

# The perceived insufficient milk supply and nipple trauma among breastfeeding mothers

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## The perceived insufficient milk supply and nipple trauma among breastfeeding mothers

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### Abstract

1 **Background:** Karangasem Public Health Center has the lowest coverage in Pemalang Regency, about 9.9 percent, or only 79 babies who get exclusive breast milk from a total of 798 babies. This is still far from the target of 60 percent. A total of 17 out of 20 mothers who have babies aged 6-12 months do not exclusively breastfeed.

**Purpose:** To analyze factors (characteristics, knowledge, perceptions) related to exclusive breastfeeding behavior.

**Method:** The cross-sectional research design was applied to 86 respondents selected by simple random sampling using instruments tested for validity and reliability. Chi-square and Fisher exact tests were used for bivariate analysis (CI 95 percent).

**Results:** Respondents between 20-40 years of age, a low education level (58.1 percent), non-working (81.4 percent), multipara (68.6 percent), sufficient knowledge (57 percent), and perception of lack of support towards exclusive breastfeeding (53.5 percent) and they do not provide exclusive breast milk (73.3 percent). There is a relationship between education (p:0.008), parity (p:0.027), knowledge (p:0.001), and perception (p:0.001) with the practice of exclusive breastfeeding. While age (p:0.533) and working status (p:0.541) are not related to exclusive breastfeeding practices.

**Conclusion:** Innovation of Maternal and Child Health programs in Health Centers related to increasing exclusive breast milk coverage needs to be done, especially on breastfeeding benefits and techniques.

**Keywords :** Knowledge; Perception; Nipple trauma; Exclusive breastfeeding

### INTRODUCTION

Breastfeeding has many positive benefits related to the baby's life (North, Gao & Allen, 2022). Indonesia's Infant Mortality Rate in 2017 was 24/1,000 live births. Despite experiencing a downward trend since a few years ago, before it could reach the IMR target of up to 16/1,000 live births. Infectious diseases became the most significant cause of infant death in 2019. The leading causes were pneumonia with 979 infant deaths and diarrhea with a total of 746 infant deaths (The Ministry of Health of The Republic of Indonesia, 2019; National Population and Family Planning Board, Central Bureau of Statistics, The Ministry of Health of The Republic of Indonesia, 2017).

Pneumonia and diarrhea can be prevented with exclusive breastfeeding. Breast milk is beneficial in children at two years early in life or after. Exclusive breastfeeding for six months at the beginning of life is recommended by the global standards of WHO, UNICEF, and the Government of Indonesia. After that continued with the provision of companion food until the age of two years while still given breast milk. Breast milk meets the nutritional needs of children safely while feeding at a too early age will cause nutritional problems such as nutritional deficits and infections (Ministry of National Development Planning

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of The Republic of Indonesia & United Nations Children's Fund, 2017).

Improving the nutritional status of the community becomes an indicator of the success of health development. In society, nutritional status is said to be good if behaviors in the fulfillment of good nutrition are carried out at every stage of life, including the beginning of the child's life or during infancy. The best food for babies early in life until six months is to give breast milk only. Exclusive breastfeeding is a right for every baby, and it is contained in Government Regulation No. 33 of 2012 on exclusive breastfeeding as a health development effort to produce superior quality human resources (The Ministry of Health of The Republic of Indonesia, 2012).

Sustainable development goal number 2 in the Sustainable Development Goals (SDGs) indicator is to find sustainable solutions to eliminate hunger and all forms of malnutrition by 2030 and achieve food security. In terms of exclusive breast milk becomes one of the indicators to eliminate hunger and all forms of malnutrition by 2030 with the achievement of 2 out of 5 babies getting exclusive breast milk (Ministry of National Development Planning of The Republic of Indonesia, & United Nations Children's Fund, 2017). Based on the Basic Health Research 2013, the percentage of exclusive breastfeeding is 38%, decreased in 2018 to about 37.3%. Nationally, in 2019 the achievement of exclusively breastfed babies with a percentage of 67.74%. The figure is said to have exceeded the target of the strate plan in 2019 by 50% (The Ministry of Health of The Republic of Indonesia, 2019).

