International Journal of Research in Medical Sciences
Agrina et al. Int J Res Med Sci. 2015 Dec;3(Suppl 1):S109-S118
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012

DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20151530

Research Article

Mother's exclusive breastfeeding behavior: a cross sectional study in Pekanbaru, Indonesia

Agrina[1,2]*, Rumiko Kimura[3], Akiko Tsuda[3]

[1]Doctoral Course, Division of Health Sciences, Kanazawa University of Japan
[2]Community Health Nursing Department, School of Nursing, University of Riau of Indonesia
[3]Institute of Medical, Pharmaceutical and Health sciences, Kanazawa University of Japan

Received: 26 September 2015
Accepted: 13 November 2015

***Correspondence:**
Agrina,
E-mail: agrinas76@gmail.com

ABSTRACT

Background: Exclusive breastfeeding (EBF) which is practiced until six months of infant age is one of the most effective ways to reduce infant morbidity and mortality. Indonesian government concerns about mother's EBF behavior. This study aimed to find the problems of mother's behavior to give EBF which are influenced by characteristic, knowledge, attitude, and community support including health workers.
Methods: A cross sectional study was designed for six hundred and sixty mothers in four public health centers area in Pekanbaru, Indonesia, who have fewer than five years old children as respondents. The study was using questionnaires to collect the data.
Results: The average age of respondents was 30.3 years old, 18.9% of them were high educated mothers, 83.6% of them were housewive mothers, and 26.1% of them had high family income. Only 36.1% of the mothers gave EBF until six months while 64.5% of the mothers had limited knowledge, 57.4% of mothers had negative attitude, and 63.5% of mothers had not good behavior for breastfeeding. There were more non EBF housewives mothers than the EBF ones. The majority of the respondents assumed that their breastfeed was insufficient and felt that their babies were still hungry; therefore, they provided formula milk, which was 77.0% and banana, which was 61.6% while 35.8% of them gave 2 kinds of complementary feeding for their babies before six months. Mother's age, education and family income correlated significantly to EBF practice. Information, values, and emotional support from community also identified as significant aspects for successful EBF practice ($p<0.001$).
Conclusions: Community support plays an important role in succeeding EBF practice for mothers.

Keywords: Mother's behavior, EBF practice, Complementary feeding, Under five children

INTRODUCTION

Millennium Development Goals (MDGs) 4 aims to reduce under five mortality by two-thirds between 1999 until 2015. In 2011, almost 6.9 million children die annually before their fifth birthday, implying death of 19000 children every day, mostly because of preventable disease.[1,2] It is predicted that every year more than 10 million children under five in developing countries die due to preventable childhood illnesses. Seven in ten of these deaths are due to acute respiratory infections (ARI) such as pneumonia, diarrhea, measles, malaria, malnutrition or often a combination of these conditions.[3,4]

The under five mortality rate is the key indicator of child well-being, including health and nutrition status. It is also the key indicator of the coverage of child survival interventions and more broadly of social and economic development.[2] The main target of all children health program is to reduce child (under five) mortality. Children health program consists of preventive and treatment intervention. Those two programs are believed to be able to reduce the child mortality. Breastfeeding is one of the preventive intervention.

Encouraging appropriate infant feeding practices, such as early initiation of breastfeeding and exclusive

breastfeeding (EBF) for up to six months, is an effective strategy for improving child survival [5]. Currently, WHO recommends mothers to practice EBF from birth to six months without supplemental liquid or solid foods other than medications or vitamins.[6] Several studies have underlined the advantages of EBF for growth, immune system and prevention of illness in young infants.[7,8] Some studies revealed the coorelation of the lack of EBF with high infant mortality and morbidity from malnutrition and infections.[7,9,10] There is a sufficient evidence of the cause and effect of certain preventive interventions, such as EBF in the first six months in preventing diarrhoea, pneumonia and neonatal sepsis. The Practice of breastfeeding, complementary feeding, vitamin A and zinc supplementation could save about 25% of total deaths in under five age group.[11] Breastfeeding alone has been proved to decrease the child mortality by 13%.[5] Although there was no significant difference in the risk of death among infants who received EBF, non-breastfed infants had a higher risk of dying compared to those who had been predominantly breastfed.[12]

Even though breastfeeding has been the main program in Indonesia, EBF number in Pekanbaru is still lower than 70% of the national target.[13,14] Some mothers stop the breastfeeding practice before the time (under 6 months) although the benefits of breastfeeding are known. Lack of mothers understanding about the eating needs of infants under 6 months, barriers of mothers' experience while breastfeeding, and lack of support from significant people become the causes of EBF failure for babies under 6 months. It implies that a significant number of infants still do not get benefit from the optimum breastfeeding practice. The purpose of this study is to identify the problems of mother's behavior in taking care of under five children which will be influenced by mother's characteristic, knowledge, attitude, and support for mother to give EBF. This study is significant because there has been no previous research expoloring the issue, particularly in Pekanbaru, Indonesia.

