

Article

Factors Affecting Cadres' Knowledge and Ability to Identify Breastfeeding Problems in Malang District

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A B S T R A C T

Background: Breast milk is the ideal nutrient to support the growth and development of the baby. The government strives to increase exclusive breastfeeding, one of which is through the empowerment of cadres, so intensive efforts are needed to optimize the role of cadres in supporting exclusive breastfeeding.

Objectives: This study aims to analyze factors related to the knowledge and ability of cadres in identifying breastfeeding problems.

Methods: The research design used observational analytic with a cross-sectional approach. A total of 46 posyandu cadres in the Malang Regency area were involved in this research. Bivariate analysis using Spearman's correlation with SPSS software version 26 and multivariate using path analysis with Smartpls software version 3.

Results: The cadres' knowledge related to breast milk and breastfeeding is mostly sufficient (65.22%). The ability of cadres to identify the breastfeeding problems the most in the category is sufficient (63.04%). The pathway analysis showed that the factors that influenced knowledge were education ($r=0.488$) and breastfeeding experience ($r=0.336$), but age had a negative effect ($r=-0.267$). Factors that influenced the ability to identify breastfeeding problems were breastfeeding experience ($r=0.542$) and breastfeeding training history ($r=0.469$).

Conclusions: Education and age are important factors in the recruitment of cadres, in addition, information and practices related to breast milk and breastfeeding obtained through experience and training are also needed to support exclusive breastfeeding.

I. INTRODUCTION

Breast milk is the ideal nutrition to support the growth and development of babies in the early stages of life. The WHO recommends a normative standard for newborn food and nutrition that includes exclusive breastfeeding for six months, followed by breast milk and supplementary foods for up to one or two years (El-Houfey, 2017). Exclusive breastfeeding can provide nutrients, including vitamins and minerals that babies need, and antibodies which help prevent disease and protect babies from diarrhea and respiratory tract infections (Couto et al., 2020). Due to the importance of exclusive breastfeeding, WHO targets an increase in the achievement of exclusive breastfeeding from 37% in 2012 to 50% in 2025 (Shekar et al., 2017). Breast milk not only provides benefits in infants, but breastfeeding is also reported to be associated with a reduced risk of disease in adulthood. Breast milk contains several bioactive proteins that contribute to the development of the immune system and protect against allergies, autoimmune diseases, and metabolic disorders (Van Sadelhoff et al., 2018). Breast milk is the primary source of nutrition in babies who are exclusively breastfed, which significantly determines the baby's growth and development.

Exclusive breastfeeding is defined as giving only breast milk to babies, not giving fluids, including water and food, except vitamins and medicines (Dhakal et al., 2017). Based on data obtained from the 2018 Basic Health Research of Indonesia, the proportion of babies who have received breast milk is 93%, the proportion of babies who have received exclusive breast milk is 74.5%, and the proportion of babies who have received breast milk for up to 2 years is 33.4%. For the East Java region, the proportion of babies who have been breastfed is 93.7%, the proportion of babies who have been given exclusive breast milk is 56.7%, and the proportion of babies who are still breastfed up to 2 years is 76.9% (Ministry of Health of the Republic of Indonesia, 2018). Coverage of babies receiving exclusive breastfeeding increased to 78.3% in 2019 (Dinas Kesehatan Jatim, 2019). Even though data from the health service shows that the figures for achieving exclusive breastfeeding are good, many areas still have very low coverage, including Jember district (55.3%) and Malang district (61.23%).

The government has launched various programs to increase coverage of exclusive breastfeeding, including establishing regulations in the form of Government Regulation number 33 of 2012 concerning Exclusive Breastfeeding. Apart from that, there is also outreach to increase exclusive breastfeeding through counselling and courses during pregnancy and postpartum (Ristanti & Masita, 2021). However, these efforts have little impact on mothers' interest in breastfeeding their babies exclusively. According to research by Malonda and Sanggelorang in 2020, breastfeeding mothers need other people who can help them in the breastfeeding process apart from their families (Malonda & Sanggelorang, 2020). Community participation is needed to provide support. According to Rijanto et al., in 2023, one effort to increase public awareness of exclusive breastfeeding is to form a breastfeeding support group that cadres can promote as companions for exclusive breastfeeding (Rijanto et al., 2023).