The achievement of exclusive breast milk in 2017 in Central Java by 54.4%, then in 2018 increased by 65.6% and increased in 2019 by 66.0%. Although Central Java is experiencing an upward trend every year, some districts still have not met the achievement target. In 2019, areas that have not met the achievement target included Kudus Regency 49.7%, Wonogiri Regency 48.2%, Tegal Regency 45.4%, and lastly, 36.4% Pemalang Regency (Central Java Provincial Health Office, 2019).

The practice of exclusive breastfeeding is a health behavior carried out by a mother postpartum, where factors can affect the behavior. According to Lawrence

Green, three factors affect a person's behavior: predisposing factors, enabling factors, and reinforcing factors. Predisposing factors include knowledge, beliefs, perceptions, attitudes, cultural values, individual characteristics such as age, education, employment, parity, income. Enabling factors include the physical environment and available health facilities for the community. As well as reinforcing factors including the behavior and attitudes of families, health workers, community leaders, and religious leaders (Aryanti et al., 2014).

Much research has been done on exclusive breastfeeding practices, most of which state there is a meaningful relationship between maternal knowledge and exclusive breastfeeding practices. Highly knowledgeable breastfeeding mothers are more likely to practice exclusive breastfeeding in their babies 12 times greater than low-knowledgeable mothers. Other studies have suggested that perceptions are closely related to breastfeeding mothers' behavior. Mothers will tend to exclusively breastfeed their babies when their perception of breastfeeding is good (Fauziah, 2020; Hidayati, Wardita & Suprayitno, 2021).

In the Health Profile of Pemalang Regency, the exclusive breastfeeding data in 2017 was 37.61%. Then there was a decrease in 2018, which was 23.32%. Furthermore, in 2019 there was an increase of 36.4%. Despite the increase in 2019, the achievement still places Pemalang Regency in the lowest order in Central Java in exclusive breast milk achievements. In 2019 out of all infants aged 0-6 months, as many as 19,230 babies, only 6,995 babies obtained exclusive breast milk (Pemalang District Health Office, 2019).

Karangasem Health Center became a working area with the lowest coverage in Pemalang Regency, 9.90% or only 79 babies who obtained exclusive breast milk from 798 babies. When viewed from the target of the plan set by the Ministry of Health in 2024 is still far away, which is 60% (Pemalang District Health Office, 2019; The Ministry of Health of The Republic of Indonesia, 2020). In the initial study, conducted in the Karangasem Health Center area, as many as 17 out of 20 mothers who have babies aged 6-12 months do not exclusively breastfeed. Mothers have given drinks or other foods such as formula,

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honey water, and bananas crushed when the baby is 0-6 months old. The addition of drinks other than breast milk is caused because breast milk has not come out when the newborn, and the mother feels that breastfeeding alone is still insufficient for the baby's needs, where the baby is still anxious even though it has been given breast milk. The shared knowledge and perception consider the need for research to analyze whether there is anything to do with exclusive breastfeeding practices in mothers who have babies aged 6- 12 months in Karangasem Health Center of Pemalang Regency.

### RESEARCH METHOD

This cross-sectional research design conducted in July - August 2021 in the working area of Karangasem Health Center Pemalang regency. Pemalang Regency is in the middle of the most populous island in Indonesia. The free variables in the study are characteristics (including age, education, working status, and parity), the mother's knowledge (under-sufficient), and perception of exclusive breast milk (supportive-not). At the same time, the variables tied in this study are exclusive breastfeeding practices (exclusively breastfeeding-not). The population of this study is all mothers who have babies aged 6-12 months in the working area of Karangasem Health

Center as many as 576 people. The simple random sampling technique was used to retrieve 86 respondents. The questionnaire instrument used contains valid and reliable questions containing 19 knowledge questions, eight perception questions, and five practice questions. Data analysis using chi-square test and Fisher exact test with CI 95%. This research was conducted under the supervision and approval of the health research ethics committee of the udinus health faculty registered with number 086/EA/KEPK-Fkes-UDINUS/VI/2021.

