Journal of Professional Nursing Science (JPNS)
Volume 1, Nomor 1, April 2025
E-ISSN .: 3089-8978, P-ISSN .: 3089-9109, Hal. 77-85
Available Online at: https://journal.univummibogor.ac.id/index.php/JPNS

Relationship Between Breastfeeding Techniques and the Occurrence of Sore Nipples

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Abstract: *Proper breastfeeding techniques play an important role in preventing breastfeeding problems, one of which is sore nipples. Sore nipples can cause pain, reduce comfort for the mother, and potentially interfere with the continuity of breastfeeding. This study aims to analyze the relationship between breastfeeding techniques—represented by breastfeeding positions—and the incidence of sore nipples in breastfeeding mothers. The study used a quantitative approach with a cross-sectional analytical observational design. The study sample consisted of 30 breastfeeding mothers selected using purposive sampling. Data were collected through observation and structured interviews to assess breastfeeding positions and nipple pain levels. Data analysis was performed using bivariate analysis with the Lambda test at a significance level of $p < 0.05$. The results of the study showed no significant relationship between breastfeeding position and nipple pain ($p = 0.400$; $r = 0.200$). These findings indicate that variations in breastfeeding position (cross cradle, football hold, or lying down) are not directly related to the severity of nipple soreness. The conclusion of this study shows that breastfeeding position is not the sole factor determining the occurrence of nipple soreness. Prevention and treatment of nipple soreness need to emphasize a comprehensive assessment of breastfeeding techniques, particularly the quality of latch and breastfeeding counseling support by health workers.*

Keywords: *Breast Milk; Breastfeeding Mothers; Breastfeeding Position; Breastfeeding Technique; Sore Nipples.*

1. INTRODUCTION

Breastfeeding is a natural process that provides great benefits for mothers and babies, especially in terms of optimal nutrition, increased immunity for babies, and strengthening the bond between mother and child. However, it is not uncommon for mothers to experience problems while breastfeeding, one of which is sore nipples. Sore nipples can cause significant pain and reduce the comfort of breastfeeding for mothers, which in turn can affect the continuity of breastfeeding itself. According to a study by Kearney et al. (2019), approximately 50% of breastfeeding mothers experience sore nipples in the first few weeks after giving birth. This indicates that this issue is quite common and requires more attention in breastfeeding practices. The World Health Organization emphasizes that exclusive breastfeeding ( ) for the first six months of life is the gold standard for infant nutrition. (World Health Organization, 2023)

Breastfeeding success is not only determined by milk production, but also greatly influenced by proper breastfeeding techniques, including the position of the mother and baby and the baby's latch-on to the breast. Proper breastfeeding techniques allow babies to suckle effectively without causing trauma to the mother's nipples. (WHO, 2023). Proper breastfeeding techniques play a crucial role in preventing nipple soreness. Many new mothers do not receive adequate information about good breastfeeding techniques, leading them to use improper

Received: February 28, 2025; Revised: March 17, 2025; Accepted: April 27, 2025; Published: April 30, 2025

methods. For example, an uncomfortable breastfeeding position or incorrect sucking technique can cause excessive pressure on the nipples, resulting in soreness and pain. A study conducted by Auerbach and Sweeney (2020) showed that 70% of sore nipples can be avoided with proper breastfeeding techniques. Therefore, education on proper breastfeeding techniques is essential to reduce the incidence of sore nipples.

