Exclusive Breastfeeding Among Adolescent Mothers in Indonesia: Does Maternal Education Level Matter?

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Abstract

Exclusive breastfeeding (EBF) is a vital element in the early stages of life. Feeding newborns solely breast milk from birth until they are six months old is sufficient. However, EBF by adolescent mothers is still not optimal. The study analyzed the effect of maternal education on EBF among babies with adolescent mothers in Indonesia. The cross-sectional study examined 560 babies (a–5 months). We analyzed EBF practice as a dependent variable. We included six mothers' characteristics (education, residence, age, marital, employment, and wealth) and two baby characteristics (sex and early breastfeeding initiation) as independent variables. In this study, the initial stage was a bivariate analysis using chi-square. Then, a multicollinearity test was conducted to ensure no strong relationship between the independent variables. Finally, a multivariate test was conducted to determine the factors of EBF in babies with adolescent mothers. The results showed that adolescent mothers with primary education were 2.920 times more likely than those without education to perform EBF (AOR = 2.920, 95% CI [2.521–3.382]). Moreover, adolescent mothers with secondary education were 2.325 times more likely to achieve EBF than those without (AOR = 2.325, 95% CI [2.001–2.701]). The study concluded that all education levels were likelier to perform EBF than those without formal education. Further research is needed to understand the breastfeeding experience of adolescent mothers. Exceptional support and attention regarding EBF should be directed to adolescent mothers who are without formal education.

Keywords

Exclusive breastfeeding; health policy; public health; public health nutrition

Introduction

Breastfeeding is essential for maintaining the newborn's health and development (Quesada et al., 2020). It is generally agreed that breastfeeding is the best diet for infants because it provides nourishment and immunity (Santacruz-Salas et al., 2021). The World Health Organization (WHO) (2014) recommends providing breast milk until at least six months of age and maintenance accompanied by complementary foods until two years of age. Exclusive breastfeeding (EBF) means that during the first six months of life, the baby only receives breast milk and does not receive liquids or other solid foods except drops or syrup containing vitamins, minerals, or medicines (Alayón et al., 2022).

Several benefits can be gained from breastfeeding. For babies, breastfeeding can prevent the risk of death due to diarrhea or respiratory infections and protect the risk of diabetes and obesity. Meanwhile, for mothers, giving breast milk can reduce the risk of developing breast and ovarian cancer (Prentice, 2022). These two things are supported by other studies that show adequate breastfeeding can prevent 50% of child deaths from diarrhea and pneumonia and 10% of deaths from breast cancer (Walters et al., 2016). The simultaneous impact is related to the economy. Preventing morbidity and death means reducing healthcare costs for individuals and families, which can even reduce the fiscal burden on a country's health system (Walters et al., 2019). The study results show that reducing the incidence of diarrhea and pneumonia can save healthcare costs of up to USD 0.3 billion per year (Walters et al., 2016). Furthermore, just a 10% increase in EBF can reduce medical costs by USD 312 million in the United States, USD 30 million in China, USD 7.8 million in the United Kingdom, and USD 1.8 million in Brazil (Quesada et al., 2020).

Even though there is evidence that EBF benefits babies and mothers, the proportion of this practice is still low and varies from country to country. From the European region, the ratio of EBF during the first six months of life was reported to be 19.49% in Spain (Santacruz-Salas et al., 2021), 21.2% in Greece (Liakou et al., 2022), and 33.3% in Italy (Cascone et al., 2019). Meanwhile, from the African region, the proportion is 27.7% in Ghana (Nukpezah et al., 2018) and 51.8% in Senegal (Gueye et al., 2023). In the South American area, Brazil, it was reported that only 15.2% of mothers stated that they gave exclusive breast milk to their babies (Moraes de Oliveira & Camelo, 2017). In contrast, in Australia, it was reported to be 57% (Reynolds et al., 2023). Meanwhile, in the Asian region, in China, it is said that the average rate of EBF is 20% to 36% in both urban and rural areas (Duan et al., 2018), while in Bangladesh, it is reported that it reaches 61% (Rahman et al., 2020). In Indonesia, data from the Central Statistics Agency shows that the proportion of EBF in 2022 will be 72% (BPS - Statistics Indonesia, 2024).