### RESEARCH RESULTS

Respondents were between the ages of 20-40 and were mostly of healthy reproductive age/low risk (82.6%). Respondent's education levels were still essentially low (58.1%). Most of the respondents were out of work (81.4%) and had given birth to a child more than once (68.6%). Although respondents' knowledge scores are still more sufficient (57%), the percentage is not too far adrift, with the percentage of respondents' knowledge being less (43%). As for respondents' perceptions, most had less supportive perceptions of exclusive breastfeeding (53.5%). This percentage is also not too far adrift with the percentage of respondents who perceive support for exclusive breastfeeding (46.5%).

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Table 1. Demographic Characteristic of Respondents (N=86)

Variables	f (%)
<b>Age Group</b>	
12 - 17 years (teenage) and 35 - 50 years (high risk)	15(17.4)
18 - 34 years (low risk).	71(82.6)
<b>Education Level</b>	
Low education	50(58.1)
Higher education	36(41.9)
<b>Occupation</b>	
Employee	70(81.4)
Unemployment	16(18.6)
<b>Parity</b>	
Primipara	27(31.4)
Multipara	59(68.6)
<b>Knowledge (Mean±SD) (Range)</b>	(13.71±3.35) (6-19)
Poor	37(43)
Fair	49(57)
<b>Perception (Mean±SD) (Range)</b>	(24±4.05) (18-32)
Supportive	46(53.5)
Unsupportive	40(46.5)
<b>Behavior (Breastfeeding Practice)</b>	
Rarely	63(73.3)
Always	23(26.7)

Based on knowledge question distribution items, it was found that about 54.7% of respondents were unaware of the benefits of exclusive breastfeeding to prevent pregnancy naturally. In addition, 53.5% of respondents also did not know the benefits of exclusive breastfeeding to prevent bleeding after childbirth. A total of 52.3% of respondents also did not know when mothers could replace breast milk with other drinks/foods if the mother's breast milk did not come out. There are still many respondents who do not know the technique of breastfeeding. According to 52.3% of respondents, proper breastfeeding is to empty one breast first and then switch to another. Forty-three percent of respondents also considered that removing a little breast milk and applying it on nipples and areolas could prevent nipple blisters. Some of these descriptions suggest the mother's knowledge of the benefits of breast milk for mothers as breastfeeding and breastfeeding techniques have not been good.

Meanwhile, according to the distribution item of perception questions, it was found that there were still 46.6% of respondents who did not support exclusive breastfeeding because the amount was not enough until the age of 6 months of baby. In addition, 34.9% of respondents feel breast milk alone is not enough to need additional food or companion drinks other than breast milk so that the baby feels comfortable. Respondents' perceptions of some of these items need attention and follow-up programs.

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Cross-tabulation analysis between variables showed that exclusive breastfeeding was more widely done by respondents of high-risk reproductive age (>35 years) of 33.3%, highly educated (41.7%), non-working (28.6%), multipara parity (33.9%), knowledgeable (40.8%), and well-perceived (47.8%). Most respondents did not provide exclusive breast milk (73.3%). The results of bivariate analysis using chi-square test obtained the result that there is an educational relationship (p-value 0.008 < 0.05), parity (p-value 0.027 < 0.05), knowledge (p-value 0.001 < 0.05), and perception (p-value 0.001 (<0.05) with exclusive breastfeeding practices. While Fisher's exact test is used as an alternative test obtained results, there is no relationship between age (p-value 0.533 > 0.05), working status (p-value 0.541 > 0.05) with exclusive breastfeeding practices.

