

# Analysis of Factors Related to The Mother's Behavior to Increase Breastmilk Production

Retnayu Pradanie<sup>1</sup>, Aria Aulia Nastiti<sup>1</sup>, Thaliah Jihan<sup>1</sup>

<sup>1</sup>Faculty of Nursing Universitas Airlangga Surabaya Indonesia

## ABSTRACT

The coverage of exclusive breastfeeding in Indonesia has not reached the national target set by the government. Problems that may inhibit exclusive breastfeeding include insufficient breast milk production. The purpose of this study was to analyze the factors related to maternal behavior in facilitating the production of breast milk based on the precede-proceed model. This study used a descriptive analytical design with a *cross-sectional* approach. The respondents consisted of 143 mothers collected with *cluster sampling*. The dependent variable in this research was the mother's behavior in facilitating breast milk production. The independent variables in this research were knowledge, attitude, culture, the availability of health facilities, family support and health worker support. The data was collected using questionnaires and analyzed using *Spearman rho* with a significance level of  $\alpha \leq 0.05$ . The results showed that almost all of the factors had a significant correlation with the mother's behavior in facilitating breast milk production (knowledge  $p=0.039$ , attitude  $p=0.013$ , culture  $p=0.024$ , health facilities availability  $p=0.023$ , family support  $p=0.000$ ). The factor of health worker support showed as having no correlation with the mother's behavior in facilitating breast milk production ( $p=0.177$ ). It is expected that the health workers at public health centers should increase their supports to mothers and their families about exclusive breastfeeding.

**Keywords:** *breastfeeding, breastmilk production, precede-proceed model.*

## Introduction

The mother's awareness of the importance of exclusive breastfeeding is able to increase the coverage of exclusive breastfeeding in Indonesia. Many women stop breastfeeding their babies because they think that their breast milk amount is insufficient to meet their baby's needs.<sup>1</sup>This phenomenon is in line with the research that showed that 20% of breastfeeding mothers stop breastfed due to the perception of having less breastmilk production.<sup>2</sup>periods of vulnerability for breastfeeding cessation, reasons for breastfeeding cessation, and the association between predelivery intentions and breastfeeding behaviors. STUDY DESIGN Using 2 years (2000 and 2001

Based on the Surabaya City Health Profile, there is one area that showed a significant decline in exclusive breastfeeding coverage over the last 3 years. The exclusive breastfeeding coverage in this area only reached 43.53% in 2015. This is precisely inversely proportional to the coverage of exclusive breastfeeding in Indonesia, which reached 55.7%.<sup>3</sup> The exclusive breastfeeding coverage in Surabaya also increased by 60.52% in 2012, by 64.33% in 2014 and in 2016 this increased to 65.10%.<sup>4</sup> The coverage of exclusive breastfeeding in Indonesia has indeed increased but it is still very far from the target set by the government nationally, which is 80% of the number of babies in Indonesia. Based on preliminary studies conducted in the area, only 21 out of 78 infants aged 0 - 6 months who exclusively breastfed, and 9 out of 10 mothers stated that they only produce less breastmilk. It can thus be concluded that 90% of breastfeeding mothers experience problems with less breastmilk production.

Babies who do not breast feed tend to be easily at risk of infection or disease. The impact of not exclusive breastfeeding concerning infants includes indigestion,

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### Corresponding Author:

Retnayu Pradanie

Faculty of Nursing, Universitas Airlangga,  
Surabaya, Indonesia

Email: [retnayu-p@fkip.unair.ac.id](mailto:retnayu-p@fkip.unair.ac.id)

impaired growth, an increased risk of morbidity in infants and nutritional disorders, including being at risk of aggravating ARI and diarrhea.<sup>5</sup> Mothers who understand the importance of exclusive breastfeeding for their babies will try to improve and facilitate their breast milk production. Consuming traditional herbal medicines such as katuk leaves (*sauropus androgynous*) or green vegetables and nuts are some common behaviors in the mothers in Indonesia when trying to increase breastmilk production.<sup>6</sup>

The mother’s behavior is a kind of formed behavior that could be influenced by predisposing, supporting and driving factors. Based on the theory of Precede-Proceed by Lawrence Green, a person’s behavior can be concluded to be influenced by knowledge, attitudes, traditions or culture, family support, the availability of health facilities and the performance of health workers.<sup>7</sup>This study is focused on analyzing the factors of knowledge, attitudes, culture, the availability of health facilities, family support and health worker support, which can influence the behavior of the mothers in facilitating the production of breast milk based on the theory of the Precede-Proceed Model.

**Method**

This study used descriptive analysis with a cross-sectional approach. The research was conducted at one of the Health Centers in Surabaya, during June - July 2018. The population in this study consisted of 228 nursing mothers. The sample consisted of 143 mothers who had problems with breast milk production carried out by cluster sampling.

