Jurnal Kesehatan Manarang

Jurnal Kesehatan Manarang, Volume 9, Number 3, December 2023, pp. 222 – 235
ISSN 2528-5602 (Online), ISSN 2443-3861 (Print)
doi: https://doi.org/10.33490/jkm.v9i3.890

BARRIERS TO EXCLUSIVE BREASTFEEDING: A CASE-CONTROL STUDY AMONG MOTHERS IN GORONTALO CITY, INDONESIA

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ARTICLE INFO

Article history

Submitted : 2023-03-16
Revised : 2023-12-04
Accepted : 2023-12-20

Keywords:
Barriers; Exclusive Breastfeeding; Risk factors; Mother; Indonesia

ABSTRACT

Exclusive breastfeeding is one of the important contributions to reducing maternal mortality, infant mortality, economic and environmental benefits. However, mothers still face many barriers during exclusive breastfeeding. This study aims to explain the perceived barriers to breastfeeding and find the most dominant barriers to breastfeeding. This type of research is quantitative research with analytic observational design and case-control method. The number of respondents in this study was 86 breastfeeding mothers, with a division of 43 mothers into case groups and 43 mothers into control groups. Sampling was determined by simple random sampling technique using an online number randomization application, namely random generator. Data were obtained from an original survey using an online questionnaire distributed through a social media platform in the form of a google form link. The results showed that barriers to exclusive breastfeeding from the social aspect, namely inadequate support from health care providers, were the most visible, followed by barriers from the maternal and infant aspects. Lack of health worker support (AOR= 22.621) was considered the main barrier to exclusive breastfeeding for six months among mothers in Gorontalo City, Indonesia. This was followed by lack of knowledge on breastfeeding. The lowest barrier was family support. Research on barriers to exclusive breastfeeding can help nurses and midwives develop breastfeeding promotion programs to increase exclusive breastfeeding among women in Gorontalo City, Indonesia.

Kata Kunci:

Penghambat; ASI eksklusif; Faktor risiko; Ibu;Indonesia

ABSTRAK

Pemberian ASI eksklusif merupakan salah satu kontribusi penting untuk menurunkan Angka Kematian Ibu, Angka Kematian Bayi, memberikan manfaat bagi ekonomi dan lingkungan. Namun, para ibu masih menghadapi banyak kendala selama pemberian ASI eksklusif. Penelitian ini bertujuan untuk menjelaskan hambatan yang dirasakan untuk menyusui dan menemukan faktor penghambat paling dominan dalam menyusui. Jenis penelitian ini adalah penelitian kuantitatif dengan desain observasional analitik dan metode case-control. Jumlah responden dalam penelitian ini adalah 86 ibu menyusui, dengan pembagian sebanyak 43 ibu menjadi kelompok kasus dan 43 ibu menjadi kelompok control. Pengambilan sampel ditentukan dengan teknik simple random sampling mengunakan aplikasi pengacakan angka online yaitu random generator. Data diperoleh dari survei asli dengan menggunakan kuesioner online dibagikan melalui platform media sosial berbentuk link google form. Hasil penelitian menunjukkan hambatan pemberian ASI eksklusif dari aspek sosial yaitu dukungan yang tidak memadai dari penyedia layanan kesehatan adalah yang paling terlihat, diikuti oleh hambatan dari aspek ibu dan bayi. Kurangnya dukungan tenaga kesehatan (AOR= 22,621) dianggap sebagai hambatan utama pemberian ASI eksklusif selama enam bulan di antara para ibu di Kota Gorontalo, Indonesia. Diikuti dengan pengetahuan yang kurang terhadap menyusui. Sedangkan faktor penghambat terendah yaitu dukungan keluarga. Penelitian hambatan pemberian ASI eksklusif dapat membantu perawat dan bidan mengembangkan program promosi menyusui untuk meningkatkan pemberian ASI eksklusif di antara wanita di Kota Gorontalo,Indonesia.

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INTRODUCTION

Breastfeeding is the most effective method of feeding infants, and exclusive breastfeeding for the first six months of life provides undeniable benefits to infant health, maternal health, the environment and the economy. For example, infants who are breastfed for six months can reduce the risk of hospitalization and death related to diarrhea, respiratory infections and otitis media. Breastfeeding can also reduce the risk of obesity in infants who have been breastfed for more than six months in childhood (Victora et al., 2015). In addition, exclusive breastfeeding for the first six months significantly improves cognitive abilities, helping to have higher intelligence levels and good improvements in school performance compared to non-breastfed infants (Horta et al., 2015). Regarding maternal health, exclusive breastfeeding has been shown to significantly reduce the risk of incidence of ovarian cancer and breast cancer Chowdhury et al., (2015), as well as delaying the return of menstrual periods as a method of lactational amenorrhea (Labbok et al., 1994;Victora et al., 2015). Breastfeeding not only reduces the risk of cancer but also reduces risk factors for chronic conditions such as hypertension and diabetes (Perrine et al., 2016). In terms of economics, a study by Walters et al., (2016), revealed the economic benefits of breastfeeding in seven countries in Southeast Asia with the result that health care could be saved 300 million US dollars per year by reducing the incidence of diarrhea and pneumonia through adequate breastfeeding. In addition, breastfeeding is considered the best protection for infants against the effects of climate change (Binns et al., 2018).

Considering the many advantages of breast milk, the World Health Organization (WHO) recommends breastfeeding for the first six months without mixing it with water, other liquids, food or herbal preparations, except vitamins, mineral supplements or medicines. After that, continue breastfeeding followed by nutritious complementary foods until the baby is two years old or older (WHO, 2017). However, globally exclusive breastfeeding coverage is only 36% (*World health statistics 2019*, 2019). From 2013 to 2018, only 43% of the world's newborns were breastfed in the first hour after birth and 42% of infants under six months of age were exclusively breastfed (UNICEF, 2019). Exclusive breastfeeding coverage in South Asia was 47%, Latin America and the Caribbean 32%, East Asia 30%, Central Africa 25%, and developing countries 46%. Overall, less than 50% of infants under six months of age are exclusively breastfed (World Health Organization, 2016). In Indonesia, the lowest percentage of exclusive breastfeeding in 2019 was in Gorontalo City with 30.71% (Kemenkes RI, 2019).