Definition of terms

Exclusive breastfeeding (EBF)

The breast milk only as the only infant nutrient; no additional food, water or other liquids after birth until six months

Complementary feeding

Additional food besides breast milk including formula milk, water, tea, porridge, and several fruits.

Support

Encouragement from significant people to the mothers.

METHODS

This was a non-experimental cross-sectional study which was conducted between January and February 2015. The samples for this study were 660 mothers who had under five children from four public health centers (Puskesmas) area. Four public health centers were randomly selected from all Puskesmas in Pekanbaru, Indonesia. A questionnaire was designed based on precede-proceed model as one of the behaviour models. This model provides a framework which clarified as a contributing factors to the behaviour such as predisposing factor, enabling factor, and reinforcement factor. The studying factors included mother's characteristic, mother's knowledge about breastfeeding, mother's breastfeeding attitude, breastfeeding behaviour, breastfeeding practice and support for breastfeeding mothers. Some questions about breastfeeding which were adopted from adaptable knowledge, attitude, and practice (KAP) model questionnaires,[15] were modified to fit in the purpose of this research.

Mother characteristics covered the age, education, occupation, family income, family type, ethnicity, and religion. Furthermore, Mother's knowledge about breastfeeding was measured in true and false questions. Categorization of high and of low breastfeeding mother's knowledge is based on the mean value. Agree and disagree survey questions were prepared for measuring mother's attitude. Positive and negative attitude about breastfeeding are categorized by the median. The scale for behaviour questions were never, rarely, and often. In addition, there was an open ended question for exploring the mother's behaviour in EBF practice, so that mothers could answer more regarding to the supplementary food for babies up until six months. Mean values as basis for dividing good and not good breastfeeding behaviour. The questions related to support were also prepared using a Likert scale divided into 5 scales: never, rarely, sometimes, often and always. Support breastfeeding was divided by well and not well, categorized based the median value. All the questions had been tested by validity and reliability test.

Prior to the data collection, the data surveyor were trained in all aspects of the questionnaires. Before conducting the survey, the participants were explained about research objective, questionnaires aspects and methods. Then, the participants who were agree to be respondent will be given the informed consent.

Before analyzing the data, all the variables was tested using normality test. Descriptive statistics were used to characterize respondents using difference variables of interest. Data were presented using means and ± standard deviation for continuous variables. Then, for categorical variables, the proportions were used. Bivariate analysis was undertaken for 2 variables. To find the differences between two variabes, chi square test was used for categorical data. On the other hand, independent t test

and one way ANOVA test were used to test the differences between proportions and means for variables with normal distribution of data. Mann-Whitney test and Kruskal Wallis test for non parametric test. Statistical significance was defined as $p < 0.05$ in the result of the study.

RESULTS

Characteristic of mothers

Table 1 presents about mother's characteristics that were divided based on their education level. The data indicate that the highest rate was 58.6% in middle group as senior high school, lower education of mothers group as elementary school were 22.4% and highly educated mothers were only 18.9%. The table shows the average age of participants was 30.3 years ± 5.0 (range in 19-48 years). The mothers in these groups were less educated (56.1%) and high educated (60.8%), while the under 30 years old mother group was in middle level of education (51.2%). Mother's age and education were significantly different (p<.001). Eighty three point six percent of the mothers (n=552) is a "housewife" who were not working, 93.9% were low educated and 93.0% were middle educated whereas most of them (57.6%) as working mother group has high education (p<0.001). This means that mother's occupation status and education aspect has significant correlation.

Eighty point three percent respondents were part of a nuclear family. Mothers who live in nuclear families are mostly had a middle education (85.3%) whereas well educated mothers stay at most (32.0%) in the extended family. Types of family and mother's education were significantly difference (p<.001). The average of family income was IDR 2950606 ± IDR 16665202. The mothers with high education had an average income of IDR 3862000. High educated mothers get high income and had job. The study showed that education and family income have high correlation (p<0.001).

Sixty four point five percent mothers had low knowledge about breastfeeding. The results of this study demonstrate that low knowledge of respondents was seventy one point six percent from mothers with low education. There was significant difference between mother's knowledge and mother's education (p=0.001). Fivety seven point four percent of mothers breastfeeding attitude were negative and the positive thinking of mothers were high educated (p<0.05). Sixty three point five percent of mother's breastfeeding behavior was not good and seventy eight point four percent of this mother's behavior came from less educated mothers. There were significant difference between mothers' behavior and education of mother (p<0.001). It means that education and mother's behavior have high correlation.

Table 1 also illustrates that fivety two point one percent mothers had good support and sixty three point two percent well educated mothers received good support from their family to give EBF. Family support and mother education were significantly different (p<0.05). Posyandu support is another kind of support identified in this study; fifty two percent posyandu provided good support for mothers. Sixty two point four percent highly educated mothers received good support from posyandu. Posyandu support and mother's level education had a significant correlation (p<0.05) (Table 1).

