

THE ROLE OF MATERNAL HEALTH KNOWLEDGE AND BELIEFS TOWARD BREASTFEEDING BEHAVIOR IN PUSKESMAS MERDEKA WEST BOGOR DISTRICT 2017

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ABSTRACT

Exclusive breastfeeding program has been proclaimed by the government in Indonesia, in this case the Ministry of Health. In 2003, the recommended period of exclusive breastfeeding was from 4 to 6 months. However, the results were still not in accordance with the expected target – only reached 48.6% in 2012. The percentation in West Java reached 47.85% (Indonesian Health Profile, 2012), and 28.2% in Bogor City and from the data report of Puskesmas Merdeka in November 2015, exclusive breastfeeding coverage only reached 20% from the target of 80%. Infant exclusive breastfeeding behavior is closely related to the mothers' knowledge and understanding of the importance of exclusive breastfeeding for infants, maternal health beliefs and attitudes to the incessant marketing of formula milk offered in the neighborhood. Based on the results of interviews and observations with KIA officers at Puskesmas Merdeka, providing the education about exclusive breastfeeding had been done since the pregnancy period. But in fact, many mothers gave infants formula milk before the age of 4 and 6 months. The purpose of this research is to know how far the role of maternal health knowledge and beliefs toward breastfeeding behavior. The benefits of research are to increase the range of knowledge, experience, and knowledge related to breastfeeding behavior. The research was conducted from April to October 2016. Cross Sectional approach was used in the research. The working area of Puskesmas Merdeka West Bogor district was chosen as the place to conduct the research. The samples were 140 respondents who had infants aged 6-12 months. Purposive sampling was used as the sampling technique. The result of bivariate analysis showed that there was a significant correlation of knowledge with breastfeeding behavior of p value = 0,00 and OR value of 6,30 (CI 95% = 2,74-14,49). Well-knowledged Mothers had a good chance to have 6.3 times good behavior compared to mothers with less knowledge. Also, maternal health beliefs had a significant relationship with breastfeeding behavior, with P value = 0.01, OR value of 2.58 (CI 95% = 1.29-5.16). Mothers with good health beliefs had a chance to have 2.5 times good behavior compared to mothers with less good health beliefs. It is recommended for health officers at Puskesmas Merdeka to improve health promotion efforts more with advocacy strategy both cross program and cross sectors to change mothers' behavior by paying attention to maternal health knowledge and beliefs aspects which can be done through active participation approach and persuasive communication.

Keywords: Knowledge, Health Beliefs / Perception and Breastfeeding Behavior

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1. PREFACE

Providing good and appropriate infant food is by exclusively breastfeeding the infants from birth to 6 months of age and continuing to breastfeed them until the age of 24 months. Exclusive breastfeeding program has been proclaimed by the government in Indonesia, in this case the Ministry of Health. In 2003, the recommended period of exclusive breastfeeding was from 4 to 6 months.

In accordance with the WHO criteria, exclusive breastfeeding means not giving infants food or beverages including water other than breastfeeding (except medicines and vitamin, mineral drops or dairy milk) from birth to 6 months

In 2012, national exclusive breastfeeding target achievement only reached 48.6%. The percentation in West Java reached 47.85% (Indonesian Health Profile, 2012). Bogor City only reached 28.2%, and from the data report of Puskesmas Merdeka in November 2015, exclusive breastfeeding coverage only reached 20% from target of 80%.

Infant exclusive breastfeeding behavior is closely related to the mothers' health knowledge and understanding of the importance of exclusive breastfeeding for infants, mothers' health beliefs and attitudes to the incessant marketing of formula milk offered in the neighborhood. The success of mothers' behavior in exclusively breastfeeding the infants is also influenced by individual perceptions which includes health knowledge of the risks of illness and the health benefits gained as well as the perception of perceived obstacles in breastfeeding the infants (Andy Emmanuel, *An Application of the Health Belief Model*, 2015).

According to the results of Nina Zuhana's study, Woro (2014), there was a significant relationship between maternal health knowledge level and exclusive breastfeeding behavior for infants. Another thing that also contributed to the success of exclusive breastfeeding was the perception of the mothers. Lilik H et al (2014) revealed that there was a significant relationship between perception and exclusive breastfeeding, as well as the research results of Parisa Parsa, Zahra et al (2012) which stated that maternal health beliefs and attitudes had a significant role in breastfeeding the infants.

