Paediatrica Indonesiana

p-ISSN 0030-9311; e-ISSN 2338-476X; Vol.61, No.1(2021). p.25-33; DOI: 10.14238/pi61.1.2021.25-33

Original Article

Postpartum lactation counseling and exclusive breastfeeding: analysis of *The 2017 Indonesian Demographic and Health Survey*

Warantika Rikma Yuniarini[1], Elisabeth Siti Herini[2], Abdul Wahab[3]

Abstract

Background The percentage of exclusive breastfeeding in Indonesia on 2018 dropped from 39.8% in infants aged 0 months to 15.3% in infants aged 5 months. According to the *2018 Indonesian Basic Health Research Survey (Riskesdas),* an average of 37.3% of infants were exclusively breastfed until the age of 6 months. This rate is far from the target of 80% by *Ministry of Health of Indonesia*.

Objective To assess for an association between postpartum counseling and the practice of exclusive breastfeeding in Indonesia.

Methods This retrospective cohort study used data from the *2017 Indonesian Demographic and Health Survey* (IDHS). The sample comprised 258 infants aged 6 months. Postpartum counseling and other variables were analyzed for possible associations with exclusive breastfeeding by Chi-square test; risk ratios (RR) with 95% confidence intervals (CI) were calculated. Logistic regression test was used to analyze for adjusted odds ratios.

Results In 6 months period, the percentage of subjects who received postpartum counseling was 59.7% and who exclusively breastfed was 18.8%. There was no significant association between postpartum lactation counseling and exclusive breastfeeding. However, there were significant associations between exclusive breastfeeding and not using currently as well as maternal residence in rural areas.

Conclusion Postpartum counseling on breastfeeding lacks a significant association with exclusive breastfeeding practice at 6 months of age. Therefore, the Ministry of Health should reevaluate the implementation of its counseling services. **[Paediatr Indones. 2021;61:25-33 ; DOI: 10.14238/pi61.1.2021.25-33**].

Keywords: *exclusive breastfeeding; postpartum counseling; IDHS*

Breast milk is the best first food for infants. Breastfeeding can protect infants from the risk of infection. *The World Health Organization Study* in six developing countries showed that the risk of death in infants aged 9-12 months increased by 40% if not given exclusive breastfed during 0-6 months.[1] *The WHO* also reported that the worldwide percentage of infants who received exclusive breastfeeding for 0-6 months was only 38%. *The 2017 Indonesian Demographic and Health Survey* (IDHS) reported that only 52% of infants under the age of 6 months received exclusive breastfeeding. This percentage decreased as the infants increased in age, from 67% at 0-1 months of age, to 55% at 2-3 months of age, and 38% at 4-5 months of age.[3] Nevertheless, the percentage of infants who received

From Faculty of Medicine, Public Health and Nursing[1], Department of Child Health[2], and Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing[3], Universitas Gadjah Mada, Yogyakarta, Central Java, Indonesia.

Corresponding author: Abdul Wahab. Department of Biostatistics, Epidemiology and Population Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada. Gedung IKM FK KMK, Jl. Farmako 1 Sekip Utara, Yogyakarta. (0274)565076, email: awahab@ugm.ac.id.

Submitted December 18, 2020. Accepted January 26, 2021.

exclusive breastfeeding increased over a 5 year period, from 42% in 2012 to 52% in 2017, according to the IDHS in those years. However, the *Indonesian Ministry of Health* reported that only 37.3% of infants were exclusively breastfed in 2017, far below the national target of 80%. *The 2017 Indonesian Demographic and Health Survey* (IDHS) is a program of demographic and health survey in Indonesia conducted every 5 yearly since 1987. In 2017, the survey was carried out by the *National Population and Family Planning Board* (BKKBN), *Statistics Indonesia* (BPS), and the *Ministry of Health*. Data collection was done by trained interviewers using structured questionnaires, covers 34 provinces with 49.250 households.

The low rate of exclusive breastfeeding is due to various factors, one of which is the lack of maternal knowledge about breastfeeding.[5] Postpartum lactation counseling can help mothers improve their abilities and skills when facing difficulties in the breastfeeding. A previous study found that mothers who received counseling had a better awareness about breastfeeding compared to those who did not get counseling.[6] Health workers should facilitate face-to-face meetings to provide accurate information and explain the right and wrong concepts about exclusive breastfeeding, as stated by Liliana *et al.*[7] Both studies showed that counseling methods were effective in changing knowledge and attitudes about breastfeeding.

