflicting reports, it has been observed that HemoCue is the method of choice for initial screening of anemia because it is reliable, portable, does not require power supply and easy to use in poor resource settings without requiring extensive training of health workers.

Hemoglobin color scale developed by HCS is another potential method that can be used in field situations. However, such methods should be further investigated through larger studies before actual implementation.

RESULTS AND DISCUSSION
Characteristics of Respondents

Table 1. shows most preconception women aged 20-35 years of 63 people (81.8%), while a minority of preconception women aged <20 years of age 5 (6.5%). Most of the work of the Preconception Women as a private employee amounted to 40 people (51.9%) and a small part of the bride's job as a civil servant of 2 (2.6%). Most of the Preconception Women have high school graduation number of 48 people (62.3%) and a small number of educated graduate bachelor and diploma graduates of 6 (7.8%).

Table 2. shows that anemia status in preconception womens in Sedayu sub-district, Bantul, Yogyakarta is 30 people (39%) are not anemic and 47 people (61%) have anemia.

Based on the table 3, it can be seen the percentage of diseases history owned by respondent that is 18 people (23,4%) have history of disease and 59 people (76,6%) have no history of disease.

Tabel 1. Characteristic of Preconception Women in Sedayu Subdistrict

Age	F	Precentage (%)
< 20 years old	5	6,5%
25 – 35 years old	63	81,8%
>35 years old	9	11,7%
Total	77	100%
Occupation		
Unemployee	8	10,4%
Labour	12	15,6%
Private Staff	40	51,9%
Enterpreuner	13	16,9%
Government Staff	2	2,6%
Others	2	2,6%
Total	77	100%

Education		
Elementary	10	13%
Junior HS	7	9,1%
Senior HS	48	62,3%
Diploma	6	7,8%
Undergraduate	6	7,8%
Total	77	100%

Source: Primary Data, 2016

Tabel 2. Frequency Distribution of Anemia Status for Preconception Women in Sedayu Subdistrict

No	Anemia Status	Category	F	%
1	Anemic	Hb <12 gr/dl	47	61%
2	Non Anemic	Hb >12 gr/dl	30	39%
	Total		77	100%

Tabel 3. Frequency Distribution of History of Illness for Preconception Women in Sedayu Subdistrict

No	Category	f	%
1	History of Illness	18	23,4%
2	Non History of Illness	59	76,6%
	Total	77	100%

Tabel 4. Frequency Distribution The Kind of Illness for Preconception Women in Sedayu Subdistrict

No	Kind of Illnes	F	%
1	Hipertension	1	1,3%
2	Urinary Tract Infection	2	2,7%
3	Gastritis	7	9%
4	Hemoroid	2	2,7%
5	Thypoid	6	7,8%
	Total	18	100%

Type of illness suffered by preconception women based on **Table 4**. that is hypertension, 1 person (1,3%), urinary tract infection, 2 person (2,7%), Gastritis 7 person (9%), hemoroid 2 person (2,7%) and thypoid 6 people (7.8%). Women who have poor health or women with previous medical history, require more supervision during pregnancy as this will burden

pregnancy if there is a disease that has been in the mother's suffering before pregnancy. Diseases that have been in the mother's suffering can affect her pregnancy (9).

Data analysis was performed to find out the correlation of history of Illness with anemia in preconception women using cross tabulation and chi square test.

Tabel 5. Bivariate Analisys Association Between History of Illness and Preconception Anemic at Sedayu Subdistrict

History of Illness	Anemia Status						p-*value*
	Anemic		Non Anemic		Total		
	F	%	F	%	f	%	
Yes	15	83,3	3	16,7	18	100	0,027
No	32	54,2	27	45,8	59	100	
Total	47	61	30	39	77	100	

Table 5. shows that the number of respondents who have a history of 18 (23.4%) of the Preconception Women. Of these anemic patients, there were 15 preconception women (83.3%). While that is not anemia only 3 people (16,7%). A bride who has no previous history of 59 people. Of these, 32 preconception women (61%) had anemia and 27 preconception women were not anemic.

From the results of statistical calculations using *Chi Square test* can be seen p-value is 0.027, smaller than 0.05, which indicates a significant relationship between the history of disease with anemia in prospective preconception women in District Sedayu Bantul Yogyakarta. With the value of r of 0.245 means the level of closeness of the relationship between the history of disease with anemia in the Preconception Women have a low level of closeness.

Anemia in the Preconception Women can cause fatigue, decreased physical capacity, weak body, and decreased productivity, and the more severe the condition when the bride is

pregnant, as pregnancy requires more iron for the growth and development of the fetus, it will have an impact on abortion, preterm labor, fetal growth restriction in the womb, infectious, at the time of labor may occur His interruption, time 1 long, second stage lasts long, and post partum may occur bleeding, and when childbirth also can occur sub involution uteri cause bleeding , puerperal infections, decreased breastfeeding, postpartum anemia, and easy infection of mamae.

It has been described that anemia is only a collection of symptoms caused by a variety of causes, basically the cause of anemia caused by disruption of erythrocyte formation by bone marrow, body blood loss (bleeding), the process of destroying erythrocytes in the body prematurely (haemolysis) (6).

This study was also supported by a study conducted by Carla Valéria de Alvarenga Antunes, et al with an overall prevalence of anemia in IBD (Inflammatory Bowel Disease) was 21%. There was no significant difference in the prevalence of anemia between CD subjects (Crohn 'sdisease/Crohn disease) (24%) and UC (Ulcerative Colitis/Colitis Ulcerativa) (18%). moderate disease activity (OR: 3.48, 95% CI, 1.95-9.64, P = 0.002) and elevated CRP (C-reactive protein) levels (OR: 1.8, 95% CI, 1.04 -3.11, P = 0.02) were independently associated with anemia. The most common etiologies of anemia found in both groups were iron deficiency anemia (IDA, 10% on CD and 6% in UC) followed by chronic anemia (ACD), 6% for both groups) (10).

Research carried out by Fatin M, Al-Sayes et al., Also suggested that the higher serum inreceptor/log ferritin transfer significance was observed in iron deficiency anemia (9.33 ±8.81) compared with the control group (1.32 ±0.39) who had no iron deficiency anemia and anemia group of chronic disease (1.35 ±1.1). The mean serum transferrin and transferrin receptor serum/

log ferritin receptor concentrations in chronic disease anemia did not differ significantly from control subjects. There were no significant differences between different causes of chronic disease anemia: malignant disease, chronic inflammatory disease of renal disease (infection and noninfectious) and end-stage and mean serum inreceptor transfer concentration (2.68 ±1.80 µg/mL, 2.38 ±1.39 µg/mL, and 2.71 ±2.11 µg/mL respectively). Therefore, using serum transferrin receptor concentrations is recommended to distinguish between simple iron deficiency anemia and chronic disease anemia, plus it is a very useful tool when chronic disease anemia coexists with iron-deficiency anemia (10)this study was designed to determine the prevalence of iron deficiency and iron deficiency anemia among apparently healthy Saudi young female university students studying at King Abdulaziz University in Jeddah province. Three hundred ten blood samples were collected from the students. Their ages ranged between (18 and 23.

Based on the type of illness, most of the Preconception Women suffer from gastritis disease are 7 people (9%) and thypoid 6 people (7.8%). The effect of gastritis on anemia is a natural course of chronic gastritis due to infection of the Helicobacter pylori bacteria largely divided into chronic gastritis non atrophy of antrum predomina and chronic gastritis of multifocal atrophy. Cirri typical chronic gastritis atrophy of antrum predomination is: moderate to severe inflammation mucosal antrum, is inflammation in the body of light or none at all. Antrum does not have atrophy or metaplasia. Patients like this are usually asymptomatic, but have the risk of becoming a doudenum ulcer. Multilocal anthropoid chronic gastritis has a special cirri: inflammation of almost all mucosa, often with local atrophy or metaplasia of the antrum and corpus. Chronic gastritis of multifocal atrophy is an important risk factor

for mucosal epithelial dysplasia and gastric carcinoma. Helicobacter pylori infection is also often associated with MALT lymphoma (11)for whom it was not possible to ascertain the cause of the anaemia. Thus, 84 H. pylori eradicated patients (10 men; 74 women.

Chronic gastritis atrophic predomination of the corpus or often called autoimmune chronic gastritis after several decades later followed by prenatal anemia and iron deficiency. Hypochlorhidia and long-standing gastrenemia are risk factors for intestinal metaplasia and subsequent dysplasia and intestinal type gastric carcinoma. Autoimmune chronic gastritis is also a risk factor for gastric polyps and endocrine tumors (12).

While the anemia relationship with thypoid is infected intestinal gastritis plaque (especially ileum terminalis) can form ulcer or oval shaped and elongated against the axis of intestine. When the wound penetrate the intestinal lumen and blood vessels hence cause bleeding causing anemia. Furthermore, if the ulcer penetrates the intestinal wall then perforation can occur. In addition to injury, bleeding also occurs due to blood coagulation disorder (KID) or a combination of both factors. Approximately 25% of people with typhoid fever can experience minor bleeding that does not require blood transfusions. Severe bleeding can occur until the patient is shocked. Clinically acute surgical emergency is enforced when there is 5 ml/kg BW/h bleeding with hemostatic factor within normal limits. If handling is late, mortality is quite high around 10 - 32%, some even report up to 80%. If a given transfusion can not keep pace with the bleeding, surgery should be considered (13).

However, in contrast to early typhoid sufferers, this is supported by research conducted by Kyoko E, Yuki., Et al in his research stating that during infection, iron accumulates in the kidneys of ANK1 +/Ity16

mice where the bacterial load is high compared with littermate control. The important role of Hamp in the host response to Salmonella infection was validated by showing an increased susceptibility to infection in rat-Hamp deficiency and significant survival benefits in ANK1 +/Ity16 heterozygous mice treated with Peptide Hamp. This study illustrates that the Hamp regulation (indicating the low level of hepcidin) and iron balance is very important in the host response to Salmonella infection in the mutant ANK1 (12).

According to the research conducted by Dunlop, 2008 (13), some illnes like Diabetes melitus, Thyroid, Phenilketonuria, Seizure disease, Hypertension, Systemic Lupus Erimatosus, Cardiovascular disease and asthma can affect pregnancy outcome.

CONCLUSION AND RECOMMENDATION
Conslusion

Results of research on preconception women in District Sedayu Bantul Yogyakarta, can be concluded:

1. Some characteristics of Preconception Women that can affect anemia status are preconception women mostly high school 62,3%, bride age 81,8% in healthy reproduction (25-35 years), and most of preconception women is work as private employee 51.9%.

2. A preconception women who is not anemic 30 people (39%) and anemia 47 people (61%).

3. Some preconception women has a history of Gastritis disease 7 people (9%) and thypoid 6 people (7.8%).

4. The results of statistical calculations using Chi Square test can be seen p-value is 0.027, which indicates a significant relationship between history of disease with anemia in prospective preconception women in District Sedayu Bantul Yogyakarta.

Recommendation

1. Advice for Midwives; Health workers should provide more information about anemia in the Preconception Women, so hopefully during pregnancy the mother does not have anemia.
2. For the Institution; It is expected to add refrence in the growth of scientific writing facilities, in order to be used as a reference for further research.
3. For the Preconception women; It is expected that this research can provide information about the status of anemia in the Preconception Women, so before marriage can consider age, education, and work and prepare for pregnancy more mature.
4. For further researchers; It is expected to conduct further research on anemia in the bride with a history of the disease.

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THE PREGNANT WOMEN'S ACCEPTANCE TOWARD MATERNITY WAITING HOMES

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ABSTRACT

Background: There are 830 women die regarding the pregnancy and the childbirth causes every day, and many births still occur at home in the low and middle countries.

Objectives: This study aimed to investigate the pregnant women's acceptance toward the maternity waiting homes (MWHs).

Methods: The cross-sectional study was conducted in two rural areas in South Sulawesi, Indonesia. The data were collected through survey which was distributed to pregnant women and their families. A total of fifty-one pregnant women and forty nine families participated in the study as two groups of respondents.

Results: For the results of this study, there were 62% of pregnant women had not heard about MWHs. Around 66.7% of pregnant women agreed if they should stay at MWHs when they were in 7th month of their pregnancy. Besides, there were 70.6% of pregnant women agreed if the trained non-medical providers accompanied them at MWH. For a group of pregnant women, the amount of the willingness which was capable to be paid was 100.000 IDR in a month (median) with the minimum amount of 5.000 IDR, and the maximum amount was 500.000 IDR. Moreover, for a group of family, the amount of willingness which they could pay for staying at MWH was 200.000 IDR in a month (median) with the minimum amount of 20.000 IDR, and for the maximum amount, it spent 1.000.000 IDR.

Conclusion: The pregnant women's acceptance to stay in MWH are good, but their willingness to pay are still very low.

Key Words: Maternal Mortality, Willingness, Living Cost

THE USE OF KIA BOOK ON MATERNAL HEALTH KNOWLEDGE RATE OF PRIMIGRAVIDA MOTHERS AT CIPTOMULYO COMMUNITY HEALTH CENTER

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ABSTRACT

Background: KIA's Book is the instrument for registration and counseling (education) for mothers and their family. It is also known as the communication tool between health worker and family, and as the structure to reduce Maternity Date Rate in Indonesia.

Objectives: Research is carried out to understand whether the use of KIA's Book influences maternal health knowledge rate of primigravida mothers at Ciptomulyo Community Health Center.

Methods: The preliminary study is conducted on march 28 – April 3 of 2013 with 10 respondents of primigravida mothers. Seven of ten respondents of primigravida mothers who check up for their ANC at Ciptomulyo Community Health Center do not use **the book. Research design is a** correlation study. The sample is 24 respondents. Sampling technique is total **sampl**ing. Data collection method is a questionnaire with closed question type. Data is analyzed using Chi **Square test.**

Results: Most respondents do not use KIA book and have adequate knowledge rate. Based on Chi Square test (α=0,05) that showed there's no influences of the use of KIA's book on maternal health knowledge rate with p-value 0,549.

Conclusion: The use of KIA Book does not influence maternal health knowledge rate of primigravida mothers.

Keywords: KIA's Book, Maternal Knowledge, Primigravida

INTRODUCTION

The Ministry of Health has launched the Birth Planning and Prevention Complications (P4K) Program with stickers that have been proven to significantly increase the coverage of delivery assistance by health workers and MCH Books as information and family records that improve knowledge about maternal, infant and under-five health. With the accuracy and accurate monitoring of pregnant women and intensively monitored by health workers and cadres in the area, any pregnancy until childbirth and childbirth are expected to be safe and safe (1).

KIA Book is an instrument of recording and counseling (education) for mothers and their families, as well as communication tools between health and family workers (2). Called educational tools because the book KIA contains information and math materials about the health of mother and child, including signs of pregnancy hazards that can help the family, especially mothers in maintaining their health

since pregnant women until their children aged 5 years. Called a means of communication because health workers can provide important records that other health workers and mothers and family may read, eg complaints, examination results, birth records, services provided to mothers infants children under five, additional examination results, and referrals (3).

In other words, the presence of KIA Books as a means to reduce MMR and IMR. However, there are still many who have not been able to use MCH books. The lack of utilization of KIA book is related to the low knowledge of the community about how to use KIA book. Knowledge is also influenced by education because the higher the high level of education a person more easily receives information so that more knowledge is owned(4).

Solutions to improve maternal knowledge about maternal health by providing counseling or counseling related to it with KIA book guide. Through counseling or counseling about KIA books, it is hoped that mothers will have the knowledge in accordance with the information contained in the KIA book(2).

Based on a preliminary study conducted by researchers dated March 28 - April 3, 2013 with 10 respondents primigravida mother. Seven out of ten respondents of primigravida mothers who examined ANC at Puskesmas Ciptomulyo did not utilize KIA book, and the rest only three pregnant women using KIA book. Based on this, further research is needed to find out the utilization of KIA book toward maternal health knowledge level in primigravida mother. This study was conducted to determine whether oe not the influence of KIA's book on maternal health knowledge level of primigravida mother at Ciptomulyo Health Center.

MATERIALS AND METHODS

In this study using correlation study (correlation study) carried out to see the relationship between variable utilization of KIA book with maternal health knowledge level of primigravida mother at Ciptomulyo Health Center, Malang. In this study, samples used were all primigravida mothers of the period June 1 - June 31, 2013 which was recorded to conduct ANC examination in ciptomulyo clinic as much as 24 respondents. The procedure used in collecting data of KIA book utilization and maternal health knowledge level of primigravida is by using questionnaire directly distributed to the respondent of this questionnaire filled by the respondent. The questionnaire directly withdrawn by the researcher.

RESULTS AND DISCUSSION

Table 1. Utilization of KIA Primigravida Mother Book at Puskesmas Ciptomulyo

Criteria	Amount	Percentage
Utilize	8	33,3%
Not Utilizing	16	66,7%
Total	24	100%

Table 1. shows that the majority of respondents did not use KIA books. This is because primigravida mothers lack enough knowledge about the benefits of KIA books as a source of information. During this time only to store and carry during pregnancy checkup in health facilities. Human behavior in terms of health is influenced by three factors namely predisposing factors, supporting factors, and driving factors. Predisposing factors are manifested in knowledge, attitudes, beliefs, beliefs and values held by the community, education level, socioeconomic level (5). When viewed from the education level of respondents indicates that the level of higher education is not directly proportional to the utilization of KIA books conducted, it can be seen from the results of the use of MCH books more done by respondents with the last level of junior high

school education. Similarly, the economic level of respondents indicating a low economic level has the use of KIA books better than the high economic level.

Supporting factors that manifest in the physical environment, whether or not availability of facilities or health facilities, if perceived to it in this study is the book MCH. Judging from the availability of MCH books, every primigravidae mother has a MCH book. Thus, health facilities needed for utilization have been made available to primigravidae mothers. Reviewing the theory of behavior change Hosland et.al. in the quotation Soekidjo said that the process of behavior change is essentially the same as the learning process, one of the learning process in the individual that is stimulus (stimulus) given to the organism is acceptable or rejected. If the stimulus is not acceptable or rejected it does not effectively affect the individual's attention, and stops here. But if the stimulus is received by the organism, it means there is the attention of the individual and the stimulus is effective (5). Based on the stimulus aspect, the role of the midwife dominates the stimulus that occurs in the process of changing the respondent's behavior to take advantage of the KIA book.

Depending on WHO grouping behavior change strategies into three groups using force/ power or encouragement, information sharing, discussion and participation (5). In addition, based on the discussion and participation of respondents who have never had discussions and participation to the midwife when they found a lack of clarity about the KIA book material, it is certain that the utilization of KIA book can be concluded that midwife's role is a unity in carrying out behavior change strategy. Optimizing the authority and role as midwives can produce rapid behavioral changes, as well as giving clear information to primigravid mothers and discussion and participation being the middle way between the two strategies

above, in the absence of effective reciprocity between primigravida and midwife mothers.

Table 3. Maternal Health Maternal Health Knowledge Level Primigravida at Puskesmas Ciptomulyo

Criteria	Amount	Percentage
Good	2	8,3%
Enough	12	50%
Less	10	41,7%
Amount	**24**	**100%**

Knowledge is the product of knowing, and this happens after the person does the sensing of a particular object. Sensing occurs through the five senses, namely the sense of sight, hearing, smell, feeling and touch. Much of human knowledge is obtained through the eyes and ears. Knowledge or cognitive is a most important domain in shaping one's actions (5). Based on **Table 3**, that the respondents in this study most have sufficient knowledge even though the utilization of KIA book less. Numerous factors can affect one's level of knowledge. Factors such as age, education, employment, socioeconomic, information, and experience (6). The following elaboration of these factors about how the results of this study.

First, the age factor indicates that if based on age to maternal health knowledge level of primigravida, the younger the person's age the knowledge level is less. So through this study it can be possible concluded that as we get older the knowledge level of a person increases. Further work and social levels of education that respondents with elementary education dominate the level of good knowledge in maternal health than any other level of education. In addition, housewives (IRT) and mothers with low economic levels also have a suitable level of maternal health knowledge compared to other categories. It is a function of social environment and respondent's job. The

process of receiving information is highly likely when respondents are in the work environment and socioeconomic. Work and socio-economic limitations will affect the learning process in the knowledge level.

Besides, there are additional factors that affect the level of knowledge of experience and information. Can be explained that primigravida mother has no experience in maternal health, because this is the first time experience of pregnant women. Besides that, it shows that respondents get information source from two parties namely midwife and neighbor. Sources of information provided by the midwife dominate the results of a good level of knowledge of the respondents. Thus, it clearly shows midwives as health workers who provide Antenatal Care (ANC) services to primigravida mothers play an important role in providing a stimulus in order to increase knowledge of maternal health. In addition, the results of the research through questionnaires that have been answered respondents indicate that there is still a lot of information about maternal health that has not been widely known by the respondents is about things that should be avoided pregnant women, feeding advice for pregnant women, pregnancy examination on the third trimester visit, the rules of taking blood-boosting pill, the things that need to be done pregnant women who do not experience nausea early vomiting of pregnancy, the definition of premature rupture of membranes (KPD), the dental caries in pregnant women, and the function of folie acid in early pregnancy.

Table 4. Cross Tabulation Between Utilization Of MCH Books With Maternal Maternal Health Knowledge Levels of Priimgravida Mothers

| Maternal Health Knowledge Level | Utilization of MCH Books | | | |
| | Utilize | | Not Utilizing | |
	F	%	f	%
Good	0	0	2	12,5%
Enough	4	50%	8	50%
Less	4	50%	6	37,5
Amount	**8**	**100%**	**16**	**100%**

Based on **Table 4**, it can be seen from the results of the above research shows that there is no synchronization between the use of KIA books on maternal health knowledge level owned by primigravida mothers. From the data analysis using Chi Square test show $\alpha = 0,05$ the result of data analysis show result p-value = 0,549, so p> 0,05 indicates that Ha is rejected. There is no effect between the utilization of KIA books on maternal health knowledge level of primigravida. As the utilization is done, it is not in line with the level of knowledge of appropriate maternal health as well. Vice versa when the level of knowledge of maternal health is valuable, not necessarily the respondents do the utilization of the book MCH.

CONCLUSION AND RECOMMENDATION

The function of MCH books as a means of education for pregnant women has not run maximally, but its maximum use only as a record of medical records for pregnant women. As a midwives especially midwives who provide in providing IEC (Education Information

Counseling) the role of midwife is very important in the process of improving maternal health knowledge of primigravida mothers. So midwives should better optimize the role of KIA books in an effort to increase maternal health knowledge of primigravida mothers.

In addition to optimizing the function of KIA books in pregnant women, this can be means to make effective KIE between midwives and pregnant women. So there is discussion and participation that are created in the process of KIE happens. In order to establish a good relationship between midwives and patients, and comfort when examining Antenatal Care at health facilities.

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EFFECTIVENESS OF ELECTRONIC MEDIA (HANDPHONE) ON KNOWLEDGE OF THE PREGNANT WOMAN ABOUT ANTEPARTUM ANCIENCE

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ABSTRACT

Background: Indonesia's maternal mortality mostly caused by bleeding (33%), which is a sign of danger in pregnancy and birth. Bleeding can have an impact on mother's health, infant's health at birth or on both of their health. In the effort to decrease maternal mortality rate in Indonesia, it needed a program that focuses on the health of the mother. One of the efforts is by increasing the knowledge through the health promotion of pregnant mothers about danger signs in pregnancy. So they want, aware of, and able to prevent their health problems. The survey results showed that there were 88.1 % of internet users in Indonesia, 85 % of them accessing it via mobile phones.

Objectives: to determine the effectiveness of the media electronic (mobile phone) in enhancing the knowledge of pregnant women.

Methods: The study design was a design with pre-test-post-test control group design. The target populations of this study are pregnant women, while the accessible populations are all pregnant women in Mlati I Primary Health Care. By using incidental sampling technique, the sample was divided into two groups: the treatment group following the extension through the Whatsapp group (n = 35) and the control group followed the extension directly (n = 35). The research instrument used the question that was given to pregnant women. Data analysis used unpaired t-test and mixed ANOVA.

Results: The average value in the treatment group pretest is 71.42 and 81.33 in the control group. While the average value posttest is 96.38 in the treatment group and 88.38 in the control group. Test average difference in both groups gets the p-value of 0.001. Further analysis of the results showed that the higher the effectiveness of the treatment group is 61.1%, while the control group only 11.1%.

Conclusions: The electronic media (mobile phone) by using Whatsapp group is effective in improving knowledge about maternal antepartum bleeding.

Keywords: Effectiveness, Mobile Phone, Knowledge

INTRODUCTION

Millennium Development Goals (MDGs) have been the millennium goals for 15 years. MDGs end in 2015. Furthermore, MDG is followed by Sustainable Development Goals (SDGs) program or sustainable development objectives 2015-2030 SDGs consists of 17 goals which are divided into 169 targets and around 300 indicators. One of the targets of the third goal is to reduce the global maternal

mortality rate to less than 70/100/000 live birth (KH) (1). World Health Organization (WHO) records the world's 289/100,000 live birth (KH) Maternal Mortality Rate(MMR) while in Indonesia in 2013 190 /100.000 live birth (KH) (2).The Central Bureau of Statistics (BPS) of DIY reported Maternal Mortality Rate(MMR) in 2012 amounted to 87.3/100,000 KH (3). The number of maternal deaths in Sleman Regency in 2014 was recorded at 12 people that number increased from the year 2013 ie 9 people. [4] Cause AKI includes Bleeding 33%, Pre Eclampsia Weight 28%, Eklamsia 9%, Sepsis & Infection 2%, and Others 28% (4).

Various efforts have been made to reduce MMR, newborns, infants, and toddlers. One of them is the empowerment of family and society by using Mother and Child Health Book (KIA Book) (4). According to the result of Basic Health Research (RISKESDAS) in 2013 recorded 80.8% of pregnant women who have Child Health Book (KIA Book) and can show the book, but 40,4% of them cannot show Child Health Book (KIA Book) owned. 41 Pregnant women can find information about bleeding and other signs of pregnancy through the Child Health Book (KIA Book).

The new paradigm in the health sector prioritizes preventive and promotive efforts without abandoning curative and rehabilitative efforts. Health education is a learning effort to the community so that the community will take action to overcome the problem, and improve their health. Health information is obtained through education and health promotion. Health promotion media used in delivering messages about health experience renewal every year, following the era and development of existing technology. That is, technology can be understood as an effort to improve effectiveness and efficiency. Technology is applied in all areas of life, including education. Modern technology in the field of communication with products in the form of electronic equipment and materials (software) presented it has affected all sectors of life including education (5).

Lately, a smartphone has become a prima donna for all circles of society, especially in Indonesia. Center for Communication Studies (PUSKAKOM) University of Indonesia has conducted a survey with the result that there are 88.1 million internet users in Indonesia, 85% of them access the internet via mobile phones. This shows that the people of Indonesia take advantage of the development of these technologies. That is, communication media have great potential to be used or used as learning and learning resources

In the process of receiving information at the time of learning the senses that deliver the most knowledge to the brain is the eye 75-86% and the remaining 13% channeled through other senses. Many factors can cause one's attention to information, one of which is a moving image. [5] Through a smartphone, users can also get information by viewing or listening because on a smartphone can access images, sounds or moving images. The most popular application of chats by the Indonesian community is whatsapp (6). Firdaus describes in his research entitled the use of video on mobile devices as anatomical practice guide media that the average value of pretest and posttest from groups who use video on mobile phones higher than those who do not use video. Different test results showed a significant difference with p-value <0.05 at four times of measurement (7).

The results of preliminary studies that have been done in five puskesmas located in Sleman district with the highest number of pregnant women, Berbah, Kalasan, Gamping 1, Mlati 1 and Sleman get 39 out of 40 pregnant women not knowing about antepartum bleeding. All pregnant women who have had their pregnancy at puskesmas have KIA Book, for smartphone ownership found 19 people from 40 people.

The number of most pregnant women who use smartphones is Puskesmas Mlati 1. The goal is to determine the effectiveness of electronic media (mobile phone) in improving the knowledge of pregnant women.

MATERIALS AND METHODS

The design of this research is quasi-experiment with prospective design of Pre-test-Post-Test Control Group Design.

Table 1. Variables and Operational Definition

Variable	Op-erational Definition	Measure-ment	Tool Measure	Scale and Parameter Measure-ment
Indepen-dent vari-able electronic media *(hand-phone)*	*The WhatsApp group was used for a 7-day treatment by re-searchers with an-tepartum bleeding material*	*Group what-sapp*	1: pregnant women who take What-sApp group 2: pregnant women who follow counsel-ing edu-cation	Nominal
Dependent variable: knowledge	Results of doing pre-test and posttest	Question-naire	Value 0-100	Interval

RESULT AND DISCUSSION

Table 2. The Mean Values of Pre-Test and Post-Test of The Subjects of The Treatment Group and The Control Group

RESULT	Treatment Group		Control Group	
	Pre test	*Post test*	*Pre test*	*Post test*
Mean	71.42	96.38	81,33	88,38
Median	73,33	100	80,00	93,33
Modus	86,67	100	93,33	93,33
Std. Deviation	16,37	4,67	12,29	8,29

Based on **table 2**, the average knowledge obtained from pregnant women before being given treatment using Whatsapp media group that is 71.42 then increased to get the average value after treatment 96.38. Statistical test results

obtained a p-value of 0.001 which means there is a significant difference between the treatment group and the control group. The change in the value of knowledge was higher in the group given the extension using Whatsapp media group. This is due to the use of electronic media using mobile internet access, images, and video in delivering extension materials. Utilization of the media provides a different experience to pregnant women in receiving information. Experience in this form of counseling received is also an information according to his needs. Indirectly leads to awareness related to needs. It is reinforced by Notoatmodjo's opinion that in order to achieve optimal health promotion results, the factors that influence must proceed in harmony. These factors are the material, the material is given, the media or the tools used and the recipients of the material (8).

In the process of receiving sensory information that most channeling knowledge into the brain is the eye 75-86% and the remaining 13% channeled through the other senses. Besides, that explanation through writing and drawing allows the mother to see a picture of nonverbal information that can give message easy to understand the pregnant mother. Counseling provides an opportunity for pregnant women to discuss things that have not been understood in connection with antepartum bleeding (9).

The process of extension through the group WhatsApp for 7 days with gradual material giving pregnant women can combine the knowledge gained every day, indirectly pregnant women will connect the information so that this process can be able to make the information obtained into long-term memory. Therefore after the giving of materials for 7 days, pregnant women still remember the material that has been given (10).

Based on **table 2,** the result of the average knowledge of pregnant mother before given direct counseling (control group) that is 81,33

then increase until getting a result of mean value after treatment 88,38. The statistical test results obtained a p-value of 0.001 which means there is a significant difference between the treatment group and the control group where the increase in the pre-test and post-test results is higher in the treatment group. Counseling in the control group was directly exposed to lecture methods without using media in the delivery of the material. The material presented in both groups has the same weight.

Submission of information to the control group is only by lecturing, so the target uses only one sensory device in receiving the material. Humans can only absorb the material 20% of what has been heard and can absorb the material up to 50% of what has been heard and seen.[9] In addition, the absence of media can cause a lack of interest in the target to pay attention to the material delivered.

Table 3. The Effectiveness of Electronic Media (Mobile) Against Knowledge of Pregnant Women About Antepartum Bleeding

Variable	Knowledge				Δ	Effectiveness	P value
	Pre test		Post test				
	Mean	Deviation Standar	Mean	Deviation Standar			
Threatment Group	71,42	16,37	96,38	4,67	24,95	0,611*	0,001**
Control Group	81,33	12,29	88,38	8,29	7,04	0,111*	

Table 3. shows the effectiveness of electronic media (mobile phone) to the knowledge of pregnant women. Different test in both groups showed that the value 0,001 means that there was a significant difference between the treatment group and the control group. The effectiveness of media used in the treatment group was 61.1% while the control group was 11.1%.

Health promotion is an activity that has input (input), process, and output (output). Health promotion activities are influenced by several factors. In addition to methods, material factors or messages, the officers who perform, as well as tools or media in use can affect health promotion activities. According to WHO the use of educational methods or media is a very decisive delivery of health information (11). Results of the research have shown that electronic media (mobile phone) effectively improve the knowledge of pregnant women

about antepartum bleeding with a level of effectiveness of 61.1%. The results are higher when compared with counseling without using media or tools. Health promotion activities conducted is by way of extension through Whatsapp group by utilizing the media such as images and video in delivering the material. The video is a combination of audio and visual so that with the use of media, pregnant women will more easily understand the material by utilizing both senses. This is in accordance with research conducted by Desi Natalia Nadeak in the title of Effectiveness of Health Promotion Media Through Audiovisual on Improving Youth Knowledge about HIV/AIDS that respondents who follow health promotion activities using audiovisual media experience higher knowledge upgrading (12).

Increased knowledge of pregnant women before and after treatment was influenced by several factors, in this study the researchers

gave different treatment to two research groups. The media used in delivering extension materials to the treatment group that is using the mobile phone application Whatsapp. Selection of Whatsapp application is based on preliminary studies that have been done researchers at the study site that pregnant women more often use the application compared with other applications. Selection of the application is also to attract the attention of respondents so that respondents have a high interest to read extension materials every day. The use of words, images and also video as a media extension in the group Whatsapp aims for pregnant women more easily receive the information provided so that the material will be easily stored in the memory. Pregnant women will also more easily receive and recall the material contained in the media. According to Soslo the greater attention one gives to a material then the material will be easily stored in memorinya (13).

Based on Edgar Dale's theory one can absorb the material as much as 10% of what has been read, 20% of what has been heard and 30% of what has been seen. The cone of Edgar Dale's experience describes a range of varied learning experiences.36 Each human information pathway has a limited effective capacity to simultaneously process images and words at a time (14). Cognitive theory of working memory states that the working memory capacity can be increased using audio and visual channels (15).

Health promotion is expected to provide better knowledge to the public about health. Utilization of mobile phones as a medium of information delivery can improve the knowledge of pregnant women about antepartum bleeding. In an effort to reduce the death rate is required the role of health workers and pregnant women to cooperate with each other maintain health. A midwife has the competence to provide care and counseling during pregnancy. Counseling given midwives to pregnant women is one of the health promotion activities.Whatsapp is expected to be one of the alternative media used to conduct health promotion activities.

CONCLUSION AND RECOMMENDATION

1. Knowledge of pregnant women before being given treatment through group Whatsapp and after treatment was improved by mean on pre-test 71.42 and increased to 96.38 on posttest result.

2. The knowledge of pregnant women before and after counseling directly increases with a mean at pretest 81.33 and increases to 88.38 in posttest results.

3. Counseling using electronic media (mobile phone) effectively increased the knowledge of pregnant women about antepartum bleeding as much as 61.1% while counseling directly increase knowledge as much as 11.1% with p-value 0.001.

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SENSITIVITY AND SPECIFICITY OF HEMOGLOBIN MEASUREMENT USING NONINVASIVE OXYHEMOGLOBINOMETER COMPARED TO AUTOMATED HEMATOLOGY ANALYZER IN PREGNANT WOMEN AT HEALTH CENTER OF BANTUL DISTRICT

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ABSTRACT

Background: Iron deficiency anemia is a major health problem in pregnant women and has a detrimental effect on mothers and newborns. Given the consequences of anemia during pregnancy, an easy and accurate diagnosis is important. During this measurement of hemoglobin levels by involves taking the blood invasively, causing discomfort and trauma for the patient. Therefore, a hemoglobin level gauge is required using a non-invasive oxymeter system, in which the patient will be free of pain with minimal risk of infection and allow for the monitoring of the patient in critical condition.