Mother's behavior and exclusive breastfeeding (EBF) practice

Table 2 demonstrate mother's behavior in breastfeeding period, the 63.5% mothers have not good behavior. Mothers with good behavior did not give others food to infants until six months and there were no mother dietary restrictions during the first six months. The fivety five point six percent mothers with good behavior were middle income group, 35.3% were family with income more than IDR 3000000, and only 9.1% that were low income group. There were a significant difference between family income with mother's breastfeeding behavior (p<0.001). It means that family income and mother's behavior have high correlation.

This study also reported that non underweight child was found 90.9% from mothers who had good behavior in breastfeding (p <0.05). This study also found that unless mother's behavior, it was a greater proportion in low knowledge (71.1%) compared to high knowledge mother (28.9%). Most of mothers had good behavior of breastfeeding, 56.0% positive attitude. The next table (table 3) explains that mothers who did not have good behavior, 73.7% mothers did not practice of EBF. Mother's behavior was significant difference to EBF practice (p<0.001). It means that mother's behavior and EBF practice have deeply correlation. The good mother's behavior will be given EBF for six months first of life their babies.

Furthermore, this study indicate that only 36.1% mothers practice EBF until six months. Most of them reported that they supported their babies with additional food (non EBF). Figure 1 describes that 77.0% non EBF mothers prefered formula milk and 61.6% of them took bananas as complementary food besides 48.3% porridge, 21.6% water, tea, coffee and 0.9% juice for their babies under six months. Thirty five point eight percent mothers combined two kinds of complementary feeding for babies, which is the highest number, 31.8% 1 kind, and 23.2% 3 kinds, 9.0% kinds and 0.2% respondent had given 5 complementary kinds (figure 2).

The results of study also show that the mothers' knowledge and attitudes about EBF are 64.5% lower knowledge and 57.4% negative attitude. Mostly, non EBF until six months, 81.5% did not work (housewives) and 18.5% was working mothers. There was a significant difference between EBF practice and mothers'

occupation (p<0.05) (Table 2). Insufficient breastfeeding was the main reason of non EBF for housewives (41.3%) than working mothers (30.8%), followed by the feeling that their babies were hungry because they cried and were uncomfortable, 30.8% by housewives and 21.8% by working mothers. Twenty four point one percent housewives did not know about EBF as the reason of non EBF mothers while working mothers were only 15.4%. Thirty point eight percent was working mothers, because working was a reason for non EBF and 1.7% by housewives. Unemployed mothers reported that an important reason for not practicing EBF was inadequate secretion of breastfeeding; some of them felt that their babies were hungry and lack of knowledge about breastfeeding, opposite with working mothers that thought that work is the main reason for non EBF (figure 3).

Table 1: Characteristic of mothers.

Variables	Mother's Education				P-value
	Total	Low	Middle	High	
	660 (100)	148 (22.4)	387 (58.6)	125 (18.9)	
Age (Mean ± SD) [a]	30.3 ± 5.0	30.8 ± 6.1	29.7 ± 4.5	31.6 ± 4.5	<.001
~ 29 y.o.	312 (47.3)	65 (43.9)	198 (51.2)	49 (39.2)	0.043
30 ~ y.o.	348 (52.7)	83 (56.1)	189 (48.8)	76 (60.8)	
Occupation					
No Work (House Wife)	552 (83.6)	139 (93.9)	360 (93.0)	53 (42.2)	<.001
Work	108 (16.4)	9 (6.1)	27 (7.0)	72 (57.6)	
Family Type					
Nuclear Family	530 (80.3)	115 (77.7)	330 (85.3)	85 (68.0)	<.001
Extended Family	130 (19.7)	33 (22.3)	57 (14.7)	40 (32.0)	
Family Monthly Income [b]	2950606 ±1665202	2725000 ±2606190	2742506 ±988664	3862000 ±1615105	<.001
(Rupiah/Rp)	(3000000)	(2000000)	(3000000)	(3500000)	
Less 2000000	101 (15.3)	34 (23.0)	61 (15.8)	6 (4.8)	<.001
2000000-3000000	387 (58.6)	95 (64.2)	243 (62.8)	49 (39.2)	
Over 3000000	172 (26.1)	19 (12.8)	83 (21.4)	70 (56.0)	
Ethnic					
Sumatra	516 (78.2)	106 (71.6)	309 (79.8)	101 (80.8)	0.088
Others	144 (21.8)	42 (28.4)	78 (20.2)	24 (19.2)	
Religious					
Islam	624 (94.5)	141 (95.3)	364 (94.1)	119 (95.2)	0.805
Others	36 (5.5)	7 (4.7)	23 (5.9)	6 (4.8)	
Knowledge					
Low	426 (64.5)	106 (71.6)	256 (66.1)	64 (51.2)	0.001
High	234 (35.5)	42 (28.4)	131 (33.9)	61 (48.8)	
Attitude					
Negative	379 (57.4)	94 (63.5)	225 (58.1)	60 (48.0)	0.032
Positive	281 (42.6)	54 (36.5)	162 (41.9)	65 (52.0)	
Behavior					
Not Good	419 (63.5)	116 (78.4)	236 (61.0)	67 (53.6)	<.001
Good	241 (36.5)	32 (21.6)	151 (39.0)	58 (46.4)	
Family Support					
Not Good	316 (47.9)	75 (50.7)	195 (50.4)	46 (36.8)	0.023
Good	344 (52.1)	73 (49.3)	192 (49.6)	79 (63.2)	
Community Support					
Not Good	324 (49.1)	75 (50.7)	199 (51.4)	50 (40.0)	0.077
Good	336 (50.9)	73 (49.3)	188 (48.6)	75 (60.0)	
Posyandu Support [c]					
Not Good	317 (48.0)	87 (58.8)	183 (47.3)	47 (37.6)	0.002
Good	343 (52.0)	61 (41.2)	204 (52.7)	78 (62.4)	

