



Understanding the Barriers to Exclusive Breastfeeding Among Urban Indonesian Mothers

Irmawati Irmawati^{1*}, Mohammad Zen Rahfiludin², Zefan Adiputra Golo¹, Adhani Windari¹, Malihah Rahmadhani Rum³, Risky Kusuma Hartono³

¹Poltekkes Kemenkes Semarang, Semarang, Indonesia

²Department of Public Health Nutrition, Universitas Diponegoro, Semarang, Indonesia

³Department of Public Health, Universitas Indonesia Maju, Jakarta, Indonesia

*Authors Correspondence: irmachristanto@gmail.com/0895421718866

ARTICLE INFO

Article History:

Received Nov, 21st, 2024

Accepted Mar, 24th, 2025

Published online Mar, 31st, 2025

Keywords:

Exclusive Breastfeeding;

Urban Mothers;

Breastfeeding Barriers;

Peer Support;

Knowledge;

ABSTRACT

Despite WHO recommendations advocating for Exclusive Breastfeeding (EBF) for the initial six months, EBF rates remain low in many countries, including Indonesia. This study identifies psychosocial, socioeconomic, and demographic factors influencing EBF practices in Semarang City. Methods: A quasi-experimental design involved 157 participants (98 mother-infant pairs and 49 peers) recruited from various public health centres from December 2023 to June 2024. The Kaplan-Meier survival curve, in conjunction with the log-rank test, was employed to assess the disparities in survival and the observed practices of EBF. The determinants of EBF duration were found using the cox proportional hazard ratio. Results: The mean duration of EBF was 18 weeks, a number of 33.7% of mothers did not complete full six months. Key findings reveal that peer support, maternal knowledge, attitudes, skills, education level, and employment status significantly influence EBF duration. Mothers who received peer support had greater EBF resilience compared to those who did not received peer support (HR 0,32, CI:0.197,0.528). Practical skill, favourable attitudes, and high knowledge were also important indicators of sustained EBF. Conversely, being a working mother and having lower education level increased the risk of early EBF cessation. Conclusions: The results emphasize the necessity of focused, context-specific interventions to promote EBF in urban areas. These insights carry implications for policy and program development aimed to enhance health consequences for mother and children. Further research in diverse socio-demographic contexts is recommended to better understand and support effective EBF practices.

INTRODUCTION

Although WHO has recommended that all infants in the world should be exclusively breastfeeding until 6 months,¹ the success of exclusive breastfeeding was still low in several countries.² Surveys in several high-income countries show that EBF rates of up to 6 months are still low. According to a national survey in Australia, 96% of mothers initiate early breastfeeding, but only 15.4% of mothers breastfeed exclusively for up to 6 months,³ and 60% of mothers breastfeed with partial,⁴ in Singapore, 96% initiate early breastfeeding and only 42% exclusively breastfeed for up to 6 months.⁵ In nations with low and moderate incomes the coverage of EBF was still low include of Indonesia, about 61% of babies are exclusively breastfed.⁶

The results of a national survey in Indonesia year 2023 noted that as many as 33.3% of infants get pre-lacteal breastfeeding, 60% of babies get predominant breastfeeding, and 46% of infants aged 4-5 months do not get exclusive breastfeeding. It was further reported that the number of mothers breastfed exclusively at 1 month after birth (67%), and 4-5 months post-birth (55.5%) median EBF 3.0 months, and median length of breastfeeding (21.8 months).⁷ If it is noted that the number of EBF mothers decreases with the age of the baby, this tendency needs attention.

EBF offer numerous health advantages to both the mother and the child. The mortality risk for infants ages 0-5 months due to infection was more found in infants who are given partial breastfeeding (4.5 times),⁸ and infants who are given predominant breastfeeding (1.7 times) compared to infants who are given exclusive breastfeeding.⁹ Partially breastfed infants have a higher risk of diarrhoea (1.31 times) and acute respiratory infections than exclusively breastfed infants.¹⁰ However, infants who were breastfed exclusively for fewer than four months are more susceptible to diarrhoea, chest infections, and stunting than those given EBF 6 months.^{11,9} Additionally, breastfeeding promotes the mother's health, breast cancer and ovarian cancer are reduced when a baby is breastfed more than 12 months.¹²