Objectivenes: The purpose of this study was to compare the results of hemoglobin concentration using an oxyhemoglobinometer with automated hematology analyzer to know the difference of result, obtained sensitivity value, specificity, positive guess value, negative predictor value, positive probability ratio, negative possibility ratio, and accuracy.

Methods: This study is a diagnostic test with cross sectional design. 78 normal pregnant women who checked their pregnancy at the center of health in Bantul district, each of them are examined their hemoglobin level by using the oxyhemoglobinometer and automated hematology analyzer as a comparison. For the different results were used pairwise t test, and with diagnostic test formula obtained sensitivity and specificity values.

Results: There is a difference between the oxyhemoglobinometer tool with the average of 12.2 ± 1.7 and in the automated hematology analyzer obtained an average of 11.6 ± 1.2. With a value of p 0.001 which means there is a significant difference between the two tools. The results of diagnostic test analysis obtained 44.4% sensitivity and 72.5% specificity.

Conclusions: The oxyhemoglobinometer device cannot be used as an accurate measurement of hemoglobin levels because of its low sensitivity and specificity of the tool. It has 44.4% sensitivity and 72.5% specificity.

Keywords: Noninvasive Oxyhemoglobinometer, Iron Deficiency of Anemia, Diagnosis of Anemia

INTRODUCTION

Pregnancy influences a variety of physiological changes. One of the most significant changes is improvement volume so that hematocrit normally declines. This often results in the state of pregnant women experiences iron deficiency anemia (1). Iron deficiency anemia is a major health problem in

pregnant women and it has adversed effects on mothers and newborns. This affects about 1.62 billion people from the global population (2). The prevalence of anemia in India is 82%, Ethiopia is 56.8% (3,4). In Indonesia, the prevalence of anemia in pregnant women is 37.1% according to the data of Basic Health Research in 2013 (5). In Yogyakarta the prevalence of maternal anemia increases in 2012 to 2013, which is 17.35% to 17.60%. The prevalence of pregnant woman's anemia in Bantul Regency is 27, 76% (6). Iron deficiency anemia in pregnancy can result in harmful effects for the mother and fetus (7). Given the consequences of anemia during pregnancy, an easy and accurate diagnosis is important. Several methods are available for HB estimation in field settings, such as heavy copper sulphate type method, *Lovibond* comparator, HemoCue, Rapid test, Hemoglobin Color Scale, Cyanmethemoglobin, and Automated Hematology Analyzer (2).

The key for detecting anemia is proper diagnosis and monitoring of hemoglobin levels. However, measurement of hemoglobin levels by involving invasive blood sampling may potentially pose a risk of infection in both health care and patients. This is a major challenge in areas where there is a lack of water, electricity, necessary hygiene infrastructure and skilled healthcare providers. Thus, noninvasive hemoglobin screening is expressed by the World Health Organization (WHO) as one of the key medical technologies for improving health globally (8). From the above problems, both in terms of technology, patient comfort and other factors, a hemoglobin level gauge is required using a noninvasive oxymeter system. Where the patient will be free from pain with minimal risk of infection and allow for patient monitoring in critical condition (9).

MATERIALS AND METHODS

This research is a diagnostic test with cross sectional design, which is the data retrieval for each subject is done in one unit of time (10). This research is to compare the result of hemoglobin content using new tool with gold standard so that the difference of the result is obtained, the sensitivity value and the specificity.

The subjects of this study are pregnant women at Health Center of Bantul District who fulfilled inclusion criteria, pregnant women who came to check their pregnancy at Health Center of Bantul Regency and pregnant mother who was willing to take blood for hemoglobin examination, and pregnant mother who do not use nail polish. The exclusion criteria of pregnant women who experience an emergency.

The primary data were collected from hemoglobin concentration from oxyhemoglobinometer and automated hematology analyzer. The data collection instrument in this study used a hemoglobin diagnostic tool consisting of an oxyhemoglobinometer and an automated hematology analyzer.

The data obtained from the two examination tools in the form of interval data will be known whether there is a significant difference between the results of the tool oxyhemoglobinometer with automated hematology analyzer. Before the bivariable analysis is done normality test, if normal test used is paired P test T, if the data is not normal test used Wilcoxon. The validity of the oxymeter device is calculated based on the degree of sensitivity and specificity. This research seeks to uphold the scientific attitude and is very concerned about ethics considering the subject of research is human. This research has applied 3 basic principles of research ethics, namely: Respect for persons, Beneficent and non-efficiency, Justice (11,12).

The research was conducted in the area of Health Center of Bantul Regency which purposively random sampling was taken that is determining the Health Center in Bantul district as the location of respondent taking with consideration of Health Center using hemoglobin level measurement with automated hematology

analyzer. Among other things, Health Center of Kasihan I, Kasihan II health center, Sedayu II health center, Sewon I community health center, Banguntapan I community health center.

RESULTS AND DISCUSSION

The characteristics of research subjects presented to determine the frequency distribution of respondent characteristics, can be seen in the following table.1:

Table. 1 Respondent Characteristics

Characteristics	Frequency N=78	Persentage
Gravida		
• Primi	22	28,2%
• Multi	56	71,8%
Age		
• <20th	2	2,6%
• 20-35th	62	79,5%
• >35th	14	17,9%
Trimester		
• I	20	25,6%
• II	34	43,6%
• III	24	30,8%
Education		
• Elementary/Junior High School	19	24,4%
• Senior High School	34	43,6%
• University	25	32,1%

From the **Table.1** above, it can be seen that on gravida characteristic more multigravida (71,8%) than primigravida (28,2%). Characteristic age of pregnant mother dominant at healthy reproductive age that is 20-35 years equal to 79,5%. On the characteristics of trimester or pregnancy age in pregnant women more in trimseter II that is equal to 43,6%. While on the characteristics of education, the dominant respondents of the research are high school graduates of 43.6%.

The result of difference of result from oxyhemoglobinometer and Sysmex KN-21 can

be seen in **Table.2** below:

Table.2 The Difference Result Of Oxyhemoglobinometer and Sysmex KN-21

	Mean	p
Oxyhemoglobinometer	12,2 ± 1,7	0,001
Sysmex KN-21	11,6 ± 1,2	

*Note: *) Paired t test*

From the table above can be seen that the value of p obtained 0.001, which means there is a difference of Hb levels between the oxyhemoglobinometer tool compared to Gold Standard Sysmex KN-21. The results of the diagnostic test of the oxyhemoglobinometer tool compared with the automated hematology analyzer can be seen in the following table:

Table. 3 The Oxyhemoglobinometer Diagnostic Test Compared to Sysmex KN-21

		Sysmex KN-21		Total
		Anemia	Not Anemia	
Oxyhemoglo-binometer	Anemia	4 (17,4%)	19 (82,6%)	23
	Not Anemia	5 (9,1%)	50 (90,9%)	55
Total		9	69	78

*Note: *) Diagnostic Test*

From the table above,the reseracher can analyze the sensitivity with the formula a/(a + c) = 4/(4 + 5) = 0.444 or 44.4%. Specificity with the formula d/(b + d) = 50/(19 + 50) = 0.725 or 72.5%.

Discussion

The principle of observation of hemoglobin and noninvasive blood oxygen content in the oxymeter system is the change in the color of the oxidized hemoglobin measured by the difference in absorption, when light is of a certain wavelength and penetrates tissue and blood. Blood containing oxygen-bound hemoglobin (HbO2/Oxyhemoglobin) with no (Hb) will show different absorption spectra of light emission (13).

In this study, hemoglobin levels were examined in a non-invasive way or not by

injury, ie light with a certain wavelength was transmitted across the probe and reached the detector/photodiode, then processed with a pre-programmed microcontroller so that the resulting hemoglobin levels were displayed on the LCD (14).

On developing tools using red and infrared LEDs. The wavelength on the red LED is 620nm and the infrared LED is 940nm. Both LEDs act as transmitters and photodiodes as receivers. The LED transmits light through the blood vessels and the photodiode receives the output from both LEDs which can be used to calculate the percentage of oxygen concentration. Appropriate wavelengths are selected for the relative analysis of changes in hemoglobin levels. Both wavelengths are chosen because the oxygen-containing hemoglobin absorbs the wavelength of 910 nm light and the hemoglobin-induced hemoglobin that absorbs oxygen absorbs the 650 nm wavelength (15,16).

This research is in line with the research design entitled "Design of Measuring Tools of Hemoglobin Level, Oxygen Content and Sugar Level in Human Blood Non-invasive Based on Microcontroller". The realization of the design result of the tool can measure by 0-0,250 mg/dl for sugar content, 0-20 gr/dl for hemoglobin, and 0-100% for oxygen content in blood (17).

In the selection of red LED color is also in line with research conducted by Guruh and firends entitled " The Design of Building Microcontroller-Based Microcontroller ATMega16", the results of his research that red LEDs are better to break through the organ network of fingers.48

On examination of the tool researchers using the index finger, this is in line with the results of the research entitled "Design of Measure Measures Hemoglobin and Oxygen in Blood with the Sensor of Oxymeter Non-invasive", which concluded that the most accurate finger for measurement is the index finger because the index finger has the finger

size corresponding to the oxymeter sensor.23 (18,19).

The results of the oxyhemoglobinometer showed that the sensitivity and specificity were still low, its 44.4% for the sensitivity and 72.5% for specificity. This could be due to several factors below:

a. Bright light (such as indoor lights or sunlight) directly on the probe can affect the reading. This is in line with the results of a study entitled 'Potential errors in pulse oxymetry', it is the external light source influences the reading, with the result decreasing from 97% to 93%. The researchers recommend the use of fabric or rubber-wrapped fabrics wrapped around the probe to reduce external light to reach the light detector.55,59 In this study the factor has been controlled by means of a probe protected by an opaque material.

b. Movement can make difficulty for probe in taking signal. In this study the factors were controlled by asking respondents not to talk and move during the test.59.

c. Pulse oxymeter works well when all light passes through arterial blood. However, if the probe is wrong or not properly applied, some light does not pass through the arteries or travel on the side of the artery (shunting). It will reduce the pulsed signal strength making the pulse oxymeter vulnerable to errors. Therefore it is important to select the probe of the correct size so that the finger placement is right for best results. In this study researchers used a probe that conforms to the standard for oxygen saturation checks.57

d. Pulse oxymeter only detects pulsed flow. When blood pressure is low due to hypovolemic shock or low cardiac output or the patient has arrhythmias, the pulse may be very weak and the oxymeter may not be able to detect the signal.59

e. Vasoconstriction can reduce blood flow to peripheral, this causes the oxymeter may fail to detect the signal if the patient is very cold (chills) .59

f. Poisoning can give high false saturation readings. Carbon monoxide binds hemoglobin and displaces oxygen to form a bright red compound called carboxyhaemoglobin. This can occur in patients who breathe smoke from fire.57,59

g. Pulse oxymeter cannot distinguish between different forms of hemoglobin. Carboxyhaemoglobin (hemoglobin combined with carbon monoxide) is listed as 90% oxyhemoglobin and 10% deoxyhemoglobin. The presence of methaemoglobin will prevent the oxymeter from working accurately and the reading will tend toward 85% .58

h. Nail polish can cause inaccurate readings. It based on the results of a study entitled "Effects of nail polish on oxygen saturation determined by pulse oxymetry in critically ill patients", suggesting researchers to remove nail polish to help reduce measurement errors.56 This factor is controlled by researchers by inserting into the criteria inclusion of respondents.

From the analysis of several factors causing inaccurate readings of the above pulse oxymeter, and only a few that can be controlled by the researchers, it is possible to be the cause of the low validity of the oxyhemoglobinometer tool in this study.

CONCLUSION

There is difference result between tool of oxyhemoglobinometer and Sysmex KN-21 in checking hemoglobin level in pregnant woman at Health Center area of Bantul district of Yogyakarta with value p = 0,001. The oxyhemoglobinometer device cannot be used as a measure of hemoglobin levels accurately because of the low validity of the tool, it is 44.4% sensitivity and 72.5% specificity.

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ESSENTIAL LAVENDER OILS APPLICATION CAN DECREASE PAIN SCALE ON PERINEAL EPISIOTOMY

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ABSTRACT

Background: Episiotomy is a surgical procedure that leads to problems for those who are post childbearing. The problems are commonly pain. Applying essential lavender oils is one of a complementary intervention that can alleviate that problem.

Objectives: This study aims to examine effects of essential lavender oils on arising pain for childbirth mothers with episiotomy procedure.

Methods: This Quasi Experiment study used Nonequivalent Control Group design and Consecutive Sampling Technique. Episiotomy pain was assessed using NRS (Numeric Rating Scale). Research tool was French 40/42 type essential lavender oils with 0,04% dilution. Lavender essential oils were applied topical. Data was analyzed using Chi- Square and Fisher Exact.

Results: Statistically, application of lavender essential oils in second days given significant impact on pain with RR: 0,11 (95% CI: 0,03-0,35), p-value=0.00.

Conclusions: Application essential lavender oils for case group was effective for pain in second day on intervention group.

Keyword: Episiotomy, Pain, Postpartum, Lavender

INTRODUCTION

An episiotomy is a surgical intervention in maternal perineal the second stage conducted with the aim of expanding the birth canal with scissors (1)(2)(3). In the United States the number of episiotomy in women giving birth was 21 of 100 spontaneous vaginal childbirth in 2002, 22 of100 childbirth through vagina in 2003, and 19.9 of100 vaginal childbirth in 2004 (4). In Canada the average episiotomy 37.7% in 1993 to 23.85% in 2001, while in Alberta reached 20.1% in 2000 and 15.5% in 2004 (5). In Tehran 97.3% of 510 primiparous women who birth vaginally do an episiotomy. Based on data from the national hospital in 1995 more than 35% of women who gave birth vaginally do an episiotomy and almost 33% in 2000 (6).

In Panembahan Senopati Bantul Yogyakarta hospital in 2013 the average implementation episiotomy of total childbirth through vagina 60.8% in February, 51.3% in March, 51.6% in April, 59% in May, 53 , 1% in June, 57.1% in July and 46.1% in August.

Women who do an episiotomy will experience nursing problems including damage to the integrity of the skin, pain and risk of infection. Research from Karacam et al (2013) found a significant result is that women with episiotomy has the characteristics of pain in perineal more frequent and more severe in the first days after childbirth (7). Results of research Mohammed (2012) to get the result that the average woman who diepisiotomi experiencing severe pain as much as 30-35% and the pain was 45% (6).

Infection is not treated properly then it can cause respiratory insufficiency, kardiosirkulatori insufficiency, renal insufficiency, cardiomegaly, even polyneuromyopathy. Results of research conducted Romi (2008) there are three people (7.1%) of 42 (100%) performed an episiotomy infection (8).

Pain can be treated with wound care, combined with aromatherapy. One aroma therapy has a therapeutic efficacy is in the form of lavender essential oil. Lavender can be used to reduce pain, anti-inflammatory, and antimicrobial. Lavender essential oil has anti-inflammatory and antibacterial properties, so that if it is used in wound care can prevent infection, but it is expected the mother can feel comfortable. Based on the results of the study (Vakilian et al., 2011) using lavender essential oil found no side effects (9).

MATERIALS AND METHODS

This study uses quasy experiment with design Nonequivalent control group design in which the control group and the group given intervention is not chosen randomly. The intervention group is the group that carried out according to SOP (Standart operating procedure) perineal care plus the giving of essential oils of lavender, while the control group is the group that carried out the wound care in accordance with the SOP.

The population in this study were women after childbirth with episiotomy in Panembahan Senopati Bantul Hospital from January until March 2014. Samples determined by several criteria for inclusion of maternal through vagina spontaneous with episiotomy, taken antibiotics and analgesics after giving birth, did not experience premature rupture of membranes, willing to become respondents, cultured Java, there are no signs of anemia, as well as exclusion criteria that mothers who are sensitive to Essential lavender oil.

Collecting data in this study include the identity of respondents filling in the form of age, education, parity, and jobs. Measurements of height and weight are conducted using microtoa and bathroom scales. Wound care is done when the respondent was transferred to the post-partum. Perineal wound care is done twice a day every morning and evening. For a given group of lavender essential oil, the dose is 0.1 ml mixed with 250 ml of sterile water (aqua bidestilata sterile). Pain scale observed on the first, second and seventh after an episiotomy. Data were taken on the seventh day not only the pain scale, but respondents also had to fill out a questionnaire about wound care in home. Data analysis included univariate, bivariate and multivariate analyzes. Bivariate analysis were used adalan Chi Square and Fisher Exact.

RESULTS AND DISCUSSIONS
Result

Most or 61 (72.6%) of respondents are at a healthy reproductive age is 20-34 years, where the number of parity was 1: 40 (47.6%) of respondents, and most mothers 43 (51.2%) experienced obesity. Respondents in this study most of the 59 (70.2%) of people had high school-PT and 57 (67.9%) of people do not work. While at home 74 (88.1%) of respondents with good wound care. The group that was given the lavender essential oil has a lower percentage of incidence of pain compared with those not given the essential oil of lavender is 33 (78.6%) of respondents. The test results not statistically significant with RR: 0.97 (95% CI: 0.78 to 1.20), p-value of 0.79. Means that statistically or clinical has no effect of lavender essential oil on the incidence of pain on the observation day 1 after episiotomy (see Table 2). On the second day after episiotomy group given lavender essential oil has a lower percentage of incidence of pain compared with

those not given the lavender essential oil is 3 (7.1%) respondents. The test results statistically significant with RR: 0.11 (95% CI: 0.03 to 0.35), p-value of 0.00. Means that the group given the lavender essential oil likely occurred 0.11 times less pain than those not using lavender essential oil (see Table 3). On the seventh day,

the two groups have the same percentage. The test results not statistically significant with RR: 1.00 (95% CI: 0.06 to 15.46), p-value of 1.00. Means that statistically or clinic no influence between administration of lavender essential oil on the incidence of pain (see Table 4).

Table 1. Frequency Distribution Characteristics of Subjects Research On Postpartum with Episiotomy in RSUD Panembahan Senopati Bantul 2014 (n = 84)

Variable	N	%
Age		
<20 or ≥35 years	23	27,4
20-34 years	61	72,6
Nutrition status		
Not Obesity	41	48,8
Obesity	43	51,2
Paritas		
1	40	47,6
2	26	30,9
3	11	13,1
4	4	4,8
5	2	2,4
7	1	1,2
Education		
SD-SMP	25	29,8
SMA-PT	59	70,2
Job		
Does not work	57	67,9
Work	27	32,1
Wound Care at home		
Good	74	88,1
Moderate	7	8,3
Less	3	3,6

Tabel 2. Impact of Application Lavender Essential Oil to Pain on Day 1 of ANC with Episiotomy in
RSUD Panembahan Senopati Bantul 2014 (n=84)

		The incidence of pain				p	RR(95%CI)
		Pain		Not Pain			
		n	%	N	%		
Application Lavender	Application	33	78,6	9	21,4	0,79	0,97 (0,78-1,20)
Essential Oil	Not Application	34	80,9	8	19,1		
Total		67	79,8	17	20,2		

Tabel 3. Impact of Application Lavender Essential Oil to Pain on Day 2 of ANC with Episiotomy in
RSUD Panembahan Senopati Bantul 2014 (n=84)

		The incidence of pain				p	RR(95%CI)
		Pain		Not Pain			
		N	%	N	%		
Application Lavender Essential Oil	Applcation	3	7,1	39	92,9	0,00	0,11 (0,03-0,35)
	Not application	26	61,9	16	38,1		
Total		29	34,5	55	65,5		

Tabel 4. Impact of Application Lavender Essential Oil to Pain on Day 7 of ANC with Episiotomy in
RSUD Panembahan Senopati Bantul 2014 (n=84)

		The incidence of pain				p	RR(95%CI)
		Pain		Not Pain			
		n	%	n	%		
Application Lavender Essential Oil	Applcation	1	2,4	41	97,6	1,00	1,00(0,06-15,46)
	Not application	1	2,4	41	97,6		
Total		55	65,5	29	34,5		

Discussion

Effect of Essential Oils on The Incidence of Pain

On the first day after an episiotomy, the result is not statistically significant. On the first day after an episiotomy, the result is not statistically significant. The difference between a given proportion of lavender essential oil with lavender essential oil is not given 0.97 (close to 1, which means neutral) while the confidence interval is 0,78- 1.20 (containing the numbers 1, which means that it is not significant). This suggests that clinically Award lavender essential oil had no effect on the incidence of pain. The lack of meaningful research results are likely due to the time of the first gold perineal care after episiotomy is less than 8 hours. The statement is comparable with research conducted by Syekhan (2011), where the giving of lavender essential oil in 12 hours after episiotomy is statistically the result was not significant (10). Results of

other studies that support is research Fang Li (2013) which revealed that the effectiveness of lavender oil is not significant in the short-term use (less than 72 hours) (11). In this study, the first day observation carried a maximum of 24 hours after espisiotomi. The process of wound healing, inflammatory phase occurs on days 1-3 after injury occurs. One characteristic of the inflammatory phase is the presence of pain (12). Another thing that causes no significant is the number of samples slightly so that the precision becomes wide (passing point 1).

On observation day 2, there is a difference based on the proportion of the incidence of pain as well as statistical and clinical outcomes are all significant where p <0.05 and RR = 0.11 with 95% CI 0.03 to 0.35. This research was supported by the results of Syekhan (2011) where the results showed a significant result in the incidence of pain fifth day after episiotomy (10). Added by Kane (2004) in Fang Li (2013) revealing lavender and lemon aromatherapy oils

not effective at reducing pain during dressing replacement, but rather after the replacement of the bandage (11). The components in the essential oil of lavender Linalyl acetate and linalool are components of essential oils have sedative and local anesthetic effect. Linalool can increase local blood circulation and also decrease muscle tension, then as an analgesic and sedative (10).

On day 7 was not statistically significant but clinically meaningful where RR = 1.00 (95% CI 0.06 to 15.46) with a p-value of 1.00. The seventh day observation showed no significant difference between the given essential oil of lavender and povidone iodine with povidone iodine were only given time. This result is also supported by research Vakillian (2010) where there is no significant difference in pain scores in the intervention group and the control group. Proliferative phase occurs from the fifth day until the fourteenth day (9). In this phase of proliferation can be possible to close the wound, good treatment without or with lavender essential oil lavender essential oil. According to Black & Hawk (2009), wound with sutures will heal the primary attention will close the incision edges together, healing is due to the contraction of collagen synthesis and tissue (13). In addition, other factors that also affect the nutrient inputs that are not controlled for respondents researchers are at home. Individuals with good nutrition have adequate savings to meet the energy needs of the metabolic and physiological increase due to the wound healing process. The high amount of protein needed by elderly clients dank lien with extensive injuries. Protein, vitamin C, vitamin A, thiamine, iron, copper, and Zing are all important for tissue regeneration and the prevention of infection (12).

The Influence of Age on The Incidence of Pain

Based on the results that the observation 2 day after episiotomy, statistically and clinics are not meaningful. The value of p>0.05 and a value close to 1 RR entirely. According to Guo and DiPietro (2010), that age is a systemic factors that can influence wound healing (14). That is likely to impact the incidence of pain. Age is a risk factor for impaired wound healing delayed wound healing associated with age is an inflammatory response, such as a delay in T-cell infiltration in the wound area in connection with the production of chemokines and decreased phagocytic capacity of macrophages. Age individuals will have less risk of both wound healing and ultimately the pain and infection. The skin becomes less elastic and collagen synthesis is reduced. The age factor is not the sole factor in influencing the incidence of pain and the incidence of infection. However, the age factor together with disease status suffered both together can inhibit collagen synthesis and deposit disturbed. The subjects in this study did not find disease that could possibly impede the wound healing process. Thus, in this study the age factor is a single factor that maternal age factor does not affect the wound healing process.

According to Guo & DiPietro (2010) on a surgical wound voltage increases to the wound is often seen in patients with obesity are contributing to dehiscence (14). The voltage on the network will increase pressure sores, lower mikroperfusi and oxygen to the injured area.

Infection Will Cause A Person to Feel Pain

Obesity impede lymphatic flow, so that the accumulation of lymphatic fluid that is rich in protein degrade surrounding tissue oxygenation can cause fibrosis and chronic inflammation. This situation makes the bacteria to grow and cause a serious infection. Acidity (pH) of the skin in people who are obese are also high. Obesity is also a risk factor in developing chronic venous insufficiency which also resulted in venous ulceration (15).

CONCLUSION AND RECOMMENDATION

1. Giving of lavender essential oil effect on the

incidence of pain on day 2 after episiotomy.

2. Giving of lavender essential oil effect on the incidence of infection on days 1 and 2 after episiotomy.

3. Controlling for confounding variables into when I was at home such as nutrition because in theory these variables affect the wound healing.

4. Implementation Award intervention lavender essential oil should be a maximum of 8 hours after episiotomy.

5. Provide a complementary action in the perineal wound care episiotomy.

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CAESAREAN SECTION VERSUS VAGINAL BIRTH FOR SEVERE PRE-ECLAMPSIA

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ABSTRACT

Background: re-eclampsia is a very frequent complication of pregnancy. The best mode of delivery remains to be established. Many doctors prefer to perform caesareans for women with severe pre-eclampsia, although observational studies suggest better maternal and perinatal outcomes with vaginal birth. Caesarean section may increased the health costs. **Objectives:** *To compare the perinatal outcomes in caesarean section with vaginal birth for women with severe pre-eclampsia.*

Methods: *This study is analytic descriptive study with cross sectional design carried out in RSUP Sardjito teaching hospital from November 2016 until November 2017.*

Results: *Within 1 year, 215 patients with severe preeclampsia, 55 patients deliver with vaginal birth and 160 patients with caesarean section. There was no difference in apgar score at 1 minute and 5 minutes in infants deliver by vaginal birth or caesarean section due to severe preeclampcia (p:0.709 and p: 0.493). The most frequent reason to do emergency C section due to fetal distress or compromised.*

Conclusions: *There was no difference in apgar score at 1 minute and 5 minutes in infants delivered by vaginal birth or caesarean section due to severe preeclampsia*

Keywords: Apgar Score, C-Section, Delivery, Preeclampsia

INTRODUCTION

Preeclampsia is described as a pregnancy-specific and progressive syndrome that can affect virtually every organ system characterized by the new onset of hypertension and proteinuria, or hypertension and end-organ dysfunction with or without proteinuria, in the last half or after 20 weeks of gestation of pregnancy or postpartum, in a previously normotensive woman (1,2). Worldwide, 4.6 percent (95% CI 2.7-8.2) of pregnancies were complicated by preeclampsia(3)one of the main causes of maternal deaths, are required at both national and regional levels to inform policies. We conducted a systematic review of the incidence of hypertensive disorders of pregnancy (HDP. Preeclampsia in severe condition generally regarded as an indication for delivery to minimizes the risk of development of serious maternal and fetal complications(4)

labetalol, hydralazine, and nifedipine are oral options; angiotensin-converting enzyme inhibitors and angiotensin receptor antagonists are contraindicated. Women with preeclampsia should be closely monitored and receive intravenous magnesium sulfate.

MATERIALS AND METHODS

This study is analytic descriptive study with cross sectional design carried out in RSUP Sardjito teaching hospital from November 2016 until November 2017.

RESULTS AND DISCUSSION

Within 1 year, 215 patients with severe preeclampsia, 55 patients deliver with vaginal birth and 160 patients with caesarean section. There was no difference in apgar score at 1 minute and 5 minutes in infants deliver by vaginal birth or caesarean section due to severe preeclampcia (p:0.709 and p: 0.493). The most frequent reason to do emergency C section due to fetal distress or compromised. The highest incidence of preeclampsia is found in women between the ages of 26-35 years in gestational age $32^{0/7}$- $35^{6/7}$.

Tabel 1. Severe Preeclampsia Occurs Mostly in Primigravids, In The 26-35 Age Group

Parity	Frequency	Percent
1	70	32.7
2	65	30.4
3	46	21.5
4	22	10.3
5	6	2.8
6	1	.5
7	3	1.4
8	1	.5
Total	214	100.0

Women with preeclampsia are at an increased risk for life-threatening obstetric or medical complications, 10 to 15 percent of direct maternal deaths are associated with preeclampsia/eclampsia (5)99% in low and middle income countries. In many low income countries, complications of pregnancy and childbirth are the leading cause of death amongst women of reproductive years. The Millennium Development Goals have placed maternal health at the core of the struggle against poverty and inequality, as a matter of human rights. Ten percent of women have high blood pressure during pregnancy, and preeclampsia complicates 2% to 8% of pregnancies. Preeclampsia can lead to problems in the liver, kidneys, brain and the clotting system. Risks for the baby include poor growth and prematurity. Although outcome is often good, preeclampsia can be devastating and life threatening. Overall, 10% to 15% of direct maternal deaths are associated with preeclampsia and eclampsia. Where maternal mortality is high, most of deaths are attributable to eclampsia, rather than preeclampsia. Perinatal mortality is high following preeclampsia, and even higher following eclampsia. In low and middle income countries many public hospitals have limited access to neonatal intensive care, and so the mortality and morbidity is likely to be considerably higher than in settings where such facilities are available. The only interventions shown to prevent preeclampsia are antiplatelet agents, primarily low dose aspirin, and calcium supplementation. Treatment is largely symptomatic. Antihypertensive drugs are mandatory for very high blood pressure. Plasma volume expansion, corticosteroids and antioxidant agents have been suggested for severe preeclampsia, but trials to date have not shown benefit. Optimal timing for delivery of women with severe preeclampsia before 32 to 34 weeks' gestation remains a dilemma. Magnesium sulfate can prevent and control eclamptic seizures. For preeclampsia, it more than halves the risk of eclampsia (number

needed to treat 100, 95% confidence interval 50 to 100.

Tabel 2. Patient Characteristics

	N	Mean	Std. Deviation	Std. Error Mean
Age	215	32.22	6.137	.419
Paritas	214	2.29	1.312	.090
gestational age	212	33.95	4.769	.328
birth weigh	210	2055.41	795.461	54.892
AS 1 minute	213	5.75	2.286	.157
AS 5 minute	213	7.52	2.300	.158
increase body weight	164	11.27	5.126	.400

Conservative management can planned for selected preterm pregnancies with preeclampsia with features of severe disease to reduce neonatal morbidity from immediate preterm birth, even though the mother and fetus are at risk from disease progression. Conservative management allows administration of a course of antenatal corticosteroids and may provide time for further fetal growth and maturation. Conservative management limiting to pregnancies ≥24 weeks and <34 weeks of gestation. Women with preeclampsia recommended to deliver her baby at ≥37 weeks of gestation, even in the absence of features of severe disease (4,6,7)evaluation, and treatment of the hypertensive disorders of pregnancy. EVIDENCE: Published literature was retrieved through searches of Medline, CINAHL, and The Cochrane Library in March 2012 using appropriate controlled vocabulary (e.g., pregnancy, hypertension, pre-eclampsia, pregnancy toxemias.

Tabel 3. Diagnosis to do C-Section

	Frequency	%
eclampcia/ impending eclampcia	23	14.3
crisis hypertention	6	3.7
fetal distress/compromise	47	29.8
Malposition	10	6.2
Breech	9	5.6
edema pulmo	8	5.0
hystory of c section	6	3.7
obstructed labor	12	7.5
HELLP syndrome / partial	13	8.1
Acute Kidney Injury	2	1.2
Cardiovascular	2	1.2
placenta previa	6	3.7
IVF	2	1.2
Preterm	2	1.2
HIV	2	1.2
DM	1	.6
twin/triplet	5	3.1
SLE	2	1.2
IUGR	1	.6
CPD	1	.6
Total	160	100.0

The labor induction or conservative management at ≥37 weeks of in women with mild preeclampsia or gestational hypertension >$36^{0/7}$ weeks with maternal/fetal monitoring showed benefit from early intervention, without incurring an increased risk of operative delivery or neonatal morbidity. The induced group delivered had a significantly lower rate of cesarean delivery (14 versus 19 %). There were no significant differences between groups in neonatal or maternal outcome (8).

An unfavorable cervix was not a reason to avoid induction. Induction of labor at term in women with a median Bishop score of 3 (range 1 to 6) was not associated with a higher rate of cesarean delivery, approximately 85% of women achieved a vaginal delivery(9,10). Prostaglandins or a balloon catheter was used for cervical ripening(1). In addition, an economic analysis concluded induction was 11 percent less costly overall than expectant management with monitoring(11)randomly allocated to either induction of labour or expectant monitoring.\\n\\nMETHODS: A trial-based cost-effectiveness analysis was performed from a societal perspective during

a 1-year time horizon.\\n\\nMAIN OUTCOME MEASURES: One-year costs were estimated and health outcomes were expressed as the prevalence of poor maternal outcome defined as either maternal complications or progression to severe disease.\\n\\nRESULTS: The average costs of induction of labour (n = 377.

The route of delivery is based on standard obstetrical indications. Observational data suggest that the decision to expedite delivery in the setting of preeclampsia with features of severe disease does not mandate immediate cesarean birth(4)labetalol, hydralazine, and nifedipine are oral options; angiotensin-converting enzyme inhibitors and angiotensin receptor antagonists are contraindicated. Women with preeclampsia should be closely monitored and receive intravenous magnesium sulfate.

However, prolonged induction and inductions with a low likelihood of success are best avoided. For example, cesarean delivery is reasonable for women with preeclampsia with severe features who are less than about 32 weeks of gestation and have a low Bishop score, given the high frequency of abnormal fetal heart rate tracings and only one third of this setting result in vaginal birth (1,14).

CONCLUSION AND RECOMMENDATION

There was no difference in apgar score at 1 minute and 5 minutes in infants delivered by vaginal birth or caesarean section due to severe preeclampsia. This study was limited to looking at infant outcomes in the C section delivery method compared with vaginal delivery. More research is needed in Indonesia, to look at the overall outcome of the mother, patients with severe preeclampsia. The choice for delivery may be decided on the basis of the health facilities available in the health service and vaginal delivery is more recommended if no other obstetric indication is present.

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EFFECT OF EARLY INITIATION OF BREASTFEEDING ON MATERNAL POSTPARTUM UTERINE INVOLUTION DAY 1-7 IN INDEPENDENT MIDWIFE'S CLINIC NY. S VILLAGE PURWANTORO BLIMBING IN THE MALANG'S CITY

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ABSTRACT

Background: *Postpartum period is a time of considerable importance for health workers to always do the monitoring, because the implementation is less than the maximum can cause the mother to experience a variety of problems and continues to complications during childbirth, such as bleeding. One to prevent bleeding itself is to initiate early breastfeeding.*

Objectives: *This study aimed to determine the effect of early breastfeeding initiation on uterine involution in maternal postpartum day 1-7 in Independent Midwife'S Clinic Ny. S Malang City.*

Methods: *The study design is a descriptive survey using a quasi-experimental approach with posttest approach Only Control Group Design. The population in this study is the interpretation of maternal childbirth in February 2013 in Clinic Ny. S. Survey respondents were 22 people, including 11 respondents conducted early breastfeeding initiation and 11 respondents did not do early breastfeeding initiation. This study sampling technique is Quota Sampling. Analysis of data using Man Whitney that produced p-value of 0.01 < 0.05.*

Results: *The results showed that the majority of respondents who do Initiation of Breastfeeding, showed that the normal process of uterine involution in 1-7 days maternal postpartum as much as 10 percent of respondents with 90,9%. While the 11 respondents who did not do Initiation of Breastfeeding, showed that the process of abnormal uterine involution in maternal postpartum 1-7 days to as much as 9 percent of respondents with 81,8%.*

Conclusions: *There is the influence of Early Initiation of Breastfeeding of the Uterus involution at days 1-7 post partum mothers.*

Keywords: Early Breastfeeding Initiation, Uterine Involution, Maternal Postpartum

INTRODUCTION

Indonesia's progress towards the 2015 Millennium Development Goals (MDGs) for child and maternal deaths is respectively referred to as MDGs 4 and 5. The MDGs 4 is reducing child mortality by 2/3 in the period 1990-2015, for infant mortality is expected in year 2015 maximum 32 per 100 thousand births. while the MDGs 5 is reducing maternal mortality (MMR), which is expected by 2015 the maximum maternal mortality rate 102 per 100 thousand births.

