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Determination of Factors for Giving Formula Milk to Babies Aged 0–6 Months in the Work Environment Primary Health Care Pujon

Dewy Supriyani[1*], Widia Shofa Ilmiah[2]
[1] Pelayanan Kesehatan Primer Pujon, Indonesia
[2] Institut Teknologi, Sains dan Kesehatan RS. Dr. Soepraoen Kesdam V/Brawijaya, Indonesia

*Penulis Korespondensi: dewysupriyani@gmail.com**

Abstract *.Giving breast milk (ASI) exclusively during the first six months of a baby's life is very important in supporting the baby's growth and development and body resilience. However, the practice of giving formula milk is still quite high and is a challenge in fulfilling exclusive breastfeeding. This study aims to determine the determining factors for giving formula milk to babies aged 0-6 months in the work environment UPT Primary Health Care Pujon. This research design uses a descriptive analytical approach with a cross-sectional method to identify factors associated with exclusive breastfeeding. The research population was all mothers who had babies with a sample of 52 respondents obtained through total sampling. Data analysis was carried out using the Chi-Square test and logistic regression to determine the most dominant factors. The research results showed that all variables had a p value > 0.05, namely age (p=0.274), education (p=0.156), occupation (p=0.384), parity (p=0.280) and socio-culture (p=0.711), so there was no significant relationship between these variables and exclusive breastfeeding. The logistic regression model was also not significant (p=0.308), indicating that there were no dominant factors influencing the practice of exclusive breastfeeding among respondents. Thus, the low coverage of exclusive breastfeeding in this study may be influenced by other factors outside the variables studied.*

Keywords: *Babies; Factors; Formula Feeding; Maternal behavior; Primary health care*

1. INTRODUCTION

Exclusive provision of breast milk (ASI) for the first six months has been advocated by the *World Health Organization* (WHO) and *United Nations Children's Fund* (UNICEF) as the main step to reduce infant morbidity and mortality (Azizah et al., 2023). Breast milk contains complete nutrients and important antibodies which play a role in forming the baby's immune system (Elfia, 2021). Even though the benefits of exclusive breastfeeding have been recognized globally, the practice is still not optimal in many countries, including Indonesia. Based on WHO data, only around 40% of babies receive exclusive breastfeeding while the global target in 2025 is set at 50%. This condition shows the need for serious efforts to improve the overall health and welfare of babies (Hudha & Tambun, 2025).

On the other hand, some parents think that babies' nutritional needs cannot be met solely through breast milk. Supplying formula milkas a replacement or addition to breast milk has become a common practice in various circles (Siregar & Manullang, 2024). Some of the reasons that are often given include the perceived lack of breast milk production, busy mothers, lack of knowledge about the importance of exclusive breastfeeding, practicality and promotion of formula milk which is considered attractive. Many parents even consider that formula milk has nutritional quality that is almost equivalent to breast milk and is able to meet the nutritional needs of babies (Yulendasari & Firdaus, 2019).

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However, giving formula milk is not recommended for babies aged 0–6 months. The content of formula milk for beginners is different from advanced formula milk, so giving it that is not age appropriate carries the risk of causing health problems (Wawointana et al., 2020). Giving additional fluids or food too early can increase the risk of malnutrition and infection, as well as disrupt the breastfeeding process so that the mother tends to stop early. Basically, the baby's growth pattern follows a natural rhythm and weight loss of up to 10% in the first few days of birth is normal. The baby's weight usually increases again after 10 days of age. Lack of understanding of this growth pattern is often the reason parents give formula milk or additional food early in the hope that the baby will gain weight quickly (Arisonaidah & Hidayah, 2019).

The causes of the decline in exclusive breastfeeding rates and the increase in the use of formula milk are influenced, among other things, by mothers' lack of knowledge regarding the benefits of breast milk and correct breastfeeding techniques, low implementation of Early Breastfeeding Initiation (IMD), and scarce nursing guidance facilities and backing from clinical personnel (Sinaga, 2021). Based on Lawrence Green's theory, behavioral intentions are affected by three basic categories, namely predisposing influences (age, education, IMD, knowledge, attitudes and actions), enabling factors (access to information, availability of formula milk, and promotion and advertising of formula milk), and reinforcing factors (assistance from medical staff and relative backing). A husband's backing also fulfills a key necessity for the victory of breastfeeding, especially through emotional support and increasing the mother's confidence in breastfeeding (Rahmah et al., 2020).

Apart from that, the source of information also influences mothers' decisions in choosing food for their babies. Access to inaccurate information, especially from social media or the surrounding environment, can form the mistaken perception that formula milk has nutritional qualities equivalent to breast milk. Commercial advertising that emphasizes formula milk as a highly nutritious product is often more dominant than education from health workers, making it a challenge in efforts to promote and protect exclusive breastfeeding (Fitriani et al., 2023).

