CORRELATION BETWEEN MATERNAL KNOWLEDGE OF EXCLUSIVE BREASTFEEDING AND BREASTFEEDING PATTERN AT WARU PRIMARY HEALTHCARE CENTER SIDOARJO IN 2017

Vilma IAJM dos Santos[1)] , PY Kusuma T[2)], Lukas S Rihadi[3)]

ABSTRACT

Introduction: Globally, the rate of child mortality is mostly due to recurrent infection and nutritional factors. Promotion of exclusive breastfeeding and appropriate weaning food can reduce the risk of getting a chronic disease and under-5 mortality and morbidity. Exclusive breastfeeding means giving only breast milk without adding and/or replacing it with any other food or drink (except drugs, vitamins, and minerals). Exclusive breastfeeding has many benefits both for mother and infant.
Aim: This study was to investigate the correlation between maternal knowledge about breastfeeding and breastfeeding pattern among breastfeeding mothers at Waru Primary Healthcare Center Sidoarjo.
Methods: This study is an observational analytical study employing cross-sectional design and Spearman correlation for data analysis. This study was conducted at Waru Primary Healthcare Center Sidoarjo between August and September 2017. This study was conducted in a total of 100 participants. This research used a questionnaire as an instrument.
Resulta: The result showed a significant correlation (p = 0,049). Thus it can be concluded that there is a correlation between mother's knowledge level about breastfeeding with mother breastfeeding pattern at Waru District Health Center Sidoarjo. The correlation coefficient value (r=0.197) indicates that the positive correlation is very weak between the mother's knowledge level and the pattern of the lactating mother.
Conclusion: These results indicate that the higher the level of mother's knowledge, the higher the pattern of breastfeeding mothers. Increased knowledge and breastfeeding patterns may reduce the risk of chronic illness, morbidity and mortality rates among under-fives. This research can be useful for education, and it is expected that health workers can cooperate with the government in promoting exclusive breastfeeding.

Keywords: breastfeeding, breastfeeding pattern, maternal knowledge

1) Student of Faculty of Medicine, Widya Mandala Catholic University of Surabaya, Jl. Kalisari Selatan No. 1 Surabaya. Email : vilma040496@yahoo.com
2) Obstetrics and Gynecology Department, Faculty of Medicine, Widya Mandala Catholic University of Surabaya, Jl. Kalisari Selatan No. 1 Surabaya
3) Public Health Department, Faculty of Medicine, Widya Mandala Catholic University of Surabaya, Jl. Kalisari Selatan No. 1 Surabaya

INTRODUCTION

According to the World Health Organization (WHO) in 2012, child global mortality rate was largely due to recurrent infections and nutritional factors, with nutrition-related factors contribute to about 45% of deaths. Indeed, with the promotion of exclusive breastfeeding and the provision of complementary feeding, the risk of chronic disease, morbidity, and mortality in infants can be reduced. Breast milk is the most important source of food for infant to meet their nutritional needs. The rate of exclusive breastfeeding in the world is only around 38% (out of 100 infants aged 0-6 months; only 38 infants get exclusive breastfeeding). This means that 62% of infants were given complementary foods inappropriately. Although many world organizations recommend exclusive breastfeeding, the coverage of exclusive breastfeeding is still low.[(1)] In order to reduce child morbidity and mortality, the United Nations International Children's Emergency Fund (UNICEF) and WHO recommend that children should only be breastfed during at least six months without other supplementary foods, also known as exclusive breastfeeding. [(2)]

According to the Indonesian Ministry of Health in 2013, nutrition given to infants according to the age group of 2 months showed that exclusive breastfeeding was at 32.5%, predominant breastfeeding was 4.4%, and partial breastfeeding was 63.1%. The age group of 3 months showed that exclusive breastfeeding was at 30.7%, predominant breastfeeding was 4.1%, and partial breastfeeding was 65.2%. The age group of 4 months showed that exclusive breastfeeding was at 25.2%, predominant breastfeeding was 4.4%, and partial breastfeeding was 70.4%. The age group of 5 months showed that exclusive breastfeeding was at 26.3%, predominant breastfeeding was 3.0%, and partial breastfeeding was 70.7%. The age group of 6 months showed that exclusive breastfeeding was at 15.3%, predominant breastfeeding was 1.5%, and partial breastfeeding was 83.2%. The data above show as the infants grow older, the coverage of exclusive breastfeeding is getting lower, one of the causes is supplementary feeding under six months of age. [(3)]