During the six months of exclusive breastfeeding, mothers face many challenges, barriers or difficulties. A common barrier is the perception that breastmilk is insufficient and does not provide all the necessary vitamins and nutritional supplements for the baby (Xuan & Nguyen, 2018). Another barrier to exclusive breastfeeding is the mother's perception that other foods and liquids are more nutritious than breast milk, hence formula milk is an option to give before the baby is six months old (Wasiah et al., 2020). Family income is also one of the barriers to breastfeeding, usually families with high income prefer to spend money on formula milk because it is considered more practical and less tiring (Hashim et al., 2020).

In addition, mothers also face barriers to exclusive breastfeeding due to having to return to work outside the home. In the same way, mothers with poor knowledge about exclusive breastfeeding are nine times more likely to give prelactal foods early than mothers with good knowledge (Diji et al., 2017). In addition, place and birth attendant are also barriers to breastfeeding, as mothers who give birth in a health facility and are assisted by a health worker are able to breastfeed longer than mothers who give birth at home (Tang et al., 2015 ; Tewabe et al., 2017).

Family support is a major influence on the success or failure of exclusive breastfeeding. The study found that almost two-thirds of mothers cared for their newborns and gave early prelactal foods on the advice of their parents (Hmone et al., 2017). Health worker support in antenatal and postnatal visits can influence the continuation of exclusive breastfeeding (Tadesse et al., 2016). However, some health care practitioners recommend the use of formula for specific indications, and this advice is the main reason why one-third of mothers do not breastfeed and choose to discontinue exclusive breastfeeding of their infants (Jama et al., 2020).

According to the Health Promotion Model, perceived barriers to action are anticipated, imagined, or real barriers and costs to understanding certain behaviors (Pender, 2011). In the context of exclusive breastfeeding, perceived barriers are inconveniences, difficulties or obstacles in exclusive breastfeeding, the higher the perceived barriers to breastfeeding, the less exclusive breastfeeding practices (Kim & Chapman, 2013). Several studies describe barriers to exclusive breastfeeding in

Indonesia (Fatimah & Kumalasari, 2015). This study was conducted in western and eastern Indonesia, which have different cultures from central Indonesia. Therefore, this study was conducted to identify significant breastfeeding barriers for mothers in central Indonesia. The results of this study provide a comprehensive picture of the barriers to exclusive breastfeeding for six months in Gorontalo City, Indonesia. The findings are expected to provide baseline information for future research on relevant topics. In addition, the findings are expected to help nurses and midwives to manage exclusive breastfeeding and develop appropriate interventions to minimize perceived barriers for breastfeeding mothers in Gorontalo City.

METHODS

Research Type

This study is a quantitative research with an analytic observational design, using a case-control approach. A case-control study is a study that determines the disease (outcome) first and then identifies the causes (risk factors), which in this study was conducted retrospectively to identify barriers to breastfeeding among mothers in Gorontalo City, Indonesia.

Research Location and Time

This research was conducted in Gorontalo City in February-April 2021.

Population and Sample

The population in this study was all mothers of infants aged six to nine months who were not exclusively breastfeeding (cases) and exclusively breastfeeding (controls) in Gorontalo City, Indonesia. The sample criteria in this study did not differentiate between case and control groups. The sample inclusion criteria were mothers who had babies aged more than six to nine months, provided exclusive breastfeeding and did not provide exclusive breastfeeding, housewives, had elementary, junior and senior high school education, were able to communicate in Indonesian and had a smartphone registered with a google account. The exclusion criteria were mothers with chronic diseases or other diseases that are not allowed to breastfeed by doctors. The sampling technique is random sampling, in this study researchers used an online number randomization application, namely a random generator with a lottery system. The results of sample randomization obtained 43 respondents in each case and control group. The total sample was 86 respondents who were eligible for the final analysis in this study.

Data Collection

Data was collected using a questionnaire developed by Abani,(2020), Zulaikhah,(2010), Utami,(2019), Yamaeka;, (2017), after giving permission to use it. The questionnaire did not go through the language translation stage, because the questionnaire used was from Indonesian research and the questionnaire items were in Indonesian. In addition, the instruments in this study have been tested for validity and reliability in previous studies so that the instruments used are not tested for validity and reliability again. An instrument can be declared valid if r count> r table. The reliability of the questionnaire was ensured by using Cronbach's alpha coefficient of 0.70, which reflects its consistency.

The knowledge questionnaire has been tested for validity and reliability in the study Abani,(2020), formula exposure, place of delivery and birth attendant in the study Zulaikhah,(2010), family support and exclusive breastfeeding in research Utami,(2019), and health worker support in research Yamaeka;,(2017).

All questionnaires in this research variable were adopted from research originating from Indonesia, so the researcher purely adopted the questionnaire without modifying the sentence form on each question item, because it was considered that the language used could be understood by research respondents in Gorontalo City, Indonesia.

The online survey included two main sections. The first section covered respondents' socio-demographic features, such as age, education, occupation, infant age and infant status. The second section elicited information on barriers experienced by mothers in exclusive breastfeeding, such as knowledge level, family income, formula exposure, family support for exclusive breastfeeding, health worker support, place of delivery, birth attendant, and exclusive breastfeeding.

The perceived barriers to breastfeeding scale consists of 47 items covering three aspects of barriers to breastfeeding: maternal aspects (items 1-10), infant aspects (items 11-18), and social-environmental aspects (items 19-49). The maternal aspect reflects mothers' negative attitudes or beliefs about breastfeeding practices, lack of knowledge, lack of breastfeeding techniques or skills, lack of confidence, and physical and psychological changes that hinder exclusive breastfeeding. The infant aspect reflects the mother's false beliefs about the benefits of breastmilk for the infant and the infant's physical and psychological condition. The social-environmental aspect reflects mothers' negative perceptions of inadequate support from family and health care providers, employment status, family income, and the adverse effects of formula advertising on exclusive breastfeeding practices. The response scale for each statement item was scored from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire was distributed via a link supported by Google forms through social media platforms such as " Telegram, Instagram and WhatsApp applications" to respondents who had been randomly selected through a random generator application. Once the respondents completed the questionnaire, the data was automatically transferred to the google drive application. The questionnaire was left available to be accessed online until it was completed by 86 women who were selected for inclusion in the study.