a: Probability using One Way ANOVA; Mean ± SD;
b: Probability using Kruskal Wallis test; Mean ± SD (Median);
c: A place to detect the growth and development of under five children at community in Indonesia;
Number (%) , x^2-test

Table 2: Mother's behavior.

Variables	Mother's Behavior [a]			P-value
	Total	Not Good	Good	
	660 (100)	419 (63.5)	241 (36.5)	
Mother's Age (Mean ± SD) [b]	30.3 ± 5.0 (30.0)	30.2 ± 5.1 (30.0)	30.4 ± 4.7 (30.0)	0.466
Mother's Occupation				
No Work (House Wife)	552 (83.6)	335 (84.7)	197 (81.7)	0.319
Work	108 (16.4)	64 (15.3)	44 (18.3)	
Family Type				
Nuclear Family	530 (80.3)	333 (79.5)	197 (81.7)	0.481
Extended Family	130 (19.7)	86 (20.5)	44 (18.3)	
Family Montly Income (Rupiah/Rp) /IDR				
Less 2000000	101 (15.3)	79 (18.9)	22 (9.1)	<.001
2000000-3000000	387 (58.6)	253 (60.4)	134 (55.6)	
Over 3000000	172 (26.1)	87 (20.8)	85 (35.3)	
Nutritional Status of Children[c]				
Underweight	89 (13.5)	67 (16.0)	22 (9.1)	0.013
Non Underweight	571 (86.5)	352 (84.0)	219 (90.9)	
Imunisation				
Complete	572 (86.7)	361 (86.2)	211 (87.6)	0.612
Incomplete	88 (13.3)	58 (13.8)	30 (12.4)	
Developmental status [d]				
Normal	612 (92.7)	386 (92.1)	226 (93.8)	0.431
Delay	48 (7.3)	33 (7.9)	15 (6.2)	
ARI [e]				
Yes	437 (66.2)	280 (66.8)	157 (65.1)	0.660
No	223 (33.8)	139 (33.2)	84 (34.9)	
Eating Habit [f]				
Occasionally	308 (46.7)	199 (47.5)	109 (45.2)	0.574
Often	352 (53.3)	220 (52.5)	132 (54.8)	
Knowledge				
Low	426 (64.5)	298 (71.1)	128 (53.1)	<.001
High	234 (35.5)	121 (28.9)	113 (46.9)	
Attitude				
Negative	379 (57.4)	273 (65.2)	106 (44.0)	<.001
Positive	281 (42.6)	146 (34.8)	135 (56.0)	

a: Categorization by mean and questionnaire use Likert scale
b: Probability using Mann-Whitney test; Mean ± SD (Median)
c: Using WHO criteria with WAZ score; Underweight: malnutrition and underweight; Non underweight: normal and overweight
d: Based on KIA Book, is used by Posyandu and Puskesmas (public health center) in Indonesia
e: Acute Respiratory Infection (ARI), Yes: if children get fever, cough, and flu ; No: if children only get fever symptom
f: Kind of weaning food given by mother for children. Occasionally : 2-3 times/week; Often: every day

Support system and EBF practice

Based on table 3 about exclusive breastfeeding practice which was divided exclusive breastfeeding (EBF) and non exclusive breastfeeding (non EBF). The average age of mothers giving EBF was 29.6 years old. The number of age was significant difference with EBF practice. Percentage of mothers who did not give EBF for their

babies until six months with middle and lower education level was 54.5% and 26.8% respectively. Majority of respondents who were non EBF had a secondary family income level (59.7%) and 21.8% had income more than

3000000 in rupiah (IDR). Mothers' education and family income correlated significantly to EBF practice (p<.05).

This study has also identified that mothers who received a good community support, 60.1% gave EBF compared to mothers who did not get good community support (p value <.001). It means that community support and EBF practice have high correlation. Further research result described that 70.2% mothers who accepted good information support tend to provide EBF practice compared to mothers who did not receive good information support. Seventy seven point seven percent respondents, who got good value support, gave EBF compared to mothers with no good value support which was 22.3%. Moreover, 71.0% respondents, who got good emotion support, gave EBF for their baby in contrast to those who did not have good emotion support (29.0%). So that the majority of mothers who did not give EBF, 77% also did not get good supporting instrument from the community. Information, value and emotion support were identified as motivation for mothers in EBF (p<.001). The result of this study indicated that community health workers, friends, posyandu workers played an important role in providing enough information and support in EBF practice.