Cadres are Puskesmas partners who play a role in supporting health programs, including achieving exclusive breastfeeding coverage. The cadre knowledge regarding breastfeeding may influence the ability of cadres to increase the achievement of exclusive breastfeeding. Cadres with good breastfeeding knowledge are better prepared to promote exclusive breastfeeding than those with little or no knowledge (Malonda & Sanggelorang, 2020). The existence of breastfeeding support cadres is expected to be able to help the community provide the best food for their babies, giving exclusive breastfeeding until the baby is 6 months old and continued with breastfeeding accompanied by additional food until the age of 2 years (Kurniyati et al., 2022). Based on this background, further analysis is needed regarding what factors influence cadres' knowledge and abilities in identifying breastfeeding problems so that they can be considered in the recruitment and development of health cadres to optimize their

role in supporting breastfeeding. Therefore this study aimed to identify the factors that can affect cadres' knowledge and ability to identify breastfeeding problems.

II. METHODS

This research uses an analytical observational research design with a cross-sectional approach. Several variables attached to research respondents in the form of age, parity, education, employment, length of time as a cadre, breastfeeding experience, breastfeeding cultural practices, and history of breastfeeding training were linked to knowledge as a moderator variable, then linked to the cadre's ability to identify breastfeeding problems. Respondents in this study consisted of 46 Posyandu cadres who were taken using purposive sampling and were representatives of each sub-district in the Malang Regency area. Data was collected using interviews to explore information related to the characteristics of Posyandu cadres. A questionnaire tested for validity and reliability is used to assess cadres' knowledge regarding breast milk and breastfeeding and their ability to identify breastfeeding problems. The data obtained was tested for normality first, with only 1 out of 10 variables having a normal distribution, namely cadre age (p -value=0.210). Bivariate data analysis used the Spearman correlation test using SPSS software version 26 (IBM Corp., Armonk, NY, USA). To determine the influence of all independent variables on cadres' knowledge and ability to identify breastfeeding problems, a multivariate analysis was simultaneously carried out using path analysis with Smartpls version 3 software. A p -value <0.05 indicates a significant influence. This research has received ethical approval from the Health Ethics Commission, Faculty of Medicine, Brawijaya University, Malang, number: 98/EC/KEPK/04/2024.

III. RESULT

Cadre Characteristics

Of the 46 cadres involved in this research, 60.87% were in the 30-50-year range, with the lowest age being 24 years, the oldest being 60 years, and the average age being 38.6 years. 78.27% were multiparous, 71.73% did not work, and 47.82% had middle education (junior high school and high school graduates). Apart from that, 39.13% become cadres for 3-5 years, 45.65% have no previous history of breastfeeding, 69.56% have cultural practices that support exclusive breastfeeding, and 52.18% have experience following training related to breast milk and breastfeeding as shown in **Table 1**.

Table 1. Respondent Characteristics

Variables	Category	Frequency (f)	Percentage (%)
Age (year)	<30	11	23,91
	30-50	28	60,87
	>50	7	15,22
Parity	Nulipara	4	8,69
	Primipara	6	13,04
	Multipara	36	78,27
Education Level	Low	22	47,82
	Middle	15	32,60
	Height	9	19,58
Occupation	Not work	33	71,73
	Work	13	28,27
Long time as cadre (year)	< 3	15	32,61
	3-5	18	39,13
	>5	13	28,26

Breastfeeding experience	Never	21	45,65
	1 time	18	39,13

Variables	Category	Frequency (f)	Percentage (%)
	>1 times	7	15,22
Cultural breastfeeding practices	Positif	32	69,56
	Negatif	14	30,44
Breastfeeding training history	Never	3	6,52
	1 time	19	41,30
	>1 times	24	52,18

Source: Research data

Figure 1 shows that most cadres' knowledge and abilities in identifying breastfeeding problems are in the sufficient category, with the percentages being 65.21% and 63.04%, respectively. Compared with knowledge, cadres' ability to identify breastfeeding problems is low (28.26%), and only 8.69% of cadres can identify breastfeeding problems in the good category. Based on the results of correlation analysis with Spearman, a significant positive relationship exists between cadre knowledge and the ability to identify breastfeeding problems ($r=0.635$ p -value <0.001), which means a strong relationship exists.

