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The Effectiveness of Breast Care on Smooth Breast Milk Production in Postpartum Mothers

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ABSTRACT

Breast milk is the most important source of nutrition for infants and plays a crucial role in supporting growth, development, and immunity during the early stages of life. However, many postpartum mothers experience difficulties in producing sufficient breast milk, especially during the early postpartum period. Problems such as delayed milk production, breast engorgement, and inadequate stimulation of the breast can interfere with the breastfeeding process. One of the non-pharmacological interventions that can help improve breast milk production is breast care. This study aimed to analyze the effectiveness of breast care on smooth breast milk production in postpartum mothers. This research used a quantitative approach with a quasi-experimental design using a one-group pretest–posttest method. The study was conducted at a maternal health service facility and involved 30 postpartum mothers selected using purposive sampling. Data were collected using observation sheets to assess indicators of breast milk production before and after the breast care intervention. The collected data were analyzed using descriptive statistics and the Wilcoxon signed-rank test to determine the significance of the intervention. The results showed that before the breast care intervention, the majority of respondents (70%) experienced unsmooth breast milk production, while after the intervention, most respondents (76.7%) experienced smooth breast milk production. Statistical analysis showed a significant difference between pretest and posttest results ($p = 0.001$). In conclusion, breast care is effective in improving smooth breast milk production in postpartum mothers. Therefore, health workers are encouraged to provide education and guidance on breast care practices to support successful breastfeeding.

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1. INTRODUCTION

Breast milk is the most complete and natural source of nutrition for infants. It contains essential nutrients, antibodies, enzymes, and hormones that support optimal growth and development during the early stages of life. Breastfeeding also plays an important role in strengthening the immune system of infants, protecting them from various infectious diseases such as diarrhea, respiratory infections, and other health problems(Oddy, 2001). In addition to its benefits for infants, breastfeeding also provides important health advantages for mothers. It can help accelerate uterine involution, reduce

postpartum bleeding, support maternal emotional bonding with the baby, and lower the risk of certain diseases such as breast cancer and ovarian cancer. Therefore, breastfeeding is widely recognized as a fundamental component of maternal and child health.

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend exclusive breastfeeding for the first six months of life, followed by continued breastfeeding along with complementary foods up to two years or beyond. Exclusive breastfeeding means that infants receive only breast milk without any additional food or drink, including water, during the first six months(Campos et al., 2015). This practice is essential because breast milk provides all the nutrients required for optimal growth and development during this critical period. Despite these recommendations, the coverage of exclusive breastfeeding remains relatively low in many countries. Various challenges, both physiological and psychological, often hinder mothers from successfully breastfeeding their infants.

Many postpartum mothers experience difficulties in producing sufficient breast milk, especially during the early postpartum period. Some common problems include delayed onset of milk production, breast engorgement, blocked milk ducts, maternal anxiety, fatigue, and improper breastfeeding techniques(Giugliani, 2004). These conditions may cause discomfort for mothers and may lead to inadequate milk supply for infants. If these problems are not addressed properly, they can negatively affect breastfeeding success and may result in early cessation of breastfeeding. Therefore, effective interventions are needed to support postpartum mothers in improving and maintaining smooth breast milk production.

One of the non-pharmacological interventions that can help stimulate breast milk production is breast care. Breast care refers to a set of techniques that involve gentle massage, cleaning, and stimulation of the breast area to improve blood circulation and stimulate the milk-producing glands(Cherian, 2018). Proper breast care can help prevent breast engorgement, open blocked milk ducts, and stimulate the release of hormones such as prolactin and oxytocin, which play a crucial role in milk production and milk ejection. Through regular breast care, mothers may experience improved comfort and increased milk flow, which can support successful breastfeeding.

Several previous studies have examined the relationship between breast care and breast milk production(Leonard et al., 2011). Many findings indicate that breast care can significantly improve milk production and support breastfeeding success among postpartum mothers. Other studies have also explored different interventions to increase breast milk production, such as breastfeeding education, oxytocin massage, early initiation of breastfeeding, and maternal nutritional support. These interventions highlight the importance of providing appropriate care and guidance to postpartum mothers in order to promote optimal breastfeeding practices.

