



Factors related to the occurrence of breast engorgement during the puerperium at the Jawa Maraja Community Health Center

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Article Info

Article history:

Received March 15, 2026

Revised Apr 6, 2026

Accepted Apr 30, 2026

Keywords:

Breastfeeding;
Breast Engorgement;
Puerperium.

ABSTRACT

Background: Breastfeeding is an unbeatable way of providing the ideal nourishment for the healthy growth and development of a baby. Breastfeeding is not always able to run normally, not a few mothers complain of swelling of the breasts, hardness, pain and heat caused by breast milk dams. At the time the researchers conducted the initial survey of 20 postpartum mothers, there were 7 people who experienced breast milk dams. **Objective:** Factors associated with breast milk retention include family support, frequency of breastfeeding, breast care, breastfeeding position and parity. The research objective was to determine the factors associated with breast milk dams during the postpartum period at the Jawa Maraja community Health Center. **Research Methods:** The design of this study used an analytic survey with a cross sectional approach. The population as many as 30 postpartum mothers on day 3 to day 40. The sample in this study was taken using accidental sampling, namely the technique of determining the sample based on chance. Data analysis used univariate and bivariate analysis using the chi-square statistical test. **Research Results:** The results of the study were based on poor family support as many as 20 respondents (66.7%), 17 respondents (56.7%) had poor breastfeeding frequency (56.7%), 18 respondents (60.0%) had poor breastfeeding, and 18 respondents (60.0%) had poor breastfeeding position. 15 respondents (50.0%), and 18 respondents (60.0%) primiparous parity, 16 respondents (53.3%) had breastfeeding dams with the results of the chi-square test on the family support variable (p value = .0001), breastfeeding frequency (p value = .0001), breast care (p value = .0000), breastfeeding position (p value = .0001) and parity (p value = .0004). **Conclusion:** The conclusion of this study shows that there is a relationship between family support, breastfeeding frequency, breast care, breastfeeding position and parity with breast milk dams during the postpartum period at the Jawa Maraja community Health Center. It is recommended that research sites find out about the correct breastfeeding position and the frequency of breastfeeding optimal in order to avoid dam ASI.

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1. INTRODUCTION

The postpartum period is the period after childbirth experienced by every mother, which lasts for approximately six weeks postpartum. During this phase, the mother undergoes physiological recovery and adapts to her new role as a mother, including in breastfeeding. For some mothers, the postpartum period is a joyful time because they have successfully gone through the childbirth process, but on the other hand, it can also be a challenging period due to various complaints, one of which is breasts feeling full, hot, and sore, which often hinders the breastfeeding process (Novalita, 2019).

Breast milk is the most ideal food for infants because it contains complete nutrients according to the needs for growth and development. In addition, breast milk also contains immunological substances that play a role in enhancing the baby's immune system and supporting cognitive development. For mothers, breastfeeding provides various benefits such as reducing the risk of postpartum hemorrhage, accelerating uterine involution, delaying pregnancy, and lowering the risk of breast cancer. However, if breast milk is not expressed optimally, accumulation can occur, causing breast engorgement, which is characterized by breast swelling and obstruction of milk flow (Siti Faidatun, 2019).

According to data from the World Health Organization (2017), about 10% of mothers experience complications after childbirth, including difficulties in the breastfeeding process. Untreated breast engorgement can develop into mastitis or even breast abscesses. Data from the United States shows that the incidence of breast engorgement is still quite high, with a percentage reaching 87.05% in 2014, then decreasing to 66.87% in 2015 and 66.34% in 2016 (WHO, 2017).

In Indonesia, the issue of breast milk blockage is still a concern. According to data from the Ministry of Health of the Republic of Indonesia, the coverage of postpartum maternal services in North Sumatra Province in 2017 reached 84.62%, experiencing a decrease compared to the previous year of 86.7%. In addition, various studies indicate that the incidence of breast milk blockage is still quite high in various regions, with variations in incidence rates influenced by social, economic conditions, as well as access to healthcare services (Ministry of Health RI, 2017).

Several factors that influence the occurrence of breast engorgement include improper breastfeeding techniques and positions, inadequate breastfeeding frequency, lack of breast care, and low family support. Incorrect breastfeeding techniques can cause suboptimal attachment between the baby's mouth and the breast, so milk emptying does not occur effectively. In addition, primigravida mothers tend to have limited breastfeeding experience, making them more at risk of lactation problems (Sri Handayani, 2019).

Breast milk engorgement that is not promptly addressed can lead to more serious complications such as mastitis, which is characterized by breast inflammation accompanied by pain, redness, and fever, as well as breast abscesses that require further medical intervention. This condition not only affects the mother's health but can also disrupt the continuation of exclusive breastfeeding. Previous studies have extensively examined the factors influencing breast milk engorgement, but most are still limited to one or two variables separately. In addition, research that examines the simultaneous relationship between breastfeeding frequency, breastfeeding positions, and other maternal factors in the context of primary health care services is still limited, especially in the area of community health centers.