Table 3: Mother circumstance and exclusive breastfeeding practice.

Variables	Exclusive Breastfeeding			P-value
	Total	Yes	No	
	660 (100)	238 (36.1)	422 (63.9)	
Age (Mean ± SD) [a]	30.3 ± 5.0 (30.0)	29.6 ± 4.3 (29.0)	30.7 ± 5.4 (30.0)	0.012
Education				
Low	148 (22.4)	35 (14.7)	113 (26.8)	0.001
Middle	387 (58.6)	157 (66.0)	230 (54.5)	
High	125 (18.9)	46 (19.3)	79 (18.7)	
Occupation				
No Work (House Wife)	552 (83.6)	208 (87.4)	344 (81.5)	0.050
Work	108 (16.4)	30 (12.6)	78 (18.5)	
Family Type				
Nuclear Family	530 (80.3)	200 (84.0)	330 (78.2)	0.070
Extended Family	130 (19.7)	38 (16.0)	92 (21.8)	
Family Monthly Income (Rupiah/Rp)				
Less 2000000	101 (15.3)	23 (9.7)	78 (18.5)	<.001
2000000-3000000	387 (58.6)	135 (56.7)	252 (59.7)	
Over 3000000	172 (26.1)	80 (33.6)	92 (21.8)	
Nutritional Status of children [b]				
Underweight	89 (13.5)	30 (12.6)	59 (14.0)	0.169
Non Underweight	571 (86.5)	208 (87.4)	363 (86.0)	
Difficult to Eat				
No	570 (86.4)	218 (91.6)	352 (83.4)	0.003
Yes	90 (13.6)	20 (8.4)	70 (16.6)	
Refuse to Eat				
No	602 (91.2)	224 (94.1)	378 (89.6)	0.048
Yes	58 (8.8)	14 (5.9)	44 (10.4)	
Knowledge				
Low	426 (64.5)	159 (66.8)	267 (63.3)	0.362
High	234 (35.5)	79 (33.2)	155 (36.7)	
Attitude				
Negative	379 (57.4)	137 (57.6)	242 (57.3)	0.957
Positive	281 (42.6)	101 (42.4)	180 (42.7)	
Behavior				
Not Good	419 (63.5)	108 (45.5)	311 (73.7)	<.001
Good	241 (36.5)	130 (54.6)	111 (26.3)	
Family Support				
Not Good	316 (47.9)	121 (50.8)	195 (46.2)	0.253
Good	344 (52.1)	117 (49.2)	227 (53.8)	
Community Support				

Not Good	324 (49.1)	95 (39.9)	229 (54.3)	<.001
Good	336 (50.9)	143 (60.1)	193 (45.7)	
Posyandu Support [c]				
Not Good	317 (52.5)	125 (52.5)	192 (45.5)	0.083
Good	343 (47.5)	113 (47.5)	230 (54.5)	

a: Probability using Mann-Whitney test; Mean ± SD (Median)
b: Using WHO criteria with WAZ score; Underweight: malnutrition and underweight; Non underweight: normal and overweight
c: A place to detect the growth and development of under five children at community in Indonesia

Table 4: Family and community support for exclusive breastfeeding.

Variables	Exclusive Breastfeeding			P-value
	Total	**Yes**	**No**	
	660 (100)	**238 (36.1)**	**422 (63.9)**	
Information				
Not Good	259 (39.2)	83 (34.9)	176 (41.7)	0.084
Good	401 (60.8)	155 (65.1)	246 (58.3)	
Value [a]				
Not Good	209 (31.7)	69 (29.0)	140 (33.2)	0.267
Good	451 (68.3)	169 (71.0)	282 (66.8)	
Emotion [b]				
Not Good	303 (50.0)	128 (53.8)	202 (47.9)	0.145
Good	330 (50.0)	110 (46.2)	220 (52.1)	
Instrument [c]				
Not Good	428 (64.8)	156 (65.5)	272 (64.5)	0.778
Good	232 (35.2)	82 (34.5)	150 (35.5)	
Community Support				
Information				
Not Good	259 (39.2)	71 (29.8)	188 (44.5)	<.001
Good	401 (60.8)	167 (70.2)	234 (55.5)	
Value [a]				
Not Good	203 (30.8)	53 (22.3)	150 (35.5)	<.001
Good	457 (69.2)	185 (77.7)	272 (64.5)	
Emotion [b]				
Not Good	269 (40.8)	69 (29.0)	200 (47.4)	<.001
Good	391 (59.2)	169 (71.0)	222 (52.6)	
Instrument [c]				
Not Good	503 (76.2)	178 (74.8)	325 (77.0)	0.519
Good	157 (23.8)	60 (25.2)	97 (23.0)	

a: people around the mother participate to remind EBF, how to breastfeed, and continue giving breastfeeding
b: others people motivate and give reward to mothers in breastfeeding
c: someone who help mother in breastfeeding practice