Data Processing and Analysis

The data collected was coded and analyzed using the SPSS software program version 22.0. Descriptive statistics such as frequency distribution, percentage, mean, and standard deviation were used to present the data. In addition, inferential statistics such as Chi-Square, were performed to assess the significance of comparisons and relationships between the study variables. The significance threshold was set at $p<0.05$. Analysis of the results of the case-control design study was to determine the Odds Ratio (OR). A variable was declared to increase risk when the OR value was > 1, reduce risk when the OR value was < 1, and neutral when the OR value = 1.

Multiple logistic regression statistics were used to assess the most dominant barriers to exclusive breastfeeding in this study. In this study, the analysis did not go through the data normality test stage, because multiple logistic regression does not require the assumption of normality and the analysis can still be carried out despite screening data outliers. The ρ-value <0.25 in the results of omnibus tests of model coefficients is a candidate model for multivariate analysis. In accordance with the principle of the enter method in multiple logistic regression, all variables were entered simultaneously into the model. Variables that significantly influenced barriers to exclusive breastfeeding were retained and re-entered into the model until no ρ-value >0.05 was found..

Ethical Considerations

This study has received a research ethics eligibility letter (no.1373/KEP-UNISA/III/2021) from the Health Research Ethics Committee (KEPK) of 'Aisyiyah University Yogyakarta, Indonesia. In addition, this study also received the mothers' consent to participate in the study. Informed consent was placed at the beginning of the questionnaire. The mothers were also informed that they had the right to withdraw from the study and were assured of the confidentiality of the information obtained.

RESULTS

Respondent Characteristics

Table 1 shows that out of 86 respondents, 38.4% of them were 20 to 24 years old on average. Most of the mothers had a junior high school education (43.0%). All of them (100.0%) were housewives. While more than a third 37.2%, the infants were six months old and the average mother was multiparous of the second child (43.0%).

Table 1. Respondents' Sociodemographic Characteristics (N=86)

Individual Characteristics	Case (non-exclusive)		Control (exclusive breastfeeding)		Total	
	(n)	(%)	(n)	(%)	(n)	(%)
Mother's age						
15-19	6	14,0	7	16,3	13	15,1
20-24	12	27,9	21	48,8	33	38,4
25-29	14	32,6	6	14,0	20	23,3
30-36	11	25,6	9	20,9	20	23,3
Mother's education						
Primary	16	37,2	13	30,2	29	33,7
Middle	16	37,2	21	48,8	37	43,0
High	11	25,6	9	20,9	20	23,3
Mother's occupation						
Housewife / not working	43	100,0	43	100,0	86	100,0
Baby's age						
6 months	23	53,5	9	20,9	32	37,2
7 months	7	16,3	22	51,2	29	33,7
8 months	10	23,3	7	16,3	17	19,8
9 months	3	7,0	5	11,6	8	9,3
Child -						
First	5	11,6	2	4,7	7	8,1
Second	12	27,9	25	58,1	37	43,0
Third	10	23,3	9	20,9	19	22,1
Fourth	9	20,9	5	11,6	14	16,3
Fifth	7	16,3	2	4,7	9	10,5

Table 2 shows that more than a third of the respondents 47.7% had good knowledge, and 52.3% had poor knowledge. Most of them 72.1% reported having low family income. It was also found that 55.8% had been exposed to formula milk. On the other hand, more than half of the respondents lacked support from family (60.5%), and lacked support from health workers (53.5%). In addition, most of the respondents, 82.6%, delivered at a health facility and the delivery was assisted by a health worker (84.9%) **(Table 2).**

Table 2. Frequency Distribution of Factors Inhibiting Exclusive Breastfeeding

Research Variables	Case (non-exclusive)		Control (exclusive breastfeeding)		Total	
	(n)	(%)	(n)	(%)	(n)	(%)
Knowledge						
Good	6	7,0	35	40,7	41	47,7
Lack	37	43,0	8	9,3	45	52,3
Family Income						
High	5	5,8	19	22,1	24	27,9
Low	38	44,2	24	27,9	62	72,1
Formula milk exposure	6	7,0	32	37,2	38	44,2
Not exposed	37	43,0	11	12,8	48	55,8
Exposed						
Family support						
Supportive	5	5,8	29	33,7	34	39,5
Less supportive	38	44,2	14	16,3	52	60,5

Research Variables	Case (non-exclusive)		Control (exclusive breastfeeding)		Total	
	(n)	(%)	(n)	(%)	(n)	(%)
Health worker support						
Supportive	6	7,0	34	39,5	40	46,5
Less supportive	37	43,0	9	10,5	47	53,5
Place of delivery						
Health facility	31	36,0	40	46,5	71	82,6
Non-health facility	12	14,0	3	3,5	15	17,4
Birth attendant						
Health worker	32	37,2	41	47,7	73	84,9
Non-health worker	11	12,8	2	2,3	13	15,1

Predictors of breastfeeding barriers

Table 3 below shows that knowledge, family income, formula milk exposure, family support, health worker support, place of delivery and birth attendant were significantly positively correlated with barriers to exclusive breastfeeding as evidenced by $\rho<0.05$. Odds ratio before adjustment showed that knowledge predictor had the highest odds ratio value, while place of delivery was the lowest **(Table 3).**

Table 3. Results of Analysis of Factors Impeding Exclusive Breastfeeding

Research variable	Exclusive breastfeeding						*ρ* value	*CC*	OR (*CI* 95%)
	Case (non exclusive)		Control (exclusive breastfeeding)		Total				
	f	%	f	%	f	%			
Knowledge									26,979
Good	6	7,0	35	40,7	41	47,7	0,000	0,560	8,500-85,632
Lack	37	43,0	8	9,3	45	52,3	*		
Family income									
High	5	5,8	19	22,1	24	27,9	0,001	0,341	6,017
Low	38	44,2	24	27,9	62	72,1	*		1,983-18,253
Formula milk exposure									17,939
Not exposed	6	7,0	32	37,2	38	44,2	0,000	0,520	5,962-53,975
Exposed	37	43,0	11	12,8	48	55,8	*		
Family support									
Supportive	5	5,8	29	33,7	34	39,5	0,000	0,496	15,743
Less supportive	38	44,2	14	16,3	52	60,5	*		5,087-48,720
Health worker support									
Supportive	6	7,0	34	39,5	40	46,5	0,000	0,547	23,296
Less supportive	37	43,0	9	10,5	46	53,5	*		7,502-72,340
Place of delivery									
Health facility	31	36,0	40	46,5	71	82,6			5,161
Non-health facility	12	14,0	3	3,5	15	17,4	0,010 *	0,266	1,339-19,895
Birth attendant									
Health worker	32	37,2	41	47,7	73	84,9	0,007	0,280	7,047
Non-health worker	11	12,8	2	2,3	13	15,1	*		1,457-34,075