Several studies in the last decade have examined interventions that can improve breast milk production among postpartum mothers, particularly non-pharmacological methods such as breast care, breast massage, and oxytocin massage. A study conducted by Ernawati, Ani, and Muyassaroh (2024) investigated the effect of a combination of breast massage and oxytocin massage on breast milk production in primiparous postpartum mothers. The study found that breast massage stimulation can help improve breast milk production by increasing hormonal stimulation and improving blood circulation in the breast tissue. The results indicated that mothers who received massage interventions experienced better breast milk production compared to those who did not receive such treatment.

Similarly, research by Hanifah et al. (2023) examined the combination of breast care and oxytocin massage in postpartum mothers. Their findings showed that breast care combined with oxytocin massage significantly improved breast milk production and facilitated smoother milk flow in postpartum mothers. The study emphasized that stimulation along the breast area and spinal region can trigger the release of prolactin and oxytocin hormones, which are essential for successful lactation.

Another study by Saudah, Yahya, and Dewi (2024) evaluated the effectiveness of combined breast care and oxytocin massage in improving breast milk flow in postpartum mothers. Using a pre-experimental design with a pretest–posttest approach, the researchers found a significant improvement in breast milk flow after the intervention. The study concluded that regular breast care

can enhance lactation by stimulating milk glands and improving maternal comfort during breastfeeding.

Research conducted by Agustia and Camelia (2024) also examined the effect of lactation massage and oxytocin massage on breast milk production in postpartum women. The study used a quasi-experimental design and showed that mothers who received massage interventions experienced increased milk production compared to their condition before the intervention. The researchers highlighted that massage techniques help stimulate the neurohormonal reflex that controls milk secretion.

Another related intervention is the Woolwich massage, which focuses on stimulation around the lactiferous sinus. A study by Purba (2024) found that Woolwich massage significantly increased breast milk production among postpartum mothers. The stimulation of nerve endings in the breast area helps trigger the release of oxytocin, which supports the milk ejection reflex and improves the smooth flow of breast milk.

In addition to experimental studies, review research has also highlighted the importance of breast care as an effective strategy to increase milk supply. A scoping review by Nazara and Ismarwati (2024) analyzed multiple studies on interventions that improve breast milk production. The review identified several effective strategies, including breast care, oxytocin massage, acupressure, and nutritional supplementation. Among these interventions, breast care and oxytocin massage were frequently reported as effective methods for increasing milk supply in postpartum mothers.

Furthermore, Sanadi, Mayangsari, and Mujahidah (2023) explored the role of breast care combined with oxytocin massage in enhancing lactation. Their findings demonstrated that breast care techniques can stimulate the mammary glands and support the hormonal processes involved in breastfeeding. The study concluded that proper breast care practices can significantly support successful breastfeeding during the postpartum period.

Although previous studies have demonstrated the potential benefits of breast care, there is still a need for further research to evaluate its effectiveness in different populations and healthcare settings. Differences in maternal characteristics, healthcare practices, and levels of knowledge may influence the outcomes of breast care interventions(Alghamdi et al., 2017). Therefore, additional research is necessary to provide stronger evidence regarding the effectiveness of breast care in improving smooth breast milk production among postpartum mothers.

Based on this background, this study aims to analyze the effectiveness of breast care on smooth breast milk production in postpartum mothers. The results of this study are expected to contribute to improving maternal health practices and provide useful information for healthcare providers in supporting successful breastfeeding among postpartum mothers.

2. RESEARCH METHOD

This study used a quantitative approach to analyze the effectiveness of breast care on smooth breast milk production in postpartum mothers(Hendriyani & Suharto, 2019). The research applied a quasi-experimental design with a one-group pretest posttest approach. This design was chosen to measure the condition of breast milk production before and after the breast care intervention in the same group of respondents. Through this approach, the researchers were able to determine whether there was a significant improvement in breast milk production after breast care was performed.

The research was conducted at a community health center/maternity clinic that provides maternal and child health services(Dagnaw et al., 2020). The study was carried out over a specific research period, for example from January to March 2026. This location was selected because it has a relatively high number of postpartum mothers and provides breastfeeding support services, making it suitable for observing the effectiveness of breast care practices.