Exclusive breastfeeding is beneficial for both infants and mothers, yet the rate remains far below the national target. For this reason, reinforcement is needed in the implementation of exclusive breastfeeding programs. Counseling methods as interventions at the individual level have proven to meaningfully increase awareness on exclusive breastfeeding.[6] A previous study reported that mothers who received postpartum lactation counseling were twice as likely to exclusively breastfeed than those who did not receive counseling.[8] In contrast, another previous study stated that postpartum counseling did not affect the practice of exclusive breastfeeding.[9] Therefore, using the *2017 IDHS*, we aimed to assess for an association between postpartum lactation counseling and exclusive breastfeeding in Indonesian mothers.

Methods

This quantitative study with cross-sectional design used data from the 2017 IDHS, analyzed in a retrospective cohort. The study sites were all regions of Indonesia, based on 1,970 BPS census blocks covering urban and rural areas. The sample population comprised women aged 15-49 years, domiciled in the territory of Indonesia who were included in the 2017 IDHS. Our inclusion criteria were mothers aged 15-49 years whose youngest child was aged 6 months and lived with the mother. The exclusion criteria were mothers whose infants died by the age of 6 months, or answered that they did not know or had no answer, on the independent, dependent, and external variables. A total of 258 subjects was included (**Figure 1**). Chi-square test was used to analyze for possible associations between exclusive breastfeeding and postpartum counseling. Postpartum counseling was counseling given in the first 2 days postpartum conducted by health workers in the health facilities. Other variables such as number of antenatal care (ANC), mode of delivery, early initiation of breasfeeding, usage of a bottle, place of delivery, maternal education, maternal age, maternal occupation, and area of residence, were provided by utilizing secondary data from the *2017 IDHS*. The data of which were collected by interview using a questionnaire for women (named *WUS*) at the age of 15-49 years old in the sampling area.

The ANC visits was number of antenatal care visits during pregnancy, classified as <4 times or ≥ 4 times. Modes of delivery was differentiated between caesarian section and vaginal delivery. Early initiation of breasfeeding was the initiation of breast milk feeding within 1 hour after delivery.10 Usage of a bottle was using dot when giving liquids or milk by bottle. Maternal education was classified into low if the last education is primary school or junior high school, or high if the last education is senior high school or college. Maternal occupation was devided into work outside group and homemaker group.

Risk ratio (RR) with 95% of confidence intervals were also calculated for each variable. Multivariable analysis with logistic regression test was done on variables that were significant in the bivariate analysis. The study protocol was reviewed and approved by the Ethics Committee of the Faculty of Medicine,Public Health and Nursing, Universitas Gadjah Mada.

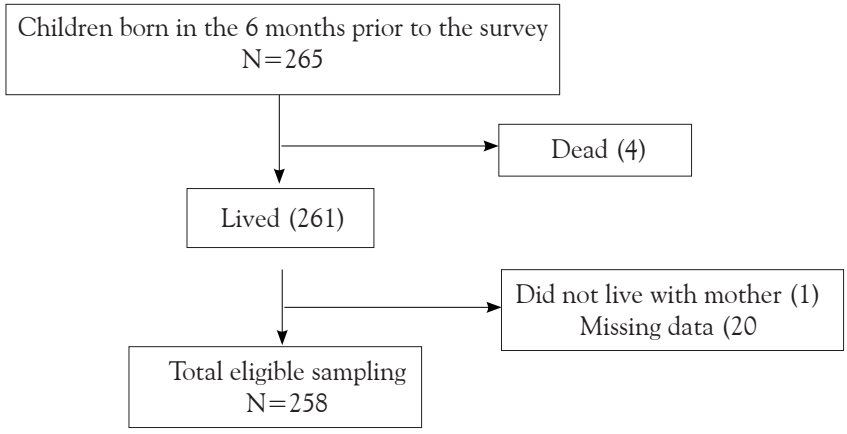

Figure 1. Study sampling scheme

Results

As shown in **Table 1**, only 18.8% of subjects exclusively breastfed their infants at the age of 6 months. However, 59.7% of mothers received postpartum lactation counseling on breastfeeding. The majority of subjects underwent antenatal care visits (ANC) more than 4 times (90.9%). In addition, 75.9% of subjects underwent vaginal deliveries, while 24.1% delivered by Caesarean section (CS). Mothers who performed early initiation of breastfeeding are 57.5%. The majority of mothers did not give a bottle to their child (66.6%), and gave birth at clinics or private hospitals (57.1%). Most subjects also had high education level and were in the reproductive age range, namely 20-35 years. Slightly more subjects lived in urban areas (55.5%) than in rural areas (44.5%) and most respondents gave birth assisted by midwives (54.9%)