The most dominant variable in barriers to exclusive breastfeeding

The initial selection is to include variables that become candidates in multivariate analysis, namely variables that have a ρ-value <0.25 in the results of omnibus tests of model coefficients. The results showed that the variables of knowledge, family income, formula milk exposure, family support, and health worker support had a ρ-value <0.25 in the results of omnibus tests of model coefficients. Therefore, these five variables can be candidates for multivariate analysis models, while the variables of place of delivery and birth attendant have a ρ-value > 0.25 so they cannot be included in the next stage of analysis **(Table 4).**

Table 4. Results of Omnibus Tests Of Model Coefficients for Initial Selection of Multivariate Analysis Model Candidates

Research Variables	ρ - *value*
Knowledge	0,000*
Family income	0,001*
Formula milk exposure	0,000*
Family support	0,000*
Health worker support	0,000*
Place of delivery	**0,644**
Birth attendant	**0,644**

Table 5. Multiple Logistic Regression Analysis to Predict the Most Dominant Factor in Barriers to Exclusive Breastfeeding

Research Variables	Model 1		Model 2		Model 3	
	ρ-*value*	OR	ρ-*value*	OR	ρ-*value*	OR
Knowledge	0,006	23,493	0,005	13,605	0,003	14,523
Family income	0,143	5,626	0,170	4,585	-	-
Formula milk exposure	0,373	0,301	-	-	-	-
Family support	0,020	14,236	0,021	8,128	0,015	7,876
Health worker support	0,003	20,141	0,003	17,021	0,001	22,621

Table 5 above shows that a total of five predictor variables were included in the multiple logistic regression model, with a model significance level of ρ=0.05. The statistical decision is determined if the ρ-value> 0.05, then the variable will be excluded from the modeling. Variables that were excluded from the modeling were done sequentially from the largest ρ-value. The process of excluding variables by considering the change in OR. If the change in OR > 10% was excluded and OR < 10% was re-entered in the model. One predictor variable was identified as having the largest ρ-value in model 1, namely the formula milk exposure variable, so the variable was excluded from the model.

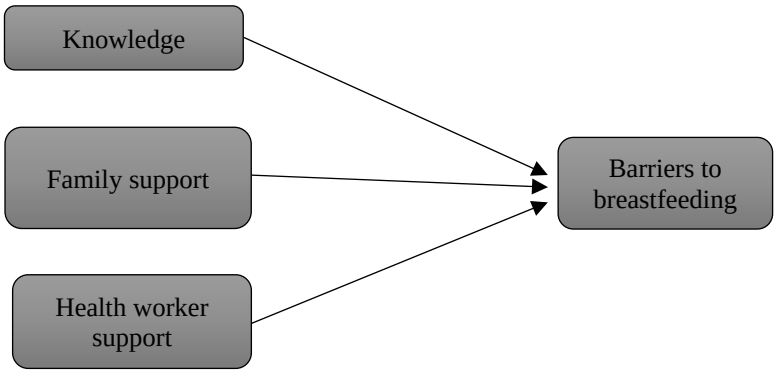
In model 2, it was found that the family income variable had the second highest ρ-value, so it was excluded from the model. The results of the analysis in model 3 showed that three variables were significant to the model with a ρ-value <0.05, namely the variables of knowledge, family support and health worker support. Thus, these three variables were the final results of the multiple logistic regression analysis.

Table 6. Final Results of Multiple Logistic Regression Analysis

Variable	B	Wald	df	COR	AOR	Sig.	(CI 95%)
Knowledge	2,676	8,680	1	23,493	14,523	0,003	2,449-82,126
Family support	2,064	5,890	1	14,236	7,876	0,015	1,487-41,701
Health worker support	3,119	11,274	1	20,141	22,621	0,001	3,663-139,692
Constant	-11,422	23,222	1	0,000	0,000	0,000	

Table 6 shows the results of multiple logistic regression analysis that the variables of knowledge, family support and health worker support remain significant to barriers to exclusive breastfeeding. Mothers with poor knowledge were more likely to experience barriers to breastfeeding than mothers with good knowledge (adjusted odds ratio [AOR] 14.523; 95% confidence interval [CI] 2.449-82.126). Mothers who lacked family support were more likely to experience breastfeeding barriers than mothers who had family support (AOR 7.876; 95% CI 1.487-41.701). Mothers who lacked health worker support were more likely to experience breastfeeding barriers than mothers who received health worker support (AOR 22.621; 95% CI 3.663-139.692). The final results of multiple logistic regression analysis showed that the health worker support variable had the largest coefficient ß (3.119) and OR (22.621) when compared to the knowledge and family support variables.

These results indicate that health worker support is the most dominant variable influencing barriers to exclusive breastfeeding. The Odds Ratio value showed that respondents who received good support from health workers had a 22.621 times greater chance of exclusive breastfeeding than respondents who received less support from health workers after controlling for variables of knowledge and family support. The three predictor variables that influence barriers to exclusive breastfeeding in this study are illustrated in (Figure 1).



Note: ß = regression coefficient, *ρ<0,005, **ρ<0,05

Figure 1. Multiple Logistic Regression Model of Barriers to Exclusive Breastfeeding

DISCUSSION

The mothers in this study were young adults, and most of them were in the childbearing age range of 20 to 24 years. Slightly more than half were multiparous mothers. In the context of breastfeeding, barriers are difficulties, inconveniences, challenges faced by mothers during the breastfeeding period. The more perceived barriers to breastfeeding, the less breastfeeding for the baby. Barriers to breastfeeding can come from the mother's own individual factors or external factors such as the social environment.