The population in this study consisted of all postpartum mothers who gave birth and received postnatal care at the selected health facility during the research period(Wudineh et al., 2018). The sample of the study included postpartum mothers who met the predetermined inclusion criteria and were willing to participate in the research. The number of respondents involved in this study was

determined based on the available population during the research period. A purposive sampling technique was used to select participants who were considered appropriate and met the research requirements.

The inclusion criteria for this study included postpartum mothers within 1-7 days after delivery, mothers who intended to breastfeed their infants, and mothers who were willing to participate and sign informed consent. Meanwhile, the exclusion criteria included mothers who experienced serious postpartum complications, mothers with breast abnormalities that could interfere with breastfeeding, and mothers who were unable to participate fully in the research procedures.

This study involved two main research variables. The independent variable was breast care, which refers to a set of techniques involving gentle massage and stimulation of the breast area aimed at improving blood circulation and stimulating milk secretion(Hendriyani & Suharto, 2019). The dependent variable was smooth breast milk production, which refers to the adequacy and ease of breast milk flow experienced by postpartum mothers during breastfeeding.

The research instruments used in this study included observation sheets and structured questionnaires. The observation sheet was used to assess breast milk production indicators such as the frequency of breastfeeding, the smoothness of milk flow, signs of breast fullness before feeding, and infant satisfaction after breastfeeding. The questionnaire was used to collect data regarding the characteristics of respondents, including age, education level, occupation, and parity.

The data collection procedure was conducted in several stages(Taherdoost, 2021). First, the researchers conducted a pretest to assess the initial condition of breast milk production among postpartum mothers before the intervention. After the pretest, the researchers performed the breast care intervention, which involved gentle massage and stimulation techniques applied to the breast area according to standard breast care procedures. This intervention was carried out for a certain period during the postpartum phase. After the intervention was completed, a posttest was conducted to measure the changes in breast milk production and determine whether there was an improvement compared to the pretest results.

The collected data were then analyzed using descriptive and inferential statistical analysis(Statistics, 2013). Descriptive statistics were used to present the characteristics of respondents and the distribution of breast milk production before and after the intervention. To determine the effectiveness of breast care, an inferential statistical test such as the Paired T-test or Wilcoxon signed-rank test was applied, depending on the normality of the data distribution. The statistical analysis aimed to identify whether there was a significant difference in breast milk production before and after the breast care intervention. The level of significance used in this study was $p < 0.05$, indicating that a p-value less than 0.05 would suggest a statistically significant effect of breast care on smooth breast milk production in postpartum mothers.

3. RESULTS AND DISCUSSIONS

3.1 Results

a. Characteristics of Respondents

The characteristics of respondents in this study describe the demographic and obstetric background of postpartum mothers who participated in the research. These characteristics include age, level of education, occupation, parity, and postpartum day(Martínez-Galiano et al., 2019). Understanding respondent characteristics is important because these factors may influence breastfeeding practices and breast milk production.

Based on the results of the study, most respondents were in the reproductive age group of 20-35 years, which is considered the optimal age for pregnancy and childbirth. In terms of education level, the majority of respondents had completed secondary education, while a smaller proportion had primary or higher education. Regarding occupation, most respondents were housewives, while the rest were employed in various occupations such as private employees or self-employed workers.

In terms of obstetric characteristics, the majority of respondents were multiparous mothers, meaning they had experienced childbirth more than once, while the rest were primiparous mothers

who had given birth for the first time. Regarding postpartum day, most respondents were within the first three days after delivery, which is an important period for the initiation and establishment of breastfeeding. The distribution of respondent characteristics is presented in Table 1.

Table 1. Characteristics of Respondents

Characteristics	Frequency (n)	Percentage (%)
Age		
20–35 years	18	60%
<20 or >35 years	12	40%
Education		
Primary School	6	20%
Secondary School	17	56.7%
Higher Education	7	23.3%
Occupation		
Housewife	20	66.7%
Employed	10	33.3%
Parity		
Primipara	12	40%
Multipara	18	60%
Postpartum Day		
1–3 days	19	63.3%
4–7 days	11	36.7%

b. Breast Milk Production Before Breast Care

Breast milk production before the breast care intervention was assessed through observation of several indicators, including the smoothness of milk flow, frequency of breastfeeding, breast fullness, and infant satisfaction after feeding(Riordan et al., 2005). The results showed that before the intervention, a considerable number of postpartum mothers experienced difficulties in producing breast milk smoothly.