Seeing the considerable benefits of EBF, the WHO targets that by 2025, at least 50% of breastfeeding mothers will practice it (World Health Organization [WHO], 2014). Currently, many countries have not achieved the targets set by WHO; however, EBF continues to increase (Gardner & Kassebaum, 2020). As in Spain and Greece, although the proportion is relatively low, the trend continues to grow (Liakou et al., 2022; Vila-Candel et al., 2019). Likewise, in Indonesia, the ratio continues to increase (BPS - Statistics Indonesia, 2024). This increasing trend also occurs globally. Data from 2010 shows that EBF still ranges from 15.2% to 21% (Lim et al., 2014). With various efforts made together (increasing attention, investment, and action for a series of interventions) in 2019, the proportion of EBF increased to around 43%–44% (Gardner & Kassebaum, 2020; Santacruz-Salas et al., 2021; WHO, 2021).

Several factors influence the practice of EBF. Education is one factor that influences the initiation and continuation of breastfeeding. The higher the level of education, the greater the possibility of giving EBF to the baby (Chang et al., 2019; Lechosa-Muñiz et al., 2020; Sultana et al., 2022). Furthermore, research results in Indonesia show that education indirectly influences the behavior of providing EBF. Adolescent mothers who are more educated tend to have access to information and, therefore, have better knowledge (Handajani et al., 2018). Apart from education, health literacy is also a factor that is no less important and also acts as a protective factor against early cessation of EBF (Valero-Chillerón et al., 2022). Apart from these two things, other important factors include the mother's age of 26–34 years (Senghore et al., 2018), sufficient family income, and getting support from her husband (Ogbo et al., 2017), especially for specific areas, impoverished and underdeveloped regions, ease of access to water is also an influencing factor. The availability of water sources close to home, in other words, water that is easily accessible, means that mothers do not need to spend time to get water, so they have more opportunities to breastfeed their babies (Adokiya et al., 2023). Apart from supporting factors, there are also factors inhibiting the practice of EBF. The feeling of insufficient breast milk production (Chen et al., 2023; Reynolds et al., 2023). Furthermore, the child's weight not increasing according to standards is the factor that most often causes cessation of EBF (Vila-Candel et al., 2019).

As mentioned, the mother's age is one of the factors influencing EBF. The mother's young generation harms EBF (Topothai et al., 2021). Some countries report that the prevalence of EBF by adolescent mothers is relatively low. In Thailand, it is shown that the prevalence of EBF by adolescent mothers is only 17.3% (Thaithae et al., 2023). Meanwhile, in Brazil, data indicates that adolescent mothers are the least likely to EBF their newborns in the first six months, with a figure below 25% (Pinho-Pompeu et al., 2024).

Meanwhile, the results of data processing from the 2021 Indonesian National Nutritional Status Survey show that among women who have been pregnant and given birth in Indonesia, the proportion of adolescent mothers (< 19 years) is 2.2% (Ministry of Health, 2021). Socioeconomic problems such as poverty, unemployment, limited access to education, or pregnancy out of wedlock force some women to marry when they are teenagers (Stark, 2018). The condition gives rise to opposing views, pressure, and social stigma towards adolescent mothers. In addition, unwanted pregnancies can cause adolescent mothers to have negative feelings toward their babies (Thaithae et al., 2023), and the lack of previous breastfeeding experience can influence the initiation and duration of breastfeeding (Topothai et al., 2021). Unsurprisingly, EBF for adolescent mothers is less than optimal (Agho et al., 2021).

Data on EBF adolescent mothers in Indonesia and the factors influencing it are still minimal. This study aims to analyze the effect of maternal education on EBF among babies with adolescent mothers in Indonesia. Types of residence, maternal age, maternal marital status, employment status, wealth position, and baby gender and early initiation of breastfeeding (EIBF) as a control variable. It is hoped that the results of this analysis can be a reference for policymakers to increase the proportion of EBF for adolescent mothers.