The Government of Indonesia seeks to support the promotion of EBF by adopted the

WHO's guidelines for EBF is stipulated in Government Regulation Number 28 of 2024. Then, the Control of the Minister of Health regarding Procedures for the Provision of Special Facilities for Breastfeeding.¹³ In line with Baby Friendly Hospital Initiative, the government of Indonesia also has implemented the Ten Steps to Breastfeeding Success policy in every health care facility, but this effort has not been optimal.¹⁴

Urbanization in Indonesia has been growing rapidly, with an increasing percentage of the population living in cities. According to data from Statistics Indonesia, around 56.7% of Indonesia's total population resided in urban areas in 2020.¹⁵ With a total population of approximately 273 million, this suggests that a significant number of mothers are now living in urban areas, where they face different challenges compared to rural mothers. Mothers in urban areas had greater access to breastfeeding information sources and were more knowledge about breastfeeding. However, EBF practice tends to be even lower than in rural regions.^{16,17}

Statistical data has shown that more than 20% of health centres in the Semarang City area have experienced a decrease in exclusive breastfeeding coverage in the last two years. Therefore, it is very important to look more closely at what elements affect EBF practices. In addition, area specific information on EBF practices are not generally available. The aim of this study was to report on how different mother health, socioeconomic, and demographic factors impact EBF. Moreover, this study is related to gather information that would be helpful in creating a program that will improve EBF procedure in the Semarang City, as well as for region that share this setting or comparable socio demographic traits.

MATERIAL AND METHOD

This study was a community-based quasi-experimental design research carried from December 2023 to June 2024. The study population consisted of breastfeeding mothers. The size of the sample for each group was determined using unpaired comparative categorical statistical diagnosis with repeated measurements,¹⁸ Using the proportion of mothers who breastfeed exclusively for six

months in the study by Gulshan Ara et al., related to the intervention of peer counselling improves breastfeeding practices.¹⁹ the significance level (α) was set at 5% (1.96) and the test power (β) at 80% (1.64). The non-response rate was set at 20% of the minimum sample size, resulting in a minimum sample size of 45 respondents per group. In this study, 49 respondents were used for each group. The sampling technique was purposive sampling, based on inclusion criteria of exclusively breastfeeding mothers with infants aged 0-3 months, single, healthy, and born at term.

The study was carried out in Semarang City, which has 37 Public Health Centres (PHC). Around 21.62% of PHC with EBF coverage are below the target of Semarang City, and as many as 13.50% of them have experienced a decrease in coverage in the last two years.²⁰ In addition, Semarang City is ranked 6th out of 35 cities in Central Java with a high prevalence of stunting (22.12%). Where EBF is one of the specific intervention measures to prevent stunting.²¹

Research Instrument Using Questionnaire. The length of exclusive breastfeeding, which was divided into periods ranging from 0-24 weeks, served as the study variable. The independent variables include the peer support,²² knowledge of breastfeeding,²³ attitude of breastfeeding,²⁴ skill of breastfeeding,²⁵ mother's education,²⁶ maternal age,²⁷ employment,²⁸ parity, age of baby, and gender of baby.

The type of data collected in this study was primary data, which included the characteristics of breastfeeding mothers and the duration of exclusive breastfeeding. Data collection was conducted face-to-face by two trained enumerators who were graduates of a Diploma III in Midwifery. Data was gathered through home visits. SPSS 26 was used to enter and evaluate the data. The data was described using percentage, proportions, and contingency tables. Key factors were used in survival analysis that compared the survival rates of exclusive breastfeeding practices using the Kaplan Meier survival curves and the log-rank test. A multivariate cox proportional hazard ratio was used to evaluate each variable's impact on the length of exclusive breastfeeding.

The present study was accepted by the Research Ethics Committee of the Health

Polytechnic of Health Ministry of Semarang No. 1163/EA/KEPK/2023.

RESULTS

The characteristic of breastfeeding mothers who participated in this study are presented in Table 1. In total, mothers in the control group and the intervention and the exhibited similar characteristics. The majority were within the reproductive age of 20-35 years, had secondary education, were not employed and had a parity of two. Most infants in both groups were one month old, predominantly female, and had birth weight ranging between 2500-3000 grams.

The life table for EBF practices based on survival analysis is shown in Table 2. For EBF, cessation rate was 7.1% and cumulative survival probability up to two months was 98.90%. A decline in EBF survival begin in the third month 92.80%, and decreased sharply in the fifth month 73,40%. Correspondingly, the cessation rate increased from 16.50% in the fourth month to 33.70% by six month. Figure 1 illustrates Kaplan Meier survival estimates for EBF duration. The mean duration EBF was 18.60 weeks (90% CI: 17.4–19.8). EBF showed notable drops following the third and the fifth months. Figure 2 illustrates mothers with higher knowledge higher EBF resilience ($p=0.019$) compared to those with lower knowledge.