Apart from the research results mentioned above, which was not less important and needed to get attention was the myths or beliefs in the neighborhood related to breastfeeding, which could also affect knowledge, understanding and mothers' attitude to mothers' behavior in breastfeeding the infants. The myths included: breastfeeding makes the mothers' breast slack or changing in shape; the morning breastmilk is stale so before breastfeeding the infants it must be milked first and thrown away; the first breastmilk out after the baby was born is stale because of the yellow color and it should be thrown away; if breast milk has not been or is not produced smoothly in the first day after giving birth, the infants should soon be given formula milk as they always look not satisfied and seem difficult to sleep.

Many efforts had been done both in the form of policy and health promotion, but the results were still not in accordance with the expected target. Based on the results of interviews and observations with KIA officers at the Puskesmas Merdeka Bogor, giving education about exclusive breastfeeding had been done since the pregnancy. But in fact, many mothers gave formula milk before the age of 4 and 6 months. In relation to this matter, mothers' health knowledge and beliefs about exclusive breastfeeding needs to be explored more deeply, so that educational efforts and approaches are carried out in accordance with the learning needs of mothers so that mothers are willing and able to give exclusive breastfeeding.

Based on the description above it is necessary to conduct research on "The role of maternal health knowledge and beliefs toward breastfeeding behavior in Puskesmas Merdeka West Bogor District 2016".

2. RESEARCH METHODOLOGY

Quantitative research with the design of "Cross Sectional" was used as the research method and the working area of Puskesmas Merdeka Bogor was chosen as the research location which was held in June to October 2016.

The research population was all mothers who had infants in the working area of Puskesmas Merdeka Bogor. The research samples were breastfeeding mothers with infants aged 6-12 months, considering that exclusive breastfeeding was theoretically given at the age of 0-6 months assuming that mothers with infants over 6 months had them exclusively breastfed.

The sample size was based on the calculation of hypothesis formula of difference test of two proportions of 140 respondents. Sampling used *Non Random Sampling* with *purposive sampling* technique. The working areas used in the research were in three villages named panaragan, ciwaringin and kebon kelapa with 14 posyandu.

3. RESEARCH RESULTS

1. Univariate Analysis

a. Univariate analysis describing the characteristics of the respondents was the confounding variable consisting of age, educational background, occupation, parity, birth history and family supports as follows:

Table 1

Distribution of Respondents by Characteristics (age, educational background, occupation, parity, birth history, family support) in the Working Area of Puskesmas Merdeka

West Bogor District Bogor City 2016 (n = 140)

CounfoundingVariable	Total	Percentage
1. Year		
< 20 yo- >35 yo	38	27,10
20 – 35 years old	102	72,90
2. Educational Background		
<Senior High School	70	50,00
>Senior High School	70	50,00
3.Occupation		
Unemployed	123	87,90
Employed	17	12,10
4.Parity	96	68,60
Primigravida	44	31,40
Multigravida		
5.Birth History		
Normal	108	77.10
Sectio Caesaria	32	22.90
6.Family Support		
Supporting	73	52,10
Not Supporting	67	47,90

Table 1 showed that most respondents (72.90%) were aged between 20 years to 35 years old with having educational background >senior high school (50%) and <senior high school (50%). Most respondents (87.90%) were unemployed or housewives and most (68.60%) were primiparous mothers (first-time-having-infants mothers). Most of the respondents (77.10%) had a history of labor normally and more than half of respondents (52.10%) stated that the family supported breastfeeding

b. Health Knowledge and Beliefs/Perceptions

Table 2

Distribution of Respondents by Health Knowledge and Beliefs about Breastfeeding in the Working Area of Puskesmas Merdeka, West Bogor District, 2016 (n = 140)

Variable	Total	Percentage
1.Health Knowledge		
Good	87	62,10
Poor	53	37,90

2.Health Beliefs		
Good	63	45,00
Poor	77	55,00

Table 2 showed that most respondents had good health knowledge (62.10%) about breastfeeding but more than half (55%) had poor health beliefs / perception about breastfeeding.

c. Breastfeeding Behavior

Tabel 3

Distribution of Respondents According to Breastfeeding Behavior
In the Working Area of Puskesmas Merdeka, West Bogor District
Bogor City 2016 (n = 140)

Variable	Total	Percentage
Behavior		
1.Good	58	41,40
2.Poor	82	58,60

Table 3 showed that more than half of respondents (58.60%) had bad behaviors in breastfeeding.