pISSN 2320-6071 | eISSN 2320-6012

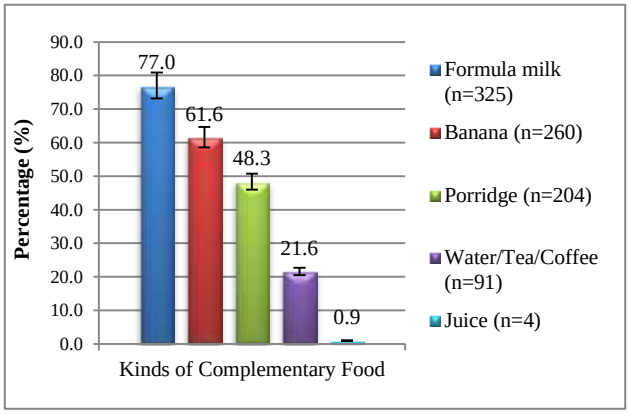

Figure 1: Comparison non EBF Kind of complementary food.

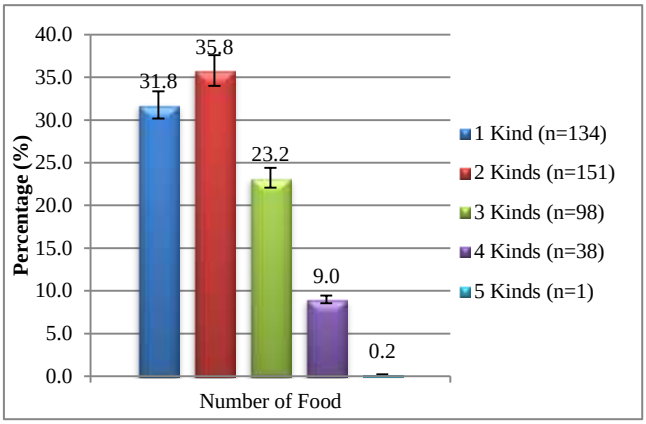

Figure 2: Comparison the number of non EBF intake.

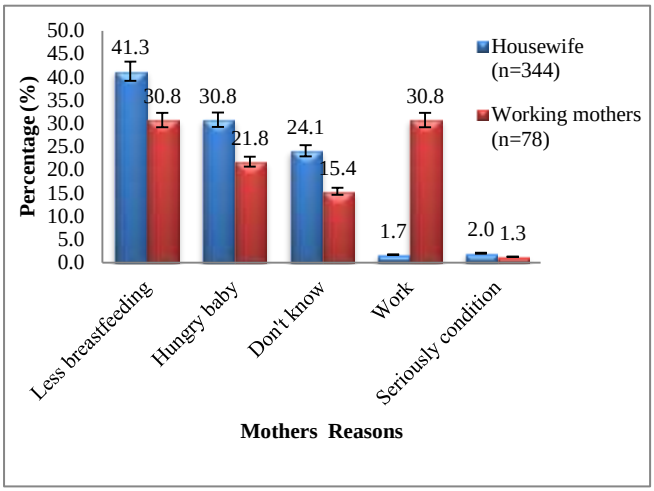

Figure 3: Comparison the reasons non EBF between housewife and working mothers.

DISCUSSION

Only 36.1% of mothers in this study exclusively breastfeeding (EBF) for their babies until six months. The rest of the mothers give additional foods for their babies earlier from what WHO (2003) has recommended on breastfeeding. Maternal employment status correlates to EBF practice,[16,17] but contrary to the previous studies, the number of stay at home, housewife mothers giving supplementary feeding earlier than WHO recommendation is greater than EBF. The education level of stay at home mothers in the present study were dominantly low, and the majority among them are non EBF mothers whose education either low or mid level ($p < .001$). This result is similar to Heck, et al study[18] suggesting that formal education would help the mother to understand the breast feeding benefits, thus it would be easier for them to seek information on health.

Formula milk is mostly given by mothers non EBF as a food supplement in this study beside banana and porridge. Providing not only formula milk but also another additional food to the baby before six month can increase several infectious diseases incidence such as respiratory infections and gastrointestinal infections because the baby who do not EBF will decrease immunity system. This is related to the existence of innate immunity factors in breastfeeding which can prevent some infectious disease.[19] Maternal occupation status ($p=0.05$) and family income ($p<.001$) are a predisposing factor for non EBF mothers. Working mothers only have small chance to give EBF than housewife. Furthermore they make family income is high. The group of mothers who did not give EBF in this study, their family income were in medium and high level whereas the mothers who have low income only small percentage for non EBF. The recent study has been recorded that the highest percentage of formula milk was more numbers of working mothers. Most of non EBF mothers were working mothers and family income was good, it would motivate mothers to give formula milk to their babies. Mothers who had a high income would stop breastfeeding period sooner and gave their babies formula milk compared to low income mothers.[20]