The log-rank test for knowledge revealed a significant difference ($p=0.001$). Similarly, mothers with a positive attitude toward breastfeeding significantly higher EBF resilience ($p>0.001$). Overall, mothers of reproductive age appeared to have higher EBF resilience compared to those outside the reproductive age range. However, this trend was inconsistent due to overlapping survival curve, and the log-rank test for maternal age indicated no statistically significant difference ($p=0.872$).

The cumulative survival curve for non-working mother showed significantly greater EBF persistence than for employed mothers. The EBF rate notably declined after the infant reached three months of age (log-rank test, $p<0.001$). For mothers who did not work, the average duration EBF was 19.70 weeks, compared to 17.10 week for working mothers. In terms of parity, multiparous mothers generally showed greater EBF resilience than

primiparous mothers, although in consistencies were observed in the early weeks postpartum indicated by intersecting survival curve.

Regarding education, mothers with only primary education demonstrated the lowest EBF resilience, while those with secondary and higher education fared better. Mothers with higher education had slightly higher EBF resilience than those with secondary education. The log-rank test for educational level was

significant ($p=0.041$) indicating a meaningful difference in EBF persistence across education categories.

Peer support also showed a protective effect, with mothers who received support having a 0.32 times lower risk of EBF cessation compared to those who did not. In contrast, the infant's sex had no significant impact of EBF resilience ($p=0.820$).

Tabel 1. Baseline Characteristics Associated with Maternal Characteristic (n=98)

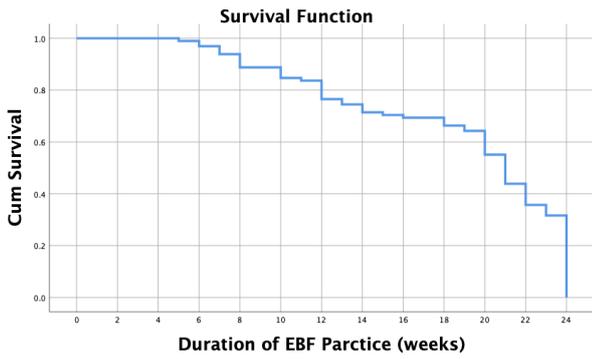
Characteristics	Intervention		Control		p value Homogeneity
	n	%	n	%	
Marital Age					
< 20 Years Old	1	2	0	0	0.20
20-35 Years Old	41	83.80	48	98	
> 35 Years Old	7	14.20	1	2	
Education					
High	7	14.20	4	8.20	0.10
Intermediate	29	59.20	36	73.50	
Elementary	13	26.60	9	18.30	
Employment					
Unemployment	31	63.30	28	57.10	0.24
Working Mother	18	36.70	21	42.90	
Parity					
Primipara	15	30.60	20	40.80	0.10
Multipara	19	38.80	26	53.10	
Grande Multipara	15	30.60	3	6.10	
Baby's Age					
One Month	24	49.00	19	38.80	0.49
Two Months	14	28.60	18	36.70	
Three Months	11	22.40	12	24.50	
Gender of Baby					
Male	23	46.90	26	53.10	0.52
Female	26	53.10	23	46.90	
Weight of Baby					
2500-3000 Gram	31	63.30	29	59.20	0.43
3100-3500 Gram	15	30.60	19	38.80	
> 3500 Gram	3	6.10	1	2.00	

Source: Primary Data, 2024

Tabel 2. Life Table for Exclusive Breastfeeding Duration

Time (Month)	Number of Surviving Breastfeeding Mother	Proportion of Surviving Cases (%)	Events	Cumulative Events	Proportion of Events (%)
0	98	100.00	0	0	0.00
1	98	100.00	2	2	1.00
2	96	98.90	12	14	7.10
3	84	92.80	22	36	18.30
4	62	81.60	16	52	26.50
5	46	73.40	14	66	33.70
6	32	66.30	-	66	33.70