The puerperium is a period that begins after the placenta has come out and ends when the uterine devices return as before (before pregnancy) and last for about 6 weeks (1). Involution of the uterus or contraction of the uterus is a process by which the uterusback to the condition before pregnancy. Involution uteri can also be said to be a process the return of the uterus. Its original state or state before pregnancy. If involution of the uterus walk with normal then it will be able to reduce bleeding events, especially bleeding post partum which is one the direct cause of maternal death (2). There is several factors that affect uterine involution including postnatal gymnastics, early post-partum mother mobility, initiation breastfeeding early, nutrition, psychological and factors age and parity factor initiation of suckling may stimulate the production of oxytocin which is useful for stimulating uterine contractions and decreasing the risk of postpartum bleeding (3). uterine subinvolusio is the process of shrinking the uterus undisturbed. subinvolusio occurs when the uterine contraction process does not occur as it should and this contraction is long or stopped. examination of uterine involution is performed by a high palpation of the uterine fundus (4).

Early breastfeeding initiation is that babies begin breastfeeding themselves after birth within the first hour after birth, which is initiated by skin-to-skin contact with their mother's skin (5). Early breastfeeding initiation will also stimulate the posterior pituitary gland to release oxytocin which makes uterine contractions thus accelerating uterine involution (6). Uterine involution processis influenced by several factors, namely the initiation of early breastfeeding (IMD), gymnastics childbirth, early mobilization, nutritional status, maternal age, and parity. One of the factors that influence uterine involution is accelerated bythe IMD. According to dr. Astithatwomen who under go uterine involution IMD will accelerate due to the influence of the hormone oxytocin. IMD is the baby start feeding them selves shortly after birth in the first hour after birth is preceded by skin contact with the baby's mother's skin (7).

The baby's sucking on the breast will stimulate the formation of oxytocin by the pituitary gland. Oxytocin helps in uterine involution and prevents postpartum hemorrhage (8).

Breastfeeding for the first few days makes the uterus contract rapidly and slow the bleeding (suction on the nipple stimulates the release of the natural oxytocin hormone that helps with uterine contractions) (9). shortly after delivery of placental hormones (estrogen, progesterone, and human lactogen hormone) that prevents the role of prolactin and oxytocin from falling. To speed up the expenditure of breast milk, immediately after delivery even when the umbilical cord has not been cut, the baby immediately sucks her mother's nipple resulting in a reflex of prolactin and oxytocin expenditure. Baby suckling is very beneficial because it can accelerate the release of placenta, uterine involution and postpartum hemorrhage can be avoided (10).

Immediately after delivery of hormones released placenta (estrogen, progesterone, and human lactogen hormone) functioning the highest prolactin and oxytocin decreased. To speed up the output of breast milk, immediately after delivery even when the umbilical cord has not been cut, the baby immediately sucks the mother's nipple so that it can occur reflex expenditure of prolactin and oxytocin. Baby suckling is very beneficial because it can accelerate the release of the placenta, uterine involution and postpartum hemorrhage can be avoided (10).

Based on the Indonesian Demographic Health Survey 2002-2003 there were only 4% of babies who were breastfed within one hour of birth. Until the government calls on all health workers involved in childbirth, including doctors, nurses, and midwives, to help mothers perform

breastfeeding early after delivery. In addition, the data of FK-UGM in June 2010 in Indonesia showed 87.17 percent of mothers who initiated Early Breastfeeding (IMD). IMD achievement figures are rising dramatically because in 2008 it only reached 53.50 percent. It is of course proud, but very unfortunate when looking at the implementation in the field, that the provision of early breastfeeding initiation is not meaningful with the publication of research results related to it.

From a survey conducted by a researcher at a clinic in Purwantoro sub-district of Blimbik Kota Malang, it was found out that from 9 people who have delivered only four mothers initiated breastfeeding initiation. Based on the above, the writer is interested to research about"The Influence of Early Breastfeeding Initiation to the Involution of Uterus In the post partum Mother days 1-7"

MATERIALS AND METHODS

The design of this study is only a descriptive survey. This is done with the independent variables of initiated Early Breastfeeding IMD and the dependent variable ie uterine involution in postpartum mothers day 1-7 will be the same as bivariate, also known effectiveness of early breastfeeding initiation on uterine involution in post partum mother. In this study, researchers used a quasi-experimental research approach that is a study used to find cause-and-effect relationships by involving control group. The population in this study were pregnant women whose interpretation of labor in February 2013 was 22 pregnant women with physiological delivery The samples in this study were all postpartum mothers based on physiology of the existing population, of which 11 postpartum mothers performed IMD and 11 postpartum mothers who did not do IMD. Variable independent of early breastfeeding initiation and the dependent variable is uterine involution.

RESULTS AND DISCUSSION

a. Respondents Who Do Not Do IMD

Recapitulation results of the frequency distribution collected about the respondents who do not do IMD can be seen in the following table:

Uterine Involution	Frekuensi (F)	Prosentase (%)
Abnormal	9	81.8%
Normal	2	18.1%
Amount	11	100%

From the table above can be seen that from 11 respondents who do not do IMD with involute uterine involution as much as 9 respondents with 81.8% percentage and normal uterine involution as much as 2 respondents with percentage 18.1%.

b. IMD Respondents

Recapitulation results of the frequency distribution collected about the respondents conducted IMD can be seen in the following table:

Uterine Involution	Frekuensi (F)	Prosentase (%)
Abnormal	1	9.1%
normal	10	90.9%
amount	11	100%

From the above table it can be seen that from 11 respondents most of the IMD done with normal uterine involution as many as 10 respondents with 90.9% percentage.

c. Influence of Early Breastfeeding Initiation Against Involuntary Uterus on Postpartum Mothers Day 1-7 in Independent Midwife'S Clinic Ny. S Malang City.

To determine whether or not Influence of Early Breastfeeding Initiation Against Involuntary Uterus on postpartum mothers

day 1-7, it is necessary to establish cross tabulation (Crosstabs) which can illustrate the dissemination of data in more detail can be presented in the following table.

Involusi Uterus	IMD respon-dents		Respondents who do not do IMD		Total Respon-dents	
	f	%	f	%	f	%
Normal	10	90,9%	2	18,1%	12	54,5%
Abnormal	1	9,1%	9	81,8%	10	45,4%
Total respondents	11	100%	11	100%	22	100%
P-Value						0,01

Can be interpreted that after analyzed by Man Whitney test of SPSS program before and after treatment in control group and treatment result of P-Value value 0,01 <0,05. Based on the above table on the Influence of Early Breastfeeding Initiation Against Involuntary Uterus on postpartum mothers day 1-7 Independent Midwife'S Clinic Ny. S Malang City., it can be seen that the majority of uterine-normal involution with IMD for 1-7 days as many as 10 respondents with 90.9% percentage.

In this study, there were 22 respondents of which 11 respondents performed IMD with normal uterine involution as many as 10 respondents with 90.9% percentage and abnormal uterine involution of 1 respondent with percentage of 9.1%. Where 1 respondent experiencing abnormal uterine involution is possible because of the parity factor with the number of live births of 3 children. This is according to the theory that the more the number of children the muscle stretching process and the level of elasticity will be reduced.

While from 11 respondents who do not do IMD. it was found that the process of abnormal uterine involution in postpartum mother days 1-7 as much as 9 respondents with percentage of 81.8% and 2 respondents with percentage 18.1% that is not done IMD experienced normal uterine involution process for 1-7 days.

CONCLUSION

From the results of the study can be concluded that there is influence of early breastfeeding initiation on uterine involution in postpartum mother day 1-7.

ACKNOWLEDGEMENTS

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EFFECTIVENESS OF TURMERIC EXTRACT IN REDUCING SYMPTOMS OF HYPERHIDRATION PRE MENSTRUAL SYNDROME IN YOUNG WOMEN

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ABSTRACT

Background: Symptoms of Pre Menstrual Syndrome (PMS) are divided into 4 types, namely type A for Anxiety (Anxiety), type C for Carving (Hungry), type D for Depression and Type H for Hyperhydration (Liquid Stockpiling). Type H is the most common in Indonesia. Symptoms of type H consist of headache, abdominal pain, bloating and tense breasts. PMS in Indonesia are stomach complaints such as pain and flatulence, so it is important to know how to reduce the pain. Traditionally in Java, people use herbal turmeric to overcome the complaint.

Objectives: This study aims to determine the effectiveness of turmeric extract in reducing symptoms of Pre Menstrual Syndrome (PMS) and type of symptoms that can be most resolved

Methods: This research design is quasi experiment with control group. The intervention group and the control group consisted of 20 people. All samples follow the study to completion

Results: There is an effect of using turmeric extract to reduce PMS. It is known from the significance value of t-test that is 0.000.

Conclusions: The type of PMS with the highest symptom reduction with Tumeric is in PMS Type H (Hyperhidration).

Keywords: Pre Menstrual Syndrome (PMS), PMS Type H , Turmeric

INTRODUCTION

Pre Menstrual Syndrome is the appearance of some symptoms before menstruation that can disrupt the activity. Symptoms of menstrual disorders are divided into four types, namely type A for Anxiety (Anxiety), type C for Carving (Hungry), type D for Depression (Depression) and type H for Hyperhydration (Stockpiling of Liquids) (1). Symptoms in Type A include anxiety, sensitivity, nerves tense, feeling unstable. Even some women experience mild to moderate depression moments before menstruation. Symptoms in Type C include edema (swelling) of abdominal bloating, pain in the breasts, hands and feet, and an increase in weight. Symptoms of Type D include mellow, weakness, sleep disorder, forgetful, confusion, difficulty in uttering words (verbalization). Usually PMS type D takes place with PMS type A, only about 3% of all types of PMS are really pure type D. Symptoms in Type H include headache, abdominal pain, bloating and tense breasts.

Type H is the most common in Indonesia (2).

According to Dr. Guy E. Abraham, obstetrician and obstetrician from UCLA Medical School, USA, PMS is divided into four types according to the severity and hormonal conditions in the body, namely PMS type A, H, C, and D. Dr. Guy's research results show that 60 % PMS disorders experienced by women in this world fall into the type of PMS type A. The rest H type sufferers of about 20%, PMS C 10%, and PMS D 10% (2).

Prevalence and complaints of dysmenorrhea are usually experienced by girls are estimated 40-50% of girls with dysmenorrhea. Women who have PMS 15% of them until lazy to go to work and not go to school, and who do not require treatment or pain relief approximately 30%. The results of a Canadian woman who experienced menstruation were found to be 60% with mild to moderate dysmenorrhea. The prevalence of primary dysmenorrhea decreases with age. Prevalence of PMS in Asia Pacific, it is known that in Japan PMS is experienced by 34% of adult female population. In Hong Kong PMS is experienced by 17% of the adult female population. In Pakistan PMS is experienced by 13% of the adult female population. In Australia it is experienced by 44% of adult females (Joshi, 2010). Research conducted in Indonesia associated with pre menstrual syndrome states that the results are not too different. A WHO-sponsored study in 2002 reported 23% of Indonesian women had pre menstrual syndrome (3).

The use of phytopharmaca or herbal or herbal medicine has been widely used by the community to reduce menstrual pain (4). One of the most commonly used herbs is herbal turmeric acid. Naturally the curcumin content in turmeric is believed to be used as an antioxidant, useful as, analgesic, anti-microbial, anti-inflammatory, and can cleanse the blood (5). More specifically curcumine, and anthocyanin may inhibit the occurrence of cyclooxygenase (COX) reactions inhibiting and reducing inflammation and will reduce and inhibit uterine contractions that cause menstrual pain (6). Results from previous studies obtained results that indicate that the curcumine content in turmeric is safe and does not cause toxic if consumed by humans. The safe amount of curcumine that humans can consume is 100 mg/day (7).

In Indonesia according to data from BPS it can be seen that the number of female adolescents who experience PMS reaches a considerable amount and would be a problem if such a large number had problems that hampered their creativity and productivity. Therefore symptoms that arise because of this PMS should be addressed.

MATERIALS AND METHODS

The type of research used is Pre-Post Quasi Experimental with Control Group research. The population in this study were all girls in SMA N 1 Gamping class 2 and 3. Samples in this study were girls who had Premenstrual Syndrome (PMS) in SMA N 1 Gamping, with inclusion criteria, namely: understanding Indonesian, experienced Pre Menstrual Syndrome (PMS), had regular menstrual cycles, present in National Senior High School 1 Gamping at the time of sampling. While the exclusion criteria of chronic illness, not willing to be a respondent. The sample is taken from previous research that has been done by the researcher about the picture of PMS incident in National Senior High School 1 Gamping.

Primary data in this study is data obtained directly from respondents by direct interview techniques using questionnaires that have been prepared in writing to respondents to get responses, information, answers and other data by filling out the questionnaire. In this study the primary data needed were PMS symptoms experienced before therapy, PMS

symptoms experienced after therapy, drugs and formulations taken.

Research Instruments

To collect data of the researcher using data collecting tool in the form of questionnaire. Questionnaires in this study using a questionnaire developed by researchers who will be tested Validity and Reliability first.

The sample in the study population was taken through preliminary research to find out the respondent who experienced the PMS and know the degree of PMS experienced. Population Characteristics of this study is as follows:

Table 1. Respondent Characteristics

Characteris-tics		Total of Respondents	Prosentase
Age (years)	15	23	20,53%
	16	58	51,78%
	17	35	31,25%
Class	X	44	39,21 %
	XI	68	60,79%
Category PMS	Low	27	24, 10%
	Medium	34	30,35%
	High	51	45, 55%

From the characteristics of respondents in the preliminary study it can be seen that most of the respondents experienced PMS in the weight category of 45.55%, followed by medium category of 30.35% and light category of 24.10%. The sample was divided into 2 groups, each consisting of 20 students with random division. These groups are:

1. Group A: Getting treated with turmeric therapy 50mg/day for 1 week before menstruation - 1 week after first day of menstruation
2. Group B: Not treated/got a placebo for 1 week before menstruation - 1 week after the first day of menstruation

The respondents were then randomly selected to enter the intervention group or control group. The intervention group consisted of 20 people and the control group also consisted of 20 people. All respondents followed the intervention until completion. Turmeric extract used by researchers is "Sari Kunyit" ready to use with the contents of 50 capsules and each capsule contains curcuminoid 100 mg.

The authors conducted a univariate data analysis to determine the intensity of PMS (Premenstrual Syndrome) symptoms in adolescent girls of grade X and grade XI National Senior High School I Gamping before and after given turmeric therapy and placebo with ratio scale of total score questionnaire. In addition, the researchers also conducted a bivariate analysis using Paired Samples T-test.

RESULTS AND DISCUSSION

Characteristics of Intervention Respondents

Respondents were high school students of N 1 Gamping class X and XI with age of 16 years with the distribution as shown in **Table 2**.

Table 2. Intervention Group Characteristics

Characteristics		Total of Respondent	Prosentase
Age (years)	15	11	18,33%
	16	32	53,33%
	17	17	28,33%
Class	X	37	61,67 %
	XI	23	38,33%

Characteristics of Respondents Intervention at most at the age of 16 years of 32 respondents (53.335), and they whom in class X are of 37 respondents (61.67%).

PMS Pre-Test and Post-Test Scores Distribution of PMS Frequencies of All Samples

Table 3. PMS Pretes and Postes Score Sample

Group	Average Total Score		Great Decline Skor	Sig. Pre dan Post
	Pretest	Postest		
Kunyit	52,80	42,30	10,50	0,00
Kontrol	53,00	53,00	0,00	1,00

From the data it is known that in the treatment group using turmeric there is a difference of mean total score of PMS which is significant between pre and post treatment with significance value 0,00. While in the control group, the mean pre and post treatment PMS score did not show difference with the significance value of 1.00. This suggests that the use of turmeric extract can reduce the symptoms of PMS.

The chemical components present in turmeric, curcuminoid or curcumin, are the most important contents because curcuminoid is the largest component in turmeric and is expressed in percent (8). From several studies in vitro and in vivo showed turmeric has anti-inflammatory activity, activity against peptic ulcer, antitoxic, antihypercipidemia, and anti-cancer activity. In terms of safety, turmeric extract is very safe to use for therapeutic dose although based on toxicity test research found that turmeric toxic effects on the human body. However, for daily use turmeric does not cause a negative impact because it has a very wide dose/range range (8).

According to the results of research conducted by Susilawati about the influence of turmeric boiling water on the intensity of primary disminhorea in adolescent girls, Show the result that there is influence of turmeric boiling water to decrease intensity of primary dysmenorrhoea in adolescent girl with result t table> t count, 7,86> 2 , 42. (9).

This research supports the research, that there is influence of turmeric boiling water to decrease dishmenorhea, but this research shows more definite result because of the similarity and consistency of dosage of turmeric extract used and this study see the effect of turmeric extract on the overall symptoms of PMS, not only to dishmenhorea.

Tests of anti-inflammatory activity of turmeric ethanol extract with carrageenan induction showed the presence of anti-inflammatory effect in which the average edema volume of mice per group of test substances was not as large as the volume of rat edema in the control group. Turmeric ethanol extract has anti-inflammatory potential. This is thought to be the effect of curcumin as one of the active ingredients of turmeric that can inhibit the formation of prostaglandins and suppress the activity of cyclooxygenase enzymes. Effective dose of turmeric ethanol extract of 1000 mg/kgBW with percent inhibition 78.37% (9).

Table 4. Difference in Pretest-Posttest Decrease by Type of PMS At Sample Research

Group	Tipe A	Tipe C	Tipe D	Tipe H
Kunyit	2,25	2,8	2,6	2,85

PMS type H (Hyperhidration) is characterized by symptoms of edema (swelling) of the stomach, abdominal bloating (Dismenhorea), pain in the breasts and an increase in body weight. The swelling occurs due to the gathering of water in the tissue outside the cell (extracellular).

Menstrual pain occurs due to the release of prostaglandin (PG) F2-alpha, which is a cyclo-oxygenation (COX) that can cause hypertonus and vasoconstriction in the myometrium resulting in ischemia. Also, PGE-2 contributes to primary dysmenorrhea. Where elevated PGF-2alfa and PGE-2 levels clearly increase pain during menstruation (10).

Curcumine will work in inhibiting the reaction of cyclooxygenase (COX-2) so that it inhibits or reduces the occurrence of inflammation so that

it will reduce or even inhibit uterine contractions. And curcumenol as an analgesic will inhibit the excessive release of prostaglandins through the uterine epithelial tissue and will inhibit uterine contractions, thereby reducing the occurrence of dysmenorrhoea (11). In addition, the influx of calcium ions into the calcium canal in uterine epithelial cells is inhibited by curcumin so that uterine contractions are also reduced. In addition, the content of tannins, saponins, sesquiterpenes, phlobotamins in the fruits of the acid affect the autonomic nervous system so as to calm the mind and reduce the psychic pressure (12).

This research allows explanation of the relationship between turmeric usage with decreasing symptoms of PMS especially PMS type H (Hyperhidration), because turmeric contains curcumin which is anti inflamasi, very appropriate for PMS type H, where in PMS type H happened pembengakakan/edema (13).

CONCLUSION AND RECOMMENDATION

There is an effect of using turmeric extract to reduce PMS with a t-test significance value of 0.000 between pre- and post-intervention. The type of PMS with the highest symptom reduction is in PMS Type H (Hyperhidration).

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ANALYSIS IMPLEMENTATION OF PATIENT SAFETY RELATED ENHANCEMENT QUALITY OF HEALTH CARE IN IBNU SINA HOSPITAL

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INTRODUCTION

Hospitals as health-care establishments that deal directly with patients should prioritize safe, quality, anti-discrimination and effective health services by prioritizing the interests of patients in accordance with hospital service standards (1). Patients as users of health services are entitled to their safety and safety during hospitalization (2). The development of the hospital has now undergone a transformation. The hospital industry is growing rapidly as regulations and laws supporting the investment climate and creating better business conditions and hospital services. Active business people in investing in the hospital industry in the country water in line with government efforts to provide health services to the community. Based on health profiles from 2013 to 2015. The increase in the number of hospitals has increased enormously with numbers reaching 2,488 with diverse holdings. This shows the increasing demand for health services. Thus each hospital is required to improve the quality of services in meeting the needs of these communities. In order for the hospital to achieve its goals, then the coordination function plays an important role in the process, so as to create optimal service quality for patients. Patient satisfaction in this case can be fulfilled if the service implementation pay attention to some principle, that is medical service, service officer and service cost (3). Important issues related to hospital safety (RS) are: patient safety, worker safety or health care workers, building safety and equipment in hospitals that impact on patient safety and personnel, environmental safety impact on environmental pollution, and safety of "business" RS related with RS survival (4).

Patient safety is a term that is currently quite popular in health services. Patient safety is a service effort that prioritizes on patient safety. Patient safety (patient safety) is a system where the hospital makes the patient's care more secure, prevent injuries caused by errors resulting from an action or not taking action that should be taken In Indonesia based on patient safety incident data published by KKPRS (Hospital Patient Safety Committee) there are 114 patient safety incident reports in 2009, 103 reports in 2010 and 34 reports in 2011 in the first quarter (5). The occurrence of patient safety incidents in a hospital will have a detrimental effect on the hospitals, staff and patients as service recipients arguing that the bad thing is the decreasing of the patient's level of trust in the health service (6).

The result of Dwiyanto's research entitled "the application of hospital by laws in improving patient safety in the hospital" reveals that the main purpose of patient safety is to prevent injury caused by the mistake of carrying out an action or not carrying out the action that should be taken (7). This can be achieved by improving the quality of medical services performed by all staff at the hospital. Improving the quality of services to be more effective and efficient can be done with the implementation of medical audits at the

hospital. Quality service quality and coupled with a high patient safety assurance will produce a good hospital image in the eyes of patients as a hospital customer. The value of patient safety is very important to apply and instilled in every member of the organization, because patient safety is fundamental. A good understanding of patient safety will make every member of the organization know what to do. These behaviors eventually become an implementation that is embedded in every member of the organization in the form of patient patient implementation Implementation. The purpose of this research is to analyze the effect of patient safety implementation on improvement of health service quality. With the specific objective to analyze the implementation of patient safety in Emergency Installation, Outpatient Installation, Inpatient Installation, HCU and ICU, Operation Room Installation, Kemotherapi, Kemotherapi, Radiology Installation, Laboratory Installation, Pharmacy Installation, Nutrition Installation, CSSD & Laundry Installation, Maintenance Installation of Medical Facility and Ambulance and Evakuator at Ibn Sina Hospital

MATERIALS AND METHODS

The type of research used in this study is cross sectional study, a design that examines the correlation dynamics between the independent variable (patient safety) and the dependent variable (improvement of health service quality) at the same time (analytic point of time approach) (8). The population in this study is all officers in the field of medical services and support with the total population is 402 respondents. This study was conducted at Ibnu Sina Hospital. The execution time is from March to May 2016.

The number of research samples is 304 respondents, where sampling in each subpopulation using cluster random sampling technique. Sources of data in this study are primary and secondary data. Primary data obtained from questionnaires distributed to all respondents complete with the answer. Whereas secondary data is obtained directly from related hospital documents and support for this research. Data collection tool in this research is questionnaire of patient safety implementation adopted from questionnaire of Hospital Survey on Patient safety Culture published by The Agency for Healthcare Research and Quality year 2004 (9). Data analysis was done in three parts: univariate, bivariate and multivariate analysis. Univariate analysis is analysis of percentage distribution of single variable that including general characteristic of respondent presented in frequency table of distribution

RESULTS AND DISCUSSION
Analysis of Patient Safety Implementation at Ibnu Sina Hospital

The frequency distribution of the patient safety implementation categorization at Ibnu Sina Hospital is classified as very weak, weak, moderate, strong, and very strongly presented in **Table 1.**

Table 1. Frequency Distribution Categorization of Patient Safety Implementation at Ibnu Sina Hospital 2016

Implementation of Patient Safety	f	%
Weak	11	0,49
Medium	39	15,69
Strong	224	71,57
Very Strong	30	12,25

Source: Primary Data Year 2016

Based on **Table 1.** Percentage of respondents who have very strong, strong, moderate and weak patient safety implementation is 12.25% (30 respondents), 71.57% (224 respondents), 15.69% (39 respondents) and 0.49 % (11 respondents). Based on these results it is known that most respondents ie 71.57% (224 respondents), are in the category of patient

safety implementation is quite strong, so it can be concluded that the implementation of patient safety at Ibnu Sina Hospital is strong.

The higher the patient's safety the better the quality of a hospital, when the patient is affected by the incident it will switch to another hospital, patient safety and hospital quality are positively correlated. Respondents also stated that patients who get safe service in the hospital will mengdongkrak customer feeding, patient dissatisfaction will greatly affect the quality or quality. This is also consistent with Mukti's theory which states that quality service is defined to what extent the reality of health services is provided in accordance with the criteria, the current standard of medical professionals, both of which have met or exceeded the needs and desires of customers with optimal efficiency (10). Building quality begins with the needs or desires of the customer and ends in the customer's perception. The increasing of patient safety management which manifest in decreasing of incidence level hence can be said better also quality of service in health service institution.

Management support and director of Ibnu Sina Hospital in improving patient safety implementation can be seen from the establishment of hospital safety committee, the holding of training related to patient safety, and the arrangement of safety system and operational standard of service appropriate with patient safety procedure, from the leadership of Ibn Sina Hospital is felt by the officers to contribute to the creation of patient safety implementation at Ibnu Sina Hospital. As for each installation, the implementation of patient safety is dominantly high. However, the installation of radiology implementation of patient safety is very high while the installation of Ambulance and Evakuator implementation of patient safety classified moderate.

Implementation of patient safety is high on the radiology installation due to good cooperation in the unit and between units in improving patient safety perceived radiology installation personnel. This is in line with Rachmawati's research which shows that teamwork has a positive and significant impact on the implementation of patient safety (11). The implementation of patient safety is classified as ambulance and evakuator due to lack of training on patient safety obtained by ambulance and evacuator. Training is an organized method to ensure that individuals have certain knowledge and skills in performing better job obligations and responsibilities (12).

Implementation of patient safety is an important thing because the implementation of patient safety is a way to build the patient safety program as a whole, because if we focus more on the implementation of patient safety it will produce more safety results when compared to only focus on the patient safety course (9). Building awareness of the value of patient safety, lead and support staff in the application of patient safety is an important part in creating a culture of patient safety (PMK No. 1691 Year 2011). Accordingly, Rachmawati points out that factors affecting the implementation of patient safety can be seen from the management level and organization level (11). Management level includes management perception about patient safety and management involvement in patient safety, while organizational level includes transformational leadership, human resources, patient safety committee leadership, safety supervisor leadership, clarity and regular work placement and process audit.

Implementation of Patient Safety at Ibnu Sina Hospital in every installation is quite strong can be seen with the percentage of the implementation of patient safety that is high is 72.7% can be seen in Table 2.

Table 2. Distribution of Patient Safety Implementation on Each Installation at Ibnu Sina Hospital Year 2016

Installation	Weak		Medium		Strong		Very Strong		Total	
	n	%	n	%	n	%	n	%	n	%
Emergency Installation	0	0	5	33,3	30	66,7	0	0	35	100
Outpatient Installation	0	0	3	16,7	15	61,7	4	22,2	22	100
Installation of Inpatient	0	0	9	16,4	44	72,7	6	10,9	59	100
HCU & ICU	0	0	0	0	18	92,9	2	7,1	20	100
Operating Room Installation	0	0	3	16,7	13	83,3	0	0	16	100
Installation of Radiology	0	0	4	10,0	0	0	12	90,0	16	100
Medical Record Installation	0	0	2	28,6	7	71,4	0	0	9	100
Chemotherapy	0	0	0	0	9	71,4	2	28,6	11	100
Laboratory Installation	0	0	2	8,3	13	75	7	16,7	22	100
Nutrition Installation	0	0	0	0	20	83,3	6	16,7	26	100
Pharmacy Installation	0	0	9	42,1	17	52,1	2	5,3	28	100
Installing CSSD & Laundry Installation	0	0	1	12,5	12	75	1	12,5	14	100
Maintenance Medical Facilities Hospitals (IPSRS)	0	0	2	11,8	10	70,6	3	17,6	15	100
Ambulance & Evakuator		9,1	10	90,9	0	0	0	0	11	100
Total	1	0,49	50	21,59	208	66,67	45	11,25	304	100

Source: Primary Data Year 2016

Based on **Table 2.** shows that almost all installations are in the category of patient safety implementations that are strong. However, if viewed based on percentage of Chemotherapy has the largest percentage of 100% with a very strong categorization. In addition, based on the number of respondents, the inpatient installation has the largest number of respondents, 44 respondents (72.7%), followed by emergency treatment, 33.3 respondents (66.7%) with strong categorization. As for the pharmaceutical installation of respondents are in the category is moving to strong with a percentage of 42.1% to 52.1%. Thus it can be concluded that Implementation of patient safety in every installation at Ibnu Sina Hospital is quite strong.

Description of Patient Safety Implementation Based on Dimension at Ibnu Sina Hospital

Improved quality and safety of patients interconnected, The higher the patient's safety the better the quality of a hospital, when the patient is affected by the incident it will switch to another hospital, patient safety and hospital quality are positively correlated. For implemetation of safety starch based on the dimensions can be seen in **Table 3.**

Table 3. Distribution of Categorization of Patient Safety Implementation Based on Dimension at Ibnu Sina Hospital Year 2016

Dimensions	Low		Medium		High		Total	
	n	%	n	%	n	%	n	%
Supervisor/Manager's Occupation and Safety Promotion Action	1	0,49	97	22,35	206	77,16	304	100
Organizational Learning and Continuous Improvement	5	1,47	55	12,26	244	86,27	304	100
Cooperation in Units	2	0,98	8	3,92	294	97,10	304	100
Openness of Communication	5	1,47	81	25	218	73,53	304	100
Feedback and Communication About Error	1	0,49	92	30,39	211	69,12	304	100
Management Support to Patient Safety	24	4,86	165	65,72	115	29,42	304	100
Staffing	65	12,71	207	96,47	32	8,82	304	100
Non-positive response to Error	0	0	99	38,73	205	61,27	304	100
Cooperation among Units	0	0	90	38,24	214	61,76	304	100
Shift Switch and Patient Switch	15	2,45	112	40,2	177	57,35	304	100
Overall Perception of Patient safety	0	0	206	76,14	98	23,86	304	100
Frequency of Event Reporting	56	12,75	74	36,27	174	50,98	304	100

Source: Primary Data Year 2016

Based on Table 3. shows that almost all dimensions of respondents are in high category. Dimensions of the respondents are in the high category with the largest percentage of 97.10% (294 respondents) is in the dimensions of cooperation in the unit. In addition, the overall perception of patient safety respondents was in the medium category with the percentage of 65,72% (165 respondents), 96,47% (207 respondents), and 76,14% (206 respondents) respectively. Thus it can be concluded that the number of respondents are in high category in almost all dimensions with the highest dimension found in the dimension of cooperation in the unit, while the dimensions of management support to patient safety, staffing, and overall perception about patient safety are moderate.

Stephen and Timothy said teamwork is a group whose individual efforts produce higher performance than the number of individual entries. Teamwork produces positive synergies through coordinated efforts (12,13). This has the sense that the performance achieved by a team is better than the perindividual performance in an organization or a company. Cooperation in units at Ibnu Sina Hospital which is high because of the sense of responsibility of the officers and the evaluation or monitoring of each patient safety program conducted by the Ibnu Sina Hospital. According to Baker et all team work is needed among medical teams to improve patient safety through reduction of errors due to teamwork between medical officers (14).

The dimensions of management support for patient safety, staffing, and overall perception of patient safety are classified as being due to individual factors or the officers themselves, such as the lack of awareness of officers to report any incidents occurring in the hospital. This is indicated by the implementation of blame is still there in the hospital environment, so officers tend not to report for fear of being scolded or do not want their friends scolded. Officers still

lack self-awareness in applying each patient safety program made by the hospital. In line with Rachmawati pointed out that individual or patriarchal factors are very influential on the implementation of patient safety, where factors related to indivitu in the form of self-awareness, workload, stress level, fatigue level, fear of blame, feelings of shame, and family or patient involvement (15).

Description Dimension Implementation of Patient safety on every Installation at Ibnu Sina Hospital

Implementation of patient safety is generally high in every installation at Ibnu Sina Hospital, except on the dimension of management support to patient safety, staffing, overall perception about patient safety, and staffing dimension is low in the operating room installation as well as with the reporting of incident is still classified. This is in line with the study of Hikmah at Fatmawati General Hospital which also shows that the dimension of response means to errors, staffing, overall perceptions about patient safety, and frequency of reporting of incidents on emergency room maintenance. Patient safety is the first priority in providing health care and nursing services in hospitals (16,17). Agnew et al stated that the application of safety culture manifests as a safety climate and is a portrait of the prevailing safety culture within individuals and groups, and can be measured by questionnaires (18). Patient safety is also the first critical step to improve the quality of service, as well as relating to the quality and image of the hospital. Patient safety is influenced by the sharing of interacting factors in the health system (19). Factors associated with the patient's health and safety system are health workers, the nature of work, the physical environment, the pooling factor of the system with various organizational factors or social environment and management

factors. Management factors include manpower, organizational structure, scheduling, resource availability, and commitment to quality. Recognizing something that is not good in an organization is an active potential of every member of the organization, this can be seen with a constant awareness of the patient's safety culture. Implementing a patient safety culture is a form of performance improvement by every member of the organization, such as acknowledging errors and willing to learn from those mistakes and willing to take appropriate action Discipline, adherence to standards, procedures and protocols, teamwork, honesty, openness, mutual respect are the values the basis to be upheld (20).

Implementation of Patient Safety in Efforts to Improve Quality of Service at Ibnu Sina Hospital

Improved quality and safety of patients interconnected, providing care of patients as needed, doctors, nurses, competent surgeons, competent human resources, tools according to patient needs, equipment support patient safety can improve the quality of service. The higher the patient's safety the better the quality of a hospital, when the patient is affected by the incident it will switch to another hospital, patient safety and hospital quality are positively correlated. Improved quality of medical services in hospitals conducted by mutual assistance by medical personnel, functional health staff by performing quality medical services (21). This is also consistent with the theory that quality service is defined to the extent to which the reality of health services is provided in accordance with the criteria, the current standard of medical professionals, both of which meet or exceed the needs and desires of the customer with an optimal level of efficiency (22). The system should be made in such a way that the officer is easy to do right and not easy to make mistakes

through technological support, teamwork, communication, qualified human resources, supervision, standardization of procedures and others (23).

Patient safety and hospital quality are closely related, this is shown based on interviews with respondents who said that the quality of hospital quality will result in the higher level of patient safety. Respondents also revealed that quality or quality is strongly influenced by quality and safe service and will have an impact on patient satisfaction (24).