The dependent variable in this study was the behavior facilitating breast milk production. The independent variables in this study were knowledge, attitude, culture, the availability of health facilities, family support and health worker support. The instruments in this study used questionnaires which had already been tested for validity and reliability. The data was collected by doing visiting the respondent’s house. This was then analyzed using Spearman rho with a 95% confidence level.

**Results**

The demographic data of breastfeeding mothers in this study has been shown in Table 1.

**Table 1: Respondent’s Demographic Data**

Characteristics	F (N = 143)
<b>Age</b>	
< 20 years	3
20 – 35 years	110
> 35 years	30
<b>Educational Background</b>	
Primary School	12
Junior High School	11
Senior High School	89
Diploma/College	31
<b>Employment</b>	
Housewife	117
Private	18
Entrepreneur	4
Government employees	4
<b>Number of children</b>	
1 children	39
2 children	61
> 2 children	43
<b>Infant Gender</b>	
Boy	68
Girl	75
<b>Age of babies</b>	
<6 months	82
>6 months	61
<b>Type of labor</b>	
Normal	96
SC ( <i>Sectio Caesaria</i> )	47
<b>Type of breastfeeding</b>	
Exclusive breastfeeding	55
Non exclusive breastfeeding	88
<b>Husband Employment</b>	
Private	99
Entrepreneur	38
Government employees	6
<b>Family income (IDR)</b>	
<3.500.000	58
3.500.000	38
>3.500.000	47
<b>Sub-district</b>	
Ngagel Rejo	106
Ngagel	37

**Table 2: Correlation between the factors of the preceed-proceed model with the mother's behavior in accelerating breast milk production**

Factors on Preceed-Proceed Model	Mother's Behavior in Accelerating Breastmilk Production (n=143)				
	Poor	Fair	Good	Total	Spearman Rho'
<b>Knowledge</b>					
Fair	0 (0%)	13 (9,1%)	0 (0%)	13 (9,1%)	p = 0,039
Good	1 (0,7%)	94 (65,7%)	35 (24,5%)	130 (90,9%)	r = 0,173
<b>Attitude</b>					
Negative	0 (0%)	18 (12,6%)	0 (0%)	18 (12,6%)	p= 0,013
Positive	1 (0,7%)	89 (62,2%)	35 (24,5%)	125 (87,4%)	r= 0,208
<b>Culture</b>					
Negative	0 (0%)	21 (14,7%)	1 (0,7%)	22 (15,4%)	p= 0,024
Positive	1 (0,7%)	86 (60,1%)	34 (23,8%)	121 (84,6%)	r=0,189
<b>Availability of health facilities</b>					
Poor	0 (0%)	1 (0,7%)	0 (0%)	1 (0,7%)	p= 0,023
Fair	0 (0%)	25 (17,5%)	2 (1,4%)	27 (18,9%)	r= 0,190
Good	1 (0,7%)	81 (56,6%)	33 (23,1%)	115 (80,4%)	
<b>Family Support</b>					
Poor	0 (0%)	2 (1,4%)	1 (0,7%)	3 (2,1%)	p= 0,000
Fair	0 (0%)	85 (59,4%)	14 (9,8%)	99 (69,2%)	r= 0,311
Good	1 (0,7%)	20 (14,0%)	20 (14,0%)	41 (28,7%)	
<b>Support from the health workers</b>					
Poor	1 (0,7%)	11 (7,7%)	6 (4,2%)	18 (12,6%)	p= 0,177
Fair	0 (0%)	89 (62,2%)	21 (14,7%)	110 (76,9%)	r=0,114
Good	0 (0%)	7 (4,9%)	8 (5,6%)	15 (10,5%)	

## Discussion

Most of the breastfeeding mothers in this research had a good level of knowledge about the importance of breastfeeding for both the mother and baby, the things that can affect breast milk production and how to increase their own breastmilk production. Most respondents who have good knowledge have sufficient behavior when it comes to the effort to increase breastmilk. The statistical results obtained a significance correlation between knowledge and maternal behavior in increasing breastmilk production. The majority of breastfeeding mothers in this study were highly educated, having graduated from high school (62.2%) and college (21.7%). The level of education is very influential on knowledge, especially in the formation of behavior. The higher the level of education of a person, the higher the level of one's consciousness and the more mature they are in terms of decision making.<sup>8</sup> Mothers who have a high education level are predicted to show a more persistent

effort to achieve breastfeeding success compared to someone with a low level of education. Mothers who have a higher level of education will find it easier to find information about breastfeeding which will increase their confidence in breastfeeding their babies. Mothers who have higher education tend to be stronger to deal with problems and difficulties, including dealing with less breastmilk production.<sup>9</sup> There were under 6 month old babies already being given formula milk. The reasons were having a lower level of breastmilk production and being working mothers. This is in line with the research that stated that 24% of working mothers reported that they were not sure they could produce enough milk for their babies.<sup>10</sup> This indicates that counseling and support about lactation are still very needed by working mothers to reach the exclusive breastfeeding target.<sup>10</sup> The better the mother's knowledge about how to increase their milk production, the better the behavior of mothers in increasing breastmilk production.