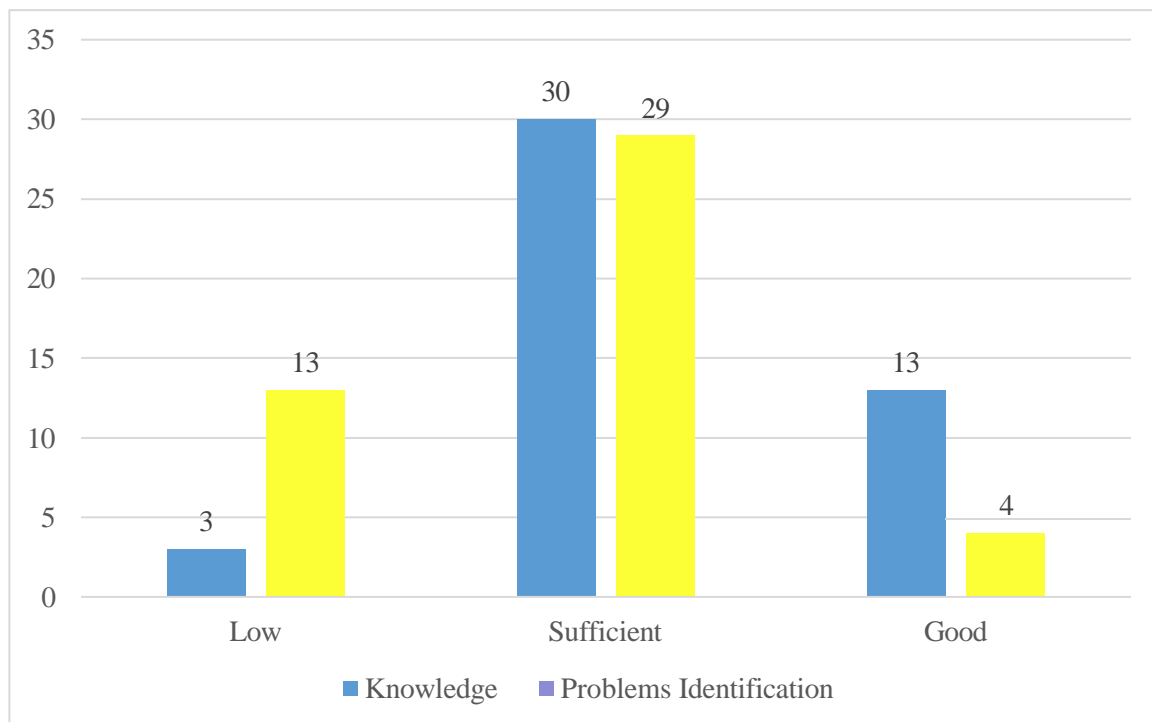


Figure 1: Frequency Distribution of Cadres' Knowledge and Ability in Identifying Breastfeeding Problems

Table 2 shows the bivariate analysis: education, breastfeeding experience, breastfeeding cultural practices, breastfeeding experience, and breastfeeding training history have a significant positive relationship with cadre knowledge regarding breast milk and breastfeeding, while cadre age has a negative relationship with cadre knowledge. Cadre age

also negatively affects cadres' ability to identify breastfeeding problems. However, education, breastfeeding experience, positive cultural practices, and breastfeeding training history have a positive relationship with cadres' ability to identify breastfeeding problems. Parity, occupation, and length of time as a cadre have no relationship with cadres' knowledge and ability to identify breastfeeding problems.

Table 2. Spearman Analysis Results of the Relationship between Cadre Characteristics and Knowledge and Ability to Identify Breastfeeding Problems

Variables	Knowledge		Ability to Identify Breastfeeding Problems	
	Correlation coefficient	(p-value)	Correlation coefficient	(p-value)
Age	-0,634	0,003*	-0,323	0,029*
Parity	0,058	0,700	-0,094	0,536
Education level	0,872	<0,001*	0,547	<0,001*
Occupation	0,190	0,205	0,264	0,076
Long time as cadre	-0,219	0,144	-0,213	0,155
Breastfeeding experience	0,693	<0,001*	0,450	<0,001*
Cultural breastfeeding practices	0,521	0,002*	0,455	0,001*
Breastfeeding training history	0,560	0,017*	0,228	0,012*