Materials and methods

Study design and data source

The study examined secondary data from the 2021 Indonesian National Nutritional Status Survey. The Indonesian Ministry of Health conducted the cross-sectional survey nationally (Ministry of Health, 2021).

The study population included all Indonesian newborns aged one to five months. In this study, babies served as the analysis unit, with moms functioning as responders. The mother's education level was chosen as an exposure variable because, based on previous research, it is one of the factors influencing the initiation and continuation of EBF. The poll used a multi-stage cluster random sampling approach to obtain a weighted sample of 560 newborns.

Setting

The study was carried out in a setting at the national level.

Outcome variable

The study employed exclusive breastfeeding (EBF) practices of mothers with babies under six months. We classified the EBF as either No = 1 or Yes = 0. "No = 0" was assigned to mothers who stated that they had fed their kid anything other than breast milk, whereas "Yes = 1" was set to those who indicated that they had not provided their child with anything other than breast milk (Terefe & Shitu, 2023).

Exposure variables

The study included the mother's education level as an exposure variable. The study divided maternal education into no formal, primary, or secondary education.

Control variables

The study included five characteristics of mothers as control variables: types of residence, maternal age, maternal marital status, employment status, and wealth position. There are two types of residence: urban and rural. Maternal ages were 15, 16, 17, 18, and 19. Maternal marital status includes being married or living with a partner and divorced or widowed. Furthermore, maternal employment status has both employed and unemployed mothers.

The wealth quintile of a household's possessions was utilized in the study to estimate its level of wealth. The study graded them based on the number and variety of goods in a family's house. The survey also included the residence's characteristics and numerous things such as bicycles, vehicles, and televisions to determine wealth. The examination considered the primary floor building materials, drinking water sources, and restroom amenities. The score was calculated using principal component analysis in the study. The pool used each member's household score to determine the national wealth quintiles, divided into the same five groups, and represented 20% of the population. The poll categorizes wealth into five categories: poorest, poorer, middle, richer, and richest (Laksono et al., 2023; Wulandari et al., 2022).

Furthermore, the study utilized two newborn characteristics as control variables: baby gender and early EIBF. The baby was both a male and a girl. Meanwhile, the study defined EIBF as

women starting to nurse their children within the first hour of birth, ensuring that the newborn receives colostrum (UNICEF & WHO, 2018). The study splits EIBF into No and Yes.

Data analysis

In our preliminary investigation, we employed the Chi-Square test. The co-linearity test was then used to show no significant correlation between the independent variables. A binary logistic regression test (entry technique) was used in the final phase. We used a 95% confidence interval (CI) and a *p* value of .05 to establish statistical significance. All statistical computations for the analysis were performed using IBM SPSS Statistics 26.

In addition, we used ArcGIS 10.3 (ESRI Inc., Redlands, CA, USA) to construct a distribution map of EBF prevalence across Indonesia. For this investigation, Indonesian Statistics provided a shapefile with administrative border polygons.