The results in this study showed that mothers with poor knowledge (52.3%) were more likely to experience barriers to breastfeeding compared to mothers with good knowledge (47.7%). This result is consistent with previous research which shows that good knowledge will have a greater likelihood of exclusive breastfeeding than low knowledge (Sharmin et al., 2016 ; Mogre et al., 2016 ; Balogun et al., 2016 ; Chekol et al., 2017). On the other hand, Wallenborn & Masho,(2018) reported no significant relationship between knowledge and exclusive breastfeeding. This can be attributed to the education of mothers, the majority of whom have low education (junior high school) or equivalent. In line with research Hendaus et al.,(2018) in Qatar reported that higher levels of education were significantly correlated with mothers' willingness to breastfeed (ρ= 0.0001).

The cultural habit encountered in the current study was to throw away the first colostrum/breast milk because it was considered unclean. In line with research Talbert et al., (2020) in Kenya and Balogun et al.,(2016) in Nigeria, revealed the belief that colostrum is harmful to infants, leading parents to recommend that infants be fed commercially made prelactal foods before six months of age.

The majority of family income in this study was low. The results of this finding are just the opposite, respondents with low family income mostly did not provide exclusive breastfeeding. Based on the researcher's assumption that mothers with low family income cause mothers to lack support from their husbands, because husbands are more focused on earning a living so that they pay less attention to breastfeeding mothers and fail to provide exclusive breastfeeding. This is in accordance with research Bevan & Brown, (2014) in the UK shows that families play a major role in helping and supporting mothers to continue breastfeeding for six months or not.

This finding found a statistically significant correlation between formula milk exposure and barriers to exclusive breastfeeding (ρ=0.000). In line with previous research that formula milk promotion affects exclusive breastfeeding, especially in mothers with less knowledge, this study found a significant statistical correlation between formula milk exposure and barriers to exclusive breastfeeding (ρ=0.000) (Hayek et al., 2019). Study Hendaus et al.,(2018) in Qatar is in line with these findings, reporting that barriers to breastfeeding include the perception that formula milk is easy to give.

Based on this finding, the majority of the respondents' family income was low, which did not allow them to purchase formula milk, but this finding showed that most of the respondents were exposed to formula milk. This inconsistency is attributed to the fact that the respondents lived in urban areas, so all respondents were familiar with the use of electronic media and were exposed to formula milk promotions either through brochures distributed or through SPG in shopping centers. On the other hand, families in this study encouraged mothers to use formula milk when they felt tired of breastfeeding, and many families even provided prelactal food to infants. Research Khanal et al., (2015) in Nepal reported strong influence of grandmothers and mothers-in-law on mothers' decision to feed breastmilk substitutes. This may be influenced by the lack of support from health workers. In line with previous studies that health workers in urban hospitals routinely provide prelactal foods (Jama et al., 2020 ; Balogun et al., 2016).

This finding highlights the lack of family support among breastfeeding mothers (60.5%). Research results Ogbo et al., (2017) in Australia reported that mothers who lacked family support stopped breastfeeding significantly earlier in the postnatal period. The findings reported that some respondents revealed that grandmothers often gave formula milk when the baby cried. In line with research Wood & Qureshi, (2017) in Guam who reported that families recommended formula feeding when mothers were concerned about not producing enough breastmilk. Low social support risks early breastfeeding cessation (Faridvand et al., 2017). There are three main aspects of social support: emotional such as feeling loved and appreciated, informational such as guidance or advice, and instrumental such as providing real help to breastfeeding mothers (Desai et al., 2014).

Family support is an important domain in the success and failure of exclusive breastfeeding. For example, a study by Bevan & Brown, (2014) in the UK showed that families played a major role in helping and supporting mothers to continue breastfeeding for six months, significantly reducing the risk of early prelactal feeding. Similarly, another study in Indonesia by Yenti et al.,(2018) revealed that mothers in Indonesia who received family support to breastfeed were 2.67 times (95%CI [1.1, 6.4]) more likely to exclusively breastfeed than mothers who did not receive family support. Similarly, a study in Ethiopia reported that mothers who were supported by their husbands were 2.67 times (95%CI [1.04, 6.95]) more likely to breastfeed exclusively (Tewabe et al., 2017). Families play an important role in breastfeeding practices; thus, receiving support from families is important during the breastfeeding period for mothers. Not surprisingly, lack of family support is considered one of the barriers to exclusive breastfeeding practices.

Health worker support in this study was found to be significantly correlated with barriers to exclusive breastfeeding. The results of this study reported that mothers lacked motivation and assistance from health workers, and some mothers stated that formula milk was obtained from midwife clinics or health centers because they produced less breast milk. This is in accordance with research Wood & Qureshi, (2017) in Guam that health workers were quick to give formula when babies did not want to be breastfed. Research Doherty et al., (2020) in South Africa which showed that health workers did not provide assistance, counseling and demonstration to breastfeeding mothers in the hospital. In carrying out their duties, health workers must provide quality support and IEC related to exclusive breastfeeding during pregnancy and after childbirth. This is in line with research Tadesse et al., (2016) in Ethiopia showed that antenatal and postnatal visits by health workers had a significant association with exclusive

breastfeeding. Different from the study Kearns et al., (2016) in the Amazon reported the importance of breastfeeding information being provided in the antenatal period rather than postnatal to reduce the risk of stopping breastfeeding early.

Kurangnya dukungan tenaga kesehatan dalam penelitian ini dikaitkan dengan pengetahuan dan rendahnya tingkat pendidikan ibu, sehingga ibu kurang memahami apa yang disampaikan oleh tenaga kesehatan. Hal serupa dikemukakan dalam penelitian Lakew et al., (2015) di Ethiopia yang melaporkan bahwa pendidikan ibu berpengaruh terhadap inisiasi menyusui.

The place of delivery in this finding was found to be significantly correlated with barriers to exclusive breastfeeding. A study by Biks et al., (2015) in Ethiopia found that mothers who gave birth in health facilities had 1.32 times the chance of providing exclusive breastfeeding. Based on the results of the study, it was reported that most of the respondents delivered in health facilities. However, more than half of the respondents were not successful in providing exclusive breastfeeding. This inconsistency can be attributed to various factors, among which is the low education level of the mother. However, not all low education levels will have an impact on knowledge, provided that mothers receive good information from family and health workers. In addition, it is associated with socio-cultural differences in newborn feeding, lack of counseling and health workers who are too quick to advise the use of formula milk when breast milk is lacking.