Based on Government Regulation (Number 33 of 2012), exclusive breastfeeding was defined as breast milk given to infants from birth to six months, without adding and/or replacing with other food or drinks (except drugs, vitamins, and minerals). The arrangement of exclusive breastfeeding

as stated in Government Regulation number 33 of 2012 aims to: (a) guarantee the fulfillment of the infant's right to get exclusive breastfeeding from birth to six months of age with regard to the growth and development;
(b) provide protection to mothers in giving exclusive breastfeeding to their infants; and (c) increase the role and support of the family, community, and regional government on exclusive breastfeeding. [4] In addition, exclusive breastfeeding can provide benefits for mothers and infants. [5]

As stated in the Basic Health Research Report in 2014, breastfeeding patterns were grouped into three (3) categories according to the WHO definition, namely exclusive breastfeeding, predominant breastfeeding, and partial breastfeeding. Exclusive breastfeeding means not giving infant food or other drinks including water, other than breast milk (except drugs and drops of vitamins or minerals).

Predominant breastfeeding is sometimes giving a little water or water-based drink, for example, tea as prelacteal food/drink before the breast milk comes out. Partial breastfeeding is breastfeeding the infant and giving artificial food other than breast milk, either formula milk, porridge or other foods before the infant is six months old, which was given continuously or as prelacteal food. [2]

Many factors influence the mother's decision regarding breastfeeding patterns. Mainly, it is because of the lack of knowledge and experience of the mother. Other factors influencing breastfeeding consisted of socio-cultural and economic factors (education, family income, and working status of the mother); physical factors of the mother (sick mother, for example mastitis etc.); and also the lack of health workers so the community is not informed enough about the benefits of exclusive breastfeeding and be encouraged to do so. [6]

Waru Primary Healthcare Center Sidoarjo improves public health status by raising awareness, willingness, and ability to live healthily. Waru Primary Health Center has also provided evenly distributed affordable basic quality services routinely. A series of basic health services include: maternal and infant health services; delivery assistance by health workers with midwifery competencies; high risk pregnant women (with complications) who are referred and treated; high risk postpartum and neonatal maternal services; family

planning and contraception services; pre-school child health services, school age and adolescents health services; elderly health services, and dental services. Also, all of the Primary Health Center's crews are also actively carrying out promotive activities. There are ten indicators that are always socialized. Among them are delivery by health workers, exclusive breastfeeding for infants, regular weighing of infants and toddlers, clean water, hand washing with clean water and soap, healthy latrines, mosquito larvae eradication, fruit and vegetable consumption every day, physical activities every day, and smoking prohibition in the house. [7] Waru Primary Health Center also has Early Breastfeeding Activities, which is a process of initiating contact between a mother and the infant's skin immediately after giving birth. Waru Primary Health Center has correctly demonstrated and successfully implemented programs in health promotion for the welfare and the health of mother and child.

This research aimed to analyse the correlation between the mothers' level of knowledge about breastfeeding with the pattern of breastfeeding mothers at Waru Primary Health Center. The researcher aimed to study the pattern of breastfeeding (exclusive breastfeeding, predominant breastfeeding, and partial breastfeeding) with the level of knowledge of mothers about breastfeeding at the Waru Primary Health Center.

METHODS

This study uses observational analytic research design. This study aims to determine the correlation between the level of knowledge of mothers about breastfeeding and the pattern of breastfeeding mothers in Waru Primary Health Center, Sidoarjo Regency, with a cross-sectional study.

The sample in this study were all breastfeeding mothers who met the inclusion criteria during August-September 2017. The inclusion criteria for this study were nursing mothers whose infants were <1 year old, and mothers who were willing to participate in the study. Exclusion criteria for this study were mothers suffering from chronic illness and/or sick infants, nursing mothers whose infants were> 1 year old, and mothers who were not willing to participate in the study. Sampling is done by non-probability sampling technique using purposive sampling, the technique of determining the sample with certain considerations, with total 100 respondents obtained from maternal and child health clinic and

contraception clinic visitors in Waru Primary Health Care Center.