Based on this background, the author intends to conduct research on the determinant factors for giving formula milk to babies aged 0–6 months in the work environment UPT Primary Health Care Pujon.

2. RESEARCH METHODS

This research utilized adescriptive analytical model with a cross-sectional approach, where information acquisition on independent and dependent variables was performed simultaneously to assess the relationship between maternal age, education, employment, parity and social culture with exclusive breastfeeding. The study's universe comprised every mother possessing babies between 0-6 months in the UPT Primary Health Care Pujon area with 52 respondents as samples using total sampling techniques because the total population fulfilled the inclusion criteria. The research instrument was a structured questionnaire that assessed respondents' characteristics and exclusive breastfeeding status. Data analysis used the Chi-Square test to test the relationship between each variable and exclusive breastfeeding, followed by logistic regression to determine the most influential variable with a significance level of 0.05.

3. RESULTS AND DISCUSSION

Univariate Analysis

Table 1. Frequency Distribution Based on Maternal Age

Category	Frequency	Percentage (%)	Valid Percentage (%)	Accumulative Percentage (%)
<20 Years	7	13.5	13.5	13.5
20-35 Years	43	82.7	82.7	96.5
>35 Years	2	3.8	3.8	100.0
Total	52	100.0	100.0	

Based on Table 1 regarding the frequency distribution of maternal age, the majority of respondents were in the 20–35 year age group, namely 43 people (82.7%). There were 7 mothers aged under 20 years (13.5%) while those aged over 35 years were only 2 people (3.8%). Overall, the majority of the 52 respondents fell into the productive age range for pregnancy. The cumulative percentage shows that up to the 20–35 year category reached 96.5% and all respondents were 100% covered.

Table 2. Frequency Distribution Based on Mother's Education

Category	Frequency	Percentage (%)	Valid Percentage (%)	Accumulative Percentage (%)
Elementary School	7	13.5	13.5	13.5
Junior High School	20	38.5	38.5	51.9
Ssenior High School	20	38.5	38.5	90.4
PT	5	9.6	9.6	100.0
Total	52	100.0	100.0	

Based on Table 2, the majority of respondents had education equivalent to middle school and high school, 20 people each (38.5%). There were 7 mothers with elementary school education (13.5%) while only 5 people had tertiary education (9.6%). The cumulative percentage shows that more than half of the respondents (51.9%) have education up to junior high school and up to high school category is covered by 90.4% of respondents. This shows that the majority of mothers have secondary education which may influence mothers' understanding of formula feeding.

Table 3. Frequency Distribution Based on Mother's Occupation

Category	Frequency	Percentage (%)	Valid Percentage (%)	Accumulative Percentage (%)
IRT	49	94.2	94.2	94.2
Farmer/Entrepreneur	3	5.8	5.8	100.0
Total	52	100.0	100.0	

Referring to Table 3, the main body of subjects serve as stay-at-home mothers (49 people or 94.2%) while 3 people (5.8%) work as farmers or entrepreneurs. This shows that the majority of mothers in this study do not have formal work outside the home so their daily activities and access to health information tend to depend on the home environment and surrounding health services.

Table 4. Frequency Distribution Based on Number of Children

Category	Frequency	Percentage (%)	Valid Percentage (%)	Accumulative Percentage (%)
Primigravida	18	34.6	34.6	34.6
Multigravida	34	65.4	65.4	100.0
Total	52	100.0	100.0	

As shown in Table 4, the majority of respondents were multigravida, namely 34 people (65.4%) while primigravida were 18 people (34.6%). This reveals that the greater part of mothers in this study already had previous experience of caring for children, which likely influenced their knowledge, attitudes and readiness in caring for children at this time.

Table 5. Frequency Distribution Based on Exclusive Breastfeeding Status

Category	Frequency	Percentage (%)	Valid Percentage (%)	Accumulative Percentage (%)
Yes	10	19.2	19.2	19.2
No	42	80.8	80.8	100.0
Total	52	100.0	100.0	

Based on Table 5, the majority of mothers did not provide exclusive breastfeeding, namely 42 people (80.8%) while only 10 people (19.2%) gave exclusive breastfeeding. This shows that the level of exclusive breastfeeding is still low among respondents, so attention needs to be paid to improving breastfeeding practices according to health recommendations to support optimal growth and development of babies.

Table 6. Frequency Distribution Based on Social Culture

Category	Frequency	Percentage (%)	Valid Percentage (%)	Accumulative Percentage (%)
Less Supportive	21	40.9	40.9	40.9
Quite Supportive	22	42.3	42.3	82.7
Very Supportive	9	17.3	17.3	100.0
Total	52	100.0	100.0	

Based on Table 6, the majority of respondents fell into the "quite supportive" category with 22 people (42.3%), followed by "less supportive" 21 people (40.9%) and only 9 people (17.3%) were in the "very supportive" category. This shows that socio-cultural support for the practice of giving formula milk is still varied and mostly at the middle level so that additional intervention or education may be needed to increase social support for mothers.