As shown in **Table 2**, bivariate analysis revealed no significant association between postpartum lactation counseling and exclusive breastfeeding. Variables with significant associations with breastfeeding status were bottle usage and maternal residence. Mothers who did not give a bottle to their children were 0.2 times more likely to exclusively breastfeed than those who gave a bottle (RR=0.2; 95%CI 0.06 to 0.47; P<0.001). In addition, mothers in urban areas were 0.5 times more likely to exclusively breastfeed than mothers in rural areas.

Multivariate analysis by logistic regression results are shown in **Table 3**. Model 1 was built to analyze for an association between postpartum lactation counseling and exclusive breastfeeding, with crude odds ratio (OR), and it revealed no significant association. The model 1 analysis had an R2 value of 0.000, which indicated there was no contribution of postpartum counseling on exclusive breastfeeding and that other factors had more influence.

Model 2 was built to analyze for an association between postpartum lactation counseling and exclusive breastfeeding, with bottle use as an external variable, and it too revealed no such association. The R2 value of 0.09 indicated that only 9% of mothers had increased likelihood of exclusive breastfeeding after postpartum counseling, with consideration of bottle use, while 91% were influenced by other variables.

Model 3 was built to analyze for an association between postpartum counseling and exclusive breastfeeding, considering bottle use and maternal residence as external variables, but again no significant association was observed. The R2 value of 0.112 indicated that only 11% of mothers had increased likelihood of exclusive breastfeeding after postpartum counseling, with consideration of bottle use and maternal residence, while 89% were influenced by other variables.

According to the logistic regression results from the three final models, the best fit model with the highest R2 value of 0.11 was in model 3. *The Akaike Information Criterion* (AIC) value of model 3 was 229.3. The best model chosen was model 3 because it had the smallest AIC value and the biggest R2 compared to the other models.

Table 1. Characteristics of subjects

Characteristics	(N=258)
Breastfeeding status, n (%)	
Exclusive	49 (18.8)
Non-exclusive	209 (81.2)
Postpartum lactation counseling, n (%)	
No	104 (40.3)
Yes	154 (59.7)
Number of ANC visits, n (%)	
<4	23 (9.1)
≥4	234 (90.9)
Mode of delivery, n (%)	
Caesarean section	62 (24.1)
Vaginal	196 (75.9)
Early initiation of breastfeeding, n (%)	
No	109 (42.5)
Yes	148 (57.5)
Usage of a bottle, n (%)	
Yes	86 (33.4)
No	171 (66.6)
Place of delivery, n (%)	
At home	34 (13.4)
Goverment hospital	76 (29.5)
Private hospital	147 (57.1)
Maternal education, n (%)	
Low	67 (26.0)
High	191 (74.0)
Maternal age , n (%)	
<20 years	13 (5.1)
20-35 years	195 (75.9)
>35 years	49 (19.0)
Maternal occupation, n (%)	
Work outside	165 (63.9)
Homemaker	93 (36.1)
Area of residence, n (%)	
Urban	143 (55.5)
Rural	114 (44.5)
Childbirth assistance, n (%)	
Doctor	97 (37.8)
Midwife	141 (54.9)
Others	18 (7.3)

Note: weighting data

Discussion

This study used secondary data from the 2017 IDHS, hence, the study variables chosen were highly dependent on data availability. A limitation of the study was not measuring the quality and content of postpartum lactation counseling because of the limited data available in the *2017 IDHS*. Also, our analysis used a retrospective approach, and the respondents' answers were dependent on their memory and ability to answer questions.