1. **Bivariate Analysis**

In accordance with the design and purpose of this research, the bivariate analysis used was Chi Square statistical test (difference test of two proportions), to see the relation or difference of proportion of independent variables (maternal health knowledge and beliefs) and confounding variables (age, educational background, occupation , parity, birth history, and family support) with breastfeeding behavior.

a. The Relationship of Respondents' Health Knowledge and Beliefs with Breastfeeding Behavior

Table 4

Distribution of Respondents According to Breastfeeding Knowledge and Behavior
At Puskesmas Merdeka, West Bogor District, 2016 (n = 140)

Variable	Breastfeeding Behavior				Total		OR (95%CI)	p value
	Poor		Good					
	N	%	N	%				
Knowledge Level								
Poor	4	4,3	3,0	7,0	3	00	,304 ,741- 14,498	6 2 ,00
Good	8	3,7	9	6,3	7	00		
Health Beliefs								

Poor	3	5	8,8	4	1,2	7	00	2,589 1 ,011
Good	9	2	6,0	4	4,0	3	00	

Table 5.5 showed the results of the analysis of the relationship between the level of health beliefs with the breastfeeding behavior obtained 24 respondents (31.2%) who were poor in health beliefs but had good breastfeeding behavior, while there were 34 respondents (54%) with good health beliefs and had good breastfeeding behavior. The result of statistical test showed p value = 0,011. It can be concluded that there was a difference of proportion of breastfeeding behavior between respondents with good health beliefs and the poor ones (there was a significant relationship between the level of health beliefs and breastfeeding behavior). From the analysis results it was obtained OR = 2,589 which meant that respondents with good health beliefs had a chance 2.58 times to behave well in breastfeeding than respondents with poor health beliefs.

b. The Relationship of Age, Educational Background, Occupation, Parity, Birth History and Family Support with Breastfeeding Behavior.

Table 5
Distribution of Respondents According to Age, Educational Background, Occupation, Parity, Birth History and Family Support Wirh Breastfeeding Behavior in Puskesmas Merdeka West Bogor District 2016 (n=140)

Confounder Variabel	Breastfeeding Behavior						Total	OR (95% CI)	p value
	Poor			Good					
1. Age								1,780 0 ,810- 3,911	,211
< 20 yo, >35 yo	6	8,4	2	1,6	8	00			
old 20 – 35 years	6	4,9	6	5,1	02	00			
2. Educational Background								,889 0 ,454- 1,742	,864
Low < Senior High School	0	7,1	0	2,9	0	00			
High ≥Senior High School	2	0,0	8	0,0	0	00			
3. Occupation								,817 0 ,603- 5,473	,418
Unemployed	2	0,6		9,4	7	00			
Employed	0	6,9	3	3,1	23	00			
4. Parity								,272 1 0	,638
Primigravida	8	0,4	8	9,6	6	00			

Multigravida	4	4,5	0	5,5	4	00	,619- 2,615	
5.Birth History							1 ,760 0 ,761- 4,070	,250
Operation/SC	2	8,8	0	1,3	2	00		
Normal	0	5,6	8	4,4	08	00		
6.Family Support							1 ,231 0 ,627- 2,416	,666
Not Supporting	1	1,2	6	8,8	7	00		
Supporting	1	6,2	2	3,8	3	00		

Table 5 Showed that the result of the analysis of the relationship between age and breastfeeding behavior obtained 12 respondents (31.6%) who were <20 years old and> 35 years old with good breastfeeding behavior, while those aged 20-35 years had 46 respondents (45, 1%) who behaved well in breastfeeding. The result of statistical test showed p value = 0,211. It can be concluded that there was no difference of proportion of breastfeeding behavior between respondents who were <20 years old and> 35 years old and respondents who were 20-35 years (no significant relationship between age and breastfeeding behavior).