CONCLUSIONS AND RECOMENDATION

Based on the result of the research, it can be concluded that the implementation of patient safety of Ibnu Sina Hospital is quite strong. Implementation of patient safety in every installation at Ibnu Sina Hospital is quite strong with installation which has a very strong patient safety implementation in pharmacy installation, while installation which implement patient safety that is in Ambulance and Evakuator. In addition, based on the dimensions, most of the dimensions of patient safety implementation at Ibnu Sina Hospital are high, with the highest dimension found in the dimension of cooperation in the unit, while the management support dimension to patient safety, staffing, and overall perception about patient safety is moderate. The implementation dimension of patient safety in every installation at Ibnu Sina Hospital is generally quite high, except in the dimension of management support to patient safety, staffing, overall perception about patient safety, and frequency of reporting of incident which are classified, even staffing dimension is low in installation operating room. This is in line with the expectations of Ibn Sina Hospital in building a commitment and a clear focus on patient safety is to take responsibilities of directors in the patient safety management system, the willingness of directors in launching

patient safety movement, quarterly reports are always reported to directors, direct discussion to the directors in the case of incidents with great reds and yellows, looking for root causes and looking for an outbreak of incidents to avoid recurrence, training for at least a coordinator in each section on patient safety.

It is advisable for the hospital to maintain and continuously improve the implementation of patient safety that has been required to increase individual awareness, evaluation, supervision, completeness of equipment and facilities in supporting the implementation of patient safety program. As well as carrying out routine meetings that discuss about patient safety conducted by the team and the coordinator of each section.

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THE RELATIONSHIP BETWEEN MOTHERS' PARTICIPATION IN MOTHER SUPPORT GROUP ((KELOMPOK PENDUKUNG IBU/KPI)) AND NUTRITION STATUS OF INFANTS AGE 6-12 MONTHS IN PUSKESMAS SANGKRAH WORKING AREA

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ABSTRACT

Background: *The Mother Support Group (KPI) aims to build joint activities to raise awareness about breastfeeding and best feeding for children in a participatory way to improve the nutrition of infants and toddlers. The purpose of this study was to analyze the correlation of maternal participation in the maternal support group with the nutritional status of infants aged 6-12 months in the working area of Puskesmas Sangkrah.*

Methods: *The type of this research is quantitative analytic with cross sectional approach. The population in this study were 352 mothers who had infants aged 6-12 months with a sample size of 204 people. Sampling used in this research is proportionate random sampling.*

Results: *The result of statistical test shows that there is no correlation between mother participation in KPI with infant nutrition aged 6-12 months (p = 0,345) in working area of Puskesmas Sangkrah.*

Keywords: Mother Support Group, infants' Nutritional Status

INTRODUCTION

The Mother-Support Group (KPI) is an important Surakarta City Government program to improve mother's knowledge of exclusive breastfeeding and exclusive breastfeeding practices. KPI aims to build joint activities in raising awareness about breastfeeding and feeding the best for children in a participatory way to improve the nutrition of infants and toddlers (1). The incidence of malnutrition status is still happening in Central Java Province. Based on data collection, during 2014 the number of malnutrition with body weight indicator according to height (BB / TB) was 3.942 children under five or 0.16%

percent of the total number of children under five in Central Java in 2014 (2). While in Surakarta City, nutrition status data of children under the age of 2014 was obtained from simultaneous weighing done in November 2014. The result of nutrient status measurement was found that there were no toddlers with malnutrition status (0%), while the prevalence of under-five children with less nutritional status was 2, 6% (3). Insufficient nutrition in infants can affect long-term complications and health problems, such as osteoporosis, cardiovascular disease, type 2 diabetes, respiratory problems, obesity and mental and emotional disorders. Complications

that occur due to overweight include: impaired liver function, pelvic development disorders, biliary disorders and early puberty (4). Based on preliminary study, secondary data obtained by researcher from Dinkes Surakarta found that Puskesmas Sangkrah has some problem related to nutrition status of toddler which is quite big compared to 16 other public health centers in Surakarta. The data of 2015 shows the highest number of LBW at the highest Sangkrah Public Health Center (65%), Gajahan Pukesmas (33 babies (6.4%) and Ngoresan Health Center (23%) (5.2%). Underweight (BGM) underweight in Puskesmas Sangkrah was 27 children (2.6%), Puskesmas Purwosari (19 children) (3.2%) and Puskesmas Banyuanyar 16 babies (1.7%). The number of underweight under 5 children (D / S) in Puskemas Sangkrah is below average (79,3%) that is equal to 67,9%. Many health problems exist in the Sangkrah Health Center about infants and pregnant women. Whereas in Puskesmas Sangkrah there are 11 Supporting Groups of Mothers who are active and hold meetings every month. The existence of KPI program is expected to reduce the incidence of malnutrition in toddlers but the fact of nutritional status or the occurrence of LBW is still quite high. Therefore, the researcher is interested to examine the relationship between mother participation in Maternal Support Group (KPI) with nutritional status of infant aged 6-12 months in working area of Sangkrah Public Health Center.

MATERIALS AND METHODS

The type of this research is quantitative analytic research with cross sectional approach. This research was conducted in the working area of Puskesmas Sangkrah, Surakarta. The population in this study were mothers who had infants aged 6-12 months at the time of study in November 2017, in the work area of Puskesmas Sangkrah, with secondary data as many as 352 people. Samples in this study were 204 respondents, with sampling technique used in this study is proportionate random

sampling. Data analysis used was univariate analysis and bivariate analysis. Test statistics with Fisher's Exact test on infant nutritional status.

RESULTS AND DISCUSSION
Characteristics of Respondents
Table. 1. Frequency Distribution of Application Characteristics of Respondents

Characteristics	Nutrition Status		Total
	Good f(%)	Less f(%)	
Aged			
15-19	3 (60,0)	2 (40,0)	5 (100)
20-29	100 (94,3)	6 (5,7)	106 (100)
30-39	73 (91,3)	7 (8,7)	80 (100)
40-45	12 (92,3)	1 (7,7)	13 (100)
Family Income			
<UMR	99 (90,8)	10 (9,2)	109 (100)
UMR	89 (93,7)	6 (6,3)	95 (100)
EEducation			
Elementary graduates	15 (83,3)	3 (16,7)	18 (100)
Middle School Graduates	35 (97,2)	1 (2,8)	36 (100)
High school Graduates	112 (91,8)	10 (8,2)	122 (100)
PT (D3-S3)	26 (92,9)	2 (7,1)	28 (100)
Other's job			
Housewife	129 (90,8)	13 (9,2)	142 (100)
PNS	1 (100)	0 (0)	1 (100)
Private sector workers	29 (93,5)	2 (6,5)	31 (100)
Entrepreneur	17 (94,4)	1 (5,6)	18 (100)
Others (buruh)	12 (100)	0 (0)	12 (100)

Source: Primary Data Year 2017

The number of respondents whose infant nutritional status are low are those who aged 30-39 years old (7 people), and with family income <UMR (regional limit of payment) as many as 10 people. Respondents who are graduates of senior high school are as many as 10 people while 13 people are dedicated housewife.

Univariate Analysis

Table 2. Frequency distribution of respondents based on the provision of nutritional status and maternal participation in the maternal support group

Nutrition Status	Frekuensi (f)	Persentase (%)
Good	188	92,2
Less	16	7,8
Total	204	100
Actively participated in the mother KP program	Frekuensi (n)	Persentase (%)
Actively	29	14,2
Not actively	16	7,8
Not follow	159	78
Total	204	100

Source: Primary Data Year 2017

Respondents who have good nutrition status as many as 188 people (92.2%), while respondents who have less nutrition status as many as 16 people (7.8%). Respondents who actively participated in the mother KP program were 29 people (14.2%), the respondents were not actively participating in the mother KP as many as 16 people (7.8%), while the respondents who did not follow the mother KP as many as 159 people (78%).

Bivariate Analysis

Table 3. Relationship between mother participation in maternal support group with infant nutritional status 6-12 months

Actively participated in the mother KP program	Nutrition Status		Total f(%)	*P value*
	Less f(%)	**Good f(%)**		
Not follow	11(7)	148(93)	159 (100)	
Not actively	1(6,2)	15 (94)	16 (100)	0,345
Actively	4(14)	25 (86)	29 (100)	

Source: Primary Data Year 2017

Table 3 shows that respondents who have good nutritional status and actively follow KPI were as many as 25 people (86,2%), respondents who have good nutritional status and inactivelly follow KPI were as many as 15 people (93,8%), whereas respondents who have less nutritional status and does not follow the KPI were as many as 11 people (6.9%). Based on the fisher's exact test, it was obtained p value = 0.345> 0.05, so it can be concluded that there is no relationship between mother participation in KPI with baby nutritional status in the area. There is no relationship because mother who does not follow KPI has higher percentage of babies with good nutritional status (93,1%) than mother who follow KPI (88,9%). The results of this study are in line with previous research which mentioned there is no effect of maternal support group on the behavior of breast milk and nutritional status of the children aged 6-24 months at Kasihan Health Center and Puskesmas Banguntapan, Bantul Regency (5). However, this study is not in line with previous studies which stated that there is a relationship between maternal participation level in posyandu with nutritional status of children under five, this means that mother who attend posyandu regularly will have toddler with good nutritional status (6). KPI participants are dominated by dedicated housewife. Housewives tend to time out or tend to be more at home but respondents have a forum for interacting and exchanging information such as RT gatherings, RT lectures, or gathering with neighbors during the day, so that the information and insights gained will increase. Result of repondent answer from 204 respondents were as many as 124 (60,8%) respondents gave their baby food by buying, and 80 (39,2%) respondents cook their own. Many respondents choose to buy food for their babies because the mother assumes that by buying food the baby's nutrition will be met well.

CONCLUSION AND RECOMMENDATION

Conclusion

1. There are 16 people (7.8%) mothers who have infant with lack of nutritional status and 159 people (77.9%) did not follow the KPI.

2. Mothers who participate in KPI yet have infants with lack of nutritional status are 4 people (13.8%).

3. There is no relationship between mother participation in the KPI with nutritional status of infants aged 6-12 months in the working area of Puskesmas Sangkrah 2017 (p value 0,345).

Recommendation

1. For Health Institution

All health workers need to improve counseling on the provision of nutritional status in infants 6-24 months of age. In addition to health workers must also work with cadres, community leaders for the renewal of material and regeneration of motivators related to the nutritional status of children.

2. For the Community

The community is more active to follow the activities of local cadres and community leaders, so that it is expected to increase the good knowledge and positive attitude related to the improvement of baby's nutritional status. Can increase motivation, support and intention in self supported with knowledge, thoughts, beliefs and emotions in a person is expected a positive attitude change.

3. For Other Researchers

Examining other variables such as media improvement in KPI, development of meeting materials in KPI, improvement of motivator performance, evaluation of KPI program, KPI data recording, with more specific sample and scope so as to improve the accuracy of research result.

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THE USE OF LONG-TERM CONTRACEPTION METHOD (MKJP) BASED ON THE ROLE OF CADRE AMONG REPRODUCTIVE WOMEN IN PUSKESMAS SEDAYU I BANTUL

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ABSTRACT

Background: The results of the Health Department of the Republic of Indonesia's survey showed that the population of Indonesia was 252.124.458 inhabitants. The problem in Indonesia is the growth of population that is relatively high relatively high population growth rate. Family Planning Program in Indonesia is relatively low that can be seen from the increase of CFR rate i.e. in 2007 by 61.4% and 2012 by 61.9%. By the year of 2014, there were 552.422 couples of childbearing age in DIY. The active participants of family planning was 438,788, and for long-term contraception method itself was low with the number of participants only 153.255.

Objective: To determine the use of long-term contraception based on the role of cadres among women of childbearing age.

Method: This research used quantitative descriptive. the sample was 48 respondents who used contraception at Puskesmas Sedayu I Bantul.

Results: The majority of respondents was 35-45 years old (47.9%). the majority of education level was SMA/SMK by 24 respondents (50.0%). The type of work was majority housewives by 42 respondents (87.5%). The largest number of contraception type used by long-term contraception participant was IUD (31.3%). The role of cadres about long-term contraception in women of childbearing age was in the good category is as much as 23 respondents (92%).

Conclusion: The use of long-term contraception based on the role of cadre in Puskesmas Sedayu I bantul was in good category.

Keywords: The Role of Cadres, Long Term Contraception, Women of Childbearing Age

INTRODUCTION

The population as the basic capital and the dominant factor of development should be a central point in sustainable development. Large populations of low quality and rapid growth will slow down the achievement of ideal conditions between the quantity and quality of the population with environmental carrying capacity and environmental capacity (1). Based on the population growth projected data, it can be estimated that the world population growth is quite rapid, where the population in the world increased by almost one billion people in twelve years. The development of Indonesia's population is ranked as the 4th largest population in the world after China, India and America (2).

Indonesia is a developing country with a population of 252,124,458 people. The

problem in Indonesia is the relatively high rate of population growth. Mid-population estimation (2013) was 248.8 million people with population growth rate of 1.48% (3).

One of the government programs to reduce the number of residents was by raising the Program of Family Planning (KB) (3). The National Family Planning Program has an important contribution in improving the quality of the population. One effort to address the population is through the control of factors affecting the population's main rate. One of the ways to reduce population growth is by doing Family Planning Program to control fertility (4).

The development of Family Planning (KB) program in Indonesia is still not encouraging. This can be seen from the increase of Contraceptive Prevalence Rate (CFR) in 2007-2012, from 61.4 in 2007 and 61.9 in 2012, there was a decrease of unmet need of the result of SDKI (Indonesian Demographic and Health Survey) from year to year that have not reached RPJM (Medium-Term Development Plan) target. Based on World Health Statistics data in 2025, when compared with other ASEAN countries, the use of family planning in Indonesia has exceeded the average. But the figure is still lower than Vietnam, Cambodia, and Thailand (4).

Based on data from Family Planning Worldwide, the number of WUS (Women Of Child-Bearing Age) in Indonesia is the highest among other ASEAN countries. In other words, we still have to increase the number of Contraceptive Prevalence Rate (CPR) in Indonesia. Therefore, an active participation of all health workers, whether located at central, regional, and health service units in increasing the use of family planning is needed (5). Factors that affect the participation of family planning consist of knowledge, education, number of children, family support, income , work, and religion (6). Factors affecting the use of birth control can occur at various ages, both at young reproductive age and old reproduction age, but

the most are women aged > 35 years old. They assume that the age is not in a reproductive period anymore and consider themselves as too old that the possibility for pregnancy is very small (7).

Family Planning participants in using long-term contraceptive methods (MKJP) are strongly influenced by communication networks in disseminating family planning programs, low participation of community roles from both cadres and community leaders (7). Therefore, to increase community participation to Family Planning (KB), KB cadres play a role in increasing the use of family planning, especially the use of MKJP (8). KB cadres as local residents are very close to the community because they are elected and reviewed by the community and can work voluntarily, willing to participate in and manage Family Planning (KB) activities in the village. KB cadres play a role in improving the community's ability to achieve optimal health (9).

Based on data obtained from National Family Planning Board of Special Region of Yogyakarta (BKKBN DIY) in 2015, the number of family planning participants (KB) were 76,261, where as many as 30,836 were injection family planning participants, 6,157 were IUD (Intra Uterine Device) participants, 3,333 were implant participants, 9.74 were condom participants, 25,456 were pil participants, 6,157 were MOW (Woman Operative Method) participants. Based on data above, the use of family planning in 2015 is a new family planning program that uses family planning non-long-term contraceptive methods (MKJP) of (559.13%) of all new family planning participants (10).

Provincial Health Office data of Special Region of Yogyakarta, Bantul Regency in 2014 mentioned that IUD family planning participants in Special Region of Yogyakarta were also low compared to injection family planning users (10).

Based on the results of the preliminary study at Puskesmas Sedayu I Bantul, most of KB acceptors said that they were not given counseling by KB cadres about Long Term Contraception Method.

The purpose of this study was to determine the use of long-term contraception based on the role of cadres in women of child-bearing age (WUS) at Puskesmas Sedayu I Bantul.

MATERIALS AND METHOD

The type of this research is descriptive quantitative. The population of this study were all family planning acceptors who visited Puskesmas Sedayu I Bantul, as many as 90 people based on the last 3 months data from November to January 2017 with a total sample of 48 KB acceptors. The sampling technique for this study is accidental sampling with mothers who use KB as inclusion criteria. The instrument used is a questionnaire that the validity and reliability has been tested.

RESULTS AND DISCUSSION
1. Respondent Characteristics

Table 1. Respondent Characteristics

Respondent Characteristics	Frequency		Total	
	F	%	F	%
Age				
< 25 Years	6	12.5	48	100
25- 35 Years	18	37.5		
35- 45 Years	23	47.9		
> 45 Years	1	2.1		
Education				
Elementary School	9	18.8	48	100
Junior High School	10	20.8		
Senior High School/ Vocational High School	24	50.0		
D3	5	10.4		
Occupation				
Housewives	42	87.5	48	100
Farmer	1	2.1		

Respondent Characteristics	Frequency		Total	
	F	%	F	%
Teacher	1	2.1		
Enterpreneur	1	2.1		
Private Worker	3	6.3		

Source: Processed Primary Data (2017)

Based on the table above, it showed that most respondents was 35-45 years old, with the frequency of 23 people (47.9%), had high school education, with the frequency of 24 people (50%), and mostly as housewives, with the frequency of 42 people (87.5%) .

2. The Use of Long-Term Contraception on Women with Child-Bearing Age (WUS) in Puskesmas Sedayu I Bantul.

Table 2. Frequency Distribution Based on The Use of Long-Term Contraception on Women with Child-Bearing Age (WUS) in Puskesmas Sedayu I Bantul

The used KB	F	%
MKJP	25	51,1
Non-MKJP	23	47,9
Total	**48**	**100**

Source: Processed Primary Data (2017)

Based on the table, it can be seen that most respondents, which was 25 respondents (51.1%), used KB MKJP, and as many as 23 respondents (47.9%), used KB Non-MKJP type.

Factors that caused a person not to be a participant were family planning services that were still less qualified, limitations of contraceptives, delivery of counseling and communication, information, and education which had not been implemented properly, cultural barriers. The less the knowledge of the respondents about long-term contraception, the lower the use of long-term contraception compared to respondents with good knowledge. Because the good knowledge of certain contraceptive methods would change

the acceptors' perspective in determining the most appropriate and effective contraception to be used, so as to make KB users became more comfortable with the contraception. A good knowledge of contraceptives could avoid the mistake in choosing the most appropriate contraceptive (11).

According to BKKBN (2009), Long Term Contraceptive Method was a contraceptive that could be used in the long term, more than 2 years, effective and efficient for the purpose of making birth or ending pregnancy or did not want to have another child. The higher the respondent's education, the higher the respondent's knowledge on the benefits of using MKJP. The statement was supported by Amelia's (2016) study which stated that knowledge factors significantly influenced the respondents in using MKJP (12).

3. Cadres' Role about The Use of Long-Term Contraception

Table 3. Cadres' Role about The Use of Long-Term Contraception in Puskesmas Sedayu I Bantul

Cadres' Role	F	%
Poor	10	20,8
Good	38	79,2
Total	**48**	**100**

Source: Processed Primary Data (2017)

Based on table 3, it was shown that most of the role of cadres in the use of long-term contraception at Sedayu 1 Community Health Centre was in good category, that was as much as 38 people (79.2%).

Cadres played a role in mobilizing the community to give influence in the community to behave as desired, doing counseling, either individually or in groups and monitoring by visiting or during *Posyandu* (integrated service post) activities. By providing services

in Community Health Centre through *Posyandu* activities and direct visit to the house, the framework of applying the KB values was helpful to the community in conducting family planning in an easy and directed manner (9).

Cadre also served as a motivator to encourage couples of child-bearing age to use contraception. Cadres should be able to provide an explanation of the various contraceptive methods that meet the needs of the respondents. The ability to communicate information is very important for a cadre (13).

Government policy in the success of family planning, cadres had a major role as a driver in realizing family planning (14).

4. The Use of Long-Term Contraception Based on The Cadres' Role

Table 4. The Use of Long-Term Contraception Based on The Cadres' Role

Cadres' Role	Penggunaan KB					
	MKJP	%	Non MKJP	%	Total	%
Good	23	60.5	15	39.5	25	100
Poor	2	20	8	80	23	100
Total	25	52.1	23	47.9	48	100

Source: Processed Primary Data (2017)

Table 4 showed that the better the role of cadres in using long-term contraceptives, the more the chance of the respondents that would use long-term contraceptives. Most of the respondents who used IUD contraception showed that the cadres played a good role in using IUD contraceptive information, as much as 23 respondents (60.5%).

KB cadres played a role to promote and provided information about family planning. It can be interpreted that a good cadre was a cadre that had motivation to help the community voluntarily, by providing and conveying

information about MKJP contraception, so that it was expected to influence the community to use MKJP (12).

Cadres were very influential in community decision making on the use of safe and convenient contraception. So it can help the planned KB program of fertile husband and wife couple. The use of MKJP in the community needed more socialization from health workers, especially midwives, and must approach the cadres and community leaders to socialize about the use of long-term contraception.

One of the factors that caused the cadres to have a good role in providing services was the community's trust. Trust was one of the predisposing factors that influenced a person's behavior. Then the possibility with trust would affect the role of the cadre (15).

In acceptance and use of MKJP, aside for factors from the role of the health officer or cadre, the individual also played a role in receiving information and determining the type of family planning that he/she would use (16).

CONCLUSION AND RECOMMENDATION

It can be concluded that most women of child-bearing age (WUS) in Sedayu 1 Community Health Centre used long-term contraception. Most respondents using long-term contraceptives showed a good cadre role. Based on the results of the study, the authors provided advice that there is a need for increasing long-term KB method information by increasing the competence of both midwives and cadres with appropriate and interesting methods, so that respondents can easily accept and are willing to use long-term contraception.

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DESCRIPTION OF THE ROLE OF SOCIETY IN TORCH EARLY DETECTION ON WOMEN OF CHILDBEARING AGE IN SEDAYU COMMUNITY HEALTH CENTRE WORKING AREA

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ABSTRACT

Background: TORCH infection is one cause of mothers and babies mortality in Indonesia. One of the infections in pregnant mothers is TORCH. When pregnant woman is infected with TORCH, during pregnancy she will pass on infection to conceived fetus through placenta umbilical cord and cause infection, conceived fetus may be miscarriaged or born with some physical or nonphysical disability. Women of childbearing age (Wanita Usia Subur – WUS) is women group with most vulnerability against TORCH infection before or after pregnancy. Thus, it is important to do screening or early detection of TORCH before WUS prepared their pregnancy. To encourage WUS behaviour to conduct early detection, there is necessary driving factor like support system from the closest environment and related parties.

Objectives: To understand the role of society in TORCH early detection on women of childbearing age in Sedayu Community Health Center. The role of society can be seen from the role of health workers, volunteer, and family in early detection of TORCH on women of childbearing age.

Methods: This study is quantitative study using quantitative descriptive method. Population of the study is WUS which are recorded at Sedayu Community Health Center I in the last three month from December 2016 to February 2017 that counts 195 pregnant women.

Results: Characteristics of respondent are predominantly of age 26-35 years as much as 38 respondents (57.6%), with High School education level as much as 49 respondents (74.2%), and respondent occupation as housewife as much as 45 respondents (68.2%). The role of health workers in conducting early detection of TORCH is predominantly in good category (51.5%). The role of health volunteer at Sedayu Community Health Center I is predominantly in good category (63.6%). The role of family in TORCH early detection is predominantly in sufficient category (40%).

Conclusions: The role of health workers in conducting TORCH early detection on WUS at Sedayu Community Health Center I is in good category (51.5%). The role of volunteer at Sedayu Community Health Center I Bantul Regency, Yogyakarta is predominantly in good category (63.6%). The role of family in TORCH early detection is predominantly in sufficient category (40%).

Keywords: Role Of Society, Early Detection, TORCH

PREVENTING POSTPARTUM HAEMORRHAGE BY MIDWIVES IN BANTUL DISTRICT

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ABSTRACT

Background: Postpartum haemorrhage is bleeding up to 500cc or more of blood volume after completion of stage III (after birth placenta). Maternal Mortality Rate due to postpartum hemorrhage occurs in many health services. One of contributing factors is health officer behavior in preventing postpartum haemorrhage. Prevention of postpartum hemorrhage showed as midwife's action in performing third stage of active management in childbirth process.

Objectives: Identifying midwives behavior in preventing postpartum haemorrhage.

Methods: The study included as descriptive analytic study with cross sectional design. Sampling technique using probability sampling with cluster sampling which involved 68 midwives. The instrument to collected data used a questionnaire which asked about prevention knowledge towards postpartum haemorrhage, action to preventing postpartum haemorrhage and observation sheet of 3rd stage active management action to see postpartum bleeding prevention behavior in midwives.

Results: There was a correlation between knowledge with midwife behavior in preventing postpartum hemorrhage (p value 0.012). Attitude and midwife behavior in doing prevention for postpartum haemorrhage did not showed correlation (p value 0,289).

Conclusion: Factors related to prevention behavior towards postpartum haemorhage is knowledge

Keywords: Knowledge, Attitude, Behavior, Postpartum Haemorrhage

INTRODUCTION

Maternal Mortality Rate (MMR) is indicator of maternal health in Indonesia. MMR in Indonesias is higher than another country in South-East Asia. MMR in Singapore was 6 per 100.000 live birth, Malaysia was 160 per 100.000 live birth, Philipine was 112 per 100.000 live birth, Brunnei was 33 per 100.000 live birth while MMR in Indonesia was 228 per 100.000 live birth (1). MMR in Indonesia showed rising since 2007. MMR in Indonesia on 2007 was 228 per 100.000 live birth and raised on 2012 amounts 259 per 100.000 live birth (2).

The leading factor of maternal death related to obestetry process such as bleeding 28%, pre-eclampsia and eclampsia 24%, infection 11%. Indirect factors such as obstetric trauma 5% and others 11% (3).

Postpartum hemorrhage (PPH) is bleeding with blood volume ejected reaches 500cc or more after completion of the third stage (after delivery of the placenta). Type of PPH divided to early hemorrhage when occured on 24 hours after birthing and latest hemorrhage when

occured after 24 hours after birthing. Maternal deaths due to PPH occur in health care, which the cases is closely related to the behavior of health workers in conducting postpartum haemorrhage (4). Most of maternal mortality occured in developing country due to lack of health worker's ability to and medical equipment as prevention of postpartum haemorrhage. Providing vocational training to the midwives were needed to improving competence on carried postpartum haemorrhage (5).

According to the health profile of Bantul District (2014), Bantul hal a maternal mortality rate caused by postpartum hemorrhage that has increased in the last three years. In 2012 there are two cases of postpartum hemorrhage, in 2013 seven cases and in 2014 there are 28 cases. The incidence of postpartum hemorrhage is closely related to the role of midwives in preventing postpartum hemorrhage. With that researchers want to conduct research on the behavior of midwives in the prevention hemorrhage *of postpartum* in the Bantul District. The purpose of this study to determine the prevention behavior of postpartum hemorrhage by midwives in Bantul.

MATERIALS AND METHODS

Study was conducted during October until December 2016 in Public Health Center (PHC) included Banguntapan II, Pleret I, Bambanglipuro, Sanden and Imogiri I. Type of study was descriptive analytic by cross sectional design. Sampling techniques used probability sampling with cluster sampling amounts 68 midwives involved the study.

Collecting data in this study using questionnaires knowledge, attitude questionnaires and observation sheets to see a midwife's actions in conducting active management of the third stage as a precaution postpartum hemorrhage. This observation was made by a research assistant. A research

assistant nurse at the health center who helped the delivery process.

RESULT AND DISCUSSION

Result

Table 1. shows the Characteristics of survey respondents is all midwives working in Banguntapan II health centers, Imogiri I, Bambanglipuro, Sanden and Pleret I. Characteristics of respondents in this study consisted of 1) Age; 2) Education; 3) Work Period; 4) Training followed. Based on this result that on average respondents aged 36-45 years is 31 midwives (45.56%), with as many as 53 midwives D3 (70.95%) and has been training more than once as many as 53 midwives (77.95%).

Table 1. Results of The Characteristic Distribution of Respondents by Age, Education, Length of Employment and Training

No	Characteristic	Frequency	
		N	%
1	Age		
	a. 26-35 year	18	26.47
	b. 36-45 year	31	45.59
	c. 46-55 year	18	26.47
	d. 56-65 year	1	1.47
2	Education		
	a. D1	7	10.29
	b. D3	53	77.95
	c. S1/D4	8	11.76
3	Work Period		
	a. ≤ 5 year	0	0
	b. 6-10 year	21	30.88
	c. 11-15 year	16	23.52
	d. 16-20 year	13	19.12
	e. >20 year	18	26.48
4	Training		
	a. < 1x Training	15	22.05
	b. >1x Training	53	77.95

Table 2. shows the relationship of knowledge to the behavior of midwives in the prevention of postpartum haemorrhage in public health center of Banguntapan II, Pleret I, Imogiri I Bambanglipuro and Sanden. From these results showed that 8 (11.7%) had less

behavior despite knowledge of midwives in both categories, while there are 29.4% of the midwives have less knowledge but the result of good behavior. The test results obtained p value <0.05 is 0.012. The conclusion of the tests conducted there is a relationship with a midwife's behavior in the prevention of postpartum haemorrhage. In table 2 shows the relationship of attitude to the behavior did not shows any relation with behavior of prevention of postpartum hemorrhage. This is evidenced by the p value> 0.05.

Table 2. Chi Square Test Results Factors That Influence Midwife Behavior in Preventing Postpartum Haemorrhage in PHC Of Banguntapan II, Pleret I, Imogiri I Bambanglipuro and Sanden September-December, 2016 (N =68)

		Behavior				OR	p value
		Good		Less			
		N	%	n	%		
Knowledge	Good	2	5	8	28.5	0.132	0.012*
	Less	38	95	20	71.5		
	Total	40	100	28	100		
Attitude	Good	33	82.5	26	92.8	0.0363	0.289
	Less	7	17.5	2	7.2		
	Total	40	100	28	100		

significant p<0.05 (Chi Square)

Discussion

Postpartum hemorrhage was the leading factor of maternal death in most of developing countries. Generally, postpartum hemorrhage (PPH) was defined as bleeding with blood volume ejected reaches 500cc or more during 24 hours before birthing. Serious PPH was defined as bleeding with blood volume ejected reaches 1000cc or more during 24 hours or more (5).

To reduce the number of deaths fromhemorrhage, *postpartum* collaboration between communities, LSM, governments and health care providers with memasyikan that health workers have the skills that good,

especially in rural areas with access to adequate health [6.]In addition to skills, health workers must also have knowledge of *PPH* so that it can perform with good prevention (6).

Based on the results of research show that there is a correlation between the level of knowledge of the behavior of midwives in prevention of postpartum hemorrhage. FIGO Guideline. FIGO Guideline (2012) (5,7), stated that the need to provide materials related to prevention of postpartum hemorrhage in health care workers who do aid delivery so as to improve the knowledge of midwives in the prevention of postpartum hemorrhage. Improved knowledge is related to attitude.

The states that the need to provide material related to prevention of postpartum hemorrhage in health workers who do help delivery so as to increase the competence of midwives in preventing postpartum hemorrhage (8). This is the same line with research by Moni. This research was conducted in RS Muhammadiyah Yogyakarta, the result of this research mentioned that the knowledge of nurse influence the behavior of nurse with p value 0.001 and odds ratio 7.2 (9).

Based on the research showed that there was no relationship between attitude and behavior of midwives in the prevention of postpartum haemorrhage. According based on research shows that there is no relation between attitude and behavior of midwife stated that potency of positive attitude toward behavior can be changed by way of improvement of education or improvement of knowledge of postpartum hemorrhage (8).

CONCLUSION AND RECOMENDATION

Knowledge has significant relationship with prevention behaviour of post partum bleeding by midwives in Bantul. For further research, it is suggested to conduct postpartum hemorrhage prevention behavior research by observing

the action more than one observation, so that midwife behavior can be seen.

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IMPROVEMENT OF EXCLUSIVE BREASTFEEDING ASSEMBLY SUCCESS THROUGH YOUNG WOMEN EMPOWERMENT IN KLUNGKUNG REGENCY, BALI PROVINCE

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ABSTRACT

Background: *Empowerment of young women is the right solution to assist the implementation of increasing knowledge of young pregnant mothers in breastfeeding, then it will increase exclusive breastfeeding coverage. This is proved in the Research of "Sekaa Teruni" (teenagers traditional organization). Empowerment in improving the knowledge of pregnant mother about Breastfeeding in Klungkung Regency (Ida Ayu, 2014), it stated that increasing knowledge about breastfeeding in pregnant women who have been accompanied by "sekaa teruni" previously only 1, 7% have good knowledge, then 16,7% have good knowledge after facilitation.*

Objectives: *This study aim to know the empowerment of young women in increasing coverage of exclusive breastfeeding in Klungkung regency, Bali Province.*

Methods: *This research used breastfeed mother in Klungkung Regency as samples. Intervention was done by the young women who have been trained to assist breastfeed mothers. The experiment was conducted by One Group Pre-test - Post-test Design and performing one pre-test before treatment and post-test. The research was conducted in Klungkung Regency in June 2015 - June 2016.*

Results: *The results showed that there was a difference between before and after young women assist exclusive breastfeeding coverage. The coverage of exclusive breastfeeding was 68,45% to 89,1%.*

Conclusions: *Young women empowerment with training on breastfeeding and mentoring to breastfeed mothers may increase coverage of exclusive breastfeeding in Klungkung Regency, Bali Province*

Keywords: *Exclusive Breastfeeding, Breastfeed Mother, Young Women, Empowerment*

INTRODUCTION

Breast milk contains immunity, anti-infective substances, immunoglobulin A, Lactoferrin, Lysozyme, and when given the baby will have resistance to good disease. The infant also contains all the nutritional value needed by the baby. When breastfeed the inner relationship between the baby and the mother is established, this continues to influence the infant's growth (1).

Indonesia has lack of number women in

breastfeed practice, people still often assume that breastfeeding is only a matter of mother and baby. A breastfeed mother is always advised not to live stress, because stress can affect milk production, so the Oxytocin hormone can not excrete breastfeeding optimally. The lack of exclusive breastfeeding in Indonesia causes the baby to suffer from malnutrition. The role of the family towards exclusive breastfeeding is very important, especially on the motivation, perception, emotion, and attitude of the mother in breastfeeding her baby. Therefore, the government made a national breakthrough to mobilize all members of Indonesian society, especially mothers with family motivation in giving breast milk alone for 6 months to the baby (2).

Practice of exclusive breastfeeding in large cities continues to decline, a survey conducted in 2002 by Nutrition and Health Surveillance System (NSS) in collaboration with "*Balitbangkes*" (Research and Development Institution of Indonesia) and Helen Keller International (HKI) in 4 urban and 8 rural areas showed that Exclusive Breastfeeding 4-5 month in urban areas between 4% -12%, while in rural 4% -25%, exclusive breastfeeding 5-6 months in urban range between 1% -13%, while in rural 2% -13% (3). Based on data from NSS in cooperation with "*Balitbangkes*" and Helen Keller International the problems in low practice of breastfeed in Indonesia are socio-cultural factors, awareness of the importance of breastfeeding, health services and health workers who have not fully support "PP-ASI" (government regulation in exclusive breastfeeding), incessant promotion of milk and working mothers (2).