The BPS reported that only 52% of infants under the age of 6 months were exclusively breastfed in 2017. This percentage decreased as the children aged, from 67% at 0-1 month, to 55% at 2-3 months, and 38% at 4-5 months of age.3The proportion of exclusive breastfeeding in age of 6 months, based on food/beverage consumption in the previous 24 hours according to the *2018 National Basic Health Survey (Riskesdas)* was 37.3%,[11] whereas in our study the proportion was only 18.8%. Both percentages were far below the national target of 80%.[3] In our study, there was no significant relationship between postpartum lactation counseling and exclusive breastfeeding; 2 previous studies had similar results.[9,12] However, a study found that mothers who received postpartum lactation counseling were twice as likely to exclusively breastfeed than those who did not receive counseling.[8] Postpartum counseling is done with an effort to prepare mothers for exclusive breastfeeding, yet implementation has been uneven and sporadic. Lactation counseling is an important part of maternal education, so that mothers get correct information in order to have the confidence to solve their own problems and provide exclusive breastfeeding.[13]

Health worker training is needed to promote exclusive breastfeeding. Lactation counselors may encounter obstacles, such as health workers' lack of knowledge, attitudes that do not support exclusive breastfeeding, and lack of counseling ability. Postpartum lactation counseling can be done with home visits, up to 5 times in weeks 1, 2, 4, 8, and 12 after birth. Lactation counselors should have a minimum of 40 hours of training, certification, and experience counseling at least 5 clients. The postpartum period is critical in breastfeeding, because lactation problems may arise at this time. Postpartum counseling can help mothers improve their abilities and skills in dealing with difficulties in breastfeeding. Home visits by counselors provide mothers with attention, motivation, and the necessary support for exclusive breastfeeding. Continued support is very important to ensure the success of exclusive breastfeeding.[14]

In our study, the use of a bottle was significantly associated with non-exclusive breastfeeding. It is commonly believed that bottles calm infants. On the other hand, bottle use can disrupt the breastfeeding

Table 2. Bivariate analysis of exclusive breastfeeding with postpartum counseling and other variables

Variables	Breastfeeding status		RR (95%CI)	P value
	Exclusive (n= 49)	Non-exclusive (n= 209)		
Postpartum lactation counseling, n (%)				
No	19 (17.98)	85 (82.02)	1	
Yes	30 (19.42)	124 (80.58)	0.9 (0.55 to 1.57)	0.807
Number of ANC visits, n (%)				
<4	2 (4.89)	22 (95.11)	1	
≥4	47 (20.24)	187 (79.76)	0.4 (0.10 to 1.60)	0.271*
Mode of delivery, n (%)				
Caesarean section	10 (15.66)	52 (84.34	1	
Vaginal	39 (19.85)	157 (80.15)	0.8 (0.43 to 1.52)	0.509
Breastfeeding initiation, n (%)				
No	20 (18.22)	89 (81.78)	1	
Yes	29 (19.29)	120 (80.71)	0.9 (0.56 to 1.57)	0.821
Usage of a bottle, n (%)				
Yes	4 (4.38)	82 (95.62)	1	
No	45 (26.09)	127 (73.91)	0.2 (0.06 to 0.47)	0.000
Place of delivery, n (%)				
At home	5 (15.07)	29 (84.93)	1	
Goverment hospital	15 (18.79)	62 (81.21)	0.7 (0.29 to 1.90)	0.546
Private hospital	29 (19.75)	118 (80.25)	0.7 (0.31 to 1.78)	0.499
Maternal education, n (%)				
Low	10 (14.16)	57 (85.84)	1	
High	39 (20.48)	152 (79.52)	0.7 (0.38 to 1.38)	0.324
Maternal age, n (%)				
<20 years	2 (9.48)	12 (90.52)	1	
20-35 years	39 (19.87)	157 (80.13)	0.7 (0.19 to 2.67)	0.461*
>35 years	8 (17.21)	40 (82.79)	0.8 (0.20 to 3.58)	1.000*
Maternal occupation, n (%)				
Wor outside	36 (21.61)	129 (78.39)	1	
Homemaker	13 (13.99)	80 (86.01)	1.5 (0.87-2.79)	0.123
Area of residence, n (%)				
Urban	19 (13.08)	124 (86.92)	0.5 (0.30-0.85)	0.009
Rural	30 (26.03)	85 (73.97)	1	
Childbirth helper, n (%)				
Doctor	21 (21.68)	76 (78.32)	0.7 (0.25-2.31)	0.761*
Midwife	25 (17.20)	117 (82.80)	0.9 (0.29-2.68)	1.000*
Others	3 (21.87)	16 (78.13)	1	