The relationship between educational background and breastfeeding behavior obtained 30 respondents (42,9%) whose educational background were <high school with good breastfeeding behavior, while 28 respondents (40.0%) whose educational background were> high school with good breastfeeding behavior. The result of statistical test showed p value = 0,864. It can be concluded that there was no difference of proportion of breastfeeding behavior between respondents whose educational background were <high school and those >high school (no significant relationship between educational background and breastfeeding behavior).

The relationship between occupation and breastfeeding behavior obtained 5 respondents (29,4%) who were employed with good breastfeeding behavior, while there were 53 unemployed respondents (43,1%) with good breastfeeding behavior. The result of statistical test showed p value = 0,418. It can be concluded that there was no difference of proportion of breastfeeding behavior between employed and unemployed respondents (no significant relationship between respondent's occupation and breastfeeding behavior).

The relationship between parity and breastfeeding behavior obtained 38 primiparous respondents (39,6%) with good breastfeeding behavior, while there were 20 multiparous respondents (45.5%) with good breastfeeding behavior. The result of statistical test showed p value = 0,638. It can be concluded that there was no difference of proportion of breastfeeding behavior between primiparous and multiparous respondents (no significant relationship between parity and breastfeeding behavior).

The relationship between birth history and breastfeeding behavior obtained 10 respondents with history of sectio caecaria (31.3%) and good breastfeeding behavior, while there were 48 respondents (44.4%) with history of normal delivery and good breastfeeding behavior. The result of statistical test showed p value = 0,250. It can be concluded that there was no difference of proportion of breastfeeding behavior between respondents with history of normal delivery and respondents with history of sectio caesaria (no significant relationship between birth history with breastfeeding behavior).

The relationship between family support and breastfeeding behavior obtained 32 respondents (43.8%) with supportive families and good breastfeeding behavior, while there were 26 respondents (38.8%) with less supportive families and good breastfeeding behavior. The result of statistical test showed p value = 0,666. It can be concluded that there was no difference of proportion of breastfeeding

behavior between supportive and less supportive families (no significant relationship between family support and breastfeeding behavior).

2. Multivariate Analysis

Multivariate analysis was aimed to see the relation of maternal health knowledge and beliefs with breastfeeding behavior. The confounder variables were age, educational background, occupation, parity, birth history and family support with main independent variable modeling.

The final result obtained from the modeling steps of hypothesis testing in this analysis were shown as follows:

Table 6
 Logistic Regression Multivariate Model between Health Knowledge, Health Beliefs, Age, Educational Background, Occupation, Parity, Birth History at Puskesmas Merdeka
 West Bogor District 2016

Variable	B/ Coef	Std. Error	OR	95% CI	P value
Health Knowledge	1,703	0,444	5,490	2,35 -12,82	0,000
Health Beliefs	0,640	0,380	1,897	0,90 -3,99	0,092

According to confounder analysis, it turned out that age, educational background, occupation, parity, birth history, family support were not relation confounders of health knowledge and health trusts with breastfeeding behavior. From the above model it can be explained that knowledge was related to the behavior of respondents in breastfeeding their infants. The closeness of the relationship can be explained from the OR value of 5.4 (95% CI = 2.35-12.82), meaning that respondents with good knowledge had a good chance to behave in breastfeeding 5 times compared with respondents who have poor knowledge about breastfeeding.

4. DISCUSSION

1. Level of knowledge, health beliefs and breastfeeding behavior for infants aged 0 to 6 months.

It is known that the best food for infants aged 0 - 6 months is only breast milk without any other food or beverages which is known as exclusive breastfeeding. Unfortunately, this behavior can not be done equally by breastfeeding mothers due to several factors, such as maternal health knowledge and perception or health beliefs about the importance of breastfeeding which is still not completely understood. Based on data coverage of exclusive breastfeeding in the working area of Puskesmas Merdeka, West Bogor District 2015, the percentage only reached 20% from the target of 80%.

Based on the results of this research, 140 respondents consisted of 70 (50%) exclusive breastfeeding respondents and 70 (50%) non-exclusive respondents. There were 110 respondents (78.6%) who did the early breastfeeding initiation and 30 respondents (21.4%) who did not do the early breastfeeding initiation. From the breastfeeding behavior variable, there were 82 respondents (58.8%) having poor breastfeeding behavior, while there were 58 respondents (41.4%) with good behavior. This illustrated that

mothers' recognition about exclusive breastfeeding and early breastfeeding initiation were not in line with their behavior when breastfeeding their infants.