The majority of respondents in this study were delivered by health workers (84.9%). However, half of the respondents did not provide exclusive breastfeeding. This gap in findings can be caused by various things, namely lack of knowledge about exclusive breastfeeding, lack of family support and health worker support, and exposure to formula milk. Research Mututho et al., (2017) in Kenya and Karim et al., (2018) in Bangladesh revealed that birth attendance by health workers plays an important role in the success of exclusive breastfeeding.

Interestingly, lack of support from health workers appeared to be the most dominant factor in barriers to exclusive breastfeeding in this study. In a study by Heidari et al., (2016) In Iran, inadequate advice and no training on breastfeeding during pregnancy are barriers to breastfeeding. Health worker support can also influence mothers to continue breastfeeding their infants or vice versa. This study provides an overview of perceived barriers to breastfeeding among mothers in Gorontalo City, Indonesia; it is a piece of the puzzle to complete the picture of breastfeeding in Gorontalo City. In addition, it provides some implications for midwifery practice as mothers perceive that they do not have enough milk and breastfeeding techniques to feed their infants. In addition, there was a lack of knowledge about breastfeeding and a lack of support for breastfeeding that they perceived from health workers. Therefore, nurses and midwives need to accompany them in the first hours and days after delivery to build confidence in breastfeeding their babies.

In addition, midwives can develop midwifery interventions, such as breastfeeding self-efficacy improvement programs for mothers and infants to build and improve self-efficacy so that mothers or expectant mothers can confidently practice achieving exclusive breastfeeding. If a woman has high self-efficacy, she will make greater efforts and show increased perseverance in improving breastfeeding practices, including seeking knowledge about breastfeeding by empowering herself on social media about childbirth preparation is very easy to obtain for example to do breast massage and seek support from health workers and other important people. She will also work to overcome perceived barriers or challenges that impede her ability to breastfeed her baby optimally (Rosenblad & Funkquist, 2022). Women with low self-efficacy are three times more prone to stop breastfeeding early (Vieira et al., 2018). The main barrier perceived by mothers in this study was the lack of support from health workers in exclusive breastfeeding. This implies that policies need to provide training and guidance for health care providers to improve breastfeeding promotion from antenatal check-ups until the exclusive breastfeeding period is complete so as to increase knowledge and breastfeeding self-efficacy in mothers. If there are difficulties in breastfeeding after delivery, health workers and health facility providers can recommend mothers to consult with lactation counselors.

CONCLUSIONS AND RECOMMENDATION

Failure to practice exclusive breastfeeding in the first six months stems from different barriers. The barriers came from two main aspects, namely the mother, and the social environment. Lack of knowledge about breastfeeding, lack of support from family and health workers were the most perceived

barriers by mothers in this study. The findings in this study help nurses, midwives, and health care providers to identify factors that hinder exclusive breastfeeding practices. Therefore, breastfeeding promotion programs can be proposed and implemented to improve exclusive breastfeeding practices.

Future researchers who will conduct research with similar themes are expected to develop in-depth and detailed research on other factors that are thought to be barriers to exclusive breastfeeding using research designs other than case control so that they are not prone to recall bias, such as cohort studies. In addition, further research should be conducted with mothers in rural areas or other areas in the country to get a broader picture of the perceived barriers to breastfeeding practices in Indonesia.

REFERENCES

Abani, K. R. T. (2020). Faktor-Faktor Yang Berhubungan Dengan Perilaku Pemberian Asi Eksklusif Pada Bayi Usia 6-24 Bulan Di Puskesmas Camplong Kabupaten Kupang. [Masters]. Universitas Citra Bangsa.

Balogun, O. O., Kobayashi, S., Anigo, K. M., Ota, E., Asakura, K., & Sasaki, S. (2016). Factors Influencing Exclusive Breastfeeding in Early Infancy: A Prospective Study in North Central Nigeria. Maternal and Child Health Journal, 20(2), 363–375. https://doi.org/10.1007/s10995-015-1835-6

Bevan, G., & Brown, M. (2014). Interventions in exclusive breastfeeding: A systematic review. British Journal of Nursing, 23(2), 86–89. https://doi.org/10.12968/bjon.2014.23.2.86

Biks, G. A., Tariku, A., & Tessema, G. A. (2015). Effects of antenatal care and institutional delivery on exclusive breastfeeding practice in northwest Ethiopia: A nested case–control study. International Breastfeeding Journal, 10(1), 30. https://doi.org/10.1186/s13006-015-0055-4

Binns, C., Lee, M. K., Kagawa, M., Low, W. Y., Scott, J., Lee, A., Zerfas, A., Maycock, B., Qiu, L., Yusuff, A., Raheem, R. A., Hamid, S., Hokama, T., Hairi, N. N., Lin, J. L.-Y., Bulgiba, A., Khoo, E. M., Shakya, P., Dahlui, M., & Karunathilake, I. (2018). Infant Feeding Guidelines for the Asia Pacific Region. Asia Pacific Journal of Public Health, 30(8), 682–690. https://doi.org/10.1177/1010539518809823

Chekol, D. A., Biks, G. A., Gelaw, Y. A., & Melsew, Y. A. (2017). Exclusive breastfeeding and mothers' employment status in Gondar town, Northwest Ethiopia: A comparative cross-sectional study. International Breastfeeding Journal, 12(1), 27. https://doi.org/10.1186/s13006-017-0118-9

Chowdhury, R., Sinha, B., Sankar, M. J., Taneja, S., Bhandari, N., Rollins, N., Bahl, R., & Martines, J. (2015). Breastfeeding and maternal health outcomes: A systematic review and meta-analysis. Acta Paediatrica, 104, 96–113. https://doi.org/10.1111/apa.13102

Desai, A., Mbuya, M. N. N., Chigumira, A., Chasekwa, B., Humphrey, J. H., Moulton, L. H., Pelto, G., Gerema, G., & Stoltzfus, R. J. (2014). Traditional Oral Remedies and Perceived Breast Milk Insufficiency Are Major Barriers to Exclusive Breastfeeding in Rural Zimbabwe123. The Journal of Nutrition, 144(7), 1113–1119. https://doi.org/10.3945/jn.113.188714