The research began by explaining the informed consent and obtaining approval from respondents to participate in the study in the form of respondents' consent sheets. Next, the author retrieved the data using a questionnaire on nursing mothers at Waru Primary Health Center. Furthermore, the collected data were analyzed using SPSS and tested for correlation using the Spearman correlation test.

RESULT

Based on the age of the mother, majority of respondents were aged 20-35 years (87.0%), 13.0% mothers were 35 years old, and there were no breastfeeding mothers aged less than 20 years old.

Table 1. Distribution of Respondents Based on Mother's Age at Waru Primary Health Center in August - September 2017

Age	Frequency (n)	Percentage (%)
<20 years	0	0,0
20-35 years	87	87,0
>35 years	13	13,0
Total	100	100,0

Based on Table 2, level of education of the most respondents varied from Senior High School (58.0%), Diploma/Higher Education (30.0%), Junior High School (9.0%), and Elementary School (3.0%).

Table 2. Distribution of Respondents Based on Breastfeeding Mother's Level of Education at Waru Primary Health Center in August - September 2017

Education	Frequency (n)	Percentage (%)
Elementary School	3	3,0
Junior High School	9	9,0
Senior High School	58	58,0
Diploma/Higher Education	30	30,0
Total	46	100,0

Based on Table 3, 58.0% of all respondents were multiparous mothers (have had 2-4 children), and 42.0% were primiparous mothers.

Table 3. Distribution of Respondents Based on Status of Parity at Waru Primary Health Center in August - September 2017

Parity Status	Frequency (n)	Percentage (%)
Primiparous	42	42,0
Multiparous	58	58,0
Total	100	100,0

Based on Table 4, there were 70.0% breastfeeding mothers who underwent delivery assisted by Obstetrician, 30.0% were breastfeeding mothers assisted by midwives, and no

mother was assisted by traditional birth attendants.

Table 4. Distribution of Respondents Based on Childbirth at the Waru Primary Health Center in August - September 2017

Childbirth	Frequency (n)	Percentage (%)
Obstetrician	70	70,0
Midwives	30	30,0
Traditional birth attendants	0	0,0
Total	100	100,0

Based on Table 5, there were 78.0% of mothers with adequate knowledge about breast milk, 22.0% of mothers with inadequate knowledge about breast milk, and there were no mothers with good knowledge about breast milk.

Table 5. Distribution of Respondents Based on Level of Knowledge of Breastfeeding Mothers about Breastfeeding at Waru Primary Health Center in August - September 2017

Age	Frequency (n)	Percentage (%)
Good	0	0,0
adequate	78	78,0
Inadequate	22	22,0
Total	100	100,0

Based on Table 6, mothers with a partial breastfeeding pattern were as much as 59.0%, mothers with exclusive breastfeeding patterns were as much as 41.0%, and no mothers were found to apply predominant breastfeeding patterns.

Table 6. Distribution of Respondents Based on Mother's Pattern of Breastfeeding in Waru Primary Health Center in August - September 2017

Mother's Pattern of Breastfeeding	Frequency (n)	Percentage (%)
Exclusive	41	41,0
Predominant	0	0,0
Partial	59	59,0
Total	100	100,0

Based on Table 7, mothers with adequate knowledge in the age group of 20-35 years old were as much as 79.3%, and mothers with inadequate knowledge were as much as 20.7%. While mothers with adequate knowledge in the age group over 35 years old were as much as 30.8%, and mothers with inadequate knowledge were as much as 69.2%.

Table 7. Cross Tabulation Between Mother's Age Group and Mother's Level of Knowledge

Age (years)	Mother's Level of Knowledge			
	Good (%)	adequate (%)	Inadequate (%)	Total (%)
20-35	0,0	79,3	20,7	100,0
>35	0,0	30,8	69,2	100,0
Total	0,0	70,0	27,0	100,0

Based on Table 8, mothers who have adequate knowledge with Elementary School as their last education level were 100.0%. Mothers who have adequate knowledge with Junior High School as their last education level were 77.8% and mothers who have inadequate knowledge were 22.2%. Mothers who have adequate knowledge with Senior High School as their last education level were 74.1% and mothers who have inadequate knowledge were 25.9%. Mothers who have adequate knowledge with Diploma/Higher Education as their last education level were 83.3% and mothers who have inadequate knowledge were 16.7%.