The coverage of exclusive breastfeeding in infants up to 6 months decreased from 28.6% in 2007 to 24.3% in 2008 and increased to 34.3% in 2009 (2). As of the coverage of 6 months exclusive breastfeeding in 2014 in Bali Province is 61.3%, Klungkung Regency is 68.45%,

Klungkung District 67.78% is still below the target of 70%. Young women empowerment is an appropriate solution to assist in the implementation of increasing knowledge of pregnant women and postpartum mothers in breastfeeding so as to increase exclusive breastfeeding coverage. This has been proven in the study of "*Sekaa Teruni*" Empowerment in improving the knowledge of pregnant mothers about Breastfeeding in Klungkung District where there is an increase of knowledge about breastfeeding to pregnant women who have been accompanied by "*sekaa teruni*" previously only 1, 7% have good knowledge then 16,7% have good knowledge after facilitation (4). Based on the background, researchers are interested to conduct research by examining whether empowerment conducted by young women who have been trained to increase coverage of Exclusive Breastfeeding in Klungkung Regency, Bali Province.

MATERIALS AND METHODS

The type of this research is observational research with One Group Pre-test - Post-test Design and performing one measurement on each group before pre-test and before treatment (again) -test). The research was conducted in Klungkung Regency in June 2015 - June 2016. The population was all pregnant women in trimester 3 which is recorded in Klungkung Sub-district, Klungkung Regency. While the sample is pregnant women in trimester 3 who get mentoring by young women who have received training on breastfeeding.

The sample size is determined based on the quota of each village is 2 pregnant women in trimester 3. In Klungkung District there are 18 traditional villages then the number of young women who accompanied 2 pregnant women is 18 people. This young women will accompany pregnant women who are in their "*Banjar*" area and each village. A young woman who

was selected as accompanist to accompany 2 pregnant women in trimester 3 for 7 months until the mother gave birth and breastfeeding. The total sample of pregnant women amounted to 36 people. Data collected then grouped according to the purpose, tabulated and narrated. The difference in coverage of exclusive breastfeeding before and after counseling was analyzed by t-test statistic test.

RESULTS AND DISCUSSIONS RESULTS

The sample in this research is pregnant women in trimester 3 which is in Klungkung District. Pregnant women in trimester 3 were accompanied by young women until 7 months after giving birth. There were 36 pregnant women in trimester 3 selected as the samples.

a) Age

Based on the age of most pregnant women between 20 - 30 years old (58.3%), aged> 30 years 12 people (33.3%), <20 years old 3 people (8.3%)
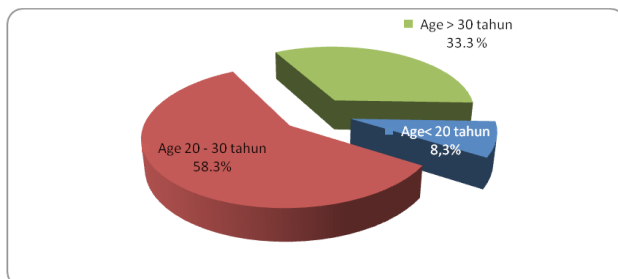
Figure 1. Distribution of Pregnant Women's Age

b) Education
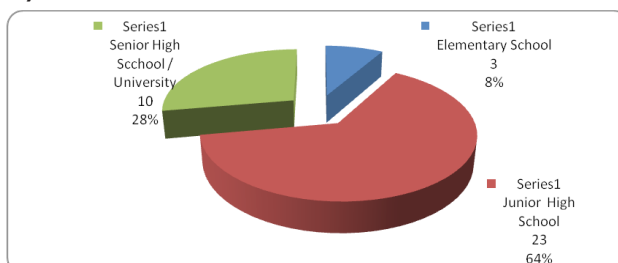
Figure 2. Recent Education Distribution of Pregnant Women

Most of the pregnant women have junior high school education as many as 23 people

(63.9%), graduated from high school/university as many as 10 people (27.8%) and as many as 3 people (8.3%).

c) Work

Based on work, 11 people (30.6%) of pregnant women work as private and civil employees, 9 people (25.0%) as Traders and 16 people (44.4%) work as Housewives.
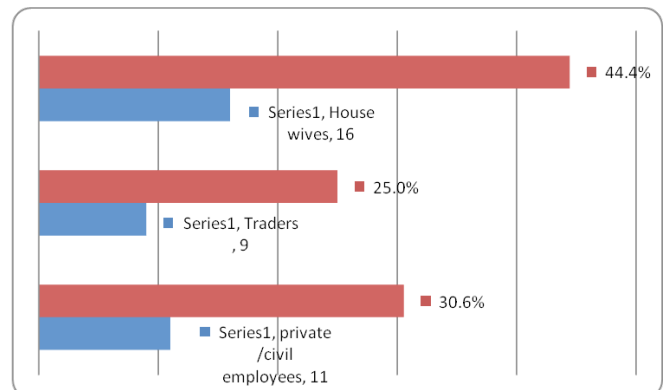
Figure 3. Distribution of Pregnant Women in Work

Parity

Maternal parity also affects postpartum knowledge, attitude and behavior about breastfeeding. According to 36 pregnant women there are 1st pregnancy of 27.8%, 2nd pregnancy of 36.1%, 3rd pregnancy of 30.6% and 4th pregnancy of 5.6%. When depicted in the diagram look like in the figure below.
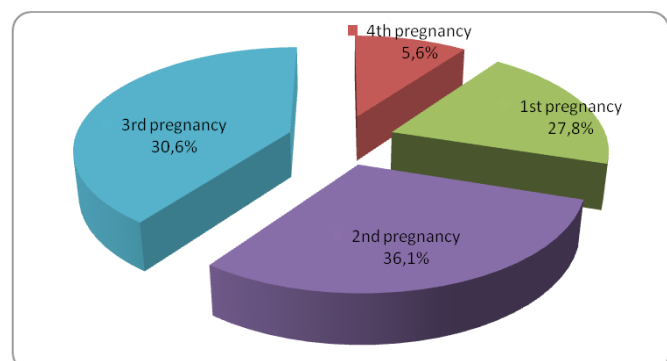
Figure 4. Pregnancy/Parity Distribution

Mother's Knowledge of Breastfeeding

The level of pregnant mother's knowledge about breastfeeding before and after receiving assistance from young women can be described

in the table below before getting mentoring, most of pregnant women lack of knowledge about breastfeeding, that is 33 people (91,7%), whereas after get a little mentoring there was a change, meanwhile no mother with good knowledge before facilitation and after mentoring it decreased to 3 people (8.3%). But the number of mothers with less knowledge is still a lot of 28 people (77.8%). After analyzed with Paired t-test obtained p <0.05 which means there is a significant difference in the level of knowledge of pregnant women before and after mentoring. Paired t-test result obtained p <0,05 which means there is difference of attitude of postpartum mother before and after accompaniment by young women.

Breastfeeding behavior of mothers is the result of observation from young women who do mentoring, it measured based on observation guidelines that have been prepared. After mentoring the behavior of breastfeeding mother 63,9% good, 27,8% enough and 8,3% attitude still less.
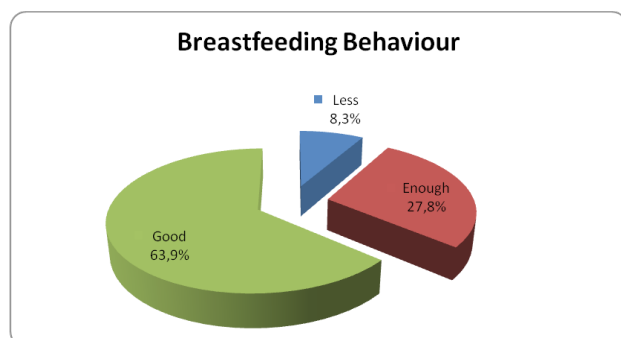
Figure 5. Distribution of Postpartum Breastfeeding Behavior

Young Women Empowerment

Young women empowerment was measured by changes in knowledge, attitudes and skills of mothers in breastfeeding (5). The impact of the empowerment is the increasing coverage of mothers who want to breastfeed their babies and the occurrence of the early breastfeeding initiation process. Based on mentoring conducted by young women and researchers conducted approximately for 7 months then Exclusive Breastfeeding achievement reached 86.1%.

As for the impact of empowering "*sekaa teruni*" in accompaniment of pregnant mother happened increase of exclusive breast feeding by mother which have been accompanied by young women describes in figure 6.
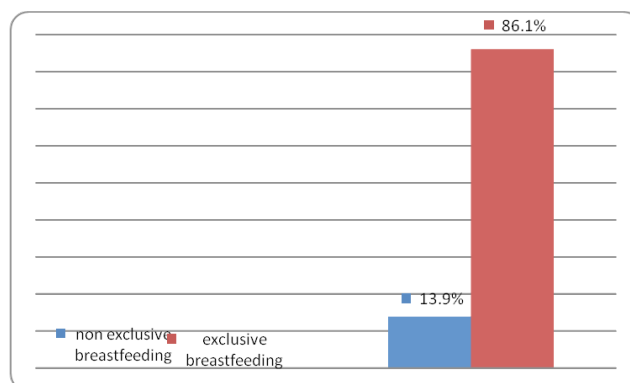
Figure 6. Exclusive Breastfeeding in Klungkung Regency, Year 2016

Figure 6 shows that most pregnant women who have been accompanied by eligible teenagers/young women achieving exclusive breastfeeding reached 31 mothers (89.1%) exclusively breastfed and exceeded the national target of 80.0%, while mothers who did not exclusively breastfed their infants 5 people (13.9%).

DISCUSSION

Based on the result of Paired statistic test t-test p <0,05, there is a significant difference of knowledge level of pregnant mother about breastfeeding before and after mentoring by young women, this is caused by several factors, one of the factors is education level of pregnant mother mostly 23 samples (63.9%) graduated from junior high school, although it is because of the assistance of young women who have been trained and accompany the pregnant women with the frequency of visits at least once a week, so that pregnant women are motivated to follow suggestion and perform according to

the ones listed in the pocket book that have been distributed by young women during the first visit.

Based on the result of statistical analysis test of Paired t-test p <0.05, there was found significant difference of attitude of pregnant women before and after mentoring by young women because of maternal factors, knowledge level of pregnant mother about breastfeeding increased because accompanied by young women who have obtained training and mother understand the contents handbooks provided and support from families for breastfeeding. Based on age of 21-30 years old, 21 persons (58.3%), and pregnant and lactating mother's job as Trader and 16 people (44.4%)

The distribution of breastfeeding behavior was measured by looking at breastfeeding skills, where 63.9% is good, 27.8% is sufficient and 8.3% is still lacking. This is due to 36 postpartum mothers who are 1% pregnancies 27.8%, pregnancy to 2 for 36.1%, 3rd pregnancy of 30.6% and 4th pregnancy of 5.6%. Mother's behavior about breastfeeding is supported by the mentoring of young women who have received training on breastfeeding (6). From the existing data this is caused by several things such as the experience of pregnant women who have mostly had previous pregnancies, other factors can be caused by the factors that carry out mentoring is still teenagers so less get positive responses from postpartum, maternal busyness factors also become things that cause the attitude does not change, although a housewife, it turns out that pregnant women also do work that can support the family economy (6).

According to the research Citrakusumasari, 2012 stated that before education 47.83% of pregnant women has less knowledge. 30.43% of pregnant women has sufficient knowledge, and 21.74% has good knowledge. The knowledge categories are 78.26%, and 21.74% which includes the category enough, and no longer less

category. Pregnant attitudes before education that is 41.3% included in the category of negative attitudes and 58.7% are in the category of positive. After educating the attitude of respondents who are positive category is 100%.

This research is supported by Feryani DP's research, which states Exclusive Breastfeeding failure is due to less subject motivation to exclusive breastfeeding, where most subjects are motivated to deliver early food companion, it makes the babies fussy and difficult to eat, in the absence of exclusive breastfeeding program realization of public health center, lack of support of people closest to the subjects especially husbands, lack of support of health workers, especially birth attendants, the existence of breastfeeding problems, the condition of babies who do not want breastfed the babies are confused nipples and babies sick, the promotion of formula milk by delivering interesting ads and promotion through health personnel, and still the provision of early breastfeeding before 6 months (7). It is suggested that the implementation of Exclusive Breastfeeding program by public health center should be needed for health workers, especially delivery aid to support mothers giving exclusive breastfeeding, need breast care for pregnant and lactating mothers, avoiding formula feeding through bottles so that babies do not confuse nipples and the need for dissemination of information on Exclusive breastfeeding both to nursing mothers, as well as to the people closest to the subject especially the husband so that exclusive breastfeeding increase can be achieved (1,7)

In this study, maternal level knowledge of breastfeeding data was collected by providing questionnaires on breastfeeding such as the benefit of breastfeeding, how to keep breastmilk, and how to manage breastfeeding when working. Based on statistical analysis there is a significant difference of knowledge level of

pregnant women before and after mentoring. (p <0,05), meaning that mentoring by young women give impact to increase of pregnant woman knowledge about breastfeeding also seen from attitude of pregnant mother after get assistance there is significant (p> 0,05). This is caused by some things like the experience of pregnant women who have mostly had previous pregnancies, other factors can be caused by the factors that carry out mentoring is still a teenager so less get positive feedback from pregnant women, mother's busyness factors also become the cause attitude does not change, although a housewife, it turns out that pregnant women also do work that can support the family economy (6–8)

First, formula feeding was found in the hospital or clinic, but at home they give breastfeeding. The practice of formula feeding is also found for various reasons such as abnormal mothers (cesarean section), and divided care for maternal and child (7).

CONCLUSION AND RECOMMENDATION

The difference was found in knowledge, attitudes and behavior of mothers before and after mentoring by young women. Young women empowerment with training on breastfeeding and mentoring to pregnant women can significantly improve mother's knowledge and attitude about breastfeeding. Empowering these young women aim to achieve enhancement exclusive breastfeeding and this empowerment is expected to increase the achievement of exclusive breastfeeding in Klungkung Regency, Bali Province.

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IS MOTHER'S EDUCATION LEVEL ASSOCIATED WITH EXCLUSIVE BREASTFEEDING ON WORKING MOTHER?

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ABSTRACT

Background: The coverage of exclusive breastfeeding globally is still less than 40%. Based on the results of Riskesdas in 2013 coverage of exclusive breastfeeding was 54,3% in Indonesia and 67,9% in Yogyakarta province, while in Bantul was 62,5%. Mother's job occupation is often the reason for exclusive breastfeeding failure. Education level of mother influences on exclusive breastfeeding for contributting the knowledge, understanding, thinking and absorpting of information that effect toward exclusive breastfeeding cycle.

Objectives: The aim of this study is to determine the relationship between education level of mothers and exclusive breastfeeding among working mothers in Bantul, Yogyakarta.

Methods: The methods was an observational study with cross sectional design. Samples were productive female workers (15-64 years old) who had children aged 6-12 months and were still active in full-time work in factories/medium/large companies in the district of Bantul. Samples in this study were 158 subjects. The sampling technique in this study used probability proportional to size. The level of high education were senior high school, diploma, bachelor or above, while the level of low education were elementary and junior high school. Instruments or tools used in data collection was a questionnaire. Data analysis of this study used chi square with the significance level 0.05 for biavariate analysis.

Results: Based on exclusive breastfeeding data, the data of mothers who gave exclusive breastfeeding was 22,7% and the mother who did not give exclusive breastfeeding was 77,8%. Whereas that based on the education level of mothers data, the data of low education mother was 34,8% and high education mother was 65,2%. The chi square data analysis showed there was no relationship mother's education level with exclusive breastfeeding (p=0,783), but the percentage of mothers who gave exclusive breastfeeding with higher education level was greater that 23.3% compared to mothers with low education level that was only 20.0%.

Conclusions: There was no significant relationship mother's education level with exclusive breastfeeding.

Keywords: Exclusive Breastfeeding, Mother's Education Level, Working Mother

INTRODUCTION

Exclusive breastfeeding is the best investment for the health and intelligence of the children. Exclusive breastfeeding is the way of giving breastfeeding only to infants without any additional fluid or solids, except oral rehydration

solutions and vitamins, minerals or medicines in the form of drops/ syrups. Exclusive breastfeeding is given to the infants until they are 6 months old and continued given together with the proper complement food until they are 2 years old or more (1).

World Health Organization (WHO) and Government of Indonesia through Government Regulation No. 33 of 2012 are recommend giving exclusive breastfeeding from birth to 6 months (1, 2). WHO has a target of exclusive breastfeeding coverage in the world of 50% (3), while Indonesia has a target of 80%. In Yogyakarta province, the target of exclusive breastfeeding coverage is 60% and Bantul Regency is 80% (4), but in fact exclusive breastfeeding coverage is still below the target line. This can be shown from the coverage of exclusive breastfeeding in the world is still less than 40%, even this number is relatively unchanged for almost two decades (3). In Indonesia, based on Riskesdas (basic health research) data in 2013, coverage of exclusive breastfeeding nationally was 54.3%, in Yogyakarta Province 67.9% (5), and in Bantul Regency 62.5% (4). The latest data in 2016 based on the report of Bantul Regency Health Office coverage of exclusive breastfeeding in Bantul Regency amounted to 74.73% (6). It is showed that the coverage of exclusive breastfeeding actually increased from 2013, although the coverage based on the data is still below the expected target (80%).

Many factors can be related to exclusive breastfeeding, such as education, knowledge, employment and family support. Maternal education plays an important role in exclusive breastfeeding because it contributes to the comprehension, mindset and absorption of information that overall affects exclusive breastfeeding. Research conducted by Hartini in 2014 reported that mothers who give exclusive breastfeeding mostly have a high education that is equal to 85.7% while the low educated that is equal to 50%. These results showed that the higher a mother's education level will tend to succeed in giving exclusive breastfeeding and vice versa (7). According to Syamsianah et al, if the mother's education level is high then mother's knowledge about breastfeeding will also the same so exclusive breastfeeding for 6 months can be achieved (8). In addition, work can also be associated with exclusive breastfeeding. In modern era, there is a shift in family roles where many mothers not only act as housewives but also work to meet the needs of their families. This work is often become the reason for the failure of exclusive breastfeeding (9). This study aims at determining the relationship of mother's education level with a history of exclusive breastfeeding on working mothers in Bantul Regency Special Region of Yogyakarta.

MATERIALS AND METHODS

The type of this research was observational in analytical descriptive with cross sectional research design. This research was a part of research on Factors Influencing Exclusive Breastfeeding on Working Mothers in Bantul Regency, Special Region of Yogyakarta, whose implementation was coordinated by Alma Ata Center for Healthy Life and Food (ACHEAF). This research was conducted at factory/ company in Bantul Regency Special Province of Yogyakarta in October 2016 - February 2017.

Population of this research was all of working women at productive age who were working in factory or company located in Bantul regency. The sampling technique was probability proportional to size. The inclusion and exclusion criteria in this study were consisted of companies and samples. The company's inclusion criteria were medium-sized companies with total employees of 51-200 people and a large company with total employees of over 200 people. The exclusion criteria of the company were included education institutes, health institutes and foundation and

companies with <20 women workers in the productive age. Sample inclusion criteria were productive female workers (15-64 years old) who had children aged 6-12 months and were still active in full-time work in factories/medium/ large companies and women workers who were willing to be the respondents which were proved by informed consent form, whereas the sampling exclusion criteria were female workers who were absent while taking the data. Independent variable in this research was mother's education level and dependent variable was history of exclusive breastfeeding. The research instrument was in the form of questionnaire. To analyze the data was used the SPSS 16 software which was consist of uni-variable and bi-variable analysis. Bivariate analysis was using chi square statistic test.

RESULT AND DISCUSSION

Mother's Education level

Distribution data of education level of working mother in Bantul Regency can be seen in the **Table 1.**

Table 1. Distribution of Education Level of Working Mother in Bantul Regency

Category	Total (n)	Percentage (%)
High (≥ Senior High School)	103	65,2
Low (< Senoir High School)	55	34,8
Total	158	100

Based on **Table 1** it can be seen that level of mother education in factory/company of Bantul Regency with high category is 103 people (65,2%) out of 158 respondents. Education level is one of predisposing factors that is able to influence behavior. In this case, it is the exclusive breastfeeding behavior. Behavior is all human activities either directly observable or that cannot be observed by outsiders (10).

According to Lawrence Green in Notoatmodjo (10) behavior is determined by three main factors: firstly, predisposing factors are factors that can facilitate the occurrence of behavior in a person. Predisposing factors include knowledge, education, one's attitude toward what to do, work, beliefs, traditions and systems. Secondly, the enabling factors are the factors which are enabling the behavior happened in a person. These supporting factors include facilities or infrastructure that supports the occurrence of a person's behavior. Thirdly, reinforcing factors are the factors that reinforce the behavior of a person. This reinforcing factor includes community leaders, regulations, laws, decisions from central or local government officials.

History of Exclusive Breastfeeding

Distribution data of exclusive breastfeeding history of working mother in Bantul Regency can be seen in the **Table 2** and distribution data of exclusive breastfeeding based on companies can be seen in the **Table 3**.

Table 2. Distribution Data of Exclusive Breastfeeding History of Working Mother in Bantul Regency

Category	Total (n)	Percentage (%)
Exclusive Breastfeeding	35	22,2
Non-Exclusive Breastfeeding	123	77,8
Total	158	100

Based on the **Table 2**, it can be seen that 35 (22,2%) out of 158 respondents working mothers in factories/companies in Bantul Regency are giving the exclusive breastfeeding to their infants.

Based on the **Table 3**, it can be seen that from 9 factories/companies in Bantul Regency, PT. Samku Glove Indonesia has the highest percentage for the working mother who giving exclusive breastfeeding that is 8 people (80,00%).

Table 3. Distribution Data of Exclusive Breastfeeding History Based on Companies in Bantul Regency

Company	Total (n)	Percentage (%)
PT. Cahaya Mulia Persada Nusa	7	24,13
PT. Dong Young Tress Indonesia	7	11,67
PT. IGP Internasional	5	41,67
PT. Marvel Sport Indonesia	1	33,33
PT. Samku Glove Indonesia	8	80,00
PT. Yogyakarta Tembakau	6	18,18
PT. Dagsap Endura Eature	1	20,00
PT. Ide Studio	0	0
PT. Merapi Agung Lestari	0	0

The working mother who gives exclusive breastfeeding in the factory/company of Bantul Regency is 22.2%. This number reflects that exclusive breastfeeding in infants 0-6 months is still low. However the exclusive breastfeeding is an important thing that should be given to the baby. Providing exclusive breastfeeding give benefits both to the baby and the mother. For infants, exclusive breastfeeding can support the intelligence of the baby, while for mothers can reduce the risk of bleeding and anemia as well as can delay the occurrence of subsequent pregnancies (11). In addition, other major benefits of exclusive breastfeeding for infants are as the best nutrition, increase endurance, and improve affection between the baby and the mother (12).

The results are in line with the research conducted by Sulistiyowati and Pulung in 2014 in Mojokerto which was showing that working mothers who exclusively breastfed by 35.3% and who did not give exclusive breastfeeding of 64.7% (13). This result is supported also by research conducted by Widdefrita and Mohanis in 2014 in Padang which showed that working mothers who gave exclusive breastfeeding only 11.8% and who did not give exclusive breastfeeding of 88.2% (14). It can be seen that although the study location are different yet the proportion of exclusive breastfeeding in working mothers is low and below the expected target.

The low level of exclusive breastfeeding in working mothers can be caused by several problems. These problems are: a period of maternity leave and birth that relatively short, many works to do by the mothers and feelings of worry that assume that breast milk is not enough. In addition, the lack of breastfeeding facilities at work place and lack of support from superiors in giving permission to milk during working hours (15). The failure of exclusive breastfeeding is also influenced by the mother's time at work. Mothers who work outside do not have much time to give exclusive breastfeeding (16). Mother is too busy with her job so she cannot leave the job for long periods (17). Other factors such as the fear of changing the shape of the breasts, poor mother's knowledge of exclusive breastfeeding, lazy feeling of lactation, lack of support and family participation also have an effect on the unsuccessful exclusive breastfeeding of working mothers (18).

The result obtained in this study is that company provides the highest exclusive breastfeeding is PT. Samku Glove Indonesia of 8 people (80.00%). This can be happened due to the support of an adequate working environment accompanied by knowledge, awareness and good family support. The company has breastfeeding facilities such as lactation chambers that can be used to milk during working hours and have official health care who can give encouragement to milk and exclusively breastfeed. In addition, the workers have good knowledge so the exclusive breastfeeding behavior can be realized. Good family support can be seen from family members who come to take the milk to give to the child. According to Purwaningsih et al, working mothers need support from work to be successful in the actions of lactation management (19). Good lactation management is expected to create exclusive breastfeeding. In addition support from workplaces, families, and health care providers also influences successful

employment in exclusive breastfeeding (20).

The Relationship between Mother's Education Level and Exclusive Breastfeeding History

Table **4** shows the research result of the relationship between the education level of mothers and the history of exclusive breastfeeding.

Table 4. Relationship between Education Level and Exclusive Breastfeeding History of Working Mothers in Bantul Regency

Education Level	History of Exclusive Breastfeeding				Total		p-Value
	Exclusive Breastfeeding		Non-Exclusive Breastfeeding				
	n	%	n	%	n	%	
High	24	23,3	79	76,7	103	100	0,783
Low	11	20,0	44	80,0	55	100	
Total	35	22,2	123	77,8	158	100	

Based on the data in **Table 4,** it can be seen the result analysis of the relationship between mother education level with exclusive breastfeeding history found that there are 24 (23,3%) mothers of higher education and 11 (20, 0%) mothers with low education who give exclusive breastfeeding. Based on the statistical tests results obtained that p-value = 0.783, so it can be concluded that there is no significant relationship between maternal education level with history of exclusive breastfeeding in working mothers in Bantul regency.

The result is in line with the research conducted by Fahriani et al in 2014 in Jakarta who obtained that there was no significant correlation between maternal education level with exclusive breastfeeding with p-value = 0,442 and their conclusion that both mothers who had high and low education did not influence their behavior in exclusive breastfeeding, although the mothers had low education level but they were not inferior in terms of seeking knowledge and insight about breast milk. Knowledge about

breast milk can be obtained through internet sites, social networking community such as *Twitter, Facebook* and *Blackberry group*. Through the social community, the information about breastfeeding and discussions about problems and difficulties during breastfeeding is shared (21). Rahmawati added that a low maternal education level is not a major factor which is caused low exclusive breastfeeding practices. This is because the information communication system is now much more advanced so that mothers still have a chance to get better information, especially about exclusive breastfeeding (22).

This study is also in line with research conducted by Mabud et al in 2014 in Manado who reported that there was no significant relationship between maternal education level and exclusive breastfeeding with p-value = 0.115 (23). Similarly, research conducted by Hastuti et al in 2015 in Klaten reported that there was no significant relationship between maternal education level and exclusive breastfeeding with p-value = 0.442 (24). This study was also conducted by Paramashanti et al in 2016 in Indonesia which resulted that there was no significant relationship between maternal education and exclusive breastfeeding. Maternal knowledge of breastfeeding is important in the success of exclusive breastfeeding practices, but not all the mothers with higher education have a good knowledge of breastfeeding (25).

Based on the statistical test does show that there is no significant relationship between maternal education level with exclusive breastfeeding, although the percentage of mothers who give exclusive breastfeeding with higher education level is greater than 23.3% compared to mothers with low education level that is only 20 , 0%. These results are in a row with research conducted by Atabik in 2014 which showed that the proportion of mothers with higher education who exclusively breastfeeding is 24.1% compared to mothers with low

education at 6.9% (26). Similar research also conducted by Ida in 2012 which gained result that the percentage of mother giving exclusive breastfeeding with higher education level was 28,7% bigger than compared to mother with low education level that was only 20,3% (27).

Mother education level is an important factor in exclusive breastfeeding. This is because mothers with higher levels of education will more easily understand and accept new information concerned on exclusive breastfeeding and their benefits, so that mothers will also be easier in making decisions to exclusively breastfeed (24). A mother with a low level of education will tend to experience failure in exclusive breastfeeding whereas they who in high levels of education will tend to succeed in exclusive breastfeeding (7). Mothers with low education can result in lack of knowledge in dealing with problems regarding to the exclusive breastfeeding, whereas in mothers with higher education is easier to face problems in exclusive breastfeeding. It is because of mothers will be more opened to accept change and new things (28).

Based on the research conducted, there is inconsistent result with Green's theory in Notoatmodjo that the level of education can affect one's behavior, which is in this case the behavior in exclusive breastfeeding (10). The result of research also not in line with the research conducted by Dewi in 2014 in Lolong Karanganyar Village that there was significant correlation between maternal education level with exclusive breast feeding with p-value = 0,001 (29). In the same way, research conducted by Siallagan et al (2013) in Kelurahan Bantan gained results that there was a significant relationship between mother's education level with exclusive breastfeeding with p-value = 0,018 (30).

The difference of theory proposed by Green and the results of Dewi and Siallagan's researches can be caused by other factors that influence mother's behavior in giving exclusive breastfeeding such as knowledge of exclusive breastfeeding,

family support and motivation. Other factors that may affect exclusive breastfeeding are supported by several studies. Based on research conducted by Anggraeni in 2016 in Boyolali mentioned that there was a relation between mother knowledge and exclusive breastfeeding with p-value = 0,037. Mother's knowledge will influence mother's behavior in giving exclusive breastfeeding to her baby (31). Based on the results of research conducted by Rosyadah and Arifal in 2014 also mentioned that there was a relationship between motivation and exclusive breastfeeding with p-value = 0.000. Mother with good motivation would be easy to achieve the desired thing so she would tend to give exclusive breastfeeding while mother who had less motivation would be felt difficult to achieve something and tended not to give exclusive breastfeed (32). Based on the results of research conducted by Anggorowati and Fita in 2013 stated that there was a relationship between family support with exclusive breastfeeding with p-value = 0.003 (33). In line with this research conducted by Ratnasari in 2017 that there was a significant relationship between family support with a history of exclusive breastfeeding with p-value= 0.015 (34). According to Susilawati and Ria, family support can encourage and assist mothers in exclusive breastfeeding (16). Husband's support is also one of the factors that can influence the success of exclusive breastfeeding of working mothers. Kind of support that husbands can provide such as helping to wash and sterilize bottles as well as helping make food for breastfeeding mothers who experience fatigue after long time working (35).

CONCLUSION AND RECOMMENDATION

There is no significant relationship between mother's education level and history of exclusive breastfeeding.

The writer has some suggestions for official health care to increase the role in providing information about exclusive breastfeeding and lactation management to mothers and their

families. Furthermore, for the factory/company are expected to create a working environment that supports exclusive breastfeeding through the provision of breastfeeding facilities in the workplace and policy decisions related to exclusive breastfeeding.

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QUALITY OF ANTENATAL CARE SERVICES PROVIDED BY HEALTH WORKERS RELATED TO EXCLUSIVE BREASTFEEDING AMONG YOGYAKARTA MOTHERS IN EMPLOYMENT: A QUALITATIVE STUDY

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ABSTRACT

Background: *Target of SDGs by 2030 is to decrease Infant Mortality Rate (IMR) at least up to 12 deaths per 1,000 live births and under-five mortality rate 25 deaths per 1,000 live births. Early breastfeeding initiation and exclusive breastfeeding for first six months can help reduce IMR. There are many factors that influence of success in exclusive breastfeeding. A variety of breastfeeding promotion methods including educational programmes have been studied to support the trend to increase breastfeeding duration. It is generally believed that, by improving the mothers knowledge of breastfeeding antenatally, the rates of exclusive breastfeeding would increase.*

Objective: *The objective of this study was to explore the quality of Antenatal Care (ANC) services provided by health workers related to exclusively breastfeeding among Yogyakarta mothers in employment.*

Methods: *This study was a qualitative research with phenomenological approach. Informants in this study were eight working mothers employed in large companies who have children aged 6-12 months. Key informants were four midwives, one nutritionist and four people from the companies in Bantul District, D.I Yogyakarta, Indonesia.*

Results: *The quality of ANC services by health workers perceived as being good. Antenatal services include 10 T examinations already given but not all of them given optimally. For STIs examination, beside of equipment facilities are not available, health workers also not always reminded for pregnant mothers to perform STIs examination. Exclusive breastfeeding counseling already given but not all of them given optimally.*

Conclusion: *Quality of ANC services will encourage exclusive breastfeeding practices among working mothers.*

Keywords: *Quality Of ANC Services , Exclusive Breastfeeding , Working Mothers*

INTRODUCTION

Diarrhoea and acute respiratory infections is the major cause of mortality among children aged less than 5 years, especially in developing countries like Indonesia. (1). Target of SDGs by 2030 is to decrease Infant Mortality Rate (IMR) at least up to 12 *deaths per 1,000 live births* and under-five mortality rate 25 *deaths per 1,000 live*

births (2). An exclusively breastfed child is 14 times less likely to die in the first six months than a non-breastfed child, and breastfeeding drastically reduces deaths from diarrhoea and acute respiratory infection, two major child killers (3).

Early breastfeeding initiation and *exclusive breastfeeding* for first six months can help *reduce* IMR. In *2015*, the *IMR* in the Bantul District was 8.35 *deaths* per 1,000 live births and is not yet at the required to achieve the targets set for 7 *deaths* per 1000 live births (4). The results of Indonesia Basic Health Research (RISKESDAS) in 2013 states that the percentage of early breastfeeding initiation in children aged 0-23 months in 2013 was 34.5%. Percentage of breastfed process started between 1-6 hours was 35.2%, between 7- 23 hours was 3.7%, while between 24-47 hours was 13.0% and the percentage of starting breastfed in more than 47 hours was13.7%. Coverage of exclusive breastfeeding in 0-6 months infants in Indonesia in 2013 was 54.3%, which is a slight increase when compared to 2012 which amounted to 48.6% while the percentage of exclusive breastfeeding in Yogyakarta was 67.9% (5). Data of exclusive breastfeding rates among infants aged under six months in Bantul District assessed by the 24 recall method is 74.73%, this achievement is still under the national target of 80% (4).

The commonest reason of failure of exclusive breastfeeding was insufficient milk production in over 90% cases and was followed by working mother, illness of baby and illness of mother in the remaining (6). Based on research conducted by Putri et al. (7), maternal employment status is also one factor that can influence exclusive breastfeeding in Bantul District, the number of working mothers employed in companies reaches 64%. The length of time women work in companies can take time and frequency of breastfeeding to their babies. Working moms face some obstacles in exclusive breastfeeding

for their babies, including time allocation, quality of togetherness with their babies, workload and stress and mothers have low confidence to be able to give exclusive breastfeeding (8). Sulistiyowati & Siswantara (9) argue that breastfeeding at many workplaces are not applied by working mothers, although many workplaces or factories provide lactation corners are used by mothers to pump breastmilk, but they are rare or never even used at all by the mother. The reason that causes many mothers who give *complementary* foods before *six months* is they must return to work.

Fahriani et al (11) report in this article that the most influencing factors of exclusive breastfeeding were maternal psychological factors, followed by family support, maternal knowledge of exclusive breastfeeding and breastfeeding counseling by health workers. A study conducted in NTT found that most of breastfeeding mothers (61%) failed to give exclusive breastfeding until the aged of 6 months were mothers who did not prepare for breastfeeding since pregnancy.

There are *many factors* that *influence* of *success* in *exclusive breastfeeding* for the first six months, such as structural and social-cultural factors including food insecurity, lack of knowledge or competence, socio-cultural myths and health status of the mother or the baby (12). Antenatal breastfeeding education is defined as breastfeeding information being imparted during the pregnancy. A variety of breastfeeding promotion methods including educational programmes have been studied to support the trend to increase breastfeeding duration. It is generally believed that, by improving the mothers knowledge of breastfeeding antenatally, the rates and duration of breastfeeding would increase (13).