Mother's breastfeeding behaviour in this study was not good because majority of them stopped to breastfeeding. Less breast feeding as the main reason. Insufficient supply of breast milk is the most common reason given by mothers when the mother give up the provision the breastfeeding to their babies besides unsatisfied of baby.[21,22,16] This illustrates that many housewive mothers lack of knowledge and attitudes about EBF because their non EBF mothers reasons are less breastfeeding, baby is hungry, and they don't know about breastfeeding. Non EBF mothers gave the supplemental food to their babies because most of them felt breastfeeding only was not enough for theirs babies. Whereas, the real incidence of inadequate produce of breast feeding will be experienced by only 5% of women are caused by biological factors.[23] It's mean every mothers can supply enough breastfeeding for their babies if there are not breast problems cases. Mothers who have low knowledge and negative attitude about breastfeeding show a bad behaviour for their child care. Mothers' knowledge and attitudes about complementary food for infant under six months also

contribute to maternal behaviour in this study and another studies.[16,24]

Lack of mother's knowledge about breastfeeding would make the mothers have misperception about breastfeeding so that mothers do not feel confident that their breast feeding alone will make insufficient for baby need. Mothers who are confused their breastfeeding ability will start to give supplemental feeding.[25] This study also found that most mothers give two kinds of supplementary food to their babies not only because they had feel insufficient breastfeeding but also the mother give their babies to be satisfied and quiet. If mothers every times gives supplementary foods, it will make reducing the breastfeeding frequency of baby to their mother. Lacking of breast stimulation will cause a by seeking of babies will cause a decrease in breastfeeding production.[26] Then, it is also strengthened by breastfeeding deficiency which becomes the reasons for mothers to give supplemental food. There were several complementary reasons that were done by another study such as food for infants were better than mother's own breastfeeding, inconvenience to give breastfeeding in all time, and other people influence,[27] simple and free on young mothers.[28]

Supporting from the surrounding people was also an important factor for EBF practice until six months. Community support showed significant difference in EBF practice in this study. Mothers who got good support from their community would give more EBF than mothers who got less support ($p<.001$). Specifically, mothers needed information, value, and instrument support from their community ($p<.001$). Mothers who got adequate information support provided more EBF than who got inadequate information support. Mothers who received information about breastfeeding from post natal care (PNC) were 5.03 times more likely to give only breastfeeding than the others.[16]

Likewise with mothers who got good guidance and confidence about breastfeeding made more provided EBF than mother who did not receive them. There were positive relationship between EBF until six months and supporting group to give a view that breastfeeding was easy and normative.[29] Mothers who got information, high confidence, and had knowledge about EBF would give only breastfeeding for their babies until six months.[29-31] There were positive relationship between EBF until six months and supporting group to give a view that breastfeeding is easy and normative (30). Breastfeeding intervention should be focused on the provision of support from the community (32).Supporting could also improve the right mothers perception in breastfeeding so that mothers have confidence in breastfeeding. The provision of breastfeeding health education is a form of providing support to breastfeeding mothers which improves the knowledge, attitudes and behavior of lactating mothers.[33]

CONCLUSION

To sum up that it's impotant to make sure that mothers get full support from their community to increase mothers knowledge and improve mothers attitudes about breastfeeding for creating good mother's behavior in breastfeeding. The result of this study indicated that community health workers, friends, posyandu workers played an important role in providing enough information and support in EBF practice. Correct mother's behavior will increase the achievement rates of children who receive breast milk exclusively for under six months children.

ACKNOWLEDGMENTS

The authors would like to thank the participants of this study and all collectors who have been collected data in this research.

Funding: DIKTI, Indonesia government
Conflict of interest: The authors declare that they have no conflict of interest
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. United Nations. The Millennium Development Goals Report 2013. United Nations, New York. 2013.
2. Bay G, Miller T, Faijer DJ. Level & Trends in Child Mortality. 2014.
3. Murray CJL, Lopez AD. Global Burden of Disease and Injury Series the Global Burden of Disease. World Health Organization. 1996.
4. Unicef. UNICEF - Millennium Development Goals. Cited 2015 May 18. Available from: http://www.unicef.org/mdg/index_childmortality.htm.
5. Katepa-Bwalya M, Mukonka V, Kankasa C, Masaninga F, Babaniyi O, Siziya S. Infants and young children feeding practices and nutritional status in two districts of Zambia. Int Breastfeed J. 2015;10(1):1–8.
6. Pan American Health Organization. Guiding Prinsiples for Complementary. Washington, DC. 2001.
7. Arifeen S, Black RE, Antelman G, Baqui a, Caulfield L, Becker S. Exclusive breastfeeding reduces acute respiratory infection and diarrhea deaths among infants in Dhaka slums. Pediatrics. 2001;108(4):E67.
8. Kalanda BF, Verhoeff FH, Brabin BJ. Breast and complementary feeding practices in relation to morbidity and growth in Malawian infants. Eur J Clin Nutr. 2006;60(3):401–7.
9. Duijts L, Jaddoe VW V, Hofman A, Moll H a. Prolonged and exclusive breastfeeding reduces the