One of the problems often experienced by breastfeeding mothers, especially in the early postpartum period, is sore nipples. Sore nipples are a condition of damage to the nipple tissue that can cause pain, wounds, and even bleeding, resulting in discomfort during breastfeeding. (Ministry of Health of the Republic of Indonesia, 2022). Sore nipples are a serious problem because they can interfere with the breastfeeding process, reduce the frequency of breastfeeding, and increase the risk of early weaning. This condition can also increase the risk of breast infections such as mastitis if not properly managed. (Indonesian Ministry of Health, 2022)

In addition to breastfeeding techniques, other factors such as the mother's skin condition, hygiene, and social support also contribute to sore nipples. Research conducted by McCarter-Spaulding and Kearney (2018) shows that mothers with sensitive skin or certain dermatological conditions are more prone to sore nipples. In addition, support from health workers and family also plays an important role in helping mothers overcome breastfeeding problems. Without adequate support, mothers may feel discouraged and tend to stop breastfeeding early, which can have a negative impact on the baby's health.

Statistical data shows that the success rate of exclusive breastfeeding during the first six months of a baby's life is greatly influenced by positive breastfeeding experiences. According to data from the World Health Organization (WHO, 2021), only 41% of babies worldwide are exclusively breastfed during the first six months. One of the main causes of this low rate is the problems faced by mothers, including sore nipples. Therefore, it is important to understand the relationship between breastfeeding techniques and the occurrence of sore nipples so that preventive measures can be implemented effectively.

Various literature mentions that the main cause of sore nipples is improper breastfeeding technique, especially suboptimal latching, where the baby only sucks on the nipple without taking most of the areola into the mouth. This causes repeated friction on the nipple, resulting in injury (Gianni et al., 2018). In addition to improper latching, incorrect breastfeeding positions, such as the mother and baby's bodies not being aligned, also contribute to sore nipples. Incorrect positioning makes it difficult for the baby to suck effectively and increases pressure on the nipple. (Mohrbacher, 2020)

Several studies have shown a significant relationship between breastfeeding techniques and the incidence of sore nipples. Research in Indonesia reports that mothers with poor breastfeeding techniques have a higher risk of experiencing sore nipples than mothers with good breastfeeding techniques (Sari & Handayani, 2021). Other studies have also found that education and guidance on proper breastfeeding techniques from the early postpartum period can reduce the incidence of sore nipples and increase breastfeeding success. This highlights the important role of health workers, especially midwives, in providing appropriate breastfeeding guidance to mothers. (Rahmawati et al., 2020)

However, at the health service level, there are still postpartum mothers who have not received optimal breastfeeding education, either due to limited service time or a lack of understanding among mothers about the importance of proper breastfeeding techniques. This condition causes sore nipples to still be commonly found in daily midwifery practice. (Indonesian Ministry of Health, 2022). In this context, further research is needed to explore in greater depth the relationship between breastfeeding techniques and the occurrence of sore nipples. By understanding the influencing factors, it is hoped that better educational programs can be developed for new mothers. This will not only improve the breastfeeding experience but also support the overall health of both mother and baby. More in-depth research will provide healthcare professionals with better insights into providing the necessary support to breastfeeding mothers.

Based on the above description, research on "The Relationship between Breastfeeding Techniques and Sore Nipples" is important to determine the extent to which breastfeeding techniques are related to the occurrence of sore nipples in breastfeeding mothers. The results of this study are expected to serve as a basis for strengthening breastfeeding education and counseling by health workers in order to improve the comfort of mothers and the success of breastfeeding. (WHO, 2023).

2. RESEARCH METHOD

This study used a quantitative approach with an analytical observational design through a cross-sectional method. This design was chosen because the study aimed to determine the relationship between breastfeeding techniques and the incidence of sore nipples, where the independent and dependent variables were measured at the same time without providing any intervention to the respondents.

The population in this study consisted of all breastfeeding mothers who were in the postpartum period and registered in the area where the study was conducted. The study sample consisted of breastfeeding mothers who met the inclusion criteria, namely postpartum mothers who were breastfeeding their babies, willing to be respondents, and able to communicate well. Exclusion criteria included mothers with breast abnormalities or certain medical conditions that affected the breastfeeding process. The sample size was determined using total sampling or purposive sampling, with a minimum of 30 respondents based on the availability of the population at the research location.