From the respondents' knowledge level about breastfeeding there were 87 respondents (62.1%) with good knowledge and 53 respondents (37.9%) with poor knowledge. Meanwhile, based on perception or health beliefs on the importance of breastfeeding, there were 63 respondents (45%) with a good level of beliefs/perception and 77 respondents (55%) with poor ones. From the respondents' behavior, there were 58 respondents (41.40%) with good behavior and 82 respondents (58.60%) with poor behavior.

The result of univariate analysis on these three variables can be explained that the knowledge level of respondents is not always in line with the perception/health beliefs and breastfeeding behavior. It can be seen from the percentage that there were 87 respondents (62.1%) with good knowledge, 63 respondents (45%) with good perception and 58 respondents (41.40%) with good breastfeeding behavior.

Notoatmojo (2010) stated that knowledge is acquired by someone after sensing certain objects, through the sense of sight, hearing, smelling, feeling and touching. While perception is the process of assessing, organizing and interpreting by a person against particular objects (physical and social objects) exist in the environment. Knowledge and perception/health beliefs are the basic for the individual to learn, think and act.

However, according to Wolberg and Taylor in Bart Smeet (2010), a very complex self-regulatory system is involved in the process of perception. In addition, several factors can also influence perceptions such as individual differences, situation factors and cultural differences. Moreover, perceptions/health beliefs, in this research, were adopted from the theory of Health Belief Model which is a cognitive model to predict the behavior of improving the health of individuals associated with breastfeeding.

The probability of the respondent to have good behavior in breastfeeding will depend on two health beliefs which are the perceived threat of not breastfeeding well and the consideration of advantages and disadvantages. Both of these beliefs are strongly influenced by some variables, such as demography (age, cultural background), sociopsychological variables (personality, social class and social pressure) and structural variables (knowledge, experience). According to Andy Emmanuel (2015) the success of mothers' breastfeeding behavior to infants is influenced by individual perceptions covering the knowledge about the risk of illness and the health benefits gained as well as the perception of perceived obstacles in breastfeeding.

2. The relationship between confounder variable (age, educational background, occupation, parity, birth history and family support) and breastfeeding behavior.

The bivariate analysis showed that the six types of confounder variables did not significantly correlate with breastfeeding behavior. This was indicated by p value $\Rightarrow 0.05$. The results of this research were in line with the research of Neji et al (2015) which proved that the variables of age, education level and occupation are not significantly related to breastfeeding behavior. Moreover, the research results by Tesy M (2015) revealed that the status of parity and birth history does not significantly correlate with breastfeeding behavior. Similar findings by Nina Z et al (2014) suggested that family support is not significantly related to breastfeeding behavior.

The results of this research were different from those disclosed by the MOH RI (2004) who wrote the results of several studies that had been conducted in urban and rural areas in Indonesia revealed that there were many factors that could affect the mothers' breastfeeding behavior, such as supporting system, socio-cultural and economic (Education, employment status and income) and maternal physical factors including illness, birth history and parity.

3. The relationship between health knowledge with breastfeeding behavior

The result of bivariate analysis showed that the knowledge of respondents was significantly related to breastfeeding behavior, with p value = 0,000 and OR 6.3 (95% CI: 2,74-14,49) meaning that respondents who had good knowledge would have a chance of 6.3 times to have good behavior in breastfeeding the infants.

Green and Kreuter (2010) said that knowledge was one of the predisposing factors to the formation of one's behavior. Knowledge was an initial stimulus for a person in behaving. Knowledge change was not always able to cause immediate behavioral change. It took quite a time so that knowledge could be absorbed well at a higher level. According to Prochaska (2004), the theory of the Transtheoretical Model explained that the process of behavior change through the five stages, which were pre-contemplation, contemplation, preparation, action and maintenance. Individuals took 6 months to have new behavior.

The suitability of the research results with the theory are likely because of the exclusive breastfeeding program until the age of 6 months old baby which has been proclaimed by the government (2013), in this case through health workers at Puskesmas and cadres of posyandu as an extension in the neighborhood. This is, of course, very possible to affect mothers' level of knowledge and behavior. The results of this study are in line with the results of research by Nina Z, et al. Woro, et al (2014), which stated that there is a significant relationship between maternal knowledge level and exclusive breastfeeding behavior to infants with p value = 0,000.