Source: Primary Data, 2024



Source: Primary Data, 2024

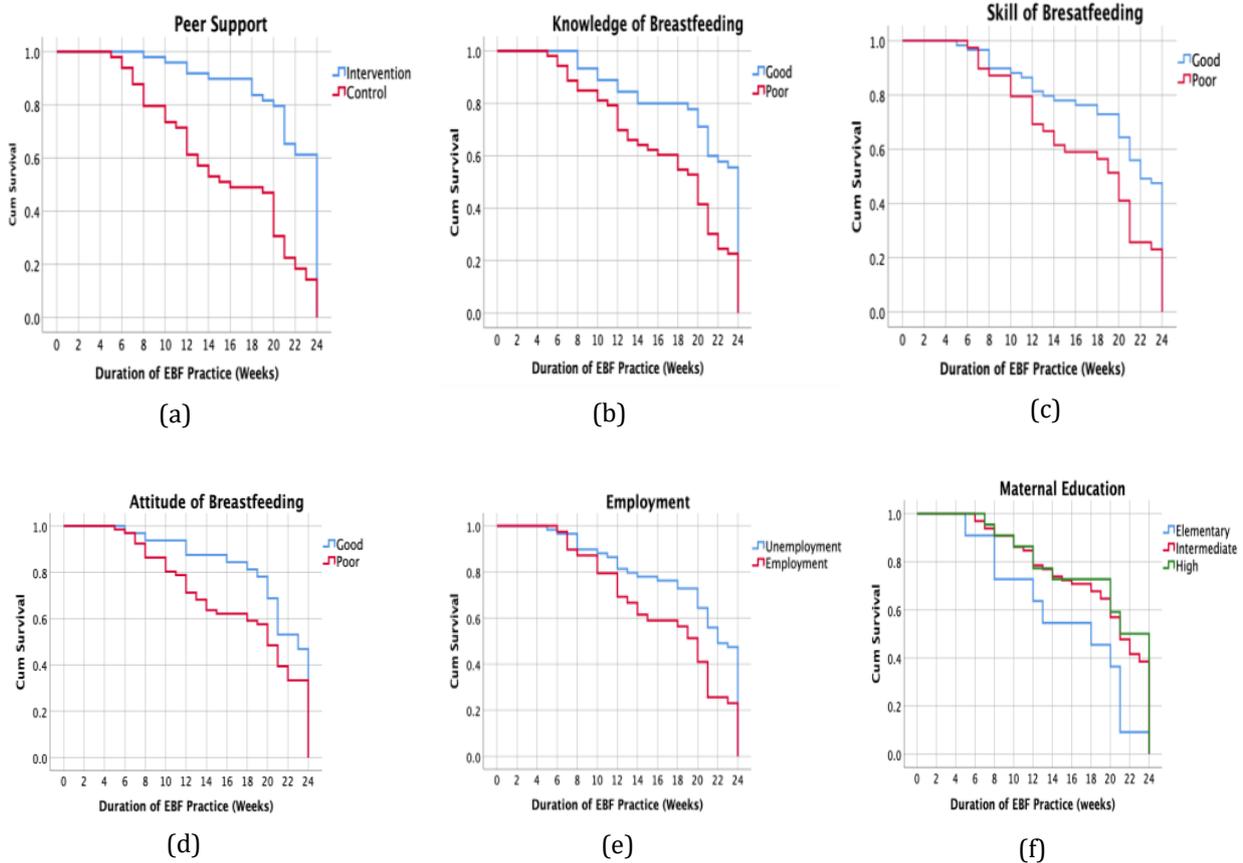
Figure 1. Kaplan Meier Survival Estimates for Duration of EBF

The Cox Proportional Hazards Regression analysis (Table 3) revealed that a number of factors had a substantial impact on EBF resilience: peer support ($p=0.00$), maternal knowledge ($p=0.02$), attitude toward breastfeeding

($p=0.00$), breastfeeding skill ($p=0.03$), and education level ($p<0.00$).

Compared to mothers who did not receive peer support, those who did obtain peer support had a 0.32-fold lower chance of stopping EBF. Similarly, mothers with good breastfeeding knowledge had a 0.85 times lower risk of stopping EBF compared to those with poor knowledge. Those with positive attitudes and strong breastfeeding skills were also less likely to cease EBF than their counterparts.

Higher educated mothers had a 0.18-fold times lower risk of EBF cessation compared to those with primary education, while mothers with secondary education had a 0.36 times lower risk of EBF cessation. Interestingly, non-working mothers were found to have a 0.51 times lower risk of EBF cessation than working mothers.