process. Infants given bottles were 1.5 times more likely to be given formula instead of breastmilk, due to nipple confusion.[15]*WHO* has a ten-step policy for breastfeeding success, of which the ninth step is not giving bottles to breastfeeding infants. Nipple confusion is a condition in which the infant refuses to suckle due to difficulty in attachment to the breast or when sucking, such that the infant finds it is easier to feed from a bottle or dummy than from the breast. As such, if a mother has to be away from her infant, milk should be given from a cup/glass. A Cairo study showed that infants who were fed from a cup/glass were more likely to exclusively breastfeed than infants who were fed from a bottle/bottle.[16]

In our study, rural residence was significantly associated with exclusive breastfeeding. A previous study found that more mothers in rural areas exclusively breastfed than urban mothers, because most urban infants were introduced to formula by health workers. They also found that most mothers who gave formula were persuaded to do so by other parties. Such persuasion was higher in urban than rural areas.[17] Changes in sociocultural values in urban areas have resulted in breastfeeding considered to be old-

Table 3. Multivariate logistic regression of risk factors for non-exclusive breastfeeding

Variables	Model 1	Model 2	Model 3
	OR (95%CI)	OR (95%CI)	OR (95%CI)
Postpartum counseling on breastfeeding			
No	1	1	1
Yes	0.910 (0.497 to 1.727)	0.721 (0.370 to 1.403)	0.708 (0.361 to 1.389)
Bottle use			
Yes		1	1
No		0.123*** (0.041 to 0.366)	0.129*** (0.042 to 0.385)
Area of residence			
Urban			1
Rural			0.453* (0.233 to 0.880)
N	258	258	258
Pseudo R2	0.000	0.090	0.112
AIC	253.1	232.9	229.3

Note : Significance level *<0.05, **<0.01, ***<0.001, AIC=Akaike Information Criterion

fashioned and traditional. Traditional breastfeeding habits (without bottled and formula milk) in a population were likely to change due to contact with the modern world, leading to changes in values and beliefs.[18]

Bivariate analysis revealed no significant associations between exclusive breastfeeding and number of ANC visits, delivery mode, early initiation of breastfeeding, place of delivery, maternal education, maternal age, or childbirth assistant status. A study also noted that 4 or more pregnancy check-up visits did not have a significant relationship with exclusive breastfeeding.[19] Similarly, a study in Congo found no significant relationship between pregnancy check-up visits and exclusive breastfeeding.[20]

In line with government targets, 90.9% of subjects had more than 4 ANC check-ups. Standards applied in Indonesia are 1 visit in the first trimester, 1 visit in the second trimester, and 2 visits in the third trimester. During pregnancy examinations, mothers should be counseled about the benefits of exclusive breastfeeding.[21] However, we could not explore in depth the type of information mothers received about exclusive breastfeeding at the ANC check-ups.

A previous study reported that mothers who delivered by Caesarean section were more likely to exclusively breastfeed, because the longer hospitalization afforded a greater opportunity to be trained in breastfeeding practices by health care providers.[22] Mothers who performed early breastfeeding initiation were also more likely to succeed in exclusive breastfeeding than those who did not.[23,24] In addition, breastfeeding newborns while in the hospital increased the likelihood of longer breastfeeding duration compared with those given formula.[25] However, we found no significant association between early breastfeeding initiation and exclusive breastfeeding. Similarly, a previous study noted that early breastfeeding initiation was not associated with exclusive breastfeeding. What disrupts the success of exclusive breastfeeding is due to delayed early breastfeeding initiation. They found that separation of mothers and infants, as well as collaboration between formula companies and the childbirth facilities disrupted breastfeeding success, as the childbirth facility promoted formula use.[26]

Childbirth in health care facilities increased according to *National Basic Health Survey (Riskesdas)* data, with 41.6% in 2007, 56.8% in 2010, and 70.4% in 2013. In 2016, 77% of women delivered in health facilities, and succeeded in achieving the 2016 target.[4] In our study, only 13.4% of mothers did not give birth at a health facility, and the place of delivery had no relationship with exclusive breastfeeding. A study reported a similar finding.[27] In contrast, two previous studies found that mothers who delivered in health facilities had a greater chance of exclusive breastfeeding than those who did not. Mothers usually stay in the place of delivery for only a few days, hence, health workers have little time to convey the

importance of exclusive breasfeeding.[28,29] Another possible reason for the lack of association was that there is not a baby friendly hospital in the study area which can also support the result of this study. In this study, data collection was not done regarding the presence or absence of a baby friendly hospital in the study area.