4. The relationship between health beliefs/perception with breastfeeding behavior

Health belief or perception is also an important component in the process of behavior. Similarly with the knowledge, the results of this research analysis showed that there is a significant relationship of perception with breastfeeding behavior, with p value = 0.011 and OR 2.589 (95% CI: 1.29-5.16) meaning that respondents with good perception/belief have a great chance of 2.6 times to have good behavior in breastfeeding to infants.

The health beliefs/perceptions referred to this research are related to respondents' assessment to: 1) Perceived Severity as a result of not breastfeeding, 2) Perceived Susceptibility for a major possibility to exclusively breastfeed, 3) Perceived Benefits by how much profit can be gained if mothers make efforts to increase the quantity and quality of breast milk, 4) Perceived Barrier if mothers make efforts to increase the quantity and quality of breast milk and 5) Mothers' Perceived Self Efficacy in increasing quantity and quality of breast milk.

From the results of this research, it can be explained that respondents' perception/health beliefs to the importance of breastfeeding for infants will affect their behavior in breastfeeding. This is in accordance with HBM's theory by Becker (1974), in Naidoo J and Wills J (2004), which stated that individuals' health beliefs or assessment will influence the prevention behavior of health problems by the result of the poor breastfeeding behavior.

The results of this research are in line with the research by Lilik Hidayati et al (2014) which revealed that there is a significant relationship between perceptions (p Value = 0.001). Moreover, according to research results by Parisa Parsa, Zahra, et al (2012), it was stated that maternal health beliefs has a significant role in breastfeeding the infants with p value = 0.005.

5. The result of multivariate analysis statistical test (logistic regression risk model), stated that knowledge is very closely related to breastfeeding behavior, compared with perception/health beliefs variable. It can be proved by multivariate analysis results with p value = 0,000 with OR 5.4, meaning that mothers with good knowledge have a great opportunity of 5.4 times to have good behavior in breastfeeding the infants.

The results of this research are in line with what was said by the Minister Of Health of Indonesia (2014), that based on the research results done, maternal knowledge and perception factors can affect the mothers' behavior in breastfeeding the infants.

5. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

1. Respondents' Characteristics: The ages of respondents are dominated between the ages of 20 to 35 years with a lower educational background than senior high school and higher or equal to senior high school. In general, respondents are unemployed or housewives and most are primiparous mothers (first time mothers having infants). Most of the respondents had a history of labor normally and more than half of the respondents stated that the family supported breastfeeding.

2. The low coverage of exclusive breastfeeding for up to 6 months of age infants in the area of Puskesmas Merdeka, which was 20% from the target of 80%

3. Respondents' knowledge level about breastfeeding is mostly good, with lower level of health beliefs or perceptions, as well as the breastfeeding behavior.

4. There is a significant relationship between knowledge level and breastfeeding behavior. Well-knowledged respondents have a chance of 6.30 times to behave well in breastfeeding than respondents with poor breastfeeding knowledge.

5. There is a significant relationship between the level of health beliefs and breastfeeding behavior. Respondents with good beliefs in breastfeeding have a 2.58 times chance to behave well in breastfeeding compared to those with poor health beliefs.

6. There is no significant relationship between age, educational background, occupation, parity and birth history and family support with breastfeeding behavior.

7. Based on the relationship closeness analysis, knowledge is the most closely related variable to respondents' behavior in breastfeeding the infant after being controlled by confounder variables (age, educational background, occupation, parity, birth history and family support). Respondents with good knowledge have a chance of 5 times to behave well in breastfeeding compared with respondents with poor breastfeeding knowledge. While the variable of health beliefs or perception is not related.

B. Recommendation

1. It is necessary to increase mothers' knowledge about the importance of exclusive breastfeeding starting from the beginning of pregnancy, childbirth and breastfeeding period performed by both health workers and breastfeeding groups in the neighborhood.

2. It is necessary to increase community empowerment through cooperation with sub-district head, village head, citizen association, neighborhood association and cadres in order to raise the awareness about the importance of exclusive breastfeeding for the infants until 6 months of age.

3. It is necessary to increase interpersonal relationships with mothers starting from the pregnancy, childbirth and breastfeeding period by involving the family to create a sense of confidence for mothers.

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