* Correlation significant α 5%

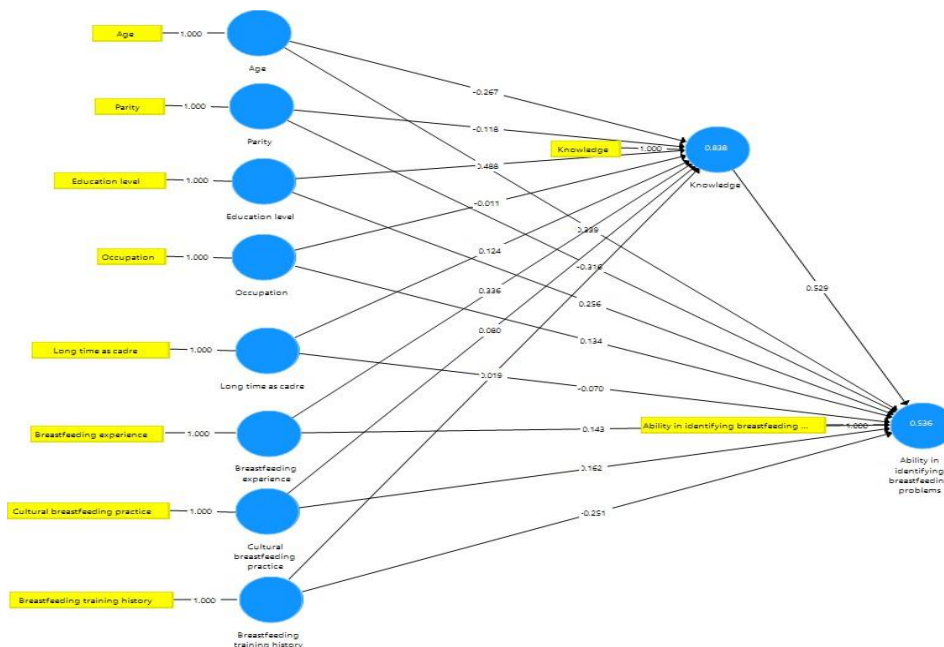


Figure 2: Path Analysis of Factors that Influence Knowledge and Ability to Identify Breastfeeding Problems

Based on the results of the path analysis shown in **Figure 2**, cadre characteristics in the form of age, parity, education, employment, length of time as a cadre, breastfeeding experience, breastfeeding cultural practices, and breastfeeding training history have an influence of 83.8% on cadres' knowledge regarding breastfeeding. Both directly and indirectly, cadre characteristics (age, parity, education, employment, length of time as a cadre, breastfeeding experience, breastfeeding cultural practices, and breastfeeding training history) influence the ability of cadres to identify breastfeeding problems was 53.6%, assuming that other variables outside this research influenced 46.4%. From the results of simultaneous path analysis, the variables that influence cadres' knowledge are education ($r=0.488$ p -value <0.001), breastfeeding experience ($r=0.336$ p -value $=0.010$), and breastfeeding training history ($r=0.283$ p -value $=0.028$). Meanwhile, the cadre's age negatively influences their knowledge ($r=-0.267$ p -value $=0.023$). Indirectly, breastfeeding experience ($r=0.320$ p -value $=0.014$) and breastfeeding training history ($r=0.241$ p -value $=0.039$) also influence the ability to identify breastfeeding problems through increasing cadres' knowledge.

IV. DISCUSSION

The results of the multivariate analysis show that education, breastfeeding experience, and age directly influence cadres' knowledge regarding breastfeeding, with the level of education having the most significant influence. Breastfeeding experience and breastfeeding training history have an indirect influence on cadres' ability to identify breastfeeding problems. Breastfeeding experience has a more significant influence, while age is the only variable with a negative influence.

In this research, the variable that has the most decisive influence on cadre knowledge is education. Cadres with a high education level have higher knowledge regarding breast milk and breastfeeding ($r=0.488$ p -value <0.001). These results align with research by Henny et al. in 2022, which stated that the education level significantly influences the knowledge of health cadres in Indonesia (Mediani et al., 2022). There was a better increase in knowledge in the cadre group with higher education compared to the group with secondary education after being given health education (Irdawati et al., 2022). A good level of education makes it easier for cadres to understand the information provided (Priyastivi & Ernawati, 2013). The level of education can influence a person's knowledge and attitudes toward specific jobs. There are differences in knowledge and attitudes between people with low and high education (Widiastuti & Ramayanti, 2022). The higher a person's education, the higher their level of awareness and the more mature they will be in making decisions. Apart from that, the higher a person's education, the more comprehensive their knowledge. Communities with lower levels of education have limited access to information and may need to be made aware of the global situation in the development of knowledge related to breastfeeding (Setyorini et al., 2017).