Table 8. Cross Tabulation Between Breastfeeding Mother's Level of Education and Mother's Level of Knowledge

Breastfeeding Mother's Level of Education	Mother's Level of Knowledge			
	Good (%)	Satisfactory (%)	Inadequate (%)	Total (%)
Elementary School	0,0	100,0	0,0	100,0
Junior High School	0,0	77,8	22,2	100,0
Senior High School	0,0	74,1	25,9	100,0
Diploma/Higher Education	0,0	83,3	16,7	100,0
Total	0,0	78,0	22,0	100,0

Based on Table 9, mothers who have adequate knowledge with primiparous parity status were 78.6%, and mothers who have inadequate knowledge were 21.4%. Mothers who have adequate knowledge with multiparous parity status were 77.6%, and mothers who have inadequate knowledge were 22.4%.

Table 9. Cross Tabulation Between Breastfeeding Mother's Level of Education and Mother's Parity Status

Parity Status	Mother's Level of Knowledge			
	Good (%)	adequate (%)	Inadequate (%)	Total (%)
Primiparous	0,0	78,0	21,4	100,0
Multiparous	0,0	77,6	22,4	100,0
Total	0,0	78,0	22,0	100,0

Based on Table 10, mothers who have adequate knowledge and give exclusive breastfeeding were 36.0%, and with mothers who have inadequate knowledge were 5.0%. Mothers who have adequate knowledge and do not give exclusive breastfeeding (partial) were 42.0%, and with mothers who have inadequate knowledge were 17.0%.

Table 10. Cross Tabulation Between Mother's Level of Knowledge and Mother's Pattern of Breastfeeding

Mother's Level of Knowledge	Mother's Pattern of Breastfeeding			
	Exclusive (%)	Predominant (%)	Partial (%)	Total (%)
adequate	46,2	0,0	53,8	100,0
Inadequate	22,7	0,0	77,3	100,0
Total	41,0	0,0	59,0	100,0

The results of the Spearman correlation test stated that if the value is sig. <0.05 there is a correlation between the variables. From the results of the SPSS Output, the result was sig. (2-tailed) of 0.049 which indicates a correlation

DISCUSSION

The results of this research were obtained from data through questionnaires distributed to respondents of 100 people, which were consisted of breastfeeding mothers who visited Waru Primary Health Center in August and September 2017.

In table 6, the data exhibited that mothers with partial breastfeeding

patterns were 59.0%, mothers with exclusive breastfeeding patterns were 41.0%, and there were no mothers with predominant breastfeeding patterns. The partial breastfeeding patterns (i.e. is breastfeeding babies and given artificial food other than breast milk, whether formula milk, porridge or other foods) was mostly found in breastfeeding mothers. This result is similar with what Agus Sartono (2012) stated that mothers who are not exclusively breastfeeding are because of several factors, for example, the breast milk was produced late or has not been produced at all so the baby was given formula milk, also because of the mother is working. This is one of the reasons why breast milk cannot be given exclusively. The success of exclusive breastfeeding is very dependent on the success of the implementation of early breastfeeding. [8]

According to the author, the rising trend of formula milk usage is suspected due to lack of support and education from the health care facilities, resulting in the low insight of nursing mothers about the importance of breastfeeding. Mothers with exclusive breastfeeding pattern were 41.0%, meaning that they have reached the target. This is in accordance with the Ministry of Health's strategic plan in 2015 which targeted 39% of exclusive breastfeeding so that the national coverage of exclusive breastfeeding for infants less than six months of age reached 55.7%. [9]

In table 7, the data showed that mothers who have adequate knowledge in mothers from the age group of 20-35 years were 79.3%, and in mothers who have inadequate knowledge were 20.7%. While mothers who have adequate knowledge in mothers from the age group of over 35 years were 30.8%, and in mothers who have inadequate knowledge were 69.2%. Mothers who have adequate knowledge are found to be the most in groups of moth

ers aged 20-35 years. According to Deal Baby Edyanti (2014), most mothers experiencing obstetric complications are mothers with an age fewer than 20 years or more than 35 years. This is because mothers who are too young (<20 years old) have not had mature reproductive organs, and the condition of the uterus is not perfect yet, while for mothers whose reproductive period has exceeded optimal age (>35 years old), it is possible for obstetric complications to occur because the reproductive health has decreased. [10] According to researchers, age can influence the knowledge of respondents,

for example, respondents under 20 years old and have never given birth and do not have breastfeeding experience, will have inadequate knowledge about breastfeeding, and for respondents aged 20-35 years who have given birth and have experienced breastfeeding most likely also have good knowledge about breast milk.