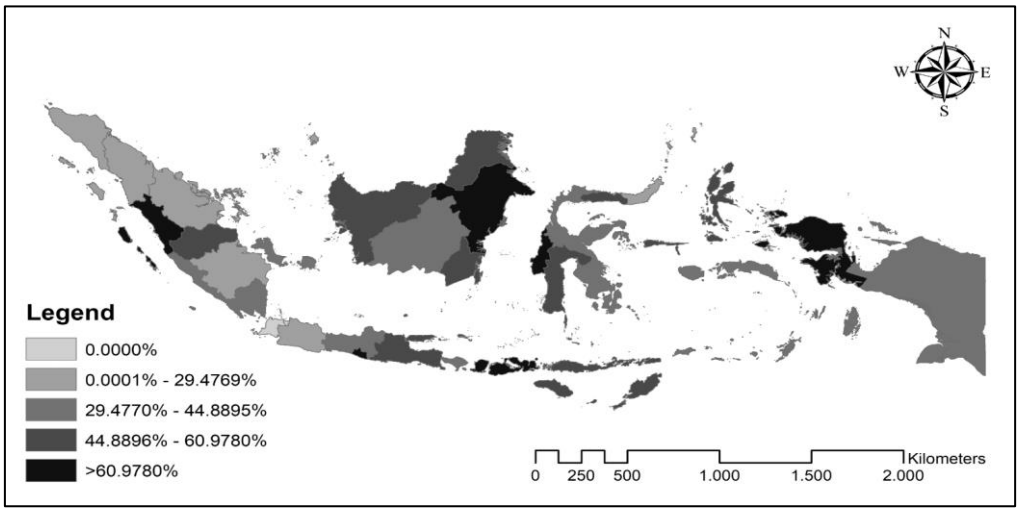
Ethical approval

The Indonesian National Nutritional Status Survey of 2021 was awarded an ethical license by the national ethics committee (LB.02.01/2/KE.248/2021). The study used written informed consent to account for the voluntary and confidential components of the data-gathering approach, and respondents or guardians provided written informed permission.

Results

The results show that the percentage of EBF among babies with adolescent mothers in Indonesia is 40.3%. Meanwhile, Figure 1 displays the distribution map of the proportion of EBF among babies with adolescent mothers by province in Indonesia in 2021. In the figure, two provinces have zero proportion of EBF (Jakarta and Banten). Moreover, the map shows no spatial pattern or trend.

Figure 1: EBF Distribution Map by Province in Indonesia in 2021



Note: Visualisation by the Author based on the 2021 Indonesian National Nutritional Status Survey Data

Table 1 shows the descriptive statistics of EBF among babies with adolescent mothers in Indonesia. Regarding maternal education, primary education has the highest proportion in the EBF group. According to the residence type, babies in rural areas have a higher proportion than those in urban areas in the EBF group.

Based on maternal age, Table 1 informs that mothers aged 15 have the highest proportion in the EBF group. Regarding maternal marital status, divorced/widowed mothers have a higher proportion than those married in the EBF group. Meanwhile, according to maternal employment status, employed mothers have a higher proportion in the EBF group than unemployed mothers. Moreover, based on wealth status, babies with more prosperous families have the highest proportion in the EBF group.

Table 1: Descriptive Statistics of EBF among Babies with Adolescent mothers in Indonesia (n = 560)

Characteristics	Exclusive Breastfeeding		p value
	No (n = 302)	Yes (n = 258)	
Maternal Education			< .001
No formal education	78.3%	21.7%	
Primary	58.8%	41.2%	
Secondary	61.3%	38.7%	
Residence Type			< .001
Urban	66.8%	33.2%	
Rural	54.8%	45.2%	
Maternal Age (in years)			< .001
15	34.6%	65.4%	
16	53.6%	46.4%	
17	69.8%	30.2%	
18	60.8%	39.2%	
19	57.2%	42.8%	
Maternal Marital Status			< .001
Married/Living with Partner	60%	40%	
Divorced/Widowed	47.9%	52.1%	
Maternal Employment Status			< .001
Unemployed	61%	39%	
Employed	49.2%	50.8%	
Wealth status			< .001
Poorest	55.8%	44.2%	
Poorer	66.2%	33.8%	
Middle	57.1%	42.9%	< .001
Richer	48.8%	51.2%	
Richest	70.7%	29.3%	
Sex of Infant			< .001
Boy	62.4%	37.6%	
Girl	56.8%	43.2%	
Early Initiation of Breastfeeding			< .001
No	65.2%	34.8%	
Yes	53.7%	46.3%	

Table 1 shows that, regarding the sex of the infant, girls have a higher proportion than boys in the EBF group. Furthermore, according to EIBF, babies with EIBF have a higher proportion in the EBF group than those without.

Table 1 also shows that all variables have significant *p* values ($p < .05$). Thus, all variables are included in the binary logistic regression test. Before proceeding further, a co-linearity test was conducted, and the results showed that the tolerance values for all variables are, on average, more significant than 0.10, and the variance inflation factor (VIF) value for all variables is more excellent than 10.00. After using co-linearity tests, the study indicated no evidence of a substantial link between two or more independent variables in the regression model, which revealed no collinearity between the independent variables.