Experiences are events that have been experienced and felt by someone, events that have occurred a long time ago or have recently occurred. Experience is one of the factors that can shape a person's knowledge. Breastfeeding experience is an essential factor that can influence the continuation of subsequent breastfeeding and contributes to increasing a woman's knowledge and breastfeeding skills, including cadres. Someone who has no previous breastfeeding experience is less likely to support and maintain breastfeeding compared to those with no experience (Li et al., 2020). The results of this study show that breastfeeding experience influences knowledge ($r=0.336$ p -value $=0.010$) and cadres' ability to identify breastfeeding problems. Cadres who have previous breastfeeding experience tend to have higher knowledge and ability to identify breastfeeding problems compared to cadres who have no previous breastfeeding experience. Cadres who have breastfeeding experience have experienced difficulties during breastfeeding themselves, so they are more sensitive in identifying breastfeeding problems. It was shown in this study that the more breastfeeding experience a cadre has, the more their ability to identify breastfeeding problems

increases ($r=0.320$ $p\text{-value}=0.014$).

Apart from knowledge and experience of breastfeeding, the history of breastfeeding training also influences knowledge ($r=0.283$ $p\text{-value}=0.028$) and the ability of cadres to identify breastfeeding problems ($r=0.241$ $p\text{-value}=0.039$). Training is a program that is often carried out to provide health education to cadres. Breastfeeding training is carried out to increase community knowledge and skills about the importance of exclusive breastfeeding, so that it can support the success of exclusive breastfeeding (Nuari et al., 2020). Upgrading posyandu cadres through education and training has increased cadres' knowledge about exclusive breastfeeding (Muntafiah et al., 2023). The research results of Wahyuni et al. (2023) show significant differences in cadres' knowledge and attitudes between the control group and the group that was given training with integrated modules (Wahyuni et al., 2019).

The results of this study show that cadre age has a significantly negative relationship with cadre knowledge ($r=-0.267$ $p\text{-value}=0.023$) but is not related to the ability to identify breastfeeding problems ($r=-0.364$ $p\text{-value}=0.541$). A cadre has the full right to continue or stop being a cadre because becoming a cadre is voluntary, so with this condition, many cadres are elderly but still interested in becoming a cadre. This research shows that most cadres are aged 30-50 years. There are 15.22% who are > 50 years old. This research results align with Himmawan's research, which shows that cadre age is not positively correlated with knowledge (Himmawan, 2020). A person's age influences the development of their ability to perceive and understand and the ease of digesting new information. The older a person is, the lower their ability to absorb and receive information.

Several variables simultaneously do not influence the knowledge and ability of cadres to identify breastfeeding problems, including parity, employment, length of time as a cadre, and cultural practices. In this study, most cadres were multiparous, with more than one child, and some even had more than 4 children. However, the condition is that most of these multiparous cadres do not guarantee that they will have an exclusive breastfeeding experience for their babies. The analysis showed that parity was unrelated to breastfeeding experience ($r= 0.281$ $p\text{-value}=0.527$). This may be the reason why cadres who have high parity are not linearly able to increase their knowledge and ability to identify breastfeeding problems. Apart from parity, length of time as a cadre also does not influence knowledge and ability to identify breastfeeding problems ($r=0.124$ $p\text{-value}=0.191$). This is in line with Himmawan's research, which states that there is no relationship between the length of service as a cadre and the level of cadre knowledge (Himmawan, 2020). This research also shows that cultural breastfeeding practices do not affect cadres' knowledge and ability to identify breastfeeding problems ($r=0.162$ $p\text{-value}=0.258$). This is possible because most cadres have positive cultural practices and support breastfeeding. Only 30% of cadres still have cultural practices that do not support exclusive breastfeeding. These results are supported by Asmawati's statement, which states that the majority of cadres in the Babatan area still have a culture of giving food other than breast milk to babies aged before 6 months, which is a big problem in exclusive breastfeeding (Asmawati et al., 2023).

V. CONCLUSION

Based on the research results and discussions, several factors influencing cadres' knowledge regarding breastfeed and breastfeeding are education, breastfeeding experience, and history of breastfeeding training. Cadre education is the most influential factor in increasing cadre knowledge. Meanwhile, the age of the cadres has a negative influence, the older the cadres are, the lower their knowledge regarding breast milk and breastfeeding. For cadres' ability to identify breastfeeding problems, simultaneously only knowledge related to breast milk and breastfeeding directly influences the ability to identify breastfeeding problems. Breastfeeding experience and history of breastfeeding training indirectly influence cadres' ability to identify breastfeeding problems. Parity, employment, length of time as a cadre, and cultural breastfeeding practices do not influence the cadre's knowledge or ability to identify breastfeeding problems. Even though

cadre participation is voluntary, there needs to be a consideration regarding the age of cadres in recruitment, including older cadres. They also need to be considered to continue to be exposed to training and education so that their knowledge and abilities can increase, so that they can play an optimal role in supporting increased exclusive breastfeeding coverage.

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