risk of infectious diseases in infancy. Pediatrics. 2010;126(1):e18–25.
10. R. RM, Almeida V, Maria V, Marins R De, Valle J. Breastfeeding, socio-economic conditions and nutritional status of children younger than 12 months in Brazil. Ann Trop Paediatr Int Child Heal [Internet]. Routledge, part of the Taylor & Francis Group. 2015;19(3):257–62.
11. Jones G, Steketee RW, Black RE, Bhutta Z a., Morris SS. How many child deaths can we prevent this year? Lancet. 2003;362 (9377):65–71.
12. Bahl R, Frost C, Kirkwood BR, Edmond K, Martines J, Bhandari N, et al. Infant feeding patterns and risks of death and hospitalization in the first half of infancy: Multicentre cohort study. Bull World Health Organ. 2005;83(6):418–26.
13. Health Office of Riau. Health profile of Riau Province. Pekanbaru. Pekanbaru; 2012.
14. Ministry Health of Indonesia. Riset Kesehatan Dasar (Riskesdas) 2013. Jakarta; 2013.
15. Food and Agriculture Organization of the United Nations. Guidelines for assessing nutrition-related k nowledge, a ttitudes and p ractices manual. 2014.
16. Mekuria G, Edris M. Exclusive breastfeeding and associated factors among mothers in Debre Markos, Northwest Ethiopia: a cross-sectional study. Int Breastfeed J. [Internet]. 2015;10(1):1–7. Available from: http://www.internationalbreastfeedingjournal.com/content/10/1/1.
17. Hawkins SS, Griffiths LJ, Dezateux C, Law C. The Millennium Cohort Study Child Health G. Maternal employment and breast feeding initiation: findings from the Millennium Cohort Study. Paediatr Perinat Epidemiol. 2007;21(3):242–7.
18. Heck KE, Braveman P, Cubbin C, Chávez GF, Kiely JL. Socioeconomic Status and Breastfeeding Initiation Among California Mothers. Public Health Rep. 2006;121(1):51–9.
19. Stuebe A. The risks of not breastfeeding for mothers and infants. Rev Obstet Gynecol. 2009;2(4):222–31.
20. Dibley MJ, Senarath U, Agho KE. Infant and young child feeding indicators across nine East and Southeast Asian countries: an analysis of National Survey Data 2000-2005. Public Health Nutr. 2010;13(9):1296–303.
21. Ahluwalia IB, Morrow B, Hsia J. Why do women stop breastfeeding? Findings from the Pregnancy Risk Assessment and Monitoring System. Pediatrics. 2005;116(6):1408–12.
22. Li R, Fein SB, Chen J, Grummer-Strawn LM. Why mothers stop breastfeeding: mothers' self-reported reasons for stopping during the first year. Pediatrics. 2008;122 Suppl (October 2008):S69–76.
23. Hector Debra, Lesley K KW. Factor affecting breastfeeding practice: applying a conceptual framework. NSW Public Health Bulletin [Internet]. 2005;52–5.
24. Oche MO, Umar a. S, Ahmed H. Knowledge and practice of exclusive breastfeeding in Kware, Nigeria. Afr Health Sci. 2011;11(3):518–23.
25. Kearney MH. Parenting Self- E fficacy and Perception. JOGNN-Journal Obstet Gynecol Neonatal Nurs. 2001;30(5):515–22.
26. Negayama K, Norimatsu H, Barratt M. Journal of Reproductive and Infant Japan – France – US comparison of infant weaning from mother's viewpoint. 2012;(June 2015):37–41.
27. De Pee S, Moench Pfanner R BM. Insight into breastfeeding and complementary feeding practices: A case study from Indonesia. SCN News. 2003.
28. McFadden A, Toole G. Exploring women's views of breastfeeding: a focus group study within an area with high levels of socio-economic deprivation. Matern Child Nutr. 2006;2(3):156–68.
29. Brown A, Raynor P, Lee M. Young mothers who choose to breast feed: The importance of being part of a supportive breast-feeding community. Midwifery. Elsevier; 2011;27(1):53–9.
30. Avery A, Zimmermann K, Underwood PW, Magnus JH. Confident commitment is a key factor for sustained breastfeeding. Birth. 2009;36(2):141–8.
31. Mcqueen KA, Dennis CL, Stremler R, Norman CD. A Pilot Randomized Controlled Trial of a Breastfeeding Self-Efficacy Intervention With Primiparous Mothers. JOGNN - J Obstet Gynecol Neonatal Nurs. 2011;40(1):35–46.
32. Reeves CC, Close FT, Simmons MC, Hollis AL. Social Support Indicators that Influence Breastfeeding Decisions in Mothers of North Florida. Fla Public Health Rev. 2006;3:1–7.
33. Baghianimoghadam M-H, Nadrian H, Rahaei Z. The Effects of Education on Formula and Bottle ¬ Feeding Behaviors of Nursing Mothers Based on PRECEDE Model. Iran J Pediatr. 2009;19(4):359–66.

Cite this article as: Agrina, Kimura R, Tsuda A. Mother's exclusive breastfeeding behaviour: a cross sectional study in Pekanbaru, Indonesia. Int J Res Med Sci 2015;3(Suppl 1):S109-18.