Table 2 presents the results of binary logistic regression. Regarding maternal education, adolescent mothers with primary education are 2.920 times more likely than those without education to perform EBF (AOR = 2.920, 95% CI [2.521–3.382]). Moreover, adolescent mothers with secondary education are 2.325 times more likely to achieve EBF than those without (AOR = 2.325, 95% CI [2.001–2.701]).

Table 2: Binary Logistic Regression of EBF Among Babies with Adolescent Mothers in Indonesia (*n* = 560)

Predictors	Exclusive Breastfeeding			
			95% CI	
	p value	AOR	Lower Bound	Upper Bound
Maternal Education: No formal education (ref.)	–	–	–	–
Maternal Education: Primary	*< .001	2.920	2.521	3.382
Maternal Education: Secondary	*< .001	2.325	2.001	2.701
Residence: Urban (ref.)	–	–	–	–
Residence: Rural	*< .001	1.692	1.638	1.748
Maternal age: 15 (ref.)	–	–	–	–
Maternal age: 16	*< .001	0.402	0.361	0.448
Maternal age: 17	*< .001	0.223	0.204	0.244
Maternal age: 18	*< .001	0.333	0.305	0.362
Maternal age: 19	*< .001	0.415	0.381	0.452
Maternal Marital: Married	*< .001	0.754	0.692	0.821
Maternal Marital: Divorced/Widowed (ref.)	–	–	–	–
Maternal employment: Unemployed	*< .001	0.675	0.644	0.708
Maternal employment: Employed (ref.)	–	–	–	–
Wealth: Poorest (ref.)	–	–	–	–
Wealth: Poorer	*< .001	0.657	0.633	0.683
Wealth: Middle	**0.046	1.048	1.001	1.098
Wealth: Richer	*< .001	1.373	1.303	1.447
Wealth: Richest	*< .001	0.710	0.664	0.759
Sex of Infants: Boy (ref.)	–	–	–	–
Sex of Infants: Girl	*< .001	1.411	1.367	1.455
Early initiation of breastfeeding: No (ref.)	–	–	–	–
Early initiation of breastfeeding: Yes	*< .001	1.536	1.489	1.584

Note: AOR: adjusted odds ratio; CI: confidence interval; *$p < .001$; **$p < .01$; ***$p < .05$.

Moreover, the study found seven control variables related to the EBF performance among babies with adolescent mothers in Indonesia. According to the type of residence, the number of babies in rural areas is 1.692 times higher than in urban areas to achieve EBF (AOR = 1.692, 95% CI [1.638–1.748]).

Based on maternal age, Table 2 displays that all maternal ages are more likely than those 15 to perform EBF. Furthermore, regarding maternal marital status, married mothers are 0.754 times less likely to achieve EBF than divorced/widowed mothers (AOR = 0.754, 95% CI [0.692–0.821]).

Table 2 indicates that unemployed mothers are 0.675 times less likely than employed mothers to achieve EBF regarding wealth status (AOR = 0.675, 95% CI [0.644–0.708]). The poorer and the richest are less likely to perform EBF than the most impoverished. Meanwhile, the middle and the wealthier are more likely than the poorest to achieve EBF.

Based on the sex of the infant, Table 2 informs that girls are 1.411 times more likely than boys to achieve EBF (AOR = 1.411, 95% CI [1.367–1.455]). Furthermore, regarding EIBF, babies with EIBF are 1.536 times more likely than those without to perform EBF (AOR = 1.536, 95% CI [1.489-1.584]).

Discussion

In general, this study shows that the percentage of EBF by adolescent mothers in Indonesia is 40.3%. This percentage is relatively higher compared to EBF by adolescent mothers in Thailand, which is only 17.39% (Thaithae et al., 2023). However, it is lower than the EBF by adolescent mothers in Bangladesh, which reached 53% (Agho et al., 2021), and in India, which was reported at 58.7% (Agho et al., 2021). As previously stated, it does not show a spatial pattern or trend related to the distribution map of the proportion of EBF by adolescent mothers.