Source: Primary Data, 2024

Figure 2. Survival Estimates for Duration of EBF for Baby by (a) Peer Support; (b) Knowledge of Breastfeeding; (c) Skill of Breastfeeding; (d) Attitude of breastfeeding; (e) Employment; (f) Maternal Education

Tabel 3. Predictors of EBF Duration in Children Ages 0-6 Months

Variables	Hazard Ratio	95% CI		p value
		Lower	Upper	
Peer Support				
Intervention	0.32	0.19	0.53	0.00
Control*				
Knowledge				
Good	0.85	0.62	0.95	0.02
Poor*				
Attitude				
Good	0.41	0.24	0.71	0.00
Poor*				
Skill of Breastfeeding				
Good	0.45	0.22	0.94	0.03
Poor*				
Marital Age (Years)				
20-30	0.52	0.26	1.06	0.07
<20 and >35*				
Education				
High	0.18	0.07	0.44	0.00
Intermediate	0.36	0.18	0.72	0.00
Elementary*				
Employment				
Unemployment	0.51	0.29	0.87	0.01
Working Mother*				
Parity				
Multipara	0.31	0.77	0.47	1.26
Primipara*				
Age of Baby				
1 Month*				
2 Months	0.78	0.49	1.23	0.29
3 Months	0.67	0.40	1.12	0.13
Gender of Baby				
Male	0.90	0.58	1.41	0.67
Female*				

*) reference category

Source: Primary Data, 2024

DISCUSSION

One of the study's main conclusion is the important role that peer support plays, knowledge, attitude, and skills on the duration of EBF.²⁹ Mothers who received peer support demonstrated notably higher resilience in EBF, with peer counseling serving as a protective factor against early cessation. This is in line with research from an urban Victoria study that found mothers who had trained peer support were 1.11 times more likely to stick with EBF.²² Gonzales also found that peer support could increase mothers breastfeeding can increase the success of EBF by 3.30 times through the sixth month.³⁰ Peer support programs offer emotional encouragement and a sense of community,³¹ which are particularly crucial in urban environ-

ment where traditional family support may be limited.

Maternal knowledge, attitudes and breastfeeding skill also emerged as critical contributors. Mothers with greater knowledge and positive attitudes toward breastfeeding were more likely to continue EBF,³² indicating that educational could effectively improve breastfeeding outcomes. This is consistent with previous research linking maternal knowledge to successful breastfeeding practices.^{33,24} Education is a conscious learning process that enhance an individual's and influences behavior: thus, higher education level may contribute to more informed and committed breastfeeding practices.³⁴

Employment status also has plays a significant role in the success of EBF.²⁸ The study found that non-working mothers had a 0.51 times lower risk of EBF cessation compared to working breastfeeding mothers. This support finding from Khan, who reported that mothers return-ing to work as a major determinant of EBF failure.³⁵ Chhetri's research further confirmed that employment status was significantly associated with EBF cessation.³⁶ Therefore, working mothers need to prepare for EBF management when returning work.³⁷

These findings underscore the important of workplace policies that support breastfeeding. Measures such as providing lactation rooms,³⁸ offering flexible working hours, and extending maternity leave could help sustain EBF among employed mothers. Additionally, the study revealed notable variation in EBF resilience based on demographic factors, including parity and age. Multiparous mothers exhibited greater EBF endurance than primiparous mothers, likely due to increased experience and confidence. However, this advantage appeared inconsistent in the immediate postpartum period, suggesting that early support is essential for all mothers, regardless of parity.

Finally, the study's use of survival analysis identified key time points, particularly the third and fifth months, where significant declines in EBF practices were observed. These findings suggest that interventions could be strategically timed to provide targeted support to mothers at these vulnerable stages.

CONCLUSION AND RECOMMENDATION

The study revealed that 33,7% of mothers in Semarang City did not sustain EBF for the recommended six months, with a noticeable decline after third month. On average, EBF lasted 18,6 weeks. The two strongest factors associated with early discontinuation were maternal education and employment status. Mothers with lower levels of educational and those who were employed were more likely to stop EBF early. Although overall EBF rates in this urban area are relatively high, these maternal characteristics continue to hinder sustained breastfeeding. Therefore, targeted strategies are needed to address these challenges. Further studies examining broader sociocultural influence are essential to improve the effectiveness of future interventions.