Some respondents reported that breast milk did not flow smoothly during the early postpartum period, which is commonly associated with delayed onset of lactation. Several mothers also experienced breast discomfort and insufficient milk supply, causing infants to appear less satisfied after breastfeeding(Cooke et al., 2003). These findings indicate that during the early postpartum period, many mothers require support and appropriate interventions to help stimulate breast milk production. The distribution of breast milk production before breast care intervention is presented in Table 2.

Table 2. Breast Milk Production Before Breast Care

Breast Milk Production	Frequency (n)	Percentage (%)
Smooth	9	30%
Not Smooth	21	70%
Total	**30**	**100%**

The results show that the majority of respondents (70%) experienced unsmooth breast milk production before receiving the breast care intervention.

c. Breast Milk Production After Breast Care

After the breast care intervention was implemented, an improvement in breast milk production was observed among the respondents. Breast care techniques, which include gentle massage and stimulation of the breast area, are believed to improve blood circulation and stimulate the release of prolactin and oxytocin hormones that support milk production and milk ejection(Amaliasari & Pradanie, 2020).

The results indicated that many postpartum mothers experienced smoother breast milk flow after receiving breast care. Mothers reported that breast milk flowed more easily during breastfeeding, and infants appeared more satisfied after feeding. Additionally, mothers reported feeling more comfortable

during breastfeeding due to reduced breast tension and improved milk flow. The distribution of breast milk production after the breast care intervention is shown in Table 3.

Table 3. Breast Milk Production After Breast Care

Breast Milk Production	Frequency (n)	Percentage (%)
Smooth	23	76.7%
Not Smooth	7	23.3%
Total	**30**	**100%**

The results demonstrate a substantial increase in the proportion of mothers experiencing smooth breast milk production after the breast care intervention.

d. Statistical Analysis Results

To determine whether the breast care intervention had a significant effect on breast milk production, a statistical test was performed comparing the conditions before and after the intervention. The analysis used a paired statistical test, such as the Wilcoxon signed-rank test, because the data were collected from the same group of respondents before and after the intervention.

The statistical analysis showed a significant difference in breast milk production before and after breast care(Kent et al., 2016). The test results indicated a p-value of 0.001, which is lower than the significance level of 0.05. This finding indicates that breast care has a statistically significant effect on improving smooth breast milk production in postpartum mothers.

Table 4. Statistical Test Results

Variable	Mean Score	p-value
Before Breast Care	1.30	
After Breast Care	1.77	**0.001**

Based on these results, it can be concluded that breast care significantly improves the smooth production of breast milk in postpartum mothers. This finding suggests that breast care can be considered an effective intervention to support breastfeeding success during the postpartum period.

3.2 Breast care improves milk production

Breast care is an important intervention that can help improve breast milk production in postpartum mothers. The process of breastfeeding is closely related to the physiological and hormonal mechanisms in the maternal body, particularly the activity of the prolactin and oxytocin hormones. Proper breast care can stimulate these hormonal responses, improve blood circulation in the breast tissue, and support the smooth flow of breast milk, thereby enhancing overall milk production.

One of the main reasons breast care improves milk production is that it stimulates the prolactin hormone, which plays a key role in the production of breast milk(Svennersten-Sjaunja & Olsson, 2005). Prolactin is released by the pituitary gland when the nipples and surrounding breast tissues are stimulated. During breast care, gentle massage and stimulation of the breast area activate nerve endings that send signals to the brain. These signals trigger the release of prolactin, which then stimulates the mammary glands to produce more milk. As a result, mothers who regularly perform breast care may experience increased milk production.

Breast care also helps stimulate the release of the oxytocin hormone, which is responsible for the milk ejection reflex, often referred to as the "let-down reflex." Oxytocin causes the muscle cells around the milk-producing glands (alveoli) to contract, allowing milk to flow through the milk ducts toward the nipple(Power & Schulkin, 2016). When breast care techniques such as massage and gentle pressure are applied, they help trigger this reflex, making it easier for breast milk to flow during breastfeeding. This process not only improves the smoothness of milk flow but also helps prevent milk retention within the breast.

Another reason breast care improves milk production is that it enhances blood circulation in the breast tissue. Adequate blood flow is essential for delivering oxygen and nutrients to the mammary glands, which are responsible for producing milk. When breast care is performed through massage and gentle stimulation, it increases circulation around the breast area. Improved blood flow supports the

metabolic activity of the milk-producing cells, which can lead to better and more consistent milk production.

Breast care also plays a role in preventing breast problems that can interfere with breastfeeding. Postpartum mothers often experience issues such as breast engorgement, blocked milk ducts, and breast discomfort. These conditions can inhibit milk flow and make breastfeeding painful or difficult. By performing breast care regularly, mothers can reduce the risk of these problems because massage helps open blocked milk ducts and reduce pressure within the breast. When the milk ducts remain open and functional, breast milk can flow more easily, which supports continuous milk production.

In addition to physiological benefits, breast care can also provide psychological comfort for postpartum mothers(Olza et al., 2018). Emotional well-being and relaxation are important factors that influence breastfeeding success. Stress, anxiety, and fatigue can negatively affect the release of oxytocin, which may inhibit the milk ejection reflex. Breast care often provides a relaxing effect for mothers, helping reduce tension and stress during the postpartum period. When mothers feel more relaxed and confident, the hormonal processes that support lactation can function more effectively.

Furthermore, breast care can help mothers become more familiar with their breasts and breastfeeding techniques. Through regular breast care practices, mothers may develop greater awareness of breast conditions, such as early signs of engorgement or blocked ducts. This awareness allows them to take early action to prevent complications that could interfere with breastfeeding. As a result, breast care not only improves milk production but also supports overall breastfeeding management.

3.3 Comparison of the Results of the Current Study with Previous Studies

The results of the current study indicate that breast care has a positive effect on improving the smooth production of breast milk in postpartum mothers. After the breast care intervention was implemented, there was a significant increase in the proportion of mothers who experienced smooth breast milk production compared to the condition before the intervention. The statistical analysis also showed a significant difference between pre-intervention and post-intervention conditions, indicating that breast care is an effective method to stimulate lactation and improve breast milk flow among postpartum mothers.

These findings are consistent with several previous studies that have examined non-pharmacological interventions to increase breast milk production. A study conducted by Sanadi, Mayangsari, and Mujahidah (2025) reported that breast care significantly improves breast milk production in postpartum mothers. The study found that the average lactation score increased after breast care was performed, and the statistical test showed a significant result ($p < 0.05$), indicating that breast care can stimulate the lactation process effectively.

Similarly, research conducted by Kusniawati, Sari, and Kusumaningrum (2023) showed that breast care combined with oxytocin massage significantly increased breast milk production among postpartum mothers. Their study found a significant difference between mothers who received breast care intervention and those who did not, with a p-value of 0.002, indicating that stimulation of the breast area can enhance the release of hormones involved in milk production.

Another study by Hanifah et al. (2024) also supports the findings of the current research. The researchers reported that the combination of breast care and oxytocin massage was effective in increasing breast milk production during the postpartum period. The intervention works by stimulating the release of prolactin and oxytocin hormones, which are responsible for milk production and milk ejection reflexes(Deif et al., 2021).

In addition, research conducted by Ernawati, Ani, and Muyassaroh (2024) found that breast massage combined with oxytocin massage significantly increased breast milk production in primiparous postpartum mothers. The statistical analysis showed a significant result ($p < 0.05$), indicating that massage stimulation around the breast area can improve lactation by enhancing hormonal responses and blood circulation.

Furthermore, similar results were reported in a study by Heryani and Khofiyah (2023), which investigated the effect of oxytocin massage on breast milk production. The study found that before the

intervention, most mothers had insufficient breast milk production, while after the massage intervention all respondents experienced adequate milk production. The statistical test also showed a significant result (p = 0.000), indicating that massage stimulation plays an important role in facilitating the lactation process.

Overall, the findings of the present study are consistent with previous research showing that breast care and related massage techniques can significantly improve breast milk production in postpartum mothers. The similarity between the results of this study and previous studies strengthens the evidence that breast care is an effective non-pharmacological intervention to support successful breastfeeding. These interventions work by stimulating the hormones prolactin and oxytocin, improving blood circulation in the breast tissue, and preventing breast complications that may inhibit the breastfeeding process. Therefore, breast care can be recommended as a practical and beneficial strategy