In line with previous studies (Laksono et al., 2021; Sarkar et al., 2023), the study showed that all adolescent mothers with education levels were more likely than those without education to perform EBF. However, some previous research showed the opposite result. High levels of maternal education are associated with low EBF practice (Rahman et al., 2020) and short duration of EBF practice (Islam et al., 2019). On the other side, research on breastfeeding trends and patterns in LMICs between 2000 and 2019 showed that the most significant increase in EBF occurred in women with secondary or higher education, and the smallest increase occurred in women without formal education (Neves et al., 2021). It means that women with higher education have a greater chance to give EBF to their children successfully, and children of women without formal education are at higher risk of morbidity and mortality. Therefore, the support and special attention related to EBF should be addressed to adolescent mothers with lower education.

The study indicated that maternal education was a powerful predictor. Adolescent mothers are vulnerable to a lack of proper knowledge and practice of breastfeeding (Kumar et al., 2021). Education is associated with increasing literacy rates and the ability to understand and think critically (Khanal, 2023). Adolescent mothers are also a generation accustomed to digital information, such as access to data via the Internet. It is an advantage and potential for educated adolescent mothers. Research in Thailand shows that digital technology literacy is essential for predicting EBF at six months among adolescent mothers (Thaithae et al., 2023). Highly educated adolescent mothers tend to find it easier to access and understand information about breastfeeding practices from the media and health workers, so they have higher awareness and knowledge about EBF and breastfeeding (Kumar et al., 2021). Education can also increase maternal self-efficacy in breastfeeding and make decisions related to EBF if

faced with myths and superstitious things that are wrong with EBF (Ejie et al., 2021; Titaley et al., 2021).

In addition to the education factor as an exposure variable, any other factors are control variables that also influence the provision of EBF by adolescent mothers to their babies. These control variables include place of residence, maternal age, marital status, employment status, wealth position, gender of the babies, and early initiation of breastfeeding.

According to the type of residence, the number of babies in rural areas was higher than that in urban areas to achieve EBF. These results are similar to other studies showing that rural mothers are more likely to breastfeed their infants, succeed in EBF, and continue breastfeeding than urban mothers (Dede & Bras, 2020; Um et al., 2020). Adolescent mothers living in rural areas are likely not economically independent, so giving EBF to babies is considered more economical than formula milk or other foods (Paramashanti et al., 2023). The first-time mother in rural communities still lives with her parents, so it has an advantage regarding family support in giving EBF (Talbert et al., 2020). Rural mothers, along with their husbands and other family members, also tend to be more compliant with the advice of midwives' village midwives to give EBF because they are considered respected people (Paramashanti et al., 2023).

Moreover, the study found three maternal characteristics associated with EBF performance among babies with adolescent mothers in Indonesia. The three were age, marital, and employment status. Early marriage, viewed as a kind of abuse and a violation of children's rights, is related to adolescent women who had children at a younger age. Low breastfeeding rates among silly moms are frequently strongly correlated with younger maternal age at birth. Most adolescent mothers lack sufficient information about a child's health and growth when they become parents. As a result, they can be less aware of how to meet newborns' dietary demands. This fact is explained by their suffering and their feelings of anxiety. Adolescents believe EBF fails due to the newborns' refusal to accept direct nursing, inability to suckle, and consequent demand for other supplemental nutrients (Yulyani et al., 2021). In line with this study, another research report shows that young mothers (between 18 and 25) dislike breastfeeding. They are concerned that their body forms may change and their breasts sag (Ejie et al., 2021).

In this study, it was discovered that participants who had marital status were associated with EBF performance among babies. The situation implies that spouses play a significant role in family and household decision-making, which impacts many aspects of family life, including infant feeding practices. Family support is vital to mothers' success in EBF. Family support will affect the mother's psychological condition so that the mother will be motivated to practice breastfeeding correctly and appropriately for six months (Kebo et al., 2021). Unexpectedly, people who were not married were more likely than married participants to practice EBF. The results are consistent with research conducted in Ethiopia (Ayalew, 2020). The condition may be the result of Ethiopian people's traditional birth-related customs. First-time mothers in Ethiopia are required to visit the household of their parents and begin preparing for childbirth in the eighth month of pregnancy; 40 days after giving birth, the mothers recuperate at their parent's home, and new women are never left alone, even after giving birth to a child (Ayalew, 2020).