ACKNOWLEDGMENTS

We are grateful to the Ministry of Health Polytechnic of Semarang for its financial support. Primary Health Centre for its support, especially the head, midwives, nutritionists and all participants who took part in this research. We are grateful for the contributions of all professionals and staff who supported the preparation and implementation of this study.

AUTHOR CONTRIBUTIONS

Author 1 designed the study, developed the methodology, data analysis and drafted the manuscript. Author 2 assisted in data analysis and literature review. Author 3 and author 4 contributed to collection data. Author 5 and author 6 final approval of the version to be submitted. Every author has read and approved the published version of the work. Author 1 = Irmawati Irmawati; Author 2 = Mohammad Zen Rahfiludin; Author 3 = Zefan Adiputra Golo; Author 4 = Adhani Windari; Author 5 = Malihah Rahmadhani Rum; Author 6 = Risky Kusuma Hartono.

CONFLICTS OF INTEREST

The authors declare no conflict of interest. The study was funded by Health Polytechnic of Ministry of Semarang. The funding sponsor was not involved in the study's design; instead, they were observed in the EBF. These critical stages indicate were interventions should be strategically timed to provide targeted support for breastfeeding mothers at higher risk of discontinuation.

REFERENCES

1. WHO, HRP. WHO Recommendations on Maternal and Newborn Care for a Positive Postnatal Experience (Executive Summary). World Health Organization; 2022. <https://www.ncbi.nlm.nih.gov/books/NBK579653/>
2. UNICEF, WHO. The Extension of the 2025 Maternal, Infant and Young Child Nutrition Targets to 2030 : WHO/UNICEF Discussion Paper. *United Nations Digital Library*. New York; United Nations Children's Fund (UNICEF), World Health Organization; 2021. <https://digitallibrary.un.org/record/4016715?ln=en%3Fln%3Den&v=pdf>

3. Reynolds R, Kingsland M, Daly J, et al. Breastfeeding Practices and Associations with Pregnancy, Maternal and Infant Characteristics in Australia: a Cross-Sectional Study. *International Breastfeeding Journal*. 2023;18(1):1-13.
<https://doi.org/10.1186/s13006-023-00545-5>
4. Meedy S, Hocking J, Atchan M, Burns E. Publicly Available Australian Hospital Data on Infant Feeding: A Review and Comparative Analysis of Outcomes. *Women and Birth*. 2024;37(5):101658.
<https://doi.org/10.1016/j.wombi.2024.101658>
5. Chua L, Win AM. Prevalence of Breastfeeding in Singapore. *Statistics Singapore Newsletter*. 2018;(September): 10-14.
<https://www.singstat.gov.sg/-/media/files/publications/society/ssnsep13-pg10-14.pdf>
6. Giang HTN, Duy DTT, Vuong NL, et al. Prevalence of Exclusive Breastfeeding for the First Six Months of An Infant's Life and Associated Factors in a Low-Middle Income Country. *International Breastfeeding Journal*. 2023;18(47):1-11.
<https://doi.org/10.1186/s13006-023-00585-x>
7. Kemenkes RI. Profil Kesehatan Indonesia 2023. Jakarta: Kementerian Kesehatan Republik Indonesia; 2024.
8. Mohamed Ahmed SO, Ashgar RI, Mohammed Abdelgader AA, et al. Exclusive Breastfeeding: Impact on Infant Health. *Clinical Nutrition Open Science*. 2023;51:44-51.
<https://doi.org/10.1016/j.nutos.2023.08.003>
9. Saeed OB, Haile ZT, Chertok IA. Association Between Exclusive Breastfeeding and Infant Health Outcomes in Pakistan. *Journal of Pediatric Nursing*. 2020;50:62-68.
<https://doi.org/10.1016/j.pedn.2019.12.004>
10. Aparas EF, Olawade DB, Olatunji GD, Kokori E, Aderinto N, Clement David-Olawade A. Factors Influencing Nursing Mothers' Exclusive Breastfeeding Practices and Their Effects on Infants Aged Zero to Six Months in Nigeria: A Review of Current Evidence. *Women and Child Nursing*. 2024;2(3):49-55.
<https://doi.org/10.1016/j.wcn.2024.07.001>
11. Kartasurya MI, Syauqy A, Suyatno S, et al. Determinants of Length for Age Z Scores Among Children Aged 2-23 Months in Central Java, Indonesia: A Path Analysis. *Frontiers in Nutrition*. 2023;10:1-11.
<https://doi.org/10.3389/fnut.2023.1031835>
12. Vidal-Batres M, Marquis GS, Pareja RG. Infant and Maternal Morbidity Symptoms as Predictors for the Interruption of Exclusive Breastfeeding in Lima, Peru: A Prospective Study. *Journal of Pediatric Health Care*. 2024;38(4):564-573.
<https://doi.org/10.1016/j.pedhc.2024.02.003>
13. Pemerintah Pusat. Peraturan Pemerintah (PP) Nomor 28 Tahun 2024 Tentang Peraturan Pelaksanaan Undang-Undang Nomor 17 Tahun 2023 Tentang Kesehatan. 2024;(226975):656.
<https://kemkes.go.id/id/peraturan-pemerintah-ri-no-28-tahun-2024-tentang-peraturan-pelaksanaan-uu-kesehatan>
14. WHO. Protecting, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services. Geneva: World Health Organization; 2018.
<https://www.who.int/publications/i/item/9789241550086>
15. Hadijah Z, Sadali MI. Pengaruh Urbanisasi Terhadap Penurunan Kemiskinan di Indonesia. *Jurnal Wilayah dan Lingkungan*. 2020;8(3):290-306.
<https://doi.org/10.14710/jwl.8.3.290-306>
16. Paramashanti BA, Dibley MJ, Huda TM, Alam A. Breastfeeding Perceptions and Exclusive Breastfeeding Practices: A Qualitative Comparative Study in Rural and Urban Central Java, Indonesia. *Appetite*. 2022;170:105907.
<https://doi.org/10.1016/j.appet.2021.105907>