The maternal education variable was also not associated with exclusive breastfeeding. This finding was inconsistent with a study from Kangra, India which showed that the proportion of exclusive breastfeeding was greater for mothers with low education than those with higher education. A previous study speculated that a mother's choice to breastfeed not only involves her education, but also other factors.[19] The IDHS only measured the mothers' level of formal education, not the actual level of knowledge. Formal education is not the only source of knowledge. A mother with low formal education may have high knowledge about exclusive breastfeeding that she received from informal education, such as courses, informal meetings of informal breastfeeding mother forum, or from personal experience. A high level of education does not guarantee increased knowledge about the importance of breast milk. Education, on one hand, has a positive impact, namely, maternal understanding on the importance of health care, including exclusive breastfeeding. On the other hand, higher education may affect social values, such as the notion that breastfeeding is old-fashioned and can affect breast shape.[30]

Maternal age had no significant association with exclusive breastfeeding, similar to a study in Malaysia.[31] However, a study found that younger women had better breastfeeding ability than older ones.[32] In contrast, a previous study showed that age was one characteristic of mothers motivated to exclusively breastfeed, specifically those in the age range of 20-35 years. Women in this reproductive age range are considered mature enough for pregnancy, childbirth, and to understand the importance of breastfeeding.[28] The percentage of working mothers who did not exclusively breastfeed was greater than that of mothers who did not work, but the relationship was not significant, in agreement with other studies.[13,29,33] However, Tan found that not working outside the home had a positive relationship with exclusive breastfeeding.[31] This finding does not necessarily mean that working outside the home results in a non-exclusive breastfeeding, but rather it may be due to short maternity leave, maternal anxiety, maternal difficulty in balancing work and breastfeeding, or lack of support from the workplace. Most mothers who worked did so for about 8 hours per day, hence, they did not have enough time to breastfeed. The situation is exacerbated by the lack of opportunity to express milk at work, lack of appropriate storage for breast milk, and the lack of maternal knowledge about lactation management.

We also found no relationship between childbirth helper status and exclusive breastfeeding, similar to results from a previous study.[34] However, bivariate analysis showed that midwives had more effect than other helpers. The childbirth helper was considered to be the main key to success of early breastfeeding and prevention of giving prelacteal or vice versa. The role of the childbirth helper was dominant. A study stated that midwives have an important role in providing knowledge about exclusive breastfeeding, by educating the mother's family and husband. Encouraging mothers to exclusively breastfeed is a challenge for health workers, as despite their efforts, the success of exclusive breastfeeding is influenced by many factors.[35]

In conclusion, there is no significant association between postpartum lactation counseling and exclusive breastfeeding. Many factors can affect exclusive breastfeeding. It is necessary to increase the coverage of breastfeeding counseling after delivery, so that all pregnant women who deliver in health facilities receive breastfeeding counseling. Counseling about breast milk should be an important part that is given after the mother gives birth.

Conflict of Interest

None declared.

Funding Acknowledgment

The authors received no specific grants from any funding agency in the public, commercial, or not-for-profit sectors.