The majority of nursing mothers in this study had a positive attitude and behaved in sufficient categories. The statistical results obtained a significance correlation between attitude and maternal behavior in facilitating breast milk production. There are still a small number of mothers who gave additional food and formula milk while still breastfeeding their babies. This is consistent with the previous research that states that one of the reasons mothers give up on exclusive breastfeeding is because of the mother's perception of breastmilk production.<sup>11</sup> A positive attitude will develop positive behavior and vice versa. Good mother's knowledge will also affect the mother's attitude when it comes to being positive. Attitude is a closed response to a stimulus or a particular object which involves the factors of opinion and the emotions concerned (happy-unhappy, agree-disagree, all right and so on). The factors that influence the formation of attitudes are personal experience, culture, other people who are considered to be important, mass media, educational institutions or institutions, religious institutions and individual emotional factors.<sup>12</sup>

There is a significant correlation between cultural factors and maternal behavior in facilitating breast milk production. The culture that is trusted by the mothers and their family will greatly affect the behavior of the mothers in increasing their breastmilk production. Nursing mothers who have a positive culture facilitating breast milk production will behave in sufficient categories to facilitate breastfeeding; out of the respondents, this totaled 60.1%. Positive behavior to increase breastmilk production is affected by culture/beliefs, including by consuming herbal medicine both factory packaged or homemade (54.5%), doing gently breast massage care (66.4%) and consuming more green vegetables and fruits (74%). There also some mothers who believe that breastfeeding could change the beautiful shape of their breasts (10.4%) and that during breastfeeding, they should restrict themselves when it comes to spicy foods due to the prevention of diarrhea among their babies (66.4%).

The statistical test obtained a significant correlation between the availability of health facilities and the mother's behavior in facilitating breast milk production. The health facilities can be easily reached, while health education and postpartum maternal visits were also obtained by most of the respondents in this study. The health facilities are support for the occurrence of

a person's behavior or society. Facilities can be in the form of time, money, energy, tools and skills. Health behavior will be influenced by the presence or absence of health facilities.<sup>13</sup> The availability of supporting facilities will help the nursing mothers to reach the point of exclusive breastfeeding, especially for working mothers.<sup>14</sup> Numbers of women living as a worker and a housewife have increased. This also increases the potential risk of breastfeeding discontinuation. Three months of maternal leave policy and inadequate lactation promotion support in workplace have been identified as factors that hinder lactating practices. The World Health Organization recommendation of 6 months of exclusive breastfeeding and joined regulation of three Indonesia ministers (Ministry of Health, Ministry of Labour, and Ministry of Women Empower

The majority of respondents get sufficient family support in the enough category. The statistical results also indicate there to be a significance correlation between family support and maternal behavior in facilitating breast milk production. The family in this study were the husband, biological mother, mother-in-law, brother and closest person who lived in one house with the respondent. One form of family support for nursing mothers is to provide assistance in the form of material, physical assistance and assistance when it comes to solving problems. Support and family presence is very important for nursing mothers to be able to increase self-confidence, stabilize emotions, and provide strong motivation. Support from husbands and biological mothers is more dominant in influencing mother's behavior. Husbands who help with housework, take care for babies and give their wives praise will increase their happiness and create a comfortable atmosphere. Mothers who received support from their husbands were 10 times more likely to report confidence in their breastfeeding than those who did not.<sup>15</sup>

The statistical results obtained that there was no significant relationship between health worker support and the mother's behavior in facilitating breast milk production. This could be caused by less encouraging the mother's spirit and less convincing her that her breastmilk production is sufficient enough to meet the baby's needs.<sup>8</sup> The role of health workers in improving public health is needed. Health workers, especially those working in first line services, will interact more often with the community because they are the first and closest

health provider to the community. Nurses can act as health care providers through the roles of nursing care, educators, health educators, case inventors, liaisons, coordinators, counselors and general role models. The role of health workers should be to provide strong support for exclusive breastfeeding success. The support that can be done by the health workers is by holding counseling about lactation management during antenatal, intra-natal and postnatal, hence being a good preparation stage for the mothers and their families to reach the point of exclusive breastfeeding.<sup>16</sup>

### Conclusion

Knowledge, attitude culture, the availability of health facilities and family support are the factors that contribute to forming good behavior in breastfeeding mothers in terms of increased breastmilk production. The support of health workers had no significant correlation with the behavior of mothers in facilitating breast milk production because of the incomprehensive information and support about exclusive breastfeeding.

**Ethical Clearance:** This research passed the ethical clearance of the Health Research Ethics Commission in the Faculty of Nursing, Universitas Airlangga certificate no. 943-KEPK.

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