17. Sabilla M, Laksono AD, Megatsari H. Determine the Promotion Target of Exclusive Breastfeeding Among Poor Families in Indonesia. *Clinical Epidemiology and Global Health*. 2025;32:101960. <https://doi.org/10.1016/j.cegh.2025.101960>
18. Dahlan M. S. Besar Sampel dalam Penelitian Kedokteran dan Kesehatan Seri 2 Edisi 4. Jakarta: Epidemiologi Indonesia; 2016.
19. Ara G, Khanam M, Papri N, et al. Peer Counselling Improves Breastfeeding Practices: A Cluster Randomized Controlled Trial in Urban Bangladesh. *Maternal & Child Nutrition*. 2018;14(3):1-12. <https://doi.org/10.1111/mcn.12605>
20. Dinkes Kota Semarang. Profil Kesehatan Kota Semarang 2019. Semarang: Dinas Kesehatan Semarang; 2020:1-104.
21. Dinkes Jateng. Profil Kesehatan Jawa Tengah Tahun 2023. Semarang: Dinas Kesehatan Provinsi Jawa Tengah; 2024. https://dinkesjatengprov.go.id/v2018/dokumen/1Profil_Kesehatan_2023/files/downloads/Profil%20Kesehatan%20Jawa%20Tengah%202023.pdf
22. Forster DA, McLardie-Hore FE, McLachlan HL, et al. Proactive Peer (Mother-to-Mother) Breastfeeding Support by Telephone (Ringing up About Breastfeeding Early [RUBY]): A Multicentre, Unblinded, Randomised Controlled Trial. *EClinicalMedicine*. 2019;8:20-28. <https://doi.org/10.1016/j.eclinm.2019.02.003>
23. Gebeyehu NA, Tegegne KD, Shewangashaw NE, Biset G, Abebaw N, Tilahun L. Knowledge, Attitude, Practice and Determinants of Exclusive Breastfeeding Among Women in Ethiopia: Systematic Review and Meta-analysis. *Public Health in Practice*. 2023;5:100373. <https://doi.org/10.1016/j.puhip.2023.100373>
24. Jalil H, Chong MC, Jalaludin MY, Wong LP, Hmwe NTT. Knowledge, Attitude, and Practice Among Mothers Toward Breastfeeding and Complementary Feeding in Community Health Setting, Malaysia. *Heliyon*. 2024;10(21):e39746. <https://doi.org/10.1016/j.heliyon.2024.e39746>
25. Gebeyehu NA, Tegegne KD, Shewangashaw NE, Biset G, Abebaw N, Tilahun L. Knowledge, Attitude, Practice and Determinants of Exclusive Breastfeeding Among Women in Ethiopia: Systematic Review and Meta-analysis. *Public Health in Practice*. 2023;5:100373. <https://doi.org/10.1016/j.puhip.2023.100373>
26. Alabi TA, Adejoh SO, Atinge S, Umahi E. Social and Bio-Medical Predictors of Exclusive Breastfeeding Among Nursing Mothers in Lagos and Taraba States, Nigeria. *Journal of Pediatric Nursing*. 2020;52:96-102. <https://doi.org/10.1016/j.pedn.2019.12.002>
27. Lojander J, Axelin A, Niela-Vilén H. Breastfeeding Exclusivity, Difficulties, and Support in The First Days After Hospital Discharge: A Correlational Study. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2024;296:76-82. <https://doi.org/10.1016/j.ejogrb.2024.02.029>
28. Ickes SB, Oddo VM, Sanders HK, et al. Formal Maternal Employment is Associated with Lower Odds of Exclusive Breastfeeding by 14 Weeks Postpartum: A Cross-Sectional Survey in Naivasha, Kenya. *The American Journal of Clinical Nutrition*. 2021;113(3):562-573. <https://doi.org/10.1093/ajcn/nqaa351>
29. Fajar NA, Ananingsih ES, Sulaningsi K, Firdaust M, Yudhastuti R, Diana, Riris, Zen Rahfiludin M. Social Determinant of Health on Exclusive Breastfeeding Practice in South Sumatra, Indonesia. *Malaysian Journal of Medicine and Health Sciences*. 2024;20: 163-169. <https://doi.org/10.47836/mjmhs.20.s9.27>
30. Gonzalez-Darias A, Diaz-Gomez NM, Rodriguez-Martin S, Hernandez-Perez C, Aguirre-Jaime A. Supporting a First-Time Mother: Assessment of Success of a Breastfeeding Promotion Programme. *Midwifery*. 2020;85:102687.