Achievement of maternal health services can be assessed using indicators coverage of first visit (K1) and fourth visit (K4). K1 coverage always increases, except in 2013 where the figure

has decreased from 96.84% in 2012 to 95.25% in 2013. It is different from K4 coverage, which experienced a significant increase from 80.26% in 2007 to 86.04% in 2008, but then decreased to 84.54% in the following year. Bantul District performance indicators of maternal health care K4 coverage was 90.98%, it has not been able to reach the target of the Strategic Plan of Ministry of Health, which was 93% (4). The aim of this study was to explore how the quality of ANC *services* provided by *health workers* related to exclusively breastfeeding history among Yogyakarta Mothers in Employment in Bantul District, DI. Yogyakarta, Indonesia

MATERIALS AND METHODS

This research work as part of a larger project exploring exclusively breastfeeding among working mothers in Bantul District, DI. Yogyakarta, Indonesia coordinated by ACHEAF (Alma Ata Centre for Healthy Life and Food). Ethical approval number KE/AA/II/55/EC/2017 was gained by the Ethics Committee Board of Alma Ata University.

The studies conducted in October 2016–February 2017. We used the probability proportional to size technique to select the study participants, the details are mentioned in Ratnasari's study (15). In all, 16 subjects we approached agreed to be interviewed. We intreviewed eight working mothers employed in large companies in Bantul District who have children aged 6-12 months. Key informants were four midwives, one nutritionist and four people from the companies.

Data is taken by in depth interviews using interview guidelines and approached them to request a tape recorded interview. Interviews with Indonesian subjects were conducted in Bahasa Indonesia, as a first language by all our Indonesian subjects. The interviews were simultaneously translated and transcribed by an independent translator. An important technique for demonstrating the validity of qualitative findings is triangulation—comparing data obtained by one method with similar data obtained by another method (16), and carried out continuously until the data is saturated. Data analysis considered data reduction, data display and verification.

RESULTS AND DISCUSSION

Characteristics of Informants from Working Mothers

The informant consisted of eight breastfeeding mothers who came from four companies including two mothers providing exclusive breastfeeding and six other mothers not providing exclusive breastfeeding.

Characteristics of breastfeeding mothers in this study was differentiated from the education

Table 1. Characteristics of Informants from Working Mothers

No	Informant Code	Age (y)	Education level	Work unit	Length of work (y)	Duration of Work Hours (h)	Breastfeeding Status
1	I1	35	High	Production	17	7	Not breastfeeding
2	I2	35	High	Production	13	8.5	Not breastfeeding
3	I3	29	High	Staff	2	8	Exclusive breastfeeding
4	I4	34	Low	Production	3	8	Not breastfeeding
5	I5	35	Low	Production	3.5	8	Not breastfeeding
6	I6	32	High	Production	2	8	Not breastfeeding
7	I7	23	High	Production	3	10	Not breastfeeding
8	I8	26	High	Production	6	8	Exclusive breastfeeding

levels and the work unit. Education levels were categorized as high if the mother had completed a minimum education of senior high school and as low if they completed junior high school or lower. Most (6 of 8) informants are highly educated. While for the category of work unit consists of staff and production department. All of these informants are willing to become respondents.

Characteristics of Key Informants from Health Workers

Table 2. Characteristics of Key Informant from Health Workers

No.	Informant Code	Age (y)	Education level	Occupation
1	K1	36	High	Clinical Midwife
2	K2	52	High	Midwife 1
3	K3	55	High	Midwife 2
4	K4	51	High	Midwife 3
5	K5	30	High	Nutritionist 3

The characteristics of key informant from health workers consisting of five respondents, with the youngest age of 30 years and the oldest age of 55 years. Four of them had a midwife education background and one from nutrition education. The lowest education key informant is graduated from college and his highest education is graduated from professional education.

Characteristics of Key Informants from Companies

Table 3. Characteristics of Key Informants from Companies

No	Informant Code	Age (y)	Education	Length of work (y)
1	P1	39	College	14
2	P2	30	College	3.5
3	P3	36	High School	8
4	P4	37	College	3

Characteristics of key informant from the companies consists of four respondents with the youngest age of 30 years and the oldest age of 39 years. The lowest education of key informant is graduated from high school and his highest education is graduated from college. For the shortest length of work is three years and the longest 14 years.

Standards of ANC Services

The results showed most of (3 of 4) health facilities implement integrated antenatal services. The services are collaboration with several health workers such as general practitioner, dentist, nutritionist, laboratory officer and back to midwife for 10T examination. Implementation of integrated antenatal services start from when mother come to health facility and the tested showed that mother positive pregnant, firstly is to register the identity start from name, age, address, husband's name, number of child, and contact person.

After that do general examination and physical assessment from the measurement of blood pressure, weighing and height measurement, and palpation. Then referred to the doctor to do screening about the disease history and to diagnose. If it is in high risk, mothers referring to the hospital, and if not have the risk then directed to the dentist for performed a dental, gum and mouth examination. After that the mother is directed to the nutritionist, then to get the laboratory. The first laboratory test is blood type, examination of urine protein, blood hemoglobin test (Hb), HBSAG, the final stage of pregnant women are back to midwife for 10 T examination. The 10 T examinations that have not been implemented are PMTCT HIV AIDS and Sexually Transmitted Infections (STIs) this is due to the limitations of the tools so that if pregnant women need to be done this examination is referred to a community health centre that already provides HIV and STIs or

to the hospital. There are some of statements from the health workers as a key informant:

> *"Yaa, from the pregnancy examination, at least 4 times. Eemm and then 7 T examination 7 T eeee now 10 T ya maybe it's one of this yaaa. Since the patient arrived, measure body weight yahhh, tension, measured the height of her uterus, check the heart rate, after this was given iron tablet supplementation, continued with counseling, for the first trimester we usually check Hb, HbSaG, and urine routine. All in execution, eee HIV testing that has not." (K1)*

> *"ANC integrated yaaa, there are tension, measure body weight, counseling. At the first time the patient came was a tension and that was all, there was an additional now integrated teeth examination, doctor examination, dental consultation and then the laboratory assessment. The first laboratory assessment was examined blood type, protein reduction, Hb, HBSAG. The point is, at the first time we knowing she was pregnant with ANC integrated status we check the tension, body weigh. Continue to directly refer to the doctor, continue to nutritionist, from nutritionist to the laboratory, continue to return to the KIA. But in here that is not implemented PMTCT HIV AIDS examination because it is all referred to there, that's the STI here all referenced there. But for the STIs we can not force. All pregnant women especially with the complaint was sent to Sedayu 1 because there are all examinations. But I do not know there are not up to this one because it may be embarrassed." (K3)*

Integrated antenatal care is a comprehensive and quality antenatal care provided to all pregnant women as well as integrated with other programs that require intervention during pregnancy. First contact should be done as early as possible in the first trimester, preferably before week 8. Integrated antenatal care includes promotive, preventive, curative and rehabilitative services that include MCH services, nutrition services, communicable diseases control (immunization,

HIV AIDS, TB, Malaria, STIs), non-communicable diseases (high blood pressure, diabetes mellitus), violence during pregnancy, and other specific programs as needed (17).

Research supports on policy analysis of integrated antenatal care implementation in Blitar Community Health Centre that 10T physical services and counseling have been implemented but for laboratory services especially STIs has not been done at Sukorejo Community Health Centre because the laboratory analyst has not received training for examination of STIs in pregnant women and the limitations of examination tool so that if any examination of STIs in pregnant women should refer to Sananwetan Community Health Centre or to Mardi Waluyo Hospital (18).

In this study, education about exclusive breastfeeding on working mother has not given properly. Most of the informants (5 of 8) have been informed about exclusive breastfeeding during pregnancy, that is about general breastfeeding knowledge, and getting information or education about exclusive breastfeeding on working mothers will influence mothers working in exclusive breastfeeding.

> *"I used to be, in hospital when I gave birth." (I1)*
> *"No,, it was given when I gave birth in the hospital ,, hee'eeh ,, no,, never" (I6)*

From the 5 informants who received education about exclusive breastfeeding 2 of them success to give exclusive breastfeeding to their children. As in one informant, beside get educating about breast milk in the workplace by breastfeeding counselors from Indonesian Midwives Association (IMA/IBI) who provide counseling every two weeks, the informant also received information about breastfeeding from his mother's friend who works as a midwife. Breastmilk education obtained is about sterilization before squeezing by washing

hands first, bottle feeding and breastfeeding storage, squeezing techniques with a slow, keeping the mind relaxed and drinking water before squeezing.

> *"It's here, from the midwife association. Also at home because the midwife coincidentally my mother's friend. So, I educated by her."* (I3)

> *"Yes, it's here (in the company)." If at the community health centre, no.. Here (in the company), from the midwife, counseling, the class of the pregnancy mother.* (I5)

One of the things that inhibit working mothers to get counseling about breastfeeding is the average of mother's time working is 8 hours per day with working time starting at 06:00 to 08:00 am until 15:00 to 18:00 pm. While time spent for working, it is not possible for working mothers to examined their pregnancies to the community health center and electing private ANC service facilities. Meanwhile, based on the opinion from private clinical health officers with the busy situation at clinic it is not possible to provide counseling about breasfeeding. Usually the education about breastfeeding given in pregnant gym class, but this also cannot be followed by working mothers because they are still in the company. Information and education of exclusive breastfeeding has been regulated in the Regulation of Bantul Regent No 82 Year of 2012 Section 9 which contains that to achieve the optimal utilization of exclusive breastfeeding, health workers and health care facilities should provide exclusive breastfeeding information and education to mothers and or members the family since the pregnancy examination until the period of exclusive breastfeeding is completed. Information given by elucidation, counseling and mentoring. The information to be conveyed is about the advantages and benefits of breastfeeding, maternal nutrition and the preparation and maintenance of breastfeeding, and the negative

effect of feeding by the bottles partially. Results found by Djami et al (19), lactation counseling needs to be intervened, because through pregnancy examination occurs contact between health workers and pregnant women so lactation counseling can be given and the knowledge about exclusive breastfeeding has transfered. The more informants get education about breastfeeding during pregnancy, the chance to give breastfeeding to her child even if she has to return to work is greater. The findings is support by Utama (20), it shows that there is a difference in mother's knowledge about exclusive breastfeeding before and after the counseling. It means counseling or health education is very important for mother.

Based on the results of interview with nutritionist, exclusive breastfeeding behavior on working mothers can be maintained until the specified time because of the support from spouses, families, and people who helped at home or the environment where the mother worked. The result of the interview showed that one of the respondents can maintain exclusive breastfeeding because of the support from the family. The respondent's parents who are health cadres, help the respondent take care of the baby while the respondent works. With the support of the family, respondents also get information about exclusive breastfeeding, exclusive breastfeeding benefits, how to maintain exclusive breastfeeding while working include ways of expressing and *storing breast milk* and another. Exclusive breastfeeding in working mothers will be more optimal if the company also provides support, one of them by providing space and lactation facilities in the company. Despite there limitations on space in the company, such as the unavailability of breastfeeding or refrigeration, open lactation space, and privacy when squeezing is poorly maintained because the door is not yet permanent. But with this limitation, there are

respondents who can still maintain exclusive breastfeeding, based on the knowledge they have, the support of parents, so that the respondent keeps squeezing by bringing the storage of breast milk in the form of cooler bag because in the refrigerator is not available in lactation room. The research is support by Fania et al (21), one of the factors that influence the success of working mothers in giving exclusive breastfeeding to their babies is the support from the nearest people, that is husband and mother.

ANC Visit Compliance by Frequency of Visit

Based on the research, the almost visited places by pregnant mothers to do the pregnancy examination is in community health centre, private midwife clinic, and doctor clinics. Percentage of total ANC frequency visit of working mothers in Bantul District was 98,7%.

Table 4. Frequency of Visit to Health Facility

No	Informant Code	Frequency of Visits	Breastfeeding Counseling	Breastfeeding Status
1	I1	18	No	Not Breastfeeding
2	I2	30	No	Not Breastfeeding
3	I3	9	Yes	Breastfeeding
4	I4	11	Yes	Not Breastfeeding
5	I5	9	Yes	Not Breastfeeding
6	I6	9	No	Not Breastfeeding
7	I7	13	Yes	Not Breastfeeding
8	I8	9	Yes	Breastfeeding

ANC visits of respondents in this study is more than 9 times during pregnancy, by examining in more than one health facilities.

"Ya, oo many times, ho'o I think about once in two weeks, ho'o, then already when almost seven months and above in every week. In the midwife, then also in here (the company) every Friday." (I1)

"He'e,, yaa if in the midwife at the first time is once a month, he'e yes, continued when the pregnancy is 8, 9 it's once in two weeks, yaa continue to already close birth once a week, yoo a month, I am every month? It means 13 times." (I4)

Although the frequency of ANC visits is more than the minimum average (2 out of 8 informants) with the highest visit is more than 18 time during pregnancy, but mother not successful to giving the exclusive breastfeeding. Every Friday the company invited midwives from public health centre to help check the health of pregnant women during pregnancy.

"Yes, give access, we have access to midwives here, like that? Examination of pregnancy are two times every week there was done by the midwife from community health centre in company polyclinic. If want to doing examination in out, it could be decreased the company production. "(P1)

However, there is no program on counseling or educating about exclusive breastfeeding because they have never been informed about exclusive breastfeeding and lactation management in working mothers during pregnancy. It is also one of the factors that impede the working mother in exclusive breastfeeding is lack of knowledge and preparation in exclusive breastfeeding when the mother returns to work. So as much as any visit does not have an effect on exclusive breastfeeding if the mother has never been informed about exclusive breastfeeding. The research of exclusive breastfeeding challenge in working mothers in Bantul District conducted by Purwanto (22) showed that the frequency of ANC visit did not have significant associated with the history of exclusive breastfeeding. This is also in line with research conducted in Mopah Papua which shows that the frequency of ANC visits has no significant associated with

a history of breastfeeding in infants aged 6 months (23).

Participation of Health Workers in ANC Training

Two of four key informants form health workers, especially those from community health centre, have attended ANC training or seminars organized by the Health Department, insitution or by IBI organization. The training activities are not scheduled, it depends on the program by the health department. The last training followed in January 2017.

> *"Once from health department, about pregnancy, early detection, and then risk factors, and then the authority of midwife practice, community health centre, BEmOC." (K3)*

> *"Often, like seminar training. "Yaaa about pregnancy, eg high risk of pregnancy, until give birth, childbed. The speakers depending on the topic, depending on who held. For example, who held from SPOG hospital. For example from the health department, there are friends from the health department. Education of midwives are there to a higher level, the knowledge more update."(K2)*

While the workers in private clinics have never attended ANC training because it has never been invited by the health department.

> *"Yoo, I never attend ANC training"* (K1)

Based on the information from the key informants submitted during the training is about pregnancy, such as early detection, high risk of pregnancy, give birth, childbed, authority of midwife practice, community health centre, Basic Emergency Obstetric Care (BEmOC). This is done to improve the services provided to patients, especially pregnant women. However, from the education provided by health workers in antenatal care there is no training on exclusive breastfeeding, especially about lactation management in breastfeeding mothers.

However this needs to be addressed to health workers to improve their knowledge and quality in delivering exclusive breastfeeding education to breastfeeding mothers so that exclusive breastfeeding may increase especially in working mothers. The research is support by Yanuaria (24), to improve midwives skills in order to avoid deviations on health care standards that can reduce the quality of health services. Midwives are given job consolidation (can be in the form of training and education) before entering the community especially training on antenatal care and exclusive breastfeeding for housewives and working mothers.

CONCLUSION AND RECOMMENDATION

Conclusion

Generally the quality of ANC services by health workers perceived as *being good* that include:
1. The frequency and schedule of visits (at least 1 times in trimester I and II, 2 times in trimester III) in this study has been fulfilling with the frequency of mother visits during pregnancy is more than 9 times.
2. Antenatal services include 10 T examinations including weighing and height measurement, measurement of blood pressure, measurement of Upper Arm Circumference (MUAC), Measurement of the peak height of the uterus (fundus uteri), determination of fetal presentation and fetal heart rate (FHR), determination of tetanus immunization status and tetanus toxoid immunization appropriate to immunization status if necessary, iron tablet supplementation, simple laboratory test services and STIs/HIV examination, educating or counseling already given but not all of them given optimally. For STIs examination, beside of equipment facilities are not available, health workers also not always reminded for pregnant mothers to

perform STIs examination. Education about the pregnant health and problems has been given, but education about exclusive breastfeeding on working mothers has not worked out as it should be 3 of 8 informants had never received counseling about breastfeeding during pregnancy. It caused of limited time owned by working mothers and there is also nothing program held by health workers to give counseling about exclusive breastfeeding on working mothers.

3. Some (2 of 4) key informants from health workers had been received ANC science update training held by *Health Department* of *Bantul* District, institution and IBI. Health education given is about pregnancy such as early detection, high risk of pregnancy, give birth, childbed, authority of midwife practice, community health center, BEmOC. But from of all the topic mentioned by key informants, there is no training on exclusive breastfeeding especially about lactation management in breastfeeding mothers. However, this topic needs to be given to health workers to update their knowledge and improve the quality while delivering education about exclusive breastfeeding to breastfeeding mothers so the exclusive breastfeeding practices may increase especially in working mothers.

Recommendation

Suggestions that recommend based on the results are:

1. For the community health centre to support exclusive breastfeeding by improving the quality of ANC services by performing physical services 10 T and provide education to working mothers related exclusive breastfeeding by collect working mothers or come to the company to educate about exclusive breastfeeding on working mothers.

2. For the *Health Department* of *Bantul* District to improve coordination and cooperation with companies to support exclusive breastfeeding on working mothers by providing appropriate lactation room for breastfeeding mothers, facilities to expressing and *storing breast milk*, and allow time for mothers to express breastmilk. As well as give support to pregnant mothers to check her pregnancy and cooperated with health workers to bring breastfeeding counselors to give counseling in the company.

3. For other researchers to do research with the quantitative and qualitative method in analyzing the implementation of ANC service quality with exclusive breastfeeding.

ACKNOWLEDGEMENTS

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CHILD MEDICAL FEARS DURING HOSPITALIZATION

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ABSTRACT

Background: *Being hospitalized is usually related to the fear, especially for child. Changes that children feel during the treatment process in the hospital triggered the emergence of a fear reaction in children.*

Objectives: *This study aims to examine the fears of school-aged children being treated in the PKU Muhammadiyah Hospital Yogyakarta.*

Methods: *This study employed a descriptive design with survey approach from October to December 2016 in PKU Muhammadiyah Hospital. The samples of the study were 49 mothers and school-aged children who were admitted to the children's ward. A consecutive sampling was applied to determine sample size. The instrument used in this study was CMFS-R (Child Medical Fear Survey-Revised) questionnaires. Data were analyzed by using SPSS based on frequency distribution and table.*

Results: *Findings showed 42.9% respondents had medical fear and 36.7% of them had medical fear related-behavior responses. The source of fear of school-age children related to medical services included fear of getting injection (42.9%), having a finger stuck (42.9%), missing school (44.9%), long-term stay (44.9%), being away from family (49%), being afraid of doctor's tongue depressor (49%).*

Conclusions: *Fear of physical injury, fear of loss of self-control/intrapersonal and interpersonal fear were the fears of school-aged children during hospitalization.*

Keywords: Child, Fear, Hospitalization

INTRODUCTION

Hospitalization is admittance to the hospital as a patient (1). Patients are admitted to the hospital for a variety of reasons, including scheduled tests, procedures, or surgery; emergency medical treatment; administration of medication; or to stabilize or monitor an existing condition (1). Being hospitalized is not an easy or a regular occurrence, and may even be terrifying, traumatic, to the child.

Hospitalization is a stressful event with potential untoward consequences for children and their families, which triggers the emergence of a fear reaction in children (2). The fearful reaction that arises in relation to this hospitalization process is a normal response to the child. Child expresses his/her fear by crying, shouting, saying verbally, mocking around, as well as expressing fears around him through a drawing object (3).

Fear of school-aged children during the hospitalization process can be attributed to or influenced by several factors. Getting a shot/ bodily injury is the most feared thing for school-

aged children during hospitalization (4). This fear, if not observed, will have a negative impact on the child's perception, health care, and health care workers. Some children reported physical symptoms (60%), negative thoughts (81%), and avoidance behavior (75%) when meeting with the most fear situation or stimulus (5).

However, little is known about the study of children fear during hospitalization in Indonesia, especially in Yogyakarta. Therefore, this study aimed to examine the relationship of nurse support with the fear of school-aged children being hospitalized in the child's ward.

MATERIALS AND METHODS
Study Design

The study was conducted from 17 October to 18 December 2016, using descriptive study design with survey. The subjects of this study were mothers and school-aged children who were hospitalized in the children's ward of PKU Muhammadiyah Yogyakarta Hospital.

Research Subject

There were 49 children selected using consecutive sampling. The inclusion criteria of the samples were the children aged 6-12 years who have been hospitalized at least 1x24 hours, full consciousness and able to communicate verbally or non verbally, their mothers were able to read and write Latin letters in the Indonesian language, and agreed to let their children became respondents of the study.

Instruments

The instruments used in this study were a fear questionnaire to measure fear of school-aged children modified from Child Medical Fear Survey Revised (CMFS-R), and observation sheet of child's fear referring to Ramdaniati (6). Validity and reliability of fear instruments were tested at 30 respondents prior to data collection. The results showed good validity and reliability with correlation coefficients r = 0.39-0.70 and cronbach alpha at intervals of 0.832-0.901.

Data Analysis

Data were analyzed using univariate analysis using SPSS and presented with table of frequency distribution.

Ethical Consideration

Ethical approval was obtained from the Ethics Committee of Faculty of Medicine, Gadjah Mada University in September 2016. Prior to the data collection, informed consents were obtained from the respondents.

RESULTS AND DISCUSSION RESULTS

49 respondents included in this study, as shown in the Table 1, 77.6% of respondents aged 6-9 years and 22.4% aged 10-12 years. The ratio between boys and girls was not much difference, and 49% of them have never been hospitalized before. Most of them (71.4%) had a short duration of stay.

Table 1. Characteristic of The School Age Children (n=49)

Characteristics		Frequency	
		n	%
Age	6-9 years	38	77.6
	10-12 years	11	22.4
Gender	Female	22	44.9
	Male	27	55.1
Hospitalization experience	Yes	25	51.0
	No	24	49.0
Length of stay	Short (≤2 days)	35	71.4
	Long (>2 days)	14	28.6

Table 2. Characteristic of Parents (n=49)

Characteristics		Frequency	
		n	%
Family income	Under Regional Minimum Wage	10	20.4
	Above Regional Minimum Wage	39	79.6
Mother's education	Primary education (Elementary to junior high school)	5	10.2
	Secondary education (High School)	29	59.2
	College education	15	30.6

Table 2 shows that the majority of parents (79.6%) had family income above the regional minimum wage and half of them (59.2%) had secondary background education.

Table 3. Distribution Frequency Of Child Medical Fear Scale (n=49)

Characteristics		Frequency	
		n	%
Child Medical Fear	No fear	28	57.1
	Fear	21	42.9
Medical Fear related- behavior responses	No fear	31	63.3
	Fear	18	36.7

Table 4. Child Medical Fear Scale Items (n=49)

Specific Fears	Not at all (%)	A little (%)	A lot (%)
Hurting myself	8 (16.3)	**28 (57.1)**	13 (26.5)
Getting an injection	12 (24.5)	16 (32.7)	**21 (42.9)**
Seeing blood come out of me	16 (32.7)	**24 (49)**	9 (18.4)
Going to the hospital	**25 (51)**	14 (28.6)	10 (20.4)
Having my finger stuck	13 (26.5)	15 (30.6)	**21 (42.9)**
Missing school if I am sick	5 (10.2)	22 (44.9)	**22 (44.9)**
Crying when I get hurt	10 (20.4)	**24 (49.0)**	15 (30.6)
Having to stay a long time	11 (22.4)	16 (32.7)	**22 (44.9)**
My friends/family will know if I am sick	**30 (61.2)**	16 (32.7)	3 (6.1)
Being away from my family	5 (10.2)	20 (40.8)	**24 (49)**
Doctors put a tongue blade in my mouth	4 (8.2)	21 (42.9)	**24 (49)**
Talking to strangers at the hospital	**33 (67.3)**	12 (24.5)	4 (8.2)
Doctors/nurses say not to shout or cry	23 (46.9)	**24 (49)**	2 (4.1)

Table 3 shows that children fears in both medical fear and fear behavior responses are mostly in the non-fear category. While **Table 4** shows that the majority of sources of fear of school-age children related to medical services included fear of getting injection (42.9%), having a finger stuck (42.9%), missing school (44.9%), long-term stay (44.9%), being away from family (49%), being afraid of doctors' tongue depressor (49%).

DISCUSSION

The experience of being hospitalized is usually a fear-provoking and even traumatic experience for children. In this study, 42.9% of respondents had medical fear and 36.7% of them had medical fear related-behavior responses. This is in line with Monteiro et al. found that a small percentage of school-aged children have a high degree of fear and almost all have moderate fears during hospitalization (7). It is also similar to Ginimol revealed that most of the school-aged children have a low fear and a small percentage of children have moderate fear during hospitalization (8).

Findings of this study revealed that the majority of sources of fear of school age children related to medical services included fear of getting injection, having a finger stuck, missing school, long-term stay, being away from family, being afraid of doctors' tongue depressor. The fear of separation from family or parents is the highest score of fear in this study. The fear of the highest score is the fear of separation from parents, which in line with the previous study stated that being away from parents a very difficult experience for the children (9,10).

The psychosocial challenges of hospitalization as well as the decline that may occur in children in responding to the hospitalization process would be seen in increasing the needs of the child to be close to the family. Child nurses should be able to recognize the need to interact with families in school-aged children who are being treated, like children of other ages. Interventions to keep in contact with family are important, such as providing easy access to the phone, encouraging families visit, providing family members with a means of staying in the hospital, and flexibility in visitors and hours.

Another fear that most children feel during hospitalization was when injected and taken blood. This supports previous study on school-aged fears related to disturbing events (9). In line with Mahat et al. reported that getting a shot/bodily injury is the most feared thing for

school-aged children during hospitalization (4).

Fear of children when having to stay for long periods shows that the cognitive process of school-age children who could predict future. This result also fits Erikson's psychosocial stage of persistence with inferiority because long stay in a hospital may impair a child's ability to demonstrate the success of performing tasks (industry), especially those associated with normal life events. Failure of children at this stage would lead to feelings of inability/inferiority in children (9).

Fear of children when the health worker inserts the device into the body also reflects the cognitive abilities of school-aged children. Normal school-age children start making decisions based on what they think, not just what they see. At this age the child has the ability to think about physical signs and symptoms and connect them to future events that may occur. Healthcare workers, especially nurses, need to keep informing school-aged children about what happens during their illness and hospitalization process, as well as the current relationship with the consequences that will occur in the future. However, children also need realistic information about implications when children are in long-term consequences (9).

CONCLUSION AND RECOMMENDATION

It can be concluded that the fear of children during hospitalization in this study was in the low category. Fear of physical injury, fear of loss of self-control/intrapersonal and interpersonal fear were the fears of school-aged children during hospitalization. Further research is needed to examine other internal and external factors related to the child medical fears during hospitalization.

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THE CORRELATION BETWEEN STRESS AND OBESITY IN SCHOOL OF NURSING STUDENTS AT 'AISYIYAH UNIVERSITY OF YOGYAKARTA

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ABSTRACT

Background: Obesity plays a role in increasing morbidity and mortality. Stress is one of the causes of obesity. If stress is not controlled, it will increase the cortisol hormone which affects the appetite increase and causes the obesity.

Objectives: The study aims to investigate the correlation between stress and obesity in School of Nursing Students at 'Aisyiyah University of Yogyakarta.

Methods: The study used correlational descriptive research method with cross sectional time approach. The respondents were 43 obese students of Nursing Science of 'Aisyiyah University of Yogyakarta who were taken by total sampling technique. The data collection used Camry weight scale, General Care height scale, and DASS 42 questionnaire instrument. The data analysis technique used kendall's tau test.

Results: Most of the respondents were obese in moderate category as many as 67.4%, most of them had moderate stress and severe stress, each of them amounted to 39.5%. The r value = 0.426 indicated that there was a positive correlation. It meant that the more severe the students' stress, the more obese they are. students' Obesity with medium significant level between stress and obesity in School of Nursing Students at 'Aisyiyah University of Yogyakarta. Kendall's analysis shows that at $p = 0.05$ the p value is 0.003 so $p < 0.05$.

Conclusions: There is a significant positive correlation between stress and obesity in School of Nursing Students at 'Aisyiyah University of Yogyakarta. The students are suggested to manage stress and do physical activities to prevent obesity.

Keywords: School of Nursing Students, Obesity, Stress

INTRODUCTION

One of the nutritional problems occurring in both developing and developed countries is obesity. Obesity is a fat accumulation which is excessive or abnormal and can disrupt health (1). Obesity is characterized by excessweight compared to a person's age or height (2). Body Mass Index (BMI) is a mathematical formula used to determine the measurement of obesity by comparing body weight and height. The classification of overweight and obesity based on BMI was categorized as overweighti.e. 23-24,9, moderate obesity i.e. 25-29,9 and severe obesity> 30,00 (3).

A total of 1.6 billion adults worldwide are overweight and 400 million of them are obese

(4). A research in America shows that there was 50% of adults and 25% of American children are obese by using BMI> 30.00. The prevalence of obesity in the Asia-Pacific region increased sharply, for example 20.5% of South Koreans were classified as overweight and 1.5% were classified as obese (5). The number of obesity in Indonesia continues to increase. In adult men, it increases from 13.9% in 2007 to 19.7% in 2013. While in adult women there is a very extreme increase reaching 18.1% of 14.8% in 2007 to 32.9% in 2013. The percentage of nutritional status of adult population aged> 18 years according to BMI category in Special Region of Yogyakarta shows that there are 15,8% who are obese, and there are 20,1% who suffer from obesity in Sleman Regency (6).

Obesity plays a role in increasing morbidity and mortality. Obesity can cause several chronic diseases such as hypertension, type 2 diabetes, coronary heart disease, stroke, dysplasia, osteoarthritis, some types of cancer (endometrium, breast, colon), and gallbladder disease (7). The cohort study in young adults showed that those whose weight increased by more than 2.5 kg in 15 years experienced an increase in risk factors for coronary heart disease and the high incidence of metabolic syndrome and its components, such as fat and blood pressure (8). The cardiovascular disease which is one of the leading causes of death in the world. The report from the American Heart Association (AHA), in 2008 the prevalence of cardiovascular disease in men reached 39.9 million people with mortality reached 392,200 people. While the prevalence in women reached 42.7 million people with the mortality reached 419,700 people (9).

The prevalence of obesity tends to increase with age, and reaches its peak in adulthood (10). In adulthood the growth pattern stops and switches to homeostasis level (unchanged or stable). This situation will change, physically the adult body has grown and reached a stable level. The dynamic balance between the body parts and their functions occurs continuously throughout life, for it is necessary to balance between energy intakeand expenditure that can be the cause of obesity (11). In the final period toward adulthood, the individual will experience a condition called *torm& stress,* a physiological change and the development of an increase in hormone levels. It tends to cause the individual to be unstable in dealing with problems in their life (12).

The causes of overweight and obesity are associated with various factors including genetic factors, environmental factors, physical activities, hormonal influences, and stress factors (13). One of the causing factors of obesity is stress which can be caused by education and environmental factors. Stress is defined as the result of negative emotional experiences arising from a discrepancy between the individual's expectations of the stressor and the ability to cope with that stress (14). Stress has a link between pressure, physical conditions, and biological conditions. Someone who is experiencing stresscan have physical symptoms as well as psychological symptoms.

The sources of stress on the students include: monotonous situations, noise, too many delusional tasks, ambiguity, lack of control, danger and critical situations, being unappreciated, being ignored, lost opportunities, and strict rules (12). The individual's endurance in dealing with a stressor or *frustrating threshold value* on each person is different. Individuals with low stress tolerance, cannot control the stressor, so they will experience stress. According to Bayd and Nihart, a person will experience dietary changes during the period of stress (13).

Excessive eating is a response to non-specific emotional tension that cannot be tolerated in certain situations, or a symptom of an

underlying emotional disorder, especially stress. Individuals with obesity have an unbearable hunger, characterized by an appetite to eat to avoid the feared consequences (2). Stressful life conditions will affect the eating behavior, which is more on excessive consumption and contribute to the incidence of obesity. People with certain characteristics in particular stressful conditions will consume more food and experience an increase in total food intake (14).

MATERIALS AND METHODS

This research is descriptive correlative that aims to know the correlation of two variables in a group of subjects with cross sectional time approach. The population in this study was obese students in School of Nursing studentsnamely 43 students aged 18-25 years old. The sampling technique used total sampling of 43 students.

The instruments used in this study were*Psychometric Properties of the Depression Anxiety Scale 42 (DASS 42)* questionnaireswhich totals 14 items. The instruments used to calculate the weight were the "Camry" weight scales and the" General Care " height scalel with the formula Body Mass Index (BMI). The data analysis used in this research is non parametric statistic, by using Kendall Tau correlation statistic test.

RESULTS AND DISCUSSION

Results

1. Characteristics of the Genders of the Research Respondents

The characteristics of respondents based on theirgenders can be seen in table 1 below. Based on **Table 1**, it can be seen that most of the respondents in School of Nursing students studying at 'Aisyiyah University of Yogyakarta who were obese were female i.e. 34 students

(79.1%) and male i.e. 9 students (20.9%). The total number of respondents was 43 students.

Table 1. Frequency Distribution of Gender Characteristics of School of Nursing Students at 'AisyiyahUniversity of Yogyakarta 2017

Gender	Frequency (f)	Percentage (%)
Male	9	20,9
Female	34	79,1
Total	43	100

Source: Primary Data, 2017

2. Levels of Obesity in School of Nursing Students

The result of obesity measurement on School of Nursing students at 'AisyiyahUniversity of Yogyakarta can be seen in table 2 below:

Table 2. Distribution of Obesity Level Frequency in School of Nursing Students At 'Aisyiyah Yogyakarta University In 2017

Obesity Level	Frequency (f)	Percentage (%)
Moderate Obesity	29	67,4
Severe Obesity	14	32,6
Total	43	100

Source: Primary Data, 2017

Based on **Table 2**, it can be seen that there were 43 students who were obese. Most of them were had moderate obesity i.e. 29 students (67,4%) and the restwas 14 students (32,6%) who had severe obesity. It is said to be moderate obesity if it has BMI 25-29,99, and severe obesity if it has BMI ≥30.

3. Levels of Stress on School of Nursing Students

The measurement result of stress level on School of Nursing students at 'Aisyiyah University of Yogyakarta can be seen in table 3 below:

Table 3. Frequency Distribution of Stress Levels on School of Nursing students at 'AisyiyahUniversity of Yogyakarta in 2017

Stress Level	Frequency (f)	Percentage (%)
No stress	-	-
Mild stress	5	11,6%
Moderate Stress	17	39,5%
Severe Stress	17	39,5%
Very Severe Stress	4	9,3%
Total	43	100%

Source: Primary Data, 2017

Based on **table 3**, it can be seen that most of the students were experiencing moderate stress and severe stress i.e. 17 students (39,5%) of each, and otherswere experiencingmild stress i.e. 5 students (11,6%), very severe stress i.e. 4 students (9, 3%) and no respondent Wasexperiencing No Stress.