References

1. Roesli. Mengenal ASI eksklusif. Jakarta: Tribus Agriwidia; 2008. p.2-4.
2. Word Health Organization. Global Nutrition Targets 2025: Braestfeeding Policy Brief 2014 [cited 2019 5 Mei]. Available from: https://www.who.int/nutrition/topics/globaltargets_breastfeeding_policybrief.pdf.
3. BPS, BKKBN, Kementerian Kesehatan Republik Indonesia. Laporan Survei Demografi Kesehatan Indonesia 2017. Jakarta: Kementerian Kesehatan RI; 2018. p. 201-4.
4. Kementerian Kesehatan Republik Indonesia. Data dan Informasi Profil Kesehatan Indonesia 2017. Jakarta: Kemeterian Kesehatan RI; 2018. p. 118.
5. Lenja A, Demissie T, Yohannes B, Yohannis M. Determinants of exclusive breastfeeding practice to infants aged less than six months in Offa District, Southern Ethiopia: a cross-sectional study. International Breastfeeding Journal. 2016;11:1-7. DOI: 10.1186/s13006-016-0091-8.
6. Dhandapany G, Bethou A, Arunagirinathan A, Ananthakrishnan S. Antenatal counseling on breastfeeding - is it adequate? a descriptive study from Pondicherry, India. International Breastfeeding Journal. 2008;3:1-4. DOI: 10.1186/1746-4358-3-5.
7. Liliana A, Hapsari ED, Nisman WA. Pengaruh konseling laktasi terhadap pengetahuan kemampuan dan keberhasilan ibu dalam pemberian ASI. Jurnal Keperawatan Respati Yogyakarta. 2017;4:189-93.
8. Shifraw T, Worku A, Berhane Y. Factors associated exclusive breastfeeding practices of urban women in Addis Ababa Public Health Centers, Ethiopia: a cross sectional study. International Breastfeeding Journal 2015;10:1-6. DOI: 10.1186/s13006-015-0047-4.
9. Hunegnaw MT, Gezie LD, Teferra AS. Exclusive breastfeeding and associated factors among mothers in Gozamin District, Northwest Ethiopia: A Community Based Cross-Sectional Study. International Breastfeeding Journal. 2017;12:1-8. DOI: 10.1186/s13006-017-0121-1.
10. World Health Organization. Early initiation of breastfeeding to promote exclusive breastfeeding.WHO. e-Library of Evidence for Nutrition Actions (eLENA). [cited 2020 Dec 7]. Available from: https://www.who.int/elena/titles/early_breastfeeding/en.
11. Kementerian Kesehatan Republik Indonesia. Hasil Utama Riskesdas 2018. Jakarta: Kementerian Kesehatan RI; 2019. p. 44.
12. Asfaw MM, Argaw MD, Kefene ZK. Factors associated with exclusive breastfeeding practices in Debre Berhan District, Central Ethiopia: a cross sectional community based study. International Breastfeeding Journal. 2015;10:23-32. DOI: 10.1186/s13006-015-0049-2.
13. Djami MEU, Noormartany, Hilmanto D. Frekuensi pemeriksaan kehamilan, konseling laktasi, dan pemberian air susu ibu eksklusif. Jurnal Kesehatan Masyarkat Nasional. 2013;7:557-61.
14. Ambarwati R, Muis SF, Susantini P. Pengaruh konseling laktasi intensif terhadap pemberian air susu ibu (ASI) eksklusif sampai 3 bulan. Jurnal Gizi Indonesia. 2013;2:15-23.
15. Vieira TO, Vieira GO, Oliveira NFd, Mendes CMC, Giugliani ERJ, Silva LR. Duration of exclusive breastfeeding in a Brazilian population: new determinants in a cohort study. BMC Pregnancy and Childbirth. 2014;14:1-9. DOI: 1471-2393/14/175.
16. Abouelfettoh AM, Dowling DA, Dabash SA, Elguindy SR, Seoud IA. Cup versus bottle feeding for hospitalized late preterm infants in Egypt: a quasi-experimental study. International Breastfeed Journal. 2008;3:27-38. DOI: 10.1186/1746-4358-3-27.
17. Rachmadewi A, Khomsan A. Pengetahuan, sikap, dan praktek asi ekslusif serta status gizi bayi usia 4-12 bulan di pedesaan dan perkotaan. Jurnal Gizi dan Pangan. 2014;4:83-90. DOI: 10.25182/jgp.2009.4.2.83-92.
18. Veile A, Martin M, McAllister L, Gurven M. Modernization is associated with intensive breastfeeding patterns in The Bolivian Amazon. Social Science and Medicine. 2014;100:148-58. DOI: 10.1016/j.socscimed.2013.10.034.
19. Khanal V, da Cruz JL, Karkee R, Lee AH. Factors associated with exclusive breastfeeding in Timor-Leste: findings from demographic and health survey 2009-2010. Nutrients. 2014;6:1691-700. doi: 10.3390/nu6041691.
20. Dhakal S, Lee TH, Nam EW. Exclusive breastfeeding practice and it's association among mothers of under 5 children in Kwango District, DR Congo. International journal of environmental research and public health. 2017;14:1-8. DOI: 10.3390/ijerph14050455.
21. Biks GA, Tariku A, Tessema GA. Effects of antenatal care and institutional delivery on exclusive breastfeeding practice in Northwest Ethiopia: a nested case-control study. International Breastfeeding Journal. 2015;10:1-6. DOI: 10.1186/s13006-015-0055-4.
22. Nishimura H, Krupp K, Gowda S, Srinivas V, Arun A, Madhivanan P. Determinants of exclusive breastfeeding in rural South India. International Breastfeeding Journal. 2018;13:1-7. DOI: 10.1186/s13006-018-0178-5.
23. Raghavan V, Bharti B, Kumar P, Mukhopadhyay K, Dhaliwal L. First hour initiation of breastfeeding and