Based on the results of an initial survey conducted at the Jawa Maraja Community Health Center in 2023, data were obtained from 20 postpartum mothers, most of whom experienced breastfeeding difficulties caused by a lack of knowledge about breast care and proper breastfeeding techniques. In addition, primigravida mothers tend to have no experience in breastfeeding, and there are still mothers who do not provide breast milk optimally for various reasons such as flat nipples or difficulty for the baby to latch, which ultimately increases the risk of breast engorgement. Based on this description, there is a research gap concerning the suboptimal understanding of the interaction of various factors affecting the occurrence of breast engorgement in postpartum mothers at primary healthcare facilities. Therefore, this study was conducted to analyze the factors influencing

the occurrence of breast engorgement during the postpartum period at the Jawa Maraja Community Health Center in 2023.

2. RESEARCH METHOD

This study used an analytic survey design with a cross-sectional approach, which means that the independent and dependent variables were measured simultaneously at one time. This approach was used to determine the relationship between the factors being studied and the occurrence of milk stasis in postpartum mothers. The population in this study comprised all postpartum mothers in the working area of Jawa Maraja Community Health Center in 2023, totaling 30 people. The sampling technique used was accidental sampling, meaning respondents who were encountered by chance and met the inclusion criteria during the study period.

The independent variables in this study include breastfeeding frequency, breastfeeding position, breast care, family support, and parity, while the dependent variable is the occurrence of breast engorgement in postpartum mothers. Data collection was carried out using instruments in the form of structured questionnaires that had been adjusted to the research objectives. The data obtained were then analyzed univariately to determine the frequency distribution of each variable, as well as bivariate analysis to determine the relationship between variables using the chi-square test. The statistical significance level used is 95% with a significance value (α) of 0.05. The decision-making criteria are that if the p-value < 0.05 , then H_0 is rejected, which means there is a significant relationship between the independent variable and the occurrence of breast milk letdown. Conversely, if the p-value ≥ 0.05 , then H_0 fails to be rejected, which means there is no significant relationship between the variables studied.

3. RESULTS AND DISCUSSIONS

Based on the research conducted, the results of the breastfeeding frequency distribution in the Work Area of Jawa Meraja Health Center are presented in the following table.

Table 1. Breastfeeding frequency distribution at Jawa Maraja Health Center

Breastfeeding Frequency	f	%
Less	17	56,7
Good	13	43,3
Total	30	100

Based on the table above, it can be seen that out of 30 respondents, the majority had insufficient breastfeeding frequency, totaling 17 respondents (56.7%), while those with good breastfeeding frequency totaled 13 respondents (43.3%).

Table 2. Distribution of breastfeeding incidents at Jawa Maraja Health Center

Breast Milk Barrier	f	%
Yes	16	53,3
No	14	46,7
Total	30	100

Based on Table 2, it is concluded that out of 30 respondents, 16 respondents (53.3%) experienced breast milk engorgement and 14 respondents (46.7%) did not experience breast milk engorgement.

Table 3. The Relationship between breastfeeding frequency and the incidence of milk engorgement at Jawa Maraja Community Health Center

Breast Milk Barrier	Breastfeeding Frequency				Total	P Value
	Less		Good			
	n	%	n	%		
Yes	14	87,5%	2	12,5%	100%	0,001
No	2	12,5%	14	87,5%	100%	

Table 3 shows that of the 16 respondents who experienced breast engorgement, 14 of them had a low breastfeeding frequency (87.5%). There is a relationship between breastfeeding frequency and the occurrence of breast engorgement at the Jawa Maraja Health Center with a p value of 0.001.

Table 4. Relationship between breastfeeding position and the incidence of milk engorgement at Jawa Maraja Community Health Center

Breast Milk Barrier	Breastfeeding Position				Total	P Value
	Less		Good			
	n	%	n	%		
Yes	13	81,3%	3	18,8%	100%	0,001
No	3	18,8%	13	81,3%	100%	

Table 4 shows that out of 16 respondents who experienced breast engorgement, 13 people (81.3%) were in an incorrect breastfeeding position. This means there is a relationship between breastfeeding position and the occurrence of breast engorgement.

Based on the research results, it was found that out of 30 breastfeeding mothers at Puskesmas Jawa Maraja, 16 people (53.3%) experienced breast engorgement. Of the 16 people who experienced breast engorgement, 14 people (87.5%) had a low frequency of breastfeeding and 13 people (81.3%) had an improper breastfeeding position. Based on the chi-square test results with a probability value of $\alpha = 0.05$, the research results showed a p-value of $0.001 < \alpha$ value of 0.05. This indicates that there is a significant relationship between breastfeeding frequency and breastfeeding position with the occurrence of breast engorgement at Puskesmas Jawa Maraja.

The research conducted by Trisnawati with the title The Relationship Between the Frequency and Duration of Breastfeeding and the Incidence of Milk Engorgement in Postpartum Mothers at the Independent Midwife Practice in Romauli in 2019. This research was conducted at the Independent Midwife Practice Romauli Silalahi. The population in this study consisted of all postpartum mothers at the Independent Midwife Practice Romauli Silalahi in 2019, and the sample consisted of 30 respondents using accidental sampling technique. The technique and method of data collection used a questionnaire sheet. Data analysis was conducted using univariate and bivariate data with the chi-square test. Based on statistical testing with the chi-square test, a p-value of $0.033 < 0.05$ was obtained, indicating that there is a relationship between breastfeeding frequency and milk engorgement, and there is a relationship between breastfeeding duration and milk engorgement with a p-value of $0.011 < 0.05$.

Breast engorgement incidents can be reduced by up to half if the baby is breastfed without limits. Several other studies have observed that when breastfeeding is scheduled, engorgement occurs more frequently, often followed by mastitis and lactation failure. Scheduled breastfeeding will have adverse effects because the baby's sucking greatly influences subsequent milk stimulation. It is recommended to breastfeed the baby without a schedule or (On Demand) because the baby will determine its own needs (Unicef, 2024). The mother should breastfeed her baby when the baby cries, not for other reasons (urination, etc.), or when the mother already feels the need to breastfeed her baby (Unicef, 2024). A healthy baby can empty one breast in about 5-7 minutes, and the milk in the baby's stomach will be emptied within 2 hours (CDC, 2024). Initially, the baby will breastfeed on an irregular schedule and will develop a certain pattern after 1-2 weeks. Scheduled breastfeeding will have adverse effects because the baby's sucking greatly influences subsequent milk production stimulation. Breastfeeding without a schedule, according to the baby's needs, will prevent many problems from arising. Working mothers are advised to breastfeed more frequently at night. Frequent night breastfeeding will stimulate milk production. To maintain the balance of both breasts, it is recommended that each breastfeeding session involves both breasts. Mothers are advised to try to breastfeed until the breasts feel empty so that milk production improves. Every breastfeeding session should start with the breast that was last fed. During the breastfeeding period, mothers should use a bra that supports the breasts but is not too tight. Increase the frequency of breastfeeding or pumping/expressing milk. If the baby does not want to breastfeed because they are still full, the principle of milk production remains the same, based on demand: the more often the baby is breastfed

or milk is expressed/pumped, the more milk is produced. The let-down reflex (Flow Reflex) is a stimulation caused by the baby during breastfeeding that, in addition to affecting the anterior pituitary to release the hormone prolactin, also affects the posterior pituitary to release the hormone oxytocin (Moberg, et al. 2020). After oxytocin is released into the bloodstream, this hormone stimulates the contraction of myoepithelial cells surrounding the alveoli and mammary ducts so that breast milk is pushed from the alveoli into the ducts and out through the nipple. This process is called the milk ejection reflex or let-down reflex. The reflex may be accompanied by a tingling sensation in the breast or may not cause any sensation at all, and is marked by the dripping of milk from the contralateral breast. The release of oxytocin and the let-down reflex are influenced by the psychological condition of the mother, including stress and anxiety (Laurence, 2022).

Incorrect breastfeeding positions can cause pain, chafing, and sores on the nipples, as well as make both the mother and baby frustrated. The baby will become frustrated due to hunger, and the mother will feel anxious due to the inability to breastfeed the baby. Insufficient milk removal from the mother's breasts can lead to engorgement in breastfeeding mothers, so a proper and correct breastfeeding position will have a significant impact in preventing breast engorgement (8). There are 2 basic breastfeeding positions that mothers should know so that the breastfeeding process can run smoothly and comfortably. The two positions referred to are the baby's mouth and the mother's position (latching), and the mother's body position. Feeding on demand means that the mother must breastfeed the baby whenever the baby is hungry, rather than following a regular schedule; feeding on demand will provide maximum benefits for both mother and baby. The baby must remain dry and not too hot or too cold. Hold the baby in a semi-upright position so that the baby not only feels comfortable but can also swallow breast milk without the risk of vomiting. Oxytocin can stimulate other hormones that make the mother feel happy and relaxed and stimulate the flow of breast milk from the breast to the baby's mouth. To stimulate oxytocin, you can help the mother relax, massage the neck and back, stimulate the breast and nipples, and use a proper/not tight bra.

According to the researcher's assumption, a good breastfeeding position but the occurrence of breast engorgement is caused by the mother's lack of experience as a primipara, resulting in breast engorgement. We know that mothers who give birth to their first child and experience breast engorgement are caused by the mother's lack of knowledge about the correct breastfeeding technique and lack of experience because it is her first time breastfeeding a child. Whereas in multiparous mothers, they already have experience from previous children, which can reduce the incidence of breast engorgement in postpartum mothers.

4. CONCLUSION

Provide a statement that what is expected, as stated in the "Introduction" chapter can ultimately result in "Results and Discussion" chapter, so there is compatibility. Moreover, it can also be added the prospect of the development of research results and application prospects of further studies into the next (based on result and discussion).

ACKNOWLEDGEMENTS

We would like to thank the Jawa Maraja Health Center, as well as the leaders of the Institut Kesehatan Medistra Lubuk Pakam and STIKes Sehat Medan who have granted permission for the implementation of the research.

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