<https://doi.org/10.1016/j.midw.2020.102687>

31. Mccarthy E, Vries J De, Gallagher L. Women's Perspectives on the Role and Impact of Breastfeeding Support Groups in Ireland. *Midwifery*. 2024;139:104181. <https://doi.org/10.1016/j.midw.2024.104181>
32. Nugraheni, SA, Sulistiyani, S, Suyatno, S, Sulistiyowati, E, Kartasurya, Martha, I, Nandini N. Effect of Short Course on The Knowledge and Practice of Housewives Peer Group Activists as Assistance to Lactating Mothers in Providing Exclusive Breastfeeding. *International Journal of Preventive Medicine*. 2022;13(1):119. https://journals.lww.com/ijom/fulltext/2022/13000/effect_of_short_course_on_the_knowledge_and.119.aspx
33. Sultana M, Dhar S, Hasan T, et al. Knowledge, Attitudes, and Predictors of Exclusive Breastfeeding Practice Among Lactating Mothers in Noakhali, Bangladesh. *Heliyon*. 2022;8(10). <https://doi.org/10.1016/j.heliyon.2022.e11069>
34. Awoke S, Mulatu B. Determinants of Exclusive Breastfeeding Practice Among Mothers in Sheka Zone, Southwest Ethiopia: A Cross-Sectional Study. *Public Health in Practice*. 2021;2:100108. <https://doi.org/10.1016/j.puhip.2021.100108>
35. Khan MMI, Kabir MR. Prevalence and Associated Factors of Early Cessation of Exclusive Breastfeeding Practice in Noakhali, Bangladesh: A Mixed-Method Study. *Journal of Pediatric Nursing*. 2021;44-53. <https://doi.org/10.1016/j.pedn.2020.12.017>
36. Chowdhury AR, Surie A, Bhan G. Breastfeeding Knowledge and Practices of Working Mothers in The Informal Economy in New Delhi: A Formative Study to Explore New Intervention Pathways Towards Improved Maternal and Child Health Outcomes. *Social Science & Medicine*. 2021;281:114070. <https://doi.org/10.1016/j.socscimed.2021.114070>
37. Girma D, Abita Z. Rural Versus Urban Variations of Factors Associated with Early Initiation of Breastfeeding in Ethiopia. *Heliyon*. 2024;10(13). <https://doi.org/10.1016/j.heliyon.2024.e33427>
38. Rahfiludin MZ, Pangestuti DR. Lactoferrin Association with Maternal Nutritional Status and Lactation Stages. *Current Research in Nutrition and Food Science*. 2020;8(1):4-11. <http://dx.doi.org/10.12944/CRNFSJ.8.1.16>