exclusive breastfeeding at six weeks: prevalence and predictors in a tertiary care setting. Indian Journal Pediatric. 2013;81:1-8. DOI: 10.1007/s12098-013-1200-y.

24. Sonko A, Worku A. Prevalence and predictors of exclusive breastfeeding for the first six months of life among women in Halaba Special Woreda, Southern Nations, Nationalities and Peoples' Region/SNNPR/, Ethiopia: a community based cross-sectional study. Archives of public health = Archives belges de sante publique. 2015;73:1-11. DOI: 10.1186/s13690-015-0098-4.
25. Vehling L, Chan D, McGavock J, Becker AB, Subbarao P, Moraes TJ, *et al.* Exclusive breastfeeding in hospital predicts longer breastfeeding duration in Canada: Implications for health equity. Birth. 2018;45:440-9. DOI: 10.1111/birt.12345.
26. Hector D, King L, Webb k. Factors affecting breastfeeding practices applying a conceptual framework. N S W Public Health Bull. 2015;16:52-5. DOI: 10.1071/nb05013.
27. Sasaki Y, Ali M, Kakimoto K, Saroeun O, Kanal K, Kuroiwa C. Predictors of exclusive breastfeeding in early infancy: a survey report from Phnom Penh, Cambodia. Journal Pediatric Nursing. 2010;25:463-9. DOI: 10.1016/j.pedn.2009.04.010.
28. Adugna B, Tadele H, Reta F, Berhan Y. Determinants of Exclusive breastfeeding in infants less than six months of age in Hawassa, an urban setting, Ethiopia. International Breastfeeding Journal. 2017;12:1-8. DOI: 10.1186/s13006-017-0137-6.
29. Khamis AG, Omar AM, Suleiman SA, Ali FS. Prevalence of exclusive breastfeeding and it's predictors among mothers in Micheweni, Chake-Chake and North 'A' districts, Zanzibar. Clinics in Mother and Child Health. 2017;14:1-9. DOI: 10.4172/2090-7214.1000259.
30. Sriningsih I. Faktor demografi, pengetahuan ibu tentang air susu ibu dan pemberian ASI eksklusif. Jurnal Kesehatan Masyarkat 2011;6:100-6. doi: 10.15294/kemas.v6i2.1759.
31. Tan KL. Factors associated with exclusive breastfeeding among infants under six months of age in Peninsular Malaysia. International breastfeeding journal. 2011;6:1-7. DOI: 10.1186/1746-4358-6-2.
32. Ebrahim GJ, Suharyono R, Jon E, Purnomo H. Air susu ibu. Jakarta: Yayasan Essentica Medica; 1986. p.49.
33. Zakarija-Grković I, Šegvić O, Vučković Vukušić A, Lozančić T, Božinović T, Ćuže A, *et al*. Predictors of suboptimal breastfeeding: an opportunity for public health interventions. The European Journal of Public Health. 2015;26:282-9. DOI: 10.1093/eurpub/ckv203.
34. Srinivas GL, Benson M, Worley S, Schulte E. A Clinic-based breastfeeding peer counselor intervention in an urban, low-income population: interaction with breastfeeding attitude. Journal of Human Laction. 2015;31:120-8. DOI: 10.1177/0890334414548860.
35. Swanson V, Power KG. Initiation and continuation of breastfeeding: theory of planned behaviour. Journal of advanced nursing. 2005;50:272-82. DOI: 10.1111/j.1365-2648.2005.03390.x.