In table 8, the data showed that mothers who have adequate knowledge with Elementary School as their last education level were 100.0%. Mothers who have adequate knowledge with Junior High School as their last education level were 77.8% and mothers who have inadequate knowledge were 22.2%. Mothers who have adequate knowledge with Senior High School as their last education level were 74.1% and mothers who have inadequate knowledge were 25.9%. Mothers who have adequate knowledge with Diploma/Higher Education as their last education level were 83.3% and mothers who have inadequate knowledge were 16.7%. In one study, Iis Sriningsih (2011) stated that the higher a person's education, the faster and easier it is for someone to accept and understand, which results in the better level knowledge obtained. [(11)] However, a high level of education of mothers does not necessarily affect the level of knowledge of mothers in giving exclusive breastfeeding. According to Notoatmodjo (2010), this is influenced by several factors. A person's knowledge is influenced by internal factors such as intelligence, interests, and physical conditions; also external factors such as family and society. [(12)] According to researchers, this is due to differences in the level of understanding and source of information obtained by breastfeeding mothers at the last level of education Diploma/College is not so much different from the ones in Junior High School.

In table 9, the data showed that mothers who have adequate knowledge with primiparous parity status were 78.6%, and mothers who have inadequate knowledge were 21.4%. Mothers who have adequate knowledge with multiparous parity status were 77.6%, and mothers who have inadequate knowledge were 22.4%. According to the researchers, parity status did not affect much because in primiparous status mothers who had adequate knowledge was suspected to already had good pre-natal preparation, as well as multipara status mothers who obtained adequate knowledge because the mother had more experience in the breastfeeding process so the percentage difference between mothers with

primipara and multipara status was relatively the same.

In table 10, the data showed that mothers who have adequate knowledge and give exclusive breastfeeding were 36.0%, and with mothers who have inadequate knowledge were 5.0%. Mothers who have adequate knowledge and do not give exclusive breastfeeding (partial) were 42.0%, and with mothers who have inadequate knowledge were 17.0%. Mothers who have adequate knowledge are mostly found in mothers who do not give exclusive (partial) breastfeeding. According to Iis Sriningsih (2011), the success of exclusive breastfeeding is determined by the mother's knowledge about breastfeeding. Mother's knowledge about breast milk has a very important role because it can raise awareness to give breast milk to her baby. [11] Mother's knowledge of exclusive breastfeeding is also obtained from informal education through counseling, brochures, and information provided by health personnel when visiting the monthly Maternal and Child Service. According to researchers, mothers with adequate knowledge in the practice of breastfeeding are still relatively low. Based on the results of this study, a lot of mothers practice partial breastfeeding. This is allegedly caused by mothers' lack of time because they are working. Mothers tend to look for a more practical alternative by giving formula milk.

Based on previous research, it was found that several determinant factors influencing breastfeeding patterns in mothers. It was supported by Notoatmodjo (2010), who stated that a person's knowledge is influenced by internal factors such as intelligence, interests, and physical conditions; and also external factors such as family and society. [12]

The results of the Spearman correlation test stated that if the value is sig. <0.05 there is a correlation between the variables. From the results of the SPSS Output, the result was sig. (2-tailed) of 0.049 which indicates a correlation. The results of the SPSS output found by the author are the correlation coefficient of 0.197, which shows both variables have a very weak relationship between the mothers' level of knowledge and the pattern of breastfeeding mothers. The correlation coefficient is a measurement of co-variance statistics or associations between two variables. The magnitude of the correlation coefficient ranges from +1 to -1. The correlation coefficient shows the strength of the linear

relationship and the direction of the relationship between two random variables. On the results of the correlation coefficient test obtained a positive correlation coefficient, it means that the two variables have a unidirectional relationship. This also means that if the value of the level of knowledge variable is high, the variable value of the mother's pattern of breastfeeding will also be high.