**Tabel 2. Summaries of Bivariate Data Analyzed (CI: 95%)**

Dependent Variables	Independent Variables	p-values	Conclusion
Age (Fisher Exact Test)		0.533	Not Correlated
Education level (Chi Square)		<b>0.008</b>	Correlated
Occupation (Fisher Exact Test)	Behavior	0.541	Not Correlated
Parity (Chi Square)	(Breastfeeding Practice)	<b>0.027</b>	Correlated
Knowledge (Chi Square)		<b>0.001</b>	Correlated
Perception (Chi Square)		<b>0.001</b>	Correlated

**DISCUSSION**

Exclusive breastfeeding benefits the mother as a natural contraceptive commonly called the Amenorea Lactation Method (MAL). In the breastfeeding process, there is an increase in the hormone prolactin, which affects the increase in breast milk production, and helps inhibit ovulation/return of reproductive ability so that the mother does not menstruate for some time. The return of the menstrual cycle after delivery is one sign of the return of reproductive ability. With exclusive breastfeeding, natural contraception is immediately effective, does not interfere with reproductive activity, does not have side effects systematically, does not require drugs or tools, and does not require costs (Delita et al., 2019). The benefits of exclusive breastfeeding are not widely known by breastfeeding mothers. This can be influenced by a lack of information about the benefits of breast milk for mothers as a method of natural contraception. To deal with these problems, health workers are expected to provide education to increase maternal knowledge about the benefits of breast milk for mothers.

In research conducted by Sriandri, maternal knowledge about breastfeeding techniques directly contributes to the success and failure of exclusive breastfeeding. The breastfeeding technique is a way of

breastfeeding done by the mother to her baby to meet the baby's nutritional needs. Lack of knowledge about good breastfeeding techniques causes problems that cause the inability of mothers to exclusively breastfeed their babies, including on the first day of birth breast milk does not come out, nipple blisters, little or less milk production, and work that requires the mother to leave the baby at home (Tamrin & Theresia, 2019). Proper breastfeeding techniques are one of the scopes of lactation management. Lactation management is all efforts made to help mothers succeed in exclusively breastfeeding their babies from pregnancy to postpartum. So the importance of efforts to increase knowledge of breastfeeding techniques carried out since the time of pregnancy (Ramawati & Latifah, 2013). The mother's difficulty in breastfeeding is significantly associated with the mother's position in the extended family, antenatal medical education history, the experience of pain during breastfeeding, discomfort during breastfeeding, not having breastfeeding experience in District of Colombo (Bernardo & Prathapan, 2017). A systematic review of seven articles found in CINAHL, Web of Science, and Scopus database shows that Effective interventions found to address nipple trauma due to breastfeeding

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include the use of chamomile ointment, the use of pure lanolin, low-grade laser photobiomodulation, honey, millefeuille, and breast milk (Lima et al., 2022).

The situation where the baby always feels anxiety, crying after breastfeeding, and wants to continue breastfeeding is the main reason the mother feels her breast milk does not adequately meet the baby's needs and further provides breast milk companion food early. However, it can happen for other reasons that are not always the result of less breast milk or less baby intake (Prabasiwi, 2014).

The perception of breast milk production insufficiency can be influenced by knowledge, breastfeeding techniques, family support, and health care support. The role of health workers is of particular concern about the health information conveyed, which is almost always trusted and considered accurate by the mother. With the support of health workers to the condition of the mother, causing the mother will be more confident in breastfeeding (Mawaddah & Barlianto, 2018). Then the efforts of health workers of Karangasem Health Center to improve understanding related to the adequacy of breast milk are needed to change the perception of insufficiency of breast milk production in nursing mothers.

A person of a healthy reproductive age is more likely to breastfeed exclusively. However, mothers at risk can still provide breast milk exclusively because there is nutritional adequacy support, preparation in the face of breastfeeding, and support from the family and the environment (Panduwinata, 2016; Pranajaya & Rudiyantri, 2013).

With good nutritional adequacy in nursing mothers, making breast milk intakes can still meet the baby's needs. Breastfeeding mothers need to meet nutritional needs by eating foods with balanced nutritional content. Some studies prove that mothers with good nutritional status will breastfeed their babies for at least six months. During breastfeeding, the mother's body must work hard in producing breast milk, so it is needed to fulfill balanced nutrition by maintaining a good diet. If the mother's diet is not balanced during breastfeeding, it can cause the mother's body to be vulnerable. This will result in a decrease in breast milk production (Pranajaya & Rudiyantri, 2013; Rohman et al., 2018).