Since breastfeeding moms cannot carry the child along when running various errands, handling kids and carrying work schedules was impractical. The condition occasionally impacts their decision to breastfeed their children exclusively. Some mothers made vehement

statements about not having enough time at work. Since the times they could breastfeed while working would not be sufficient, they are left with no choice but to feed their children other meals (Tampah-Naah et al., 2019). Unemployed moms viewed EBF as more financially advantageous than formula feeding (Ejie et al., 2021). In line with this study, another research in Ghana reported that since they feed their babies on demand and take care of their families and jobs, breastfeeding moms who return to work frequently feel worn out, raising worries for their health (Tampah-Naah et al., 2019).

The study found wealth status related to EBF performance among babies with adolescent mothers in Indonesia. Financial limitations played a significant role in some moms' decision to breastfeed exclusively. Fewer baby sickness and hospital visits have occurred when the infant is exclusively breastfed. Families spend much money on hospital visits. Due to their inability to buy infant formula, clean water, or proper sanitary procedures for preparing feeding bottles, this cost encouraged women to choose EBF.

Meanwhile, participants stated that their families supported them in practicing EBF since it was cost-effective. EBF helps mothers avoid spending money on infant feeds and medical expenses related to illnesses brought on by tainted and inadequate breast milk replacements (Ejie et al., 2021; Sosseh et al., 2023). A Somaliland study stated that income positively correlates with EBF. The observed association could be explained by how affluence influences access to different media that can increase knowledge of EBF practice (Jama et al., 2020).

Based on the sex of the infant, girls were more likely than boys to achieve EBF. This study's findings may result from the community's values for both men and women. Most often, having a newborn boy makes the family feel more proud, and as a result, a mother might give more attention to baby boys than to baby girls as they nurse (Jama et al., 2020). Many women firmly believe that exclusively breastfeeding baby boys will weaken their physical development as they age. She indicates that breast milk alone cannot satisfy infant males, necessitating the addition of supplemental nutrients, stating that it is "very light." It is a prevalent misconception that breast milk cannot adequately provide for a baby boy's nutritional needs and that limiting their diet to breast milk will weaken them physically. Due to this well-established idea, breast milk for infant males is typically supplemented early (Sosseh et al., 2023).

Furthermore, regarding EIBF, babies with EIBF were more likely than those without to perform EBF. Every newborn can start breastfeeding on its own and find its mother's nipples, provided that after birth, the baby is immediately placed on the mother's chest, and there is contact between the baby's skin and the mother's skin or skin-to-skin contact. In addition to reducing neonatal mortality, EIBF has been shown to play a role in the successful breastfeeding process (Kebo et al., 2021). In the same result as this study, Nandini et al. (2018) reported that mothers doing skin-to-skin contact right after labor can increase EBF practice. The situation would have happened because the doctor or the midwife approved the course. The "10 Steps to Successful Breastfeeding," endorsed by the WHO since 2012, is now encouraged by legislation in Indonesia, which applies to all healthcare institutions and personnel, including labor attendants (Nandini et al., 2018).

The results of this study confirm that education dramatically influences the provision of EBF by adolescent mothers. The higher the level of education, the greater the possibility of EBF and vice versa. So, one of the efforts to increase the percentage of exclusive breastfeeding for adolescent mothers in Indonesia is to increase health promotion, especially for mothers without formal education. In any case, these results support the results of previous studies,

which stated that the level of education of mothers can increase the provision of EBF by adolescent mothers to their babies.

This study uses data from the 2021 National Nutritional Status Survey, a community-based survey on a national scale. The results can provide a representative picture and generalize the Indonesian population. The limitation of this study is that the data source is a cross-sectional design study, so a causal relationship cannot be established.

Conclusion

Based on the results, the study concluded that maternal education is associated with EBF among babies with adolescent mothers in Indonesia. All education levels were likelier to perform EBF than those without formal education. Moreover, the study also indicated that maternal education was a powerful predictor in the study. Further research is needed to understand the breastfeeding experience of adolescent mothers. Special support and attention regarding exclusive breastfeeding should be directed to adolescent mothers who are not formally educated.

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