CONCLUSION

Based on the results of this research obtained from data through questionnaires distributed to respondents of 100 people, which were consisted from breastfeeding mothers who visited Waru Primary Health Center in August and September 2017, it can be summarized as follows:

1. Most mothers who visited Waru Primary Health Center practice exclusive breastfeeding pattern, as much as 41.0%.
2. Mothers' knowledge of exclusive breastfeeding is still lacking.
3. Most breastfeeding mothers who visited the Waru Primary Health Center have partial breastfeeding pattern.
4. The correlation between the level of mother's knowledge and the mother's pattern of breastfeeding is very weak. However, the knowledge needs to be improved to increase exclusive breastfeeding rate, which is still considered as low. Increased knowledge and good patterns of breastfeeding can reduce the risk of chronic disease, morbidity and mortality in infants.

REFERENCES

1. WHO. MPASI (internet). 2012; (dikutip 10 Juni 2017). Diunduh dari http://repository.usu.ac.id/bitstream/123456789/56191/5/Chapter%20I.pdf.
2. Kementerian Kesehatan RI. Pusat Data dan Informasi Kementerian Kesehatan RI ASI Eksklusif. INFODATIN (internet). 2014; (dikutip 25 April 2017). Diunduh dari http://www.depkes.go.id/folder/view/01/structure-publikasi-pusdatin-info-datin.html
3. Profil Kesehatan Indonesia. Republik Indones Kementeri Kesehat (internet). 2013; (dikutip 09 Juni 2017). Diunduh dari http://www.depkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/profil-kesehatan-indonesia-2013.pdf
4. Kemenkes. Peraturan Pemerintah Republik Indonesia tentang ASI

Eksklusif (internet). 2012; (dikutip 24 April 2017). Diunduh dari http://www.kinerja.or.id/pdf/5dffecb9-4ca6-4e08-83de-2d4bb555d08f.pdf 24 april 2017

5. Wulandari SR, Handayani S. Asuhan Kebidanan Ibu Masa Nifas. Yogyarkarta: Gosyen; 2011.
6. Wenas W, Malonda NSH, Bolang ASL, Kapantow NH. Hubungan Antara Pengetahuan dan Sikap Ibu Menyusui dengan Pemberian Air Susu Ibu Eksklusif di Wilayah Kerja Puskesmas Tompaso Kecamatan Tompaso. ASI Eksklus (internet). 2012; (dikutip 22 Mei 2017). Diunduh dari https://www.scribd.com/doc/139234942/Jurnal-Asi-Ekslusif
7. Sartono A. Hubungan Pengetahuan Ibu , Pendidikan Ibu dan Dukungan Suami dengan Praktek Pemberian Asi Eksklusif di Kelurahan Muktiharjo Kidul Kecamatan Telogosari Kota Semarang (internet). 2012;
8. (dikutip 23 Oktober 2017). Diunduh dari http://jurnal.unimus.ac.id/index.php/jgizi/article/view/565/615 565-1267-1-sm 1.42
9. Dinas Kesehatan Kabupaten Sidoarjo. Profil Puskesmas Waru (internet). 2016; (dikutip 2 Juni 2017). Diunduh dari http://dinkes.sidoarjokab.go.id/profil-puskesmas-waru/
10. Baby D, Indawati R. Faktor Pada Ibu yang Berhubungan dengan Kejadian Komplikasi Kebidanan. Jurnal Biometrika dan Kependudan (internet). 2014; (dikutip 20 Oktober 2017). Diunduh dari http://download.portalgaruda.org/article.php?article=306715&val=1099&title=Faktor%20Pada%20Ibu%20yang%20Berhubungan%20dengan%20Kejadian%20%20Komplikasi%20Kebidanan
11. Sriningsih I. FAKTOR DEMOGRAFI, PENGETAHUAN IBU TENTANG AIR SUSU IBU DAN PEMBERIAN ASI EKSKLUSIF. J Kesehat Masy (internet). 2011; (dikutip 22 Oktober 2017). Diunduh dari http://journal.unair.ac.id/downloadfull/BIOMETRIK8333-d32e31b39efullabstract.pdf
12. Notoatmodjo S. Promosi Kesehatan Dan Ilmu Perilaku. Jakarta: Rineka Cipta; 2007.