Bivariate Analysis

Table 7. Factors in Giving Formula Milk to Babies Aged 0-6 Months

Category	Exclusive breastfeeding	N	Chi-Square	P Value
Mother's Age		52	2.591	0.274
Mother's Education		52	5.232	0.156
Mother's Job		52	0.758	0.384
Parity		52	1.169	0.280
Socio-cultural		52	0.681	0.711

Based on the results of the bivariate analysis in Table 7, it is known that there are no factors that are significantly related to giving formula milk to babies aged 0–6 months. This is shown by all variables that have a p value > 0.05, namely maternal age (p = 0.274), education (p = 0.156), occupation (p = 0.384), parity (p = 0.280) and socio-cultural factors (p = 0.711). Thus, maternal characteristics and social factors in this study were not proven to influence the practice of exclusive breastfeeding or the mother's decision to give formula milk. These findings indicate that there may be other factors that are more dominant, such as level of knowledge, family support, breastfeeding experience, the role of health workers or exposure to formula milk promotions, which were not measured in this study but could influence mothers' decisions in choosing to feed their babies.

Determination of Formula Feeding Factors in Babies Aged 0-6 Months

From the specific findings of the inquiry above, it is evident that there are no established factors linked to feeding formula milk to newborns aged 0–6 months. The variables of maternal age, education, employment, parity, and socio-cultural factors did not show an

influence concerning the routine of solo breastfeeding or the mother's decision to give formula milk.

This discovery is in agreement with data by Nahak (2021) which notes that no correlation exists maternal age and the offering of supplemental dairy to infants under six months at the Oeolo Community Health Center. The ideal age for breastfeeding is 20–35 years, where those under 20 years tend not to be physically and psychosocially ready, while those over 35 years often experience decreased physical function and reproductive problems which can affect exclusive breastfeeding (Skd et al., 2024). Although theory states that a woman's seniority is associat to her readiness to breastfeed, this research shows that age is not a deciding element for the decision to give formula milk.

Data gathered from this analysis also demonstrated that education was not related to giving formula milk. In theory, the lower the education, the lower the health knowledge, including about breastfeeding. However, this research found that even though some mothers had good knowledge, they still gave formula milk (Yuviska, 2018). According to researchers, the decision to breastfeed is more influenced by attitudes, beliefs, personal experience, and support from health workers, rather than by the level of formal education alone. Thus, education is not always a significant factor.

Job variables were also not related to formula feeding. Although in general employment and socio-economic conditions can influence the fulfillment of children's nutritional needs, mothers' perceptions of formula milk and receipt of health information play a greater role than employment status itself. Some mothers who do not work or have low incomes still give formula milk because of the perception that formula milk is more practical or more "nutritious" (Solikhati et al., 2018).

Parity was also not shown to be related. In theory, previous breastfeeding experience can influence breastfeeding practices, but this influence can be reduced if mothers in the current pregnancy receive adequate education and support. Primiparous and multiparous mothers can both be successful in providing exclusive breastfeeding if they receive the right information and assistance. Therefore, parity is not always a determining factor (Hudha & Tambun, 2025).

Sociocultural factors also did not show a significant relationship. Although family norms and community beliefs can influence breastfeeding behavior, intervention by health workers, education, and exposure to information through the media can neutralize this influence. In some communities, the practice of breastfeeding has even become a general norm, so that socio-cultural variations are not strong enough to influence the decision to give formula milk (Sinaga, 2021). Overall, the results of this study indicate that maternal characteristics are

not the main factor influencing formula feeding. It is possible that there are other factors such as knowledge, family support, breastfeeding experience, counseling from health workers, and exposure to formula milk promotions that have a greater influence on maternal behavior, but have not been examined in this study.

4. CONCLUSION

Based on research results that show low coverage of exclusive breastfeeding and no significant influence of maternal characteristics, the main solution that needs to be implemented is to strengthen interventions that focus on increasing knowledge, family support and optimizing health services. These efforts can be realized through education and lactation counseling from the time of pregnancy, implementation of classes for pregnant women and intensive assistance by health workers in the first 24 hours after delivery. Home visit programs are also important for mothers who experience obstacles in the breastfeeding process. Apart from that, the involvement of husbands and families in education needs to be strengthened because emotional and tangible assistance substantially impacts the efficacy of sole breastfeeding. Community health centers can improve breastfeeding-friendly facilities and policies, such as providing lactation rooms, pro-ASI services and training for breastfeeding counselors for health workers. It is recommended that future research add the variables of maternal knowledge, exposure to formula milk promotions, breastfeeding experience and support from health workers so that the causes of low levels of exclusive breastfeeding can be understood more specifically and interventions can be designed to be more targeted.

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