The sampling technique used was purposive sampling, which is the selection of respondents based on certain criteria that have been determined in accordance with the research objectives.

The independent variable in this study was breastfeeding technique, which was assessed based on breastfeeding position and attachment, then categorized into good and poor breastfeeding techniques. The dependent variable was the occurrence of sore nipples, which was categorized into experiencing sore nipples and not experiencing sore nipples. Data were obtained through direct observation and interviews using observation sheets or structured questionnaires.

Data analysis was conducted in stages, namely univariate analysis to describe the distribution of breastfeeding techniques and the incidence of sore nipples, and bivariate analysis to determine the relationship between the two variables. The statistical test used was the Chi-Square test, and if there were cells with an expected count of less than 5, Fisher's Exact test was used. The statistical significance level was set at $p < 0.05$.

3. RESULTS AND DISCUSSION

Table 1. Demographic data.

Var		n	F (%)
Age	< 20 years old	11	36.7
	20-35 years old	17	56.7
	>35 years old	2	6.7
Education	Elementary school	0	0
	Junior high school	12	40.0
	High School	14	46.7
	College/university	4	13.3
Employment	Housewife	26	86.7
	Farmer	0	0
	Private employee	0	0
	Government employee	4	13.3
First breastfeeding experience	Yes	27	90.0
	No	3	10.0

Breastfeeding position	Cross cradle	12	40.
	Football hold	5	16.7
	Laying on	13	43.3
Afternoon nipple level	Mild	15	50.0
	Moderate	15	50.0
	Severe	0	0
Afternoon nipple treatment	Changing position	11	36.7
	Take a break	14	46.7
	Go to midwife/doctor	5	16.7
Total		30	100

(source: primary data, 2025)

Based on the table of respondent characteristics, of the total 30 respondents, most were in the 20–35 age group, namely 17 people (56.7%), which is the healthy reproductive age. Respondents aged <20 years numbered 11 people (36.7%), while respondents aged >35 years numbered 2 people (6.7%).

In terms of education level, the majority of respondents had a high school education, with 14 people (46.7%), followed by junior high school education with 12 people (40.0%), and college education with 4 people (13.3%). There were no respondents with elementary school education. This shows that the respondents' educational level was dominated by secondary education.

Based on employment status, most respondents were housewives, namely 26 people (86.7%), while 4 respondents (13.3%) worked as civil servants. There were no respondents who worked as farmers or private employees.

Regarding breastfeeding experience, almost all respondents had previous breastfeeding experience, namely 27 people (90.0%), while respondents who had never had breastfeeding experience numbered 3 people (10.0%).

In terms of breastfeeding positions, the most commonly used position was lying down (13 respondents, or 43.3%), followed by the cross cradle position (12 respondents, or 40.0%), and the football hold position (5 respondents, or 16.7%).

Based on the level of nipple pain, half of the respondents experienced mild pain, totaling 15 people (50.0%), and the other half experienced moderate pain, totaling 15 people (50.0%). There were no respondents who experienced severe nipple pain.

In terms of nipple pain management, most respondents chose to temporarily stop breastfeeding, namely 14 people (46.7%). Respondents who changed their breastfeeding position numbered 11 people (36.7%), while 5 people (16.7%) chose to consult a midwife or doctor.

Table 2. Statistik analysis.

Independent variable	n	P Value	r	Dependent variable
Breastfeeding position	30	0.400	0.20	Afternoon nipple level
		Lambda		

*significant (source: primary data, 2025)

Based on the results of statistical analysis using the Lambda test, a p-value of 0.400 ($p > 0.05$) was obtained with a correlation coefficient of $r = 0.200$. These results indicate that there is no statistically significant relationship between breastfeeding position and sore nipple level among respondents.

A positive but low correlation coefficient indicates that the relationship between breastfeeding position and nipple pain is weak and not statistically significant. This means that the differences in breastfeeding positions used by respondents, such as cross cradle, football hold, and lying down, are not directly related to the severity of nipple pain experienced by breastfeeding mothers in this study.