4. The Correlation Between Stress and Obesity in School of Nursing Students

The tests of the relationship between stress and obesity in School of Nursing students at 'Aisyiyah University of Yogyakarta in this study were done by Kendall Tau technique through cross tabulation with the following results:

Table 4. The Results of Stress Correlation Test With Obesity in School of Nursing Students At 'Aisyiyahuniversity of Yogyakarta 2017

Stress Level	Obesity Level				Total		R	Signifi-cance
	Moderate		Severe					
	f	%	F	%	f	%		
Mild	5	11,6	0	0,0	5	11,6		
Moderate	14	32,6	3	7,0	17	39,5		
Severe	9	20,9	8	18,6	17	39,5	0,426	0,003
Very Severe	1	2,3	3	7,0	4	9,3		
Total	29	67,4	14	32,6	43	100,0		

Source: Primary Data, 2017

Based on **table 4**, it can be seen that most students with moderate obesity were experiencing moderate stress i.e. 14 students (32.6%), mild stress i.e. 5 students (11,6%), severe stress i.e. 9 students (20,9%), and very severestress i.e. 1 student (2,3%). Meanwhile for those experiencing severe obesity,there were 3 students (7.0%) experiencing moderate stress, 8 students (18,6%) with severe stress, 3 students (7.0%) with very severe stress, and no students with mild stress. The result of Kendall Tau test shows that the significance value (p) is 0.003 with a moderate significance of 0.426. Based on p <0,05, it is concluded that there is a significant correlation between stress and obesity in nursing students at 'Aisyiyah University of Yogyakarta.

Discussion

The results of this study cannot be generalized because the proportion of male and female students in School of Nursing is not balanced. Stress commonly happened in women than men as physiologically the female brain is smaller than the male brain. However, it works 7-8 times harder than the male brain (7).

In addition, women have a certain stress caused by biological factors that are different from men. Women also have special stressful effects, namely amenorrhea (stopping menstruation), pre-menstrual headaches, postpartum depression, menopausal moodiness, frigidity, vaginismus, and infertility. Furthermore, there are some stresses experienced by women compared to men such as: anorexia, bulimia, neurosis worries and depressive psychosis.

This condition happens because the physical problem is a source of stress for women, whereasin men it tends to lead to financial problems. Women are concerned with body shape and are aware of social reactions to their body shape. Most women are dissatisfied with their body shape, resulting in a negative

self-concept. Those feelings of dissatisfaction about the body are closely related to stress (9).

The results of this study indicate the majority of students have stress levels that fall into the category of medium and severe i.e. 17 students. Some respondents answered *often* on the questionnaire statements number 6, 7, 8, 9, 11, 12, and 14. This is because the stress on students is different from one individual to another. Factors that can cause stress are internal factors and external factors. The internal factors come from the students themselves, such as physical condition and academic motivation. Meanwhile, the external factors come from outside the individuals, such as family, work, facilities, environment, and lecturers. The demands such as the assignment of lectures, the burden of lessons, the demands of parents to succeed in college, and the enrichment of the environment on campus can be the external factors of stress.

Stress that cannot be controlled and overcome by the individuals will bring negative impacts of cognitive, physiological, and behavioral aspects. In students, the cognitive negative impacts include difficulty in concentrating, difficulty in remembering lessons, and difficulty in understanding the lesson. The emotional negative impacts include difficulty in self-motivation, anxiety, sadness, anger, frustration, and other negative effects. The physiological negative impacts include health problems, decreased body resistance to illness, frequent dizziness, weakened body, weakness, and insomnia. Meanwhile, the behavioral impacts that arise include delaying completion of assignments and laziness to come to the class.

The obesity level in this study showed that the obesity in School of Nursing students as the respondents were averagely in moderate obese; 29 were moderate obese and 14 were severe obese. This is because some

of School of Nursing students at 'Aisyiyah University of Yogyakarta were able to offset the factors causing obesity, so that there were not too many students who were experiencing severe obesity. According to (15), it is said to be moderate obesity if a person has BMI 25-24,99, and severe obesity if he has BMI ≥30,00. The causes of obesity include genetic factors, environmental factors, physical activities, the influence of hormones, and psychological factors of stress (13).

The higher the stress level of the students, the higher the symptoms of Behavior Eating Disorder will be. There are other factors that cause the eating disorder on students i.e. self-esteem and self-image. In both male and female students, self-esteem has a significant correlation with eating behavior. The dissatisfaction with the body has a significant correlation with eating behavior in female students. There is a tendency that students who are obese will experience eating disorders such as anorexia nervosa or bulimia, as a strict diet in order to lose their weights. In principle, obesity occurs because of the imbalance between energy input and expenditure, in which the energy input is greater than its expenditure.

The correlation between stress and obesity in School of Nursing students at 'Aisyiyah University of Yogyakarta obtained the calculation result using Kendall Tau test between stress and obesity in nursing students at 'Aisyiyah University of Yogyakarta with the significant value of p-value equals to 0.003 (p-value <0,05). Therefore, it can be concluded that there is a significant correlation between stress and obesity in School of Nursing students at 'Aisyiyah University of Yogyakarta. The value of the correlation coefficient between stress and obesity was r = 0.426. In this study there were 29 students who were in moderate obesity and 14 students who were in severe obesity. There were 3 students with severe

obesity who had severe stress. It shows that there is a moderate correlation between stress and obesity, which means that stress is not the major factor associated with the incidence of obesity in college students and there are still other causing factors such as genetic factors, environmental factors such as diet, physical activities, and hormonal influences.

The results of this study indicate a significant correlation between stress and obesity of the respondents in School of Nursing students at the 'Aisyiyah University of Yogyakarta. The results of this study are in line with the research conducted (14), 77 adolescents consisting of 36 obese adolescents i.e. 32.5% experiencing moderate stress and 46.8% experiencing severe stress. Stressful life will affect the eating behavior such as excessive consumption and contribute to the occurrence of obesity.

Unstable emotional conditions cause the individuals to tend to escape by eating lots of foods which contain calories or high cholesterol, energy and protein, resulting in obesity (14). It is especially found in stressful living conditions. Excessive eating tends to be found in people with stress, because foods proven to cause a sense of comfort (16). In addition, stress can affect the cortisol hormone to consume foods that are sweet and fatty. Therefore there is an increase in the body fat tissue that causes obesity (13).

CONCLUSION AND RECOMMENDATION
Conclusion

Based on the research results and discussion, the conclusion can be drawn as follows:

1. The majority of School of nursing students are moderately obese.
2. The majority of School of nursing students have moderate stress and severe stress.
3. There is a significant correlation between

stress and obesity in School of nursing students at 'Aisyiyah University of Yogyakarta (p <0.05) with moderate significance of 0.426.

Recommendation

The results of this study can be the suggestion for the nursing students at 'Aisyiyah University of Yogyakarta in managing stress by refreshing and doing physical activities such as exercising according to their hobbies for preventing obesity.

In addition, it can also be the suggestion for the lecturers at 'Aisyiyah University of Yogyakarta as the consideration in giving the assignment to the students. Meanwhile, for further researchers, they can examine other factors that affect obesity such as diets, activities, and environmental factors in obese students when experiencing stress.

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THE IMPROVEMENT OF NURSES' HAND HYGIENE OBEDIENCE THROUGH FEEDBACK INTERVENTION TRIAL (FIT)

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ABSTRACT

Background: *Obedience through hand hygiene is one of main problem in nursing services despite many efforts had been done to improve it. a strategy that can be applied to solve this problem by using Feedback Intervention Trial (FIT), it is type of strategy that develop monitoring strategy and feedback from WHO to improve hand hygiene obedience of nurses.*

Objectives: *This study aimed to identify the effect of the FIT program on hand hygiene obedience of nurses at the Gatot Subroto Central Army Hospital.*

Methods: *The study design was quasi experiment with pre test-post test approach by control group design. Samples were 30 nurses as the intervention group and 30 nurses as control group collected by purposive sampling. Collected data by using questionnaires and hand hygiene compliance observation sheet adapted from Department of Health in 2011 and WHO's in 2009.*

Results: *The results showed that was significant difference in hand hygiene compliance between the intervention group and the control group (t (58) = -14,90; p = <0,001; 95% CI = 10,01 – 13,12).*

Conclusions: *FIT program can be used as on going basis to support five other compliance strategies that have been implemented in hospital.*

Keywords: Feedback Intervention Trial (FIT), Hand Hygiene, Obedience, Nurses

INTRODUCTION

Hand hygiene obedience is very important to do by nurses in order to decrease the number of HAIs incidents. According to the research result from (1), nurses' hand hygiene obedience decreases the incidents of HAIs from 11 to 8.2 per 1000 patients per day. Moreover, nurses' hand hygiene decreases HAIs incidents for around 45% each year (2).

Nurses' obedience level in performing hand hygiene still becomes a problem because it is still in low category. Australian hand hygiene study states that the level of nurses' hand hygiene in 656 public and private hospitals in Australia is 76.4% (3).

Hospitals need to have an effective strategy to handle the impact of nurses' disobedience in performing hand hygiene through education and training, monitoring and feedback, reminder, multidiscipline team strategy and method of systematical performance improvement (1).

One of the strategies to improve the level of nurses' hand hygiene is Feedback Intervention Trial (FIT) (4). FIT program is implemented by

observing obedience behavior and then giving positive feedback as well as requiring nurses to do self-reflection related to their hand hygiene. FIT program in a research at one of hospital in Jakarta proves the improvement of hand hygiene obedience behavior.

MATERIALS AND METHODS

The design of the study wasquasy eksperimen with pre test – pos test using control group design. The study was implemented to 30 nurse practitioners as the control group at 3 inpatients wards and 30 nurse practitioners as the intervention group at 6 inpatients wards as the samples which were taken by usingpurposive sampling technique. The data were collected since the first week of May 2015 until the first week of June 2015 by using questionnaire on nurses' hand hygiene knowledge and the perception of hand hygiene obedience developed by WHO in 2009. The behavior of hand hygiene obedience was observed using observation form by WHO (1).

The validity and reliability of the questionnaire had been examined by involving 30 nurse practitioners. The values of *Cronbach's alpha*questionnaire were 0,886 dan 0,986. The test of nurses' hand hygiene obedience observation form used interrater reliability test and Cohen Kappa with the value of > 0.60 of each 20 observers.

RESULT AND DISCUSSION
Result

Table 1. Distribution of Control Group and Intervention Group according to Age and Working Period (n₁ = 30 dan n₂ = 30)

Variables	Mean	SD	95% CI
Age			
- Intervention group	36,27	8,39	33,13; 39,40
- Control group	39,17	9,06	35,78; 42,55
Working Period			
- Intervention group	12,20	8,75	8,93; 15,47
- Control group	14,73	9,40	11,22; 18,24

The distribution of nurses' age characteristics showed that the average age of nurses was in control group (M = 39.17; SD = 9.06) which was higher than the average age of nurses in intervention group (M = 36.27; SD = 8.39). The distribution of nurses' working period showed that the average working period of nurses was in control group (M = 14.73; SD = 9.40) which is higher that the working period of nurses in intervention group (M = 12.20; SD = 8.75).

Table 2. Distribution of Control and Intervention Group according to Sex and Education Level (n₁ = 30 dan n₂ = 30)

Variables	Intervention Group	Control Group	Total
	Amount (n)	Amount (n)	Amount (n)
Age			
a. Male	1 (3.3%)	1 (3.3%)	2 (3.3%)
b. Female	29 (96.7%)	29 (96.7%)	58 (96.7%)
Education Level			
a. SPK	3 (10%)	4 (13.3%)	7 (11.67%)
b. D3	24 (80%)	24 (80%)	48 (80%)
c. Ners	3 (10%)	2 (6.7%)	5 (8.33%)
Total	30 (100%)	30 (100%)	30 (100%)

The distribution of nurses' sex characteristics showed that most of respondents were female both in control group (96.7%) and intervention group (96.7%). In addition, most of respondents' education level was D3 both in control group (80%) and intervention group (80%).

Table 3. Mean Distribution of Knowledge and Perception on Nurse Practitioners' Hand Hygiene Obedience based on the Pre Test Result

Variables	Mean	SD	95% CI
Knowledge on Hand Hygiene			
- Intervention Group	16.30	1.49	15.47; 16.59
- Control Group	15.90	1.24	15.44; 16.36
Perception on Hand Hygiene Obedience			
- Intervention Group	64.60	4.82	62.80; 66.40
- Control Group	63.63	5.10	61.73; 65.54

Knowledge of hand hygiene before training showed that the pre-test mean value on hand hygiene knowledge in intervention group was higher (M = 16.30; SD = 1.49) than control group (M = 15.90; SD = 1,24).

Perception of hand hygiene obedience before training showed that the pre-test mean value of perception of practitioner nurses hand hygiene obedience in intervention group(M= 64,60; SD = 5,10) was higher than in the control group (M = 63,63, SD = 4,82).

Diagram 1. Distribution of Nurse Practitioners' Hand Hygiene Obedience Behavior based on the Result of Pre-test Observation
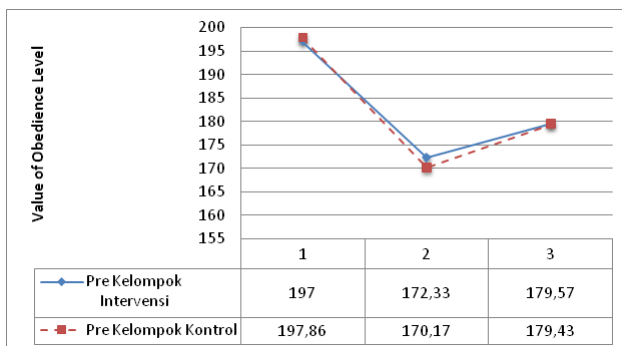
The implementation of hand hygiene obedience behavior before the study began or pre-test was done by observing 20 opportunities which were divided into 3 observation spots of hand hygiene obedience behavior. Hand hygiene obedience behavior in control group in spot 1 showed higher me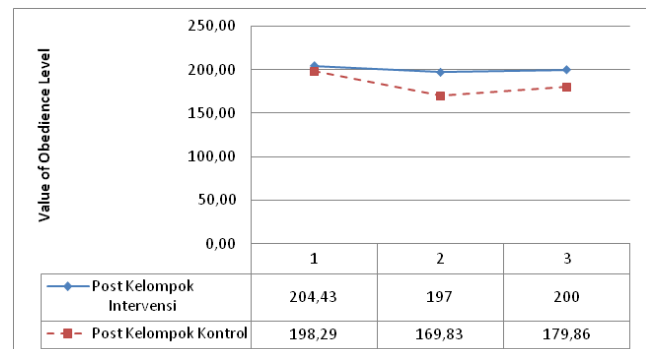an value compared to intervention group namely 197.86 (96.5%). Hand hygiene obedience behavior in intervention group in spot 2 showed higher mean value compared to control group namely172,33 (84.06%). Hand hygiene obedience behavior in intervention group in spot 3 showed higher mean value compared to control group namely179,43 (87.52%). Further observation result based on pre-test result showed that hand hygiene obedience behavior in intervention group and control group were in the highest level that was in spot 1 and was decreasing in spot 2 and was increasing again in spot 3.

Diagram 2. Distribution of Nurse Practitioners' Hand Hygiene Obedience Behavior based on the Result of Post-test Observation

The implementation of hand hygiene obedience behavior after the study began or post-test was done by observing 20 opportunities which were divided into 3 observation spots of hand hygiene obedience behavior.

Hand hygiene obedience behavior in intervention group in spot 1 showed higher mean value compared to control group namely 204,43 (99.7%). Hand hygiene obedience behavior in intervention group in spot 2 showed higher mean value compared to control group namely 197 (96.09%). Hand hygiene obedience behavior in intervention group in spot 3 showed higher mean value compared to control group namely 200 (97.56%).Further observation result based on post-test result showed that hand hygiene obedience behavior in intervention group showed a higher mean compared to control group. The highest mean was in spot 1 and was decreasing in spot 2. It was increasing again in spot 3.

Change of knowledge based on the result of pre test and post test on intervention group obtained significant result (t (29) = -11.54; p = <0.001; 95% CI = 1.67 – 2.39). Change of knowledge based on the result of pre test and post test on control group obtained insignificant result (t (29) = 0.528; p = 0.601; 95% CI = 0.32 – 0.19). Change of obedience perception based on the result of pre test and post test on intervention group obtained meaningful result (t

(29) = -8.50; *p* = <0.001; 95% CI = 4.40 – 7.19). Change of obedience perception based on the result of pre test and post test on control group obtained insignificant result (*t* (29) = -0.239; *p* = 0.813; 95% CI = 0.25 – 0.31). Change of obedience behavior based on the result of pre test and post test on intervention group obtained meaningful; result (*t* (29) = -15.27; *p* = <0.001; 95% CI = 9.90 – 12.96). Change of obedience behavior based on the result of pre test and post test on control group obtained insignificant result (*t* (29) = -0.528; *p* = 0.601; 95% CI = 0.38 – 0.65).

Change of knowledge based on the result of post test on intervention group and control obtained significant result (*t* (58) = -6.81; *p* = <0.001; 95% CI = 4.75 – 8.71). Different perception of obedience based on the result of post test in intervention group and control group obtained significant result (*t* (58) = -8.64; *p* = <0.001; 95% CI = 1.71 – 2.75). Different behavior of obedience based on post t n intervention group and control group obtained significant result (*t* (58) = -14.90; *p* = <0.001; 95% CI = 10.01 – 13.12).

Different knowledge between intervention group and control group obtained significant result (*t* (58) = -7.17; *p* = <0.001; 95% CI = 1.15 – 2.04). Different perception of obedience between intervention group and control group obtained significant result (*t* (58) = -7.76; *p* = <0.001; 95% CI = 3.95 – 6.78). Different behavior of obedience between intervention group and control group obtained significant result (*t* (58) = -13.52; *p* = <0.001; 95% CI = 8.75 – 11.85).

Discussion

The Change of Hand Hygiene Knowledge of Intervention Group and Control Group based on Pre Test and Post test results

The results of this research analysis proved a significant change of hand hygiene knowledge among the intervention group before the intervention and after the intervention, and there was no significant changes in the control group about hand hygiene knowledge based on the pre-test and post-test. This shows that the intervention group which got intervention in the form of training and implementation of the observations with positive feedback or called the Feedback Intervention trial program (FIT) could increase the knowledge better than the group that was not given the intervention.

The nurse's knowledge related to hand hygiene can be improved by providing education or learning through training. Researches by Roberts, Sieczkowski, Campbell and Balla and WHO state that the training of hand hygiene can improve the understanding of nurses through learning methods given in the training so that nurses are more sensitive to the subject of hand hygiene and affect the level of knowledge about hand hygiene (5,6). Turale Takahashi states that the nurse's knowledge about hand hygiene can be increased with the provision of material about hand hygiene that can be provided through seminars, training and learning programs in patient safety (7).

Changes of Hand Hygiene Obedience in Intervention Group and Control Group based on Pre Test and Post test results

The result of this research analysis proves that there was a significant change of hand hygiene on intervention group before and after intervention, and there was no significant change of hand hygiene compliance of control group based on pre test and post test result. This suggests that the group given the intervention experienced better obedience compared to the group that was not given intervention.

The change in nurse compliance was due to an increasing perception of the importance of behaving in a hygienic manner. This is in line

with research conducted by Blas and Robins & Judge which state that human behavior is in line with perceptions that shape one's belief in a value in attitude (8,9). Compliance of nurses performing hand hygiene is influenced by the nurse's perception of a procedure or regulation concerning hand hygiene that must run well in accordance with the techniques and procedures of its implementation (Abdela, tefera, landers, Malefia & Alene, 2014) (10).

Compliance of hand hygiene can change to a better way by the implementation of strategies in the form of training and the implementation of observation with positive feedback. States that a strategy that can be used to improve hand hygiene compliance is with ongoing education and training and with positive feedback (1). This is in line with the research conducted by Fuller et al. which shows that nurses' hand hygiene compliance in London Hospital can be effective with Feedback Intervention Trial (FIT) program which is packed in the form of training and 3 stages of observation with positive feedback on hand hygiene compliance behavior performed by nurses (11).

Differences in Hand Hygiene Knowledge after Intervention in Intervention Group with Post Test Result in Control Group

The result of this research analysis proves that there is a significant difference of hand hygiene knowledge between intervention group and control group based on post test result. The mean value of intervention group knowledge after given intervention had increased compared to the control group. This suggests that the group given the intervention of Feedback Intervention Trial (FIT) had a higher knowledge than the group that was not given intervention.

Feedback Intervention Trial (FIT) in the form of training and implementation of observation with positive feedback could improve the knowledge of hand hygiene of the nurses. This

is in accordance with the results of Fuller's research that the group of nurses given FIT program had increased their knowledge about hand hygiene by 50% (12). Further analysis result is supported by WHO which states that in the patient safety program, especially on improving hand hygiene compliance, the involvement of various parties to provide ongoing training is supported by monitoring efforts with positive feedback (1).

Differences in Hand Hygiene Compliance after Intervention in Intervention Group with Post Test Result in Control Group

The result of this research analysis proves that there was a significant difference of perception and behavior of hand hygiene compliance between intervention group and control group based on post test result. The mean of intervention group values on intervention after being given intervention increased compared to the control group. This suggests that the group given the intervention of Feedback Intervention Trial (FIT) had increased the compliance to hand hygiene compared to the control group.

The implementation of Feedback Intervention Trial (FIT) in this study applies observation efforts along with nurse's self-reflection and feedback, so it could improve the compliance of hand hygiene on nurses. This is in line with the opinion of Armstrong (2006) which states that the function of positive feedback can increase employee's motivation in working toward the goal so that bad behavior can be minimized and changed to a better direction. This is supported by Atwater and Waldman and McShane and Von Glinow suggesting that feedback can provide an employee's perspective on behaviors related to what must be done and not done so that it affects their working performance (13, 14, 15).

Self reflection given in this research gives

a positive impact that nurses are more aware of their behavior. This is in line with the opinion of Bennet and lee (2014) which states that self-reflection can help the individual to interpret the values that affect his behavior (16). This is supported by Mann, Goordon and Macleod which states that self-reflection is an integral part of the learning theory to understand the beliefs and self-values that affect behavior in work (17).

Further research conducted by Paterson and Chapman states that self-reflection conducted by nurses is based on six self-reflection cycles from Gibbs (1988) aimed at helping nurses raise their awareness to behave obediently (18). This is supported by Ghaye who states that nurses in self-reflection with six cycles from Gibbs can help to analyze situations that occur based on the nurse's experience, so they can establish self-awareness to behave better. Further analysis results that provide positive feedback with self-reflection of nurses can help to establish self-awareness nurses interpret values in behaving obediently (19,20).

CONCLUSION AND RECOMMENDATION
Conclusion

Changes of the mean value of hand hygiene compliance based on pre test and post test results in the intervention group had increased compared to the control group. Further test results of hand hygiene knowledge and compliance based on pre test and post test results in the intervention group showed significant results. Changes in hand hygiene knowledge and compliance based on pre test and post test results in the control group showed no significant results.

Differences in hand hygiene knowledge and compliance after intervention in the intervention group compared to hand hygiene knowledge and compliance based on post test results in the control group showed that the mean of knowledge and compliance level of hand hygiene on intervention group was higher than control group. Further test results concluded that differences in knowledge and compliance of hand hygiene based on the results of the post test in the intervention group and the control group showed significant results.

Recommendation

The Feedback Intervention Trial (FIT) program can be applied to improve the success of patient's safety program from first standard until six standard.

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RELATIONSHIP CHARACTERISTICS OF RESPONDENTS BETWEEN IMPLEMENTATION OF PATIENT SAFETY AT CLINIC PRATAMA KASIHAN BANTUL YOGYAKARTA 2017

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ABSTRACT

Background: One of the quality improvement is patient safety. Patient Safety is the main priority in the implementation of health services that become the joint responsibility of all professions in health services.

Objectives: To know the relationship between characteristics of respondents with the application of patient safety in Clinic Pratama Kasihan Bantul Yogyakarta.

Methods: This research is quantitative research using cross sectional design. The population in this study is all health workers, which work in Clinic Pratama Kasihan Bantul Yogyakarta. The number of samples is 35 respondents.

Results: This study shows that there is a relationship between the characteristics of respondents based on (age, gender, education) with the application of patient safety in clinic Pratama Kasihan Bantul Yogyakarta with p-value (<0.005).

Conclusions: The characteristics of respondents in Clinic Pratama Kasihan Bantul Yogyakarta mostly respondents is 25-35 years, most of them female as much as 25 respondents (71.4%) and most have S1 have enough behavioral categories and there are still many applications of patient safety that have not been implemented. The average age of respondents is 25-35 years, most of them female as much as 25 respondents (71.4%) and most have S1 education.

Key Words: Patient Safety, Clinic Pratama

INTRODUCTION

Depertemen Kesehatan (1)describes every health worker in hospital including Clinic Pratama must apply patient safety to prevent patient safety incident. Hospital patient safety itself is a system whereby the Hospital makes safer patient care which includes risk assessment, incident reporting and analysis, incident learning abilities and follow-up and implementation of solutions to minimize risks and prevent injuries caused by errors resulting from from carrying out or not performing the action that should have been taken (2).

Now patient safety problems are still a global problem, data in the United States shows 1 out of 200 people face the risk of service errors in the next hospital, in various states stated in the hospitalization service in the Hospital there

are about 3-16% occurred Genesis (WTD) (1), then Wolrd Health Organization WHO reported the mortality rate of KTD in America amounted to 33.6 million per year ranging from 44,000 to 98,000 per year. Joint Commission International (JCI) and WHO report that some countries have a 70% incidence of treatment error though, (3) issuing "nine life-saving patient safety solutions" or 9 patient safety solutions. In 2011, the patient's safety issues are still prevalent, including in Indonesia. Depertemen Kesehatan (1) reporting the most frequent patient safety incidents in Indonesia is the misuse of drugs. The nurse as a health worker has a responsibility in administering medicine to patients in all settings (4).

Incidents of patient safety at hospitals and in Indonesia are high although, there is no data showing the percentage of incidence, but in Indonesia many cases lead to lawsuits such as malpractice (1). Factors affecting the incidence include the number of nurses who are less than the needs, the number of nurses also causes the nurses workload increases, individual characteristics (age, education level, employment, individual competence) also affect the application of patient safety (5).

Improvement of quality in all areas, especially in the field of health one of them through the accreditation Hospital to the quality of service International. This is in accordance with the provisions of Article 39 paragraph 5 of the Minister of Health Regulation No. 75 of 2014 on Public Health Centers and to improve the quality of basic health services on an ongoing basis, it is necessary to stipulate Regulation of the Minister of Health on Accreditation of Public Health Centers, Clinic Pratama, Practice Places of Independent Doctors, and Place Practice Mandiri Dentist (6).

One of quality improvement is patient safety. Patient Safety is the main priority in the implementation of health services that become the joint responsibility of all professions in health services. Patient safety is a system that prevents the occurrence of incidence (Unexpected Events) due to actions performed or not even performed by medical or non-medical personnel (7).

In Indonesia, patient safety data by province in 2007 was found to be highest in DKI Jakarta at 37.9%, followed by Central Java 15.9%, D.I. Yogyakarta 13.8%, East Java 11.7%, Aceh 10.7%, South Sumatra 6.9%, West Java 2.8%, Bali 1.4%, South Sulawesi 0.7%. The area of specialization of the work unit was found to be the highest in the unit of internal, surgical, and child diseases that was 56.7% compared to the other work units, while for KNC reporting (Almost Injured Events) reported more 47.6% than KTD (Genesis No Expected) of 46.2% (8).

Data obtained from one Clinic Pratama X Kasihan Bantul on Tuesday, February 7, 2017 through interviews 2 respondents one of them is a doctor on duty that morning said that in the Clinic there is no SOP (Standard Operating Procedure) regarding patient safety (patient safety), and for patient safety incident itself until now not exist, for the implementation of patient safety still carried out in accordance with knowledge about patient safety but not in accordance with SOP (Standard Operational Procedure) because not yet exist. This research was conducted to find out how the application of patient safety in Clinic Pratama Kasihan Bantul. Thus it can be known evaluation of the implementation of the five target patient safety and relationships with characteristic Health workers.

MATERIALS AND METHODS

The type of this research was observational in analytical descriptive cross-sectional research design. Population of this research was taken by total sampling at clinic Patama Kasihan Bantul, with 35 health workers. using

questionnaires and observation sheets to find out the implementation of 5 objectives patient safety in Clinic Pratama. This research was conducted in Kasihan Bantul Regency Special Province of Yogyakarta in March 2017 - June 2017 at 4 Clinic Pratama.

RESULT AND DISCUSSION
Respondent Characteristics

Table 1: Frequency Distribution Based on Respondent Characteristics at Clinic Pratama Kasihan Bantul Yogyakarta

Characteristics of Respondents	Frequency (f)	Percentage (%)
Age		
<25	9	25,7
25-35	23	65,7
>35	3	8,6
Total	35	100
Gender		
Man	10	28,6
Women	25	71,4
Total	35	100
Education D3	15	42,9
S1	18	51,4
S2	2	5,7
Total	35	100

Source: Primary data 2017

Based on **Table 1.** above the characteristics of respondents most have age between 25-35 years as many as 23 respondents (65.7%), the characteristics of respondents by sex mostly have the majority of women as much as 25 respondents (71.4%), the characteristics of respondents based on partial education large have S1 education as much as 18 respondents (51,4%). This is in line with the Department of Family and Consumer Sciences of the Faculty of Human Ecology, Concept, Theory and Gender Analysis of 2013 which states that at the age of 20-40 is an age where one has more important role in society (9). The characteristics

of respondents by gender in line with the results of research conducted by Fatimah (10) which states that the age frequency distribution mostly owned by respondents with age range 25-35 years as many as 18 respondents (56.2%) of 32 respondents (11). Likewise with the characteristics of respondents based on education in accordance with the results of research conducted by Bernadeta DH and Ani S which states the frequency distribution of the number of nurses working in Panti Waluya Sawahan Hospital Malang based on gender mostly female (85%) (12). The results of this study were supported by a study conducted by Rasdini, which states that the frequency distribution based on education of most S1 education as much as 21 respondents (19.4%) (13).

Application of Patient Safety

Evaluation of Patient Safety implementation conducted at 4 clinic pratama and every clinic pratama was observed 10 times.

Table 2: Frequency Distribution Based on Characteristics of 5 Implementation target Patient safety at Clinic Pratama Kasihan Bantul Yogyakarta

Target Patient Safety	Aplication of Patient Safety			
	Done		Not Done	
	f	%	f	%
Target I Patient Identification	31	77,5	9	22,5
Target II Improving Effective Communication	38	95,0	2	5,0
Target III Drug Safety	29	72,5	11	27,5
Target IV Infection Risk Reduction	18	45,0	22	55,0
Target V Risk Reduction Falls	18	45,0	22	55,0
Total	40	100	40	100

Source: Primary data 2017

Based on the results of statistical tests in **Table 2.** above shows that the characteristics of the 5 goals of patient safety applicability

most of the categories implemented is the target II Improving effective communication with the category implemented as much as 38 respondents (95.0%). A small part of the target IV Reducing the risk of infection as much 18 respondents (45.0%), and target V Risk reduction fell as much 18 respondents (45.0%). While for the non-performing category, most of them are target IV and target V is 22 respondents (55,0%) and a small part is II target of 2 respondents (5.0%).

Characteristics of Respondents (Age, Gender and Education)

Based on statistic test result used chi-square in getting characteristic result of Respondent (Age, Gender and Education) related to the implementation of target patient safety.

Table 3: Statistical Test of The Relationship Between Age-Based Characteristics and 5 Patient Safety Assessment Objectives at Clinic Pratama Kasihan Bantul Yogyakarta

Target Patient Safety	P-value	Explanation
Target I Patient Identification	0,000	There is a Relationship
Target II Improving Effective Communication	0,004	There is a Relationship
Target III Drug Safety	0,041	There is a Relationship
Target IV Infection Risk Reduction	0,001	There is a Relationship
Target V Risk Reduction Falls	0,025	There is a Relationship

Source: Primary data 2017

Table 3. shows that the results of statistical tests using chi square on the characteristics of age-based responders with the implementation of the 5 target patient safety in Clinic Pratama have a significant relationship with each target patient safety with value (p Value> 0.005). The results of this study also supported by research conducted by Lombogia which states that most of the frequency distribution based on age in the range of 20-30 years as much as 22

respondents (71.0%) of 31 respondents (14).

Table 4: Statistical Test Result of The Relationship of Characteristics by Gender with 5 Target of Patient Safety Application in Clinic Pratama Kasihan Bantul Yogyakarta

Target Patient Safety	P-value	Explanation
Target I Patient Identification	0,179	Not Related
Target II Improving Effective Communication	0,109	Not Related
Target III Drug Safety	0,005	There is a Relationship
Target IV Infection Risk Reduction	0,000	There is a Relationship
Target V Risk Reduction Falls	0,013	There is a Relationship

Source: Primary data 2017

Table 4. shows that the results of statistical tests using chi-square on the relationship of respondent characteristics by sex with 5 target of patient safety application in Clinic Pratama found that gender does not have significant relation of target I and target II with value (p value > 0.005), while target III, target IV, and target V have a significant relationship with 5 patient safety goals. The results of this study are supported by research conducted by Dece which states the frequency distribution of the number of nurses working in Panti Waluya Sawahan Malang Hospital based on gender is mostly female (85%) (12).

Table 5: Statistical Test Results of Characteristic Relationship Based on Education With 5 Target of Patient Safety Application in Clinic Pratama Kasihan Bantul Yogyakarta

Target Patient Safety	P-value	Explanation
Target I Patient Identification	0,216	Not Related
Target II Improving Effective Communication	0,615	Not Related
Target III Drug Safety	0,032	There is a Relationship
Target IV Infection Risk Reduction	0,001	There is a Relationship
Target V Risk Reduction Falls	0,036	There is a Relationship

Source: Primary data 2017

Table 5. shows that the results of statistical tests using chi-square on the relationship of respondent characteristics based on education with 5 target of patient safety application in Clinic Pratama found that education does not have significant relation of target I and target II with value (p Value> 0,005) while target III, target IV, and target V have a significant relationship with 5 patient safety goals. The results of this study were supported by a study conducted by Rasdini which states that the frequency distribution based on education of most S1 education as much as 21 respondents (19.4%) (13).

CONCLUSION AND RECOMMENDATION
Conclusion

Based on research conducted in Clinic Pratama Kasihan Bantul Yogyakarta year 2017 can conclude that:

1. Respondents working in Clinic Pratama Kasihan Bantul Yogyakarta aged 25-35 years as many as 23 respondents (65.7%) of 35 respondents. Respondents who work in Clinic Pratama Kasihan Bantul Yogyakarta are female as many as 25 respondents (71.4%) from 35 respondents. Respondents who work in Clinic Pratama Kasihan Bantul Yogyakarta mostly have S1 education as much as 18 respondents (51.4%).

2. Respondents who work in Clinic Pratama Kasihan Bantul Yogyakarta based on statistical test results indicate that the characteristics of the five target of patient safety application is largely a target II Improving effective communication with the accomplished category as many as 38 respondents (95.0%), the target has a low value that is target IV Infection risk reduction of 18 respondents (45.0%), and target V Risk reduction fall by 18 respondents (45.0%).

3. There is a significant relationship between the characteristics of respondents by age with 5 goals of patient safety application (p <0.05).