Diji, A. K. A., Bam, V., Asante, E., Lomotey, A. Y., Yeboah, S., & Owusu, H. A. (2017). Challenges and predictors of exclusive breastfeeding among mothers attending the child welfare clinic at a regional hospital in Ghana: A descriptive cross-sectional study. International Breastfeeding Journal, 12(1), 1–7. https://doi.org/10.1186/s13006-017-0104-2

Doherty, T., Horwood, C., Haskins, L., Magasana, V., Goga, A., Feucht, U., Sanders, D., Tylleskar, T., Kauchali, S., Dhansay, M. A., Rollins, N., Kroon, M., & Engebretsen, I. M. S. (2020). Breastfeeding advice for reality: Women's perspectives on primary care support in South Africa. Maternal & Child Nutrition, 16(1). https://doi.org/10.1111/mcn.12877

Faridvand, F., Mirghafourvand, M., Malakouti, J., & Mohammad-Alizadeh-Charandabi, S. (2017). Relationship between social support and breastfeeding self-efficacy among women in Tabriz, Iran. British Journal of Midwifery, 25(2), 103–109. https://doi.org/10.12968/bjom.2017.25.2.103

Fatimah, N., & Kumalasari, N. (2015). Faktor-Faktor Yang Berhubungan Dengan Kegagalan Ibu Dalam Memberikan Asi Eksklusif Pada Bayi Usia 0-6 Bulan Di Puskesmas Bangetayu Semarang.

Hashim, S., Ishak, A., & Muhammad, J. (2020). Unsuccessful Exclusive Breastfeeding and Associated Factors among the Healthcare Providers in East Coast, Malaysia. Korean Journal of Family Medicine. https://doi.org/10.4082/kjfm.19.0060

Hayek, S., Murad, H., Ifrah, A., Shohat, T., & Freedman, L. S. (2019). Extent, duration and predictors of exclusive breastfeeding in a longitudinal study: Adjusting for missing data using an accelerated failure time model and multiple imputation. 16(1).

Heidari, Z., Keshvari, M., & Kohan, S. (2016). Breastfeeding Promotion, Challenges and Barriers: A Qualitative Research. International Journal of Pediatrics, 4(5), 1687–1695. https://doi.org/10.22038/ijp.2016.6733

Hendaus, M. A., Alhammadi, A. H., Khan, S., Osman, S., & Hamad, A. (2018). Breastfeeding rates and barriers: A report from the state of Qatar. International Journal of Women's Health, 10, 467–475. https://doi.org/10.2147/IJWH.S161003

Hmone, M. P., Li, M., Agho, K., Alam, A., & Dibley, M. J. (2017). Factors associated with intention to exclusive breastfeed in central women's hospital, Yangon, Myanmar. International Breastfeeding Journal, 12(1), 29. https://doi.org/10.1186/s13006-017-0120-2

Horta, B. L., Loret de Mola, C., & Victora, C. G. (2015). Breastfeeding and intelligence: A systematic review and meta-analysis. Acta Paediatrica, 104, 14–19. https://doi.org/10.1111/apa.13139

Jama, A., Gebreyesus, H., Wubayehu, T., Gebregyorgis, T., Teweldemedhin, M., Berhe, T., & Berhe, N. (2020). Exclusive breastfeeding for the first six months of life and its associated factors among children age 6-24 months in Burao district, Somaliland. International Breastfeeding Journal, 15(1), 5. https://doi.org/10.1186/s13006-020-0252-7

Karim, F., Billah, Sk. M., Chowdhury, M. A. K., Zaka, N., Manu, A., Arifeen, S. E., & Khan, A. N. S. (2018). Initiation of breastfeeding within one hour of birth and its determinants among normal vaginal deliveries at primary and secondary health facilities in Bangladesh: A case-observation study. PLOS ONE, 13(8), e0202508. https://doi.org/10.1371/journal.pone.0202508

Kearns, A. D., Castro, M. C., Lourenço, B. H., Augusto, R. A., Cardoso, M. A., & ACTION Study Team. (2016). Factors Associated with Age at Breastfeeding Cessation in Amazonian Infants: Applying a Proximal-Distal Framework. Maternal and Child Health Journal, 20(7), 1539–1548. https://doi.org/10.1007/s10995-016-1953-9

Kemenkes RI. (2019). Profil Kesehatan Indonesia 2018 [Indonesia Health Profile 2018].

Khanal, V., Scott, J., Lee, A., Karkee, R., & Binns, C. (2015). Factors associated with Early Initiation of Breastfeeding in Western Nepal. International Journal of Environmental Research and Public Health, 12(8), 9562–9574. https://doi.org/10.3390/ijerph120809562

Kim, T. D., & Chapman, R. S. (2013). Knowledge, Attitude And Practice About Exclusive Breastfeeding Among Women In Chililab In Chi Linh Town, Hai Duong Province, Vietnam. Journal of Health Research, 27(1), Article 1.

Labbok, M. H., Perez, A., Valdes, V., Sevilla, F., & Wade, K. (1994). The Lactational Amenorrhea Method (LAM): A postpartum introductory family planning method with policy and program implications. 93–109.

Lakew, Y., Tabar, L., & Haile, D. (2015). Socio-medical determinants of timely breastfeeding initiation in Ethiopia: Evidence from the 2011 nation wide Demographic and Health Survey. International Breastfeeding Journal, 10(1), 24. https://doi.org/10.1186/s13006-015-0050-9

Mogre, V., Dery, M., & Gaa, P. K. (2016). Knowledge, attitudes and determinants of exclusive breastfeeding practice among Ghanaian rural lactating mothers. International Breastfeeding Journal, 11(1), 1–8. https://doi.org/10.1186/s13006-016-0071-z

Mututho, L. N., Kiboi, W. K., & Mucheru, P. K. (2017). Factors associated with exclusive breastfeeding in Kenya: A systematic review. International Journal Of Community Medicine And Public Health, 4(12), 4358. https://doi.org/10.18203/2394-6040.ijcmph20175305

Ogbo, F. A., Eastwood, J., Page, A., Arora, A., McKenzie, A., Jalaludin, B., Tennant, E., Miller, E., Kohlhoff, J., Noble, J., Chaves, K., Jones, J. M., Smoleniec, J., Chay, P., Smith, B., Oei, J.-L., Short, K., Collie, L., Kemp, L., … for the Early Years Research Group. (2017). Prevalence and determinants of cessation of exclusive breastfeeding in the early postnatal period in Sydney, Australia. International Breastfeeding Journal, 12(1), 16. https://doi.org/10.1186/s13006-017-0110-4

Pender, N. (2011). The Health Promotion Model. Health Promotion in Nursing Practice (6th Ed.).