Previous research, there is a relationship of education with exclusive breastfeeding practices with a value of 0.003. The maternal education level is much higher, making it easier for mothers to absorb complete breast milk-related information and easier to accept and more accessible to do so (Sihombing, 2018). A person's ability is related to obtaining, processing, and understanding the health information needed in determining the right health decisions, known as health literacy. It is mentioned in the theory of health literacy that someone who has better health literacy thus will have the skills and ability to improve health (Sørensen et al., 2012). The level of education can affect a person's health literacy directly or indirectly. Directly, the level of education affects the ability to read, listen, and understand health information. Indirectly, it is related to work that further impacts the economic level and the financial ability to deal with health problems (Sahroni et al., 2019).

The majority of unworked mothers breastfeed exclusively because of the amount of time that mothers do not work to be near their children. This makes the mother more flexible to give exclusive breast milk to her child because of the free time and the place to do it (Ramli, 2020).

Providing exclusive breast milk for working mothers will have more difficulties because the time to care for the baby is more limited where the mother has to divide the time with her work, although there are many ways for working mothers to be still able to breastfeed their babies, including by pumping or milking their babies exclusively. In addition to the lack of time the mother has, family members also influence the practice of exclusive breastfeeding. This is because the family is the closest environment to the mother. Families should also know information about exclusive breast milk and how to give exclusive breast milk to working mothers. That way, the family can support the mother and make the mother not feel alone in caring for the baby. So that family support is very influential on the decision-making to provide exclusive breast milk to working mothers (Timpoporok, 2018; Ummah, 2021).

In line with previous research, there is a relationship of parity with exclusive breastfeeding in infants aged 7 - 12 months in Cilandak Health Center. Exclusive breastfeeding to infants is more proportional

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to multipara and grand multipara parity, which is 67.77%, compared to primipara parity which is 43.68% (Erвина, 2018).

Parity status relates to the mother's experience in previous breastfeeding practices. The experience of a mother who is more and more accepting of knowledge is also effortless. Where something that a person experiences will increase his knowledge. Experience as a source of knowledge is one way to obtain the truth of knowledge, namely by repeating the knowledge gained in solving problems faced in the past (Martini, 2017).

Multipara mothers will have more experience with the first child or before to have a greater chance to carry out exclusive breastfeeding practices. Primipara mothers do not practice breast milk exclusively because there has been no previous experience in breastfeeding, lack of knowledge, and negative assumptions about breastfeeding (Erвина, 2018).

In line with the theory that a person's behaviors are caused by knowledge and attitudes. A person's level of knowledge will affect an individual's practice; the higher the knowledge, the higher one's awareness of participating. Knowledge is interpreted as the result of stimulation from paying attention and then remembering information. Knowledge can be influenced by several factors such as experience, facilities, income, and socio-cultural. The existence of facilities such as print or electronic media can increase one's knowledge, especially breastfeeding mothers, in gaining knowledge about whole breast milk through media such as leaflets and facilities such as breast milk support groups so that breastfeeding mothers can find out information about exclusive breast milk (Hanifah et al., 2017). A person's behavior will not be immediately realized because it takes supporting factors or conditions that allow for the realization of a behavior. Perception is a contributing factor to the realization of this behavior so that it is closely related to a person's behavior. Mothers who have an excellent positive perception contribute to exclusive breastfeeding practices. This positive perception is formed mainly due to the experience and knowledge of the mother related to exclusive breast milk. Knowledge of an object to act by that knowledge will tend to be a habit of certain behaviors. In addition, support from

spouses and families towards working mothers is an internal factor supporting successful breastfeeding. While external factors, such as the role of employers in providing support systems and facilities in the workplace for breastfeeding mothers and storing breast milk are also very important to success in breastfeeding (Ahmad et al., 2022).

### CONCLUSION

The respondents' knowledge level categories were not very good, and their perception was less supportive of exclusive breastfeeding. Education, parity, knowledge, and perception are significantly associated with exclusive breastfeeding practices. At the same time, age and working status are not significantly related to exclusive breastfeeding practices. Variables that can be intervened so that exclusive breastfeeding practices increase include maternal knowledge and perception, especially related to the benefits and techniques of breastfeeding.

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