4. There is a significant relationship between the characteristics of respondents by gender and education with target of patient safety application on target III, IV, V (p <0.05).

Recommendation

1. The results of this study are expected to be a material to further improve the service, especially in terms of patient safety culture so as to reduce injury rates in patients.

2. Further research on the factors affecting the patient safety culture is expected and the researcher will then use a qualitative research type to be able to find out more about patient safety issues.

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EVALUATION OF PATIENT SAFETY APLICATION
AT FIRST LEVEL CLINIC IN BANTUL

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ABSTRACT

Background: Patient safety is a patient free from harm (injury) which includes disease, physical disability, psychological, psychological, disability or death. The target of patient safety include: The accuracy of patient identification; improvement of effective communication; improvement of drug safety; reduction of infection risk. reduction of patient risk fall. The country of Indonesia incidents of patient safety data in primary clinics is still rare so, it is important to know to evaluate the application of Patient safety in primary clinics.

Methods: This research is Mix Method research that is quantitative research with cross sectional survey design and qualitative research with case study design. This research was conducted in January 2017 until August 2017. With the number of 33 primary clinics in Bantul district. By observing the implementation of patient safety and indept interview.

Results: The results showed that 32 or 48.5% had implemented the target patient safety I, 19 or 28.8% who had implemented goal II, target III result 54 or 81,8%, target IV result 34 or 51,5%. The result of the V goal is 25 or 37.9%. These results indicate that many clinics do not have SOP associated with targets I until target V.

Conclusion: Suggestions based on research, among others for management, making SOP related to the implementation of health service action facilitate primary clinics to prepare documents on accreditation process, training or refresh HAIs related material and effective communication between health workers, and complete posters, leaflets, and other instructions to wash hands, make hand rills, especially on toilets, make marks on stairs or floors that have climbs.

Key Words: First Level Clinics, Patient Safety

INTRODUCTION

Patient safety is the main thing that must be done in every health service. Patient safety (patient safety) is an injury-free patient which includes diseases, diseases, disabilities, deaths, etc. that are either absent or potentially in health services (1). Regulation of the Minister of Health No. 1691/Menkes/Per/VIII/2011 article 8, on the patient's safety objectives in paragraphs 1 and 2 explains that, every hospital and health care facility shall endeavor to fulfill the patient's safety objectives (2). The patient's safety goals include the accuracy of patient identification; Improved effective communication; improvement of drug safety to watch out for; Appropriate Certainty, Location, Appropriate, Procedures, Patient Operations, Reduced Risk of Health-related Infection, and Risk Reduction of Patients (3).

Patient safety is not only applied in hospitals, but all health services should make patient safety a priority in health service arrangement, according to PerMenKes RI about clinic, explaining that every health worker in clinic must work in accordance with professional standard , standard procedure operations, service standards, professional ethics, respect for patient rights, prioritizing the interests and safety of patients (4) Clinic is a health service facility that carries out individual health services providing basic or specialist medical services, which are organized by more than one type of health worker and led by a medical worker. Based on its services according to PerMenKes RI No 9 the clinic is divided into 2 kinds namely, First Level Clinic and secondary level Clinic (4).

The general objective of this research is to evaluate the application of Patient Safety at Pratama Clinic in Bantul Regency, Yogyakarta. The specific purpose of this research is to evaluate the application of Patient Safety in Pratama Clinic in Bantul Regency Yogyakarta and to identify problems and obstacles in applying Patient Safety at First Level Clinic in Bantul Regency Yogyakarta.

MATERIALS AND METHODS

This research type is Mix Method research that is quantitative research with cross sectional survey design and qualitative research with case study design. conducted in First Level Clinic located in 17 District Bantul District of Yogyakarta, this research was conducted in January 2017 until August 2017, with number of 33 First Level Clinic. The population and research subjects in this study were all health workers directly involved in health services. Variables in this study consisted of 1 variable or single, namely: Implementation of target Patient safety.

Patient safety activities performed by health personnel in 5 patient safety goals: accuracy of

patient identification; improvement of effective communication; improvement of drug safety to watch out for; reducing the risk of infection related to health services, and reducing the risk of falling patients.

RESULT AND DISCUSSION

1. The Results of Observation

The result of this research is the application of patient safety which is carried out by health officer in First Level Clinic, such as doctor, nurse, midwife, pharmacist. by looking at the five patient safety goals: patient identification, effective communication improvement, drug safety, infection risk reduction and risk reduction fall. The results of the patient safety application at the clinic conducted by the First Level Clinic are shown in **Table 1.1** below:

Table. 1. Frequency Distribution of Application of Patient Safety in Pratama Clinic of Bantul Regency Target of Patient Safety Application of Patient Safety Total

	f	%	f	%	n	%
Patient identification	32	48,5	34	51,5		
Improved effective communication	19	28,8	47	71,2		
Drug safety	54	81,8	12	18,2	66	100
Reduced risk of infection	34	51,5	32	48,5		
Risk reduction fell	25	37,9	41	62,1		

Source: Primary Data Year 2017

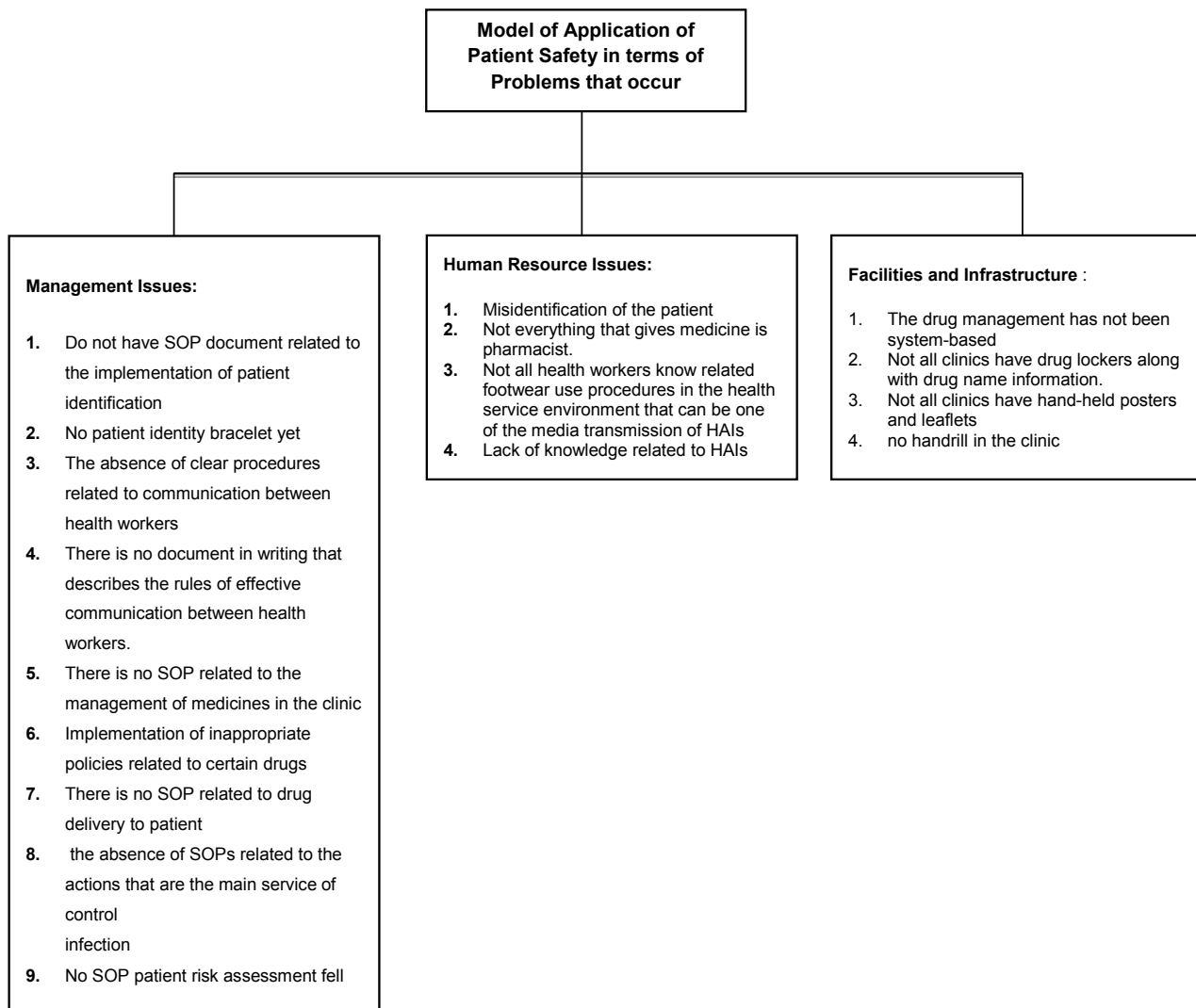Based on the result of univariate statistic test in **Table 1.** above shows the characteristic distribution of 5 target of the majority patient safety implementation in the implemented category that is more than 50% implementation, among others, there are 3 target that is target of patient identification, target III of drug safety and target IV infection risk reduction. Two targets have not been well implemented,

namely the target II improvement of effective communication and target V risk reduction has not been implemented more than 50%.

2. The Result of Interview

Image 1. The evaluation model of patient safety application in terms of the problems found:

Image 1. The Evaluation Model of Patient Safety Application in Terms of The Problems Found

Model of Application of Patient Safety in terms of Problems that occur

Management Issues:

1. Do not have SOP document related to the implementation of patient identification
2. No patient identity bracelet yet
3. The absence of clear procedures related to communication between health workers
4. There is no document in writing that describes the rules of effective communication between health workers.
5. There is no SOP related to the management of medicines in the clinic
6. Implementation of inappropriate policies related to certain drugs
7. There is no SOP related to drug delivery to patient
8. the absence of SOPs related to the actions that are the main service of control infection
9. No SOP patient risk assessment fell

Human Resource Issues:

1. Misidentification of the patient
2. Not everything that gives medicine is pharmacist.
3. Not all health workers know related footwear use procedures in the health service environment that can be one of the media transmission of HAIs
4. Lack of knowledge related to HAIs

Facilities and Infrastructure :

1. The drug management has not been system-based
2. Not all clinics have drug lockers along with drug name information.
3. Not all clinics have hand-held posters and leaflets
4. no handrill in the clinic

Discussion

1. Evaluation of Patient Safety Application

a. Goal I

The result of observation of patient safety practice, as many as 32 or 48,5% have implemented patient safety application, for target I still low its application because, observation result obtained many clinic which not yet have SOP to do patient identification.

PerMenKes no. 1691 year 2011; JCI & WHO 2007 and WHO 2012 declare that errors in identifying patients can occur in almost all stages of diagnosis and treatment, therefore, two checks are needed: firstly identifying patients as indivudu who will receive healthcare; second to adjust the action or treatment to the individual. This procedure has at least two ways to identify patients, such as patient name, date of birth, residence

address, patient identity bracelet and others. Observation results in line with the results of interviews, the most problems that occur is the absence of SOPs that regulate the identification of patients (6,10).

This is expressed by R4 in the statement:

"Heee.. there is no SOP sist.., but if fitting service. We must repeat the name, address. And if we give therapy so we ask, what is clear or not."

And R7 says:

"Eee .. most we use name sist.. but if use bracelet so there is no yes us. Only communication asks name, address, age, common. If SOP hehe .. we have no sist.. no related SOP that maybe we lack".

This indicates that the existence of SOPs governing the implementation of health service activities is very important, in addition to being a standard in service, can also see the compliance of health workers to implement activities according to the applicable standards or not. That every public service provider is obliged to compile, establish and implement Service Standards and stipulate a Service Notice with due regard to organizational capability, community needs and conditions environment; (Regulation of the Minister of Administrative Reform and State Apparatus Bureaucracy of the Republic of Indonesia Number 15 Year 2014) (5).

In the Regulation of the Minister of Health of the Republic of Indonesia Number 1691/Menkes/Per/VIII/2011 About Hospital Patient Safety Also explains that, Mistaken error in identifying patients can occur in almost all stages of diagnosis and treatment. Patient identification errors can occur in patients who are under anesthesia, disoriented, unconscious, exchanging beds, sensory abnormalities, or other situations. The purpose of this goal is to conduct two checks, namely: first, for the identification of patients as individuals who will receive services or treatment; and secondly, for the suitability of the service or treatment of that individual.

Policies and or procedures that are collaboratively developed to improve the identification process, particularly in the process of identifying patients when administering medications, blood, or blood products; blood collection and other specimens for clinical examination; or the provision of treatment or other measures (2). Policies and procedures require at least two ways to identify a patient, such as patient name, medical record number, date of birth, identity bracelet of patient with bar code, and so on. The patient's room number or location can not be used for identification. Policies and procedures also describe the use of two different identities at different locations in the hospital, such as in outpatient services, emergency room, or operating room including identification in unidentified comatose patients. A collaborative process is used to develop policies and procedures to ensure all possible situations can be identified.

b. Goal II

Implementation of goal II resulted in only 19 or 28.8% who have

implemented this objective II. The low implementation of goal II is due to the fact that many clinics have no standard in communication with health workers, health workers rarely reaffirm orders received. An easy communication of common errors is either verbal communication either directly or by telephone. Effective communications used by healthcare workers should be timely, accurate, complete, clear and easily understood by the patient so that it will reduce errors and result in patient safety (3). Reduce patient safety incidents caused by ineffective communication among health workers by one of them, using SBAR or ISBAR communication standards (6).

Supported research Fatimah & Rosa (7) which mentions with health workers trained communication SBAR will decrease mistake injecting drugs in hospital. Although, this study is in the hospital only this communication can be applied in health facilities starting from the first level (FKTP), including pratama clinics that implement a system of shift guard or guard shift.

Based on the results of interviews related to effective communication, R1 explained that the absence of regulating standards related to effective communication.

"If in writing there is no yes .. but in the monthly meeting in addition we repeated the vision and mission, ee .. quality of service that, we always disclose, so that communication and application that happened it all know yes, because patient is not really much."

In the Regulation of the Minister of Health of the Republic of Indonesia Number 1691/Menkes/Per/VIII/2011 (2) About Hospital Patient Safety explains, Effective, timely, accurate, complete, clear, and understood communication by patients, will reduce errors, and result in improved patient safety. Communication may be electronic, oral or written. Error-friendly communication occurs mostly when the command is given orally or over the phone. Another easy communication error is the re-reporting of critical examination results, such as reporting the results of cito clinical laboratories by telephone to the service unit (11).

c. **Goal III**

The results showed that 54 or 81.8% of target III related to drug safety had been conducted in Pratama Clinic seen from many pharmacist health officers and nurses knowing easily the location of the drug, where the drug contained the drug label, the officer confirmed the name of the drug according to the prescription given by the doctor, no drug is given to patients who have expired date and the officer gives the drug using the drug label (12).

Drug safety should be carried out by health care workers since treatment errors can cause enormous harm to the patient. Efforts that can be done by the officer by paying attention to drugs that NORUM (name of medicine and similar remarks), in addition to the true application of drug delivery. Potter & Perry (8) mentions to improve patient safety related to drug administration need to improve some true principles in drug delivery is true medicine, true dose, true patient, correct route, correct time, true information, correct expiration,

correct review, correct evaluation and correct documentation.

This is in accordance with the results of interview R3:

"We are obliged to provide information, right there is the right medicine, right patient, right dose etc ..."

While associated with drug labels and drug storage, in line with the R8 statement:

"If here we are quite orderly, there is a locker and there is a name, etiquette is also there to provide information to patients. Giving appropriate doses are written prescribed and usually if there is a clear ga usually we immediately confirm to the doctor ."

This is explained also in the Regulation of the Minister of Health of the Republic of Indonesia Number 1691/Menkes/Per/VIII/2011 (3). About Hospital Patient Safety, When medication becomes part of the patient's treatment plan, management must play a critical role to ensure patient safety. High-alert medications are drugs that often cause errors or serious errors (sentinel events), high-risk drugs cause adverse outcomes such as drugs that look similar and sound similar (Similar Drug and Speech Name, NORUM, or Look Alike Soun Alike or LASA) (12).

d. Goal IV

Reduced risk of infection by primary clinic as much as 34 or 51.5% have applied the principle for reducing the risk of infection. The dangers that will arise if the health service does not apply the risk reduction of infection can cause infection. Infection is commonly found in health services, namely urinary tract infections, infections of the blood stream (blood stream infections) PerMenKes (2).

Infection can be obtained by the patient if the health service does not maintain the principle of prevention of this infection.

Healthcare premises including First Level Clinics are required to provide hand-washing facilities for health workers and for health-care users. Not justified patients do not wear footwear because it will reduce protection against dirt on the floor. If the clinic does not have a hand wash site with a flowing faucet then, it can be attempted by replacing it with a hands-rub to guarantee the health care workers from infections and especially the health care users.

Respondents R1 says:

"The sink is there ,, Hehehe used to exist but already on this off I think, pasted ,, steps wash hands. If for patients there hand rub ,, Footwear was removed from the first, and so far we have not provided footwear, maybe the future we will provide, because if we are free use footwear, must be dirty .. must clear everytime etc .. "

In the Regulation of the Minister of Health of the Republic of Indonesia Number 1691/Menkes/Per/VIII/2011 (2) About Hospital Patient Safety, explains that infection prevention and control is the greatest challenge in health care settings, and the increased cost of dealing with health care-related infections is a major concern for patients and health care professionals. Infection is common in all forms of

health services including urinary tract infections, blood stream infections and pneumonia (often associated with mechanical ventilation). (11) The center of elimination of this infection as well as other infections is proper hand hygiene. In addition, not using footwear in hospitals or in the healthcare environment can transmit the infection. This becomes a pretty serious problem and requires follow-up handling.

e. Goal V

The results showed 41,2 or 62,1% First Level Clinic not yet apply risk reduction fall where, where many clinic which not yet have SOP related to study of patient at risk of fall for example for elderly, still obtained bed bed patient no obstacle, still got the terracing floor should be made sloped slightly and smooth to avoid the risk of falling. The patient's case once fell due to tripping over the wires left on the floor used for public roads. Although not only cause injury, this incident can be avoided by tidying up the environment as it should be.

The number of cases fell considerably as a cause of injury for inpatients (3). The place of health services including the Primary Clinic should evaluate the risk of falling patients and take action to reduce the risk of injury if it falls. Evaluations may include a history of falls, medications and studies of alcohol consumption, street style and balance and the availability of walking aids used by patients such as wheelchairs.

Interview data related to the patient fell, data obtained from R1 explained:
"if for that particular chair is not

there yes, because the ability of clinics also but there are chairs that we have, we have 2 that we provide for the elderly. We also give an explanation to his family also so as not to fall. Certain marks are on the stairs, or a small incline so the tiles are black. There's a patient bed safety".

The presence of handrills and certain marks to be health services sensitive to the target patient safety, especially the risk of falling targets, given the many cases of falls that exist in the hospital caused by various factors. (9,14,15).

2. Identify the Problems that appear

Based on the qualitative analysis in **Figure 1,** the results obtained problems that occur in the application of patient safety in Clinic Pratama. Explanation of problem identification will be elaborated based on 3 categories, that is problem in management scope, problem in human resource, and problem in scope of facility and infrastructure.

a. Issues Within The Scope Of Management

1. Do not have SOP document related to the implementation of patient identification
2. There is no patient identity bracelet yet
3. The absence of clear procedures related to communication between health workers
4. There is no document in writing that describes the rules of effective communication between health workers.
5. There are no SOPs related to the management of medicines in the clinic

6. Implementation of inappropriate policies related to certain drugs

7. There is no SOP related to drug administration to the patient

8. the absence of SOP-related actions that serve as the principal service of infection control

9. No SOP of patient risk assessment falls

10. The problem that most and almost happened in every Clinic Pratama is SOP problem (Standard Operational Procedure). This will be an obstacle for the Primary Clinic when it comes to accreditation of the Primary Clinic, because the SOP (Standard Operating Procedure) will be a reference for the appraiser to see if the service is in accordance with existing standards or not.

b. Issues Within The Scope of Human Resources

1. The error of patient identification

2. Not all who give drugs is a pharmacist.

3. Not all health workers know related footwear use procedures in health care environments that can become one of the media of HAIs transmission

4. Lack of knowledge related to HAIs

5. Problems that occur include lack of information related to HAIs and transmission.

c. Problems in The Scope of Facilities and Infrastructure

1. The drug management has not been system-based

2. Not all clinics have drug lockers along with drug name information.

3. Not all clinics are available for hand-held posters and leaflets

4. there is no handrill in the clinic

5. some do not use standard standard flooring

6. there are no special bracelets for high risk patients fall

7. Problems related to facilities and infrastructure, more emphasis on the lack of availability of drug lockers and information, in addition to the completeness of handwashing instructions and patient safety in patients who have a high risk of falling.

CONCLUSION AND RECOMMENDATION

1. As many as 32 or 48.5% have implemented the patient safety application, the implementation for target I is still low because of the implementation, observation results obtained many clinics that do not have SOP to identify patients, in the last year an incident of patient error. The problems that occur are more unavailability of SOPs that regulate patient identification.

2. Increased effective communication in Primary Clinic obtained only 19 or 28.8% of the results that have implemented this objective II. The low implementation of goal II is due to the fact that many clinics have no standard in communication with health workers, health workers rarely reaffirm orders received. The absence of a SOP that governs the communication that is in fact only limited to regular communication and not standard.

3. Results indicate 54 or 81.8% of target III related to drug safety have been implemented in Pratama Clinic seen from many pharmacist health officers and nurses know easily the location of the drug, where the drug contained the drug label, the

officer confirmed the name of the drug in accordance with the prescription given a doctor, no drugs were given to patients who had expired date (expired) and the officer gave the drug by using the drug label. The lack of a place or locker for drug storage and drug labels makes the drug storage media not in accordance with the standards that should be.

4. A 34.5 or 51.5% reduction in the risk of infection has applied the principle for reducing the risk of infection. A total of 41.2 or 62.1% of Pratama Clinics have not yet implemented risk reduction where, where many clinics do not have SOPs related to the assessment of patients at risk of falling.

Making SOPs related to the implementation of health service measures facilitates primary clinics to prepare documents on the accreditation process. The existence of training or refreshing related materials HAIs and Effective Communication between health workers. Provision and completion of posters, leaflets, and other clues to wash hands, make handrills especially on toilets, make marks on stairs or upgraded floors. Can continue this research with accreditation facilitation as well as escort the readiness of accreditation documents at First level Clinic.

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ANALYSIS OF OUTPUT PATIENTS' SATIAFACTION AFFECTING FACTORS TOWARD ADMINISTRATION SERVICE AT RSUD WONOSARI

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ABSTRACT

Background: *Patient satisfaction is the result of the assessment in the form of emotional response or feelings of pleasure and satisfaction in patients due to fulfilment of hope or desire in using and receiving health services. Patient satisfaction is one of the most important things in seeing the quality of health services in hospitals.*

Methods: *This research is a type of quantitative descriptive research. The population of this study were all outpatients at RSUD Wonosari during October - December 2016 as many as 25,394 people. Sample were 106 people obtained from the formula of sample proportion, with accidental sampling technique. This research was conducted from January to April 2017. The objective: To analyze the factors of patient satisfaction on outpatient administration service at RSUD Wonosari.*

Results: *Patient satisfaction on outpatient administration service In RSUD Wonosari were 104 respondents (98%) in satisfied category while 2 respondents (2%) were in dissatisfied104 respondents (98%).*

Conclusion: *Category of patient satisfaction on outpatient administration service in RSUD Wonosari viewed from five dimensions namely direct evidence (tangibles), reliability, responsiveness, comfort (assurance) and attention (empathy), indicating that most of the outpatients were satisfied.*

Keywords: Patient Satisfaction, Administration Service

INTRODUCTION

Patient satisfaction is the result of the assessment in the form of emotional response (feelings of pleasure and satisfaction) in the patient because the fulfillment of hope or desire in using and receiving health services (1). The health service in this study focuses on administrative services, because every patient who goes to the hospital, must pass the administrative service first, including outpatients. Outpatients are services to persons admitted to the hospital, for the purposes of observation of diagnosis, treatment, medical rehabilitation and other health services without staying in an inpatient room (2).

Outpatient administration services should create a smooth and pleasant service environment for patients, so patients feel satisfied. If a health service can generate satisfaction for the patient it serves, then it can be said, a health service is quality, quality itself becomes one indicator of service quality (3). Therefore, the quality of service becomes the key in achieving the satisfaction of the services provided. To know which dimension is important in influencing customer satisfaction then SERVQUAL concept that has been developed by Parasuraman, Zeithaml & Berry can be made as a reference. The concept formulates five dimensions of direct evidence (tangibles), reliability, responsiveness, comfort (assurance) and attention (empathy) (4).

This researchers focused on the satisfaction of outpatient services – since, outpatient services have a fairly large intensity of use and are frequented by many patients. As from the preliminary study in RSUD Wonosari in January 2017, the average visits from 20 existed polies during the last three months were 8464 people. The average of visits in October was 8904, 8255 in November and 8235 in December 2016. These data showed a decrease in the number of visits even though not significant, but this is still the alarm and attention the management of Wonosari hospitals for possible dissatisfaction by outpatients. And in order to provide maximum administrative services to each customer, in this case the outpatient service users. Hopefully, it impacted on the surge of customers of outpatient services in RSUD Wonosari.

This research is supported by previous research entitled Customer Satisfaction of Outpatient Service of Dr. Muwardi Surakarta Regional Public Hospital, with the general result of outpatient service of Dr. Muwardi Surakarta Hospital is considered unsatisfactory (5). This makes the basis of this research to be able to provide better service for outpatient administration of RSUD Wonosari.

MATERIALS AND METHODS

This research is a descriptive quantitative research. The data were alkalized quantitatively primer data were collected by using adopted quesionaire from Fenny Mutiasari research entitled Affecting Factorson outpatients' satisfaction of RSUD Tarakan Jakarta which validity and reliability have been tested before. Population in this research were the whole outpatients (25.394 outpatients) from October to December 2016. Sample was taken from 20 polies with accidental sampling to obtain a number of 106 outpatients. This research was conducted from January to April 2017.

RESULTS AND DISCUSSION

Repondents' Characteristics

Tabel 1. Respondents' characteristics distribution

Characteristics	F	(%)
Age		
<20 year old	15	14.2
21-30 year old	22	20.8
31-40 year old	16	15.1
41-50 year old	23	21.7
>50 year old	30	28.3
Total	106	100
Sex		
Male	45	42.5
Female	61	57.5
Total	106	100

Education		
Elementary graduates	27	25.5
Middle School Graduates	25	23.6
High school Graduates	34	32.1
Diploma Graduates	2	1.9
S1-S3	16	15.1
Others	2	1.9
Total	106	100
Occupation		
PNS/TNI/Polri	10	9.4
Private sector workers	15	14.2
Entrepreneur	26	24.5
Students	11	10.4
Housewife	18	17.0
Others	26	24.5
Total	106	100

Source: Primary Data Year 2016

Here is a discussion of the characteristics of respondents who use outpatient health services in hospitals Wonosari from the age of most aged 50 years and over, ie in the category of the elderly (6). Elderly prone to various diseases due to age, the more the body power (7). Of the characteristics of sex, in this study more women than men, it is supported by the theory that because women are susceptible to decreased immune system due to hormonal influence is more complex than men, fatigue is also one cause of vulnerable women sick (8). For the characteristics of education, the most senior high school / equivalent is 32%. After that, SD 25.5% and junior high 23.6%, high school education is still considered low educated in the current era, this can happen because Wonosari regency belong to the district far from city of Yogyakarta, so for equality of education is still not maximized. The last characteristic is work, from the data obtained the most work is self-employed and others is 24.5%. Analysis of Research Data Factors Affecting Patient Satisfaction With Outpatient Administration Services In Wonosari Regional General Hospital.

Table 2. Data of research result category of patient satisfaction level based on per variable.

Variabel	Category	f	(%)
Tangible			
	Satisfied	106	100
	Dissatisfied	0	0
Reliability			
	Satisfied	99	93.4
	Dissatisfied	7	6.6
Responsiveness			
	Satisfied	98	92.5
	Dissatisfied	8	7.5
Assurance			
	Satisfied	102	96.2
	Dissatisfied	4	3.8
Empathy			
	Satisfied	101	95.3
	Dissatisfied	5	4.7
Total		106	100

Source: Primary Data Year 2016

The analysis of factors influencing patient satisfaction on outpatient administration service at the general hospital of Wonosari area in this study was analyzed with five dimensions of satisfaction from Parasuraman, the five dimensions are direct evidence (tangibles), reliability, responsiveness, , comfort (assurance) and attention (empathy) (4). Patient satisfaction is one of the most important things in seeing the quality of health services in hospitals.

Analysis of outpatient satisfaction in Wonosari Hospital is the first dimension of Physical Evidence (Tangible). of the results showed 100% or all patients in the category satisfied in

assessing this dimension . For Tangible dimension there are 3 aspects that are assessed, firstly, facilities and equipment owned by outpatient administration service in RSUD Wonosari function well. Second, Hygiene in the outpatient administration service in RSUD Wonosari is well maintained and thirdly, the atmosphere when in the environment of outpatient administration service in Wonosari Hospital is pleasant. This is because RSUD Wonosari has just done renovation in several health facilities, including in outpatient facilities, renovation periodically proven to maintain customer satisfaction.

The outpatient satisfaction analysis at Wonosari Hospital was the dimension of Reliability, from the result of the study showed 99 patients or 93.4% in the satisfied category and 7 patients or 6.6% in the unhappy category in assessing this dimension. still there are dissatisfaction arises because if the analysis per aspect, For dimensions of Reliability there are 4 aspects assessed, first for the aspect of outpatient service administration provide services in accordance with the vision of RSUD Wonosari that is "Fast, Clean, Sympathetic", there are 12 respondents or 10.4% who said not satisfied, even one respondent said very dissatisfied. There are still 12 respondents or 11.3% who said that they are not satisfied with the second aspect in the dimension of Reliability that is, the outpatient administration staff in RSUD Wonosari serve quickly, precise and responsive, and also for the third aspect, that is, the skill of the outpatient administration personnel in RSUD Wonosari very good at providing services. While for the last aspect on the dimensions of reliability, that is, the registration procedure is easy and not convoluted, there are 9 respondents or 8.5% who said not satisfied and 2 respondents said very dissatisfied, from these results can be suggested to the RS to further simplify administrative procedures, so as not complicated for patients.

While the dissatisfaction in the Reliability dimension is low, it should still be a concern and a correction for the management of RSUD Wonosari to correct the performance or by providing excellent service training to the ambulatory administrators related to the reliability, speed, skill, responsiveness, accuracy and communication in work. To optimize the number of customer satisfaction.

Outpatient satisfaction analysis in Wonosari District Hospital was the Responsiveness dimension, from the results of the study showing 98 patients or 92.5% in the satisfied category and 8 patients or 7.5% in the unhappy category in assessing this dimension. Still the number of dissatisfied figures is still dissatisfied for the three aspects of the Responsiveness dimension, ie in the aspect of the outpatient administration staff in RSUD Wonosari able to handle the complaints of patients well and accurately, there are 8 respondents or 7.5% say no satisfied. In the second aspect, the outpatient administration staff at Wonosari hospitals are friendly in serving the patients, there are 8 respondents or 7.5% said not satisfied. Last on aspect Officer of outpatient administration in RSUD Wonosari not impressed / rush in serving patient, there are as many as 11 respondents or 10.5% say not satisfied. For this dimension it is not easy to judge objectively, as each individual / patient will vary his perceptions to judge related hospitality, be able to handle complaints, and an attitude that is considered hasty from administrative personnel or outpatient personnel.

The outpatient satisfaction analysis in Wonosari General Hospital was Assurances dimension, from the result of the study showed 102 patients or 96.2% in the satisfied category and 4 patients or 3.8% in the unhappy category in assessing this dimension. The number of dissatisfaction in this dimension is still dissatisfied for the three aspects of Assurances dimension, namely in the aspect of the outpatient administration service staff in RSUD Wonosari consistently being polite, there are 4 respondents or 3.8% said not satisfied. In the second aspect, the outpatient administration service staff in RSUD Wonosari can increase the confidence of the patients, there are 10 respondents or

9.4% said not satisfied and 1 respondent said very dissatisfied. Third, on the availability aspect of the examination record form, there are 6 respondents or 5.7% said not satisfied.

The outpatient satisfaction analysis at Wonosari Hospital last was Empathy dimension, from the result showed 101 patients or 95.3% in the satisfied category and 5 patients or 4.7% in the unhappy category in assessing this dimension. The number of dissatisfied figures is still unsatisfied due to the lack of satisfaction on both aspects of Empathy dimension, namely in the aspect of outpatient administration service in RSUD Wonosari provide services on time of open or close operation on time there are 7 respondents or 6.6% say no satisfied. This means that the respondent as a customer or the patient feels that the open and closed operating hours of RSUD Wonosari have not been timely. It should be a concern for the RS, because in accordance with the results of previous studies said that should schedule the service in the hospital in accordance with existing provisions, so as not to make customers wait (9), this waiting state is what makes customers dissatisfied in this aspect . Meanwhile, on the aspect of staff of outpatient administration service in RSUD Wonosari full attention and patient in understanding desire and requirement of patient, there are 13 respondents or 12.3% say not satisfied. Still, the dissatisfaction in this aspect should be concerned by the management of RSUD Wonosari, because this result is in accordance with previous research which said that the density of attention (Empathy) is a factor that can influence patient satisfaction on hospital service. It is expected that the hospital management is more concerned about the courtesy of the officers so that patients feel more comfortable in receiving the service, and can increase their satisfaction with the waiter in RSUD Wonosari.

CONCLUSION AND RECOMMENDATION

Conclusion

1. Category of patient satisfaction on outpatient administration service in RSUD Wonosari viewed from the dimension of physical evidence (tangible), showing that all respondents said satisfied or as much as 106 respondents (100%).

2. Category of patient satisfaction on outpatient administration service in RSUD Wonosari in terms of reliability dimension (reliability), showed that most satisfaction categories were 99 respondents (93.4%) and 7 respondents (6.6%) respondents with dissatisfied category.

3. Category of patient satisfaction on outpatient administration service in RSUD Wonosari viewed from responsiveness dimension, showed that most satisfaction categories were 98 respondents (92.5%) and 8 respondents (7.5%) respondents with dissatisfied category.

4. The category of patient satisfaction on outpatient administration service in RSUD Wonosari is evaluated from assurance dimension, indicating that most satisfaction categories are 102 respondents (96.2%) and 4 respondents (3.8%) respondents with no satisfaction category.

5. Category of patient satisfaction on outpatient administration service in RSUD Wonosari viewed from the dimension of attention (empathy), showed that most satisfaction categories were 101 respondents (95.3%) and 5 respondents (4.7%) respondents with dissatisfied category.

Recommendation

1. For Wonosari Regional General Hospital. This research can be an input for the management in the management of outpatient administration services so that the outpatient administration service can be done in accordance with the hospital regulations and perform the tasks in accordance with the established ethics. To achieve the optimal level of satisfaction,

should RSUD Wonosari conduct periodic surveys related Patient Satisfaction, to know the assessment of the performance of existing services so that service always increases towards the better. Finally, To optimize the satisfaction of outpatient in Wonosari Hospital it is suggested to provide excellent service training to outpatient administrators.

2. For the next researcher. This research can add a library about the management of outpatient administration services in hospitals and can be input for further researchers. And can be a science development and additional benefits of knowledge and practice in the process of research on the management of outpatient administration services in hospitals.

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