Perrine, C. G., Nelson, J. M., Corbelli, J., & Scanlon, K. S. (2016). Lactation and Maternal Cardio-Metabolic Health. Annual Review of Nutrition, 36, 627–645. https://doi.org/10.1146/annurev-nutr-071715-051213

Rosenblad, A. K., & Funkquist, E.-L. (2022). Self-efficacy in breastfeeding predicts how mothers perceive their preterm infant's state-regulation. International Breastfeeding Journal, 17(1), 44. https://doi.org/10.1186/s13006-022-00486-5

Sharmin, L., Chowdhury, M. A., Khatun, S., & Ahmed, N. (2016). Barriers to Exclusive Breastfeeding among Urban Mothers. Journal of Enam Medical College, 6(2), 88–92. https://doi.org/10.3329/jemc.v6i2.27763

Tadesse, T., Mesfin, F., & Chane, T. (2016). Prevalence and associated factors of non-exclusive breastfeeding of infants during the first six months in rural area of Sorro District, Southern Ethiopia: A cross-sectional study. International Breastfeeding Journal, 11(1), 25. https://doi.org/10.1186/s13006-016-0085-6

Talbert, A., Jones, C., Mataza, C., Berkley, J. A., & Mwangome, M. (2020). Exclusive breastfeeding in first-time mothers in rural Kenya: A longitudinal observational study of feeding patterns in the first six months of life. International Breastfeeding Journal, 15(1), 17. https://doi.org/10.1186/s13006-020-00260-5

Tang, L., Lee, A. H., & Binns, C. W. (2015). Factors associated with breastfeeding duration: A prospective cohort study in Sichuan Province, China. World Journal of Pediatrics, 11(3), 232–238. https://doi.org/10.1007/s12519-014-0520-y

Tewabe, T., Mandesh, A., Gualu, T., Alem, G., Mekuria, G., & Zeleke, H. (2017). Exclusive breastfeeding practice and associated factors among mothers in Motta town, East Gojjam zone, Amhara Regional State, Ethiopia, 2015: A cross-sectional study. International Breastfeeding Journal, 12(1), 1–7. https://doi.org/10.1186/s13006-017-0103-3

UNICEF, W. and. (2019). Increasing Commitment To Breastfeeding Through Funding and Call To Action Priorities. 2017–2019.

Utami, U. P. (2019). Hubungan Dukungan Bidan Dan Dukungan Keluarga Terhadap Pemberian Asi Eksklusif Di Wilayah Kerja Puskesmas Umbulharjo I Kota Yogyakarta [S1_sarjana]. Universitas 'Aisyiyah Yogyakarta.

Victora, C. G., Horta, B. L., de Mola, C. L., Quevedo, L., Pinheiro, R. T., Gigante, D. P., Gonçalves, H., & Barros, F. C. (2015a). Association between breastfeeding and intelligence, educational attainment, and income at 30 years of age: A prospective birth cohort study from Brazil. The Lancet Global Health, 3(4), e199–e205. https://doi.org/10.1016/S2214-109X(15)70002-1

Vieira, E. de S., Caldeira, N. T., Eugênio, D. S., Lucca, M. M. di, & Silva, I. A. (2018). Breastfeeding self-efficacy and postpartum depression: A cohort study. Revista Latino-Americana de Enfermagem, 26, e3035. https://doi.org/10.1590/1518-8345.2110.3035

Wallenborn, J. T., & Masho, S. W. (2018). Association between Breastfeeding Duration and Type of Birth Attendant. Journal of Pregnancy, 2018, e7198513. https://doi.org/10.1155/2018/7198513

Walters, D., Horton, S., Yudistira, A., Siregar, M., Pitriyan, P., Hajeebhoy, N., Mathisen, R., Thi, L., Phan, H., & Rudert, C. (2016). The cost of not breastfeeding in Southeast Asia. April, 1107–1116. https://doi.org/10.1093/heapol/czw044

Wasiah, A., Koesnadi, K., & Indasah, I. (2020). Analysis Factor Initiated Early Breastfeeding, Husband Support and Promotion of Formula Milk to Failure of Exclusive Breastfeeding: Research Study at Turi Health Center, Lamongan Regency. Journal for Quality in Public Health, 3(2), 193–200. https://doi.org/10.30994/jqph.v3i2.63

WHO. (2017). Protecting, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services. In World Health OrganizationWHO.

Wood, K. M., & Qureshi, K. (2017). Facilitators and Barriers for Successful Breastfeeding Among Migrant Chuukese Mothers on Guam. SAGE Open Nursing, 3, 237796081668890. https://doi.org/10.1177/2377960816688909

World Health Organization. (2016). World Health Statistics - Monitoring Health For The SDGs. World Health Organization, 1.121.

World health statistics 2019: Monitoring health for the SDGs : sustainable development goals. (2019).

Xuan, N. T. T., & Nguyen, N. T. (2018). Breastfeeding Experiences Of Working Mothers In Vietnam. Belitung Nursing Journal, 4(3), 279–286. https://doi.org/10.33546/bnj.454

Yamaeka;, F. (2017). Faktor—Faktor Yang Berhubungan Dengan Pemberian ASI Eksklusif Pada Ibu Yang Mempunyai Bayi Umur 6-11 Bulan Di Wilayah Kerja Puskesmas Rawang Padangtahun 2017. Politeknik Kesehatan Kemenkes Padang.

Yenti, M., Ramadani, M., Nursal, D. G. A., & Maulida, R. (2018). Past Experience of Exclusive Breastfeeding, Early Initiation of Breastfeeding, and Family Support are Important Factors of Exclusive Breastfeeding Practice in Padang Panjang City, Indonesia. KnE Life Sciences, 548–555. https://doi.org/10.18502/kls.v4i4.2317

Zulaikhah, S. (2010). Faktor-Faktor Yang Berhubungan Dengan Pemberian ASI Eksklusif Di Kecamatan Sumowono Kabupaten Semarang Tahun 2010.