Thus, it can be concluded that breastfeeding position is not the only factor that influences sore nipples. Other factors such as baby attachment, duration and frequency of breastfeeding, nipple skin condition, and the mother's breastfeeding experience and technique may play a greater role in nipple pain.

Discussion

The Lambda test results showed no significant relationship between breastfeeding position (cross cradle/football hold/lying down) and nipple pain (sore nipple) in respondents ($p = 0.400$; $r = 0.200$). This finding may occur because nipple pain in breastfeeding mothers is generally more strongly influenced by the quality of attachment (latch) and sucking mechanism, rather than solely by the "type of position" chosen. The Academy of Breastfeeding Medicine (ABM) clinical guidelines explain that persistent breastfeeding pain is often associated with factors such as shallow latch, limited tongue movement (e.g., ankyloglossia), infant palate shape, breast condition, and nipple anatomy, so changing positions alone may not immediately alter pain levels if the primary issue lies in latch or infant oral factors (Berens, P., et al. (2016); LeFort, Y., et al. (2021).

In addition, breastfeeding positions often overlap in practice: mothers can use the cross cradle, football hold, or lying down positions, but success is still determined by whether the baby achieves a deep latch and whether the mother receives proper breastfeeding technique

support. The literature on "latch-related nipple pain" emphasizes that nipple pain often occurs when there is trauma due to improper attachment, and if not treated with technique/attachment correction, the complaint may persist even if the position varies (Bourdillon, K. (2020); Camargo, B. T. S., et al. (2023). Recent meta-analysis findings also indicate that managing nipple pain/injury is more effective when using specific and targeted interventions (e.g., skilled breastfeeding assessment, latch correction, cause management) compared to nonspecific interventions (Jia, X., et al. (2025).

Insignificance can also be influenced by methodological aspects of your data. The distribution of nipple pain was only in the mild and moderate categories (no severe pain), so the variation in outcomes was narrow and statistical relationships were more difficult to detect. On the other hand, the sample size is relatively small (n=30) and the Lambda test on categorical data may have limited power when the cells of the contingency table are not evenly distributed. As a result, even though breastfeeding position contributes clinically through improved latch, its effect may not appear as a statistically significant relationship in bivariate analysis.

Thus, the results of this study indicate that breastfeeding position is not the sole factor determining sore nipples. The practical implication is that the prevention and treatment of sore nipples should emphasize a comprehensive assessment of breastfeeding techniques (latch, position, signs of effective sucking), screening for other causes such as oral problems in infants (e.g., tongue-tie), and evaluation of the condition of the nipple/skin and the possibility of infection or dermatosis, so that the intervention provided is more targeted.

4. CONCLUSION

Based on the results of statistical analysis using the Lambda test, it can be concluded that there is no significant relationship between breastfeeding position and nipple pain (sore nipple) in breastfeeding mothers. The test results show a p-value of 0.400 ($p > 0.05$) with a correlation coefficient of $r = 0.200$, indicating a weak and statistically insignificant relationship.

These findings indicate that breastfeeding position is not the only factor that influences nipple pain. Other factors such as the quality of the baby's latch, breastfeeding technique, the anatomical condition of the nipple and the baby's mouth, as well as the duration and frequency of breastfeeding are likely to play a greater role in the onset of sore nipple complaints. Therefore, efforts to prevent and treat nipple pain should focus on a comprehensive breastfeeding assessment, including a thorough evaluation of latch and breastfeeding technique, rather than solely on variations in breastfeeding position.

Acknowledgement. The researchers would like to thank all respondents who participated in this study. We would also like to thank the health workers and institutions where the research was conducted for their support, cooperation, and facilitation during the data collection process. In addition, the researchers would like to express their appreciation to their supervisors and all those who provided guidance, input, and support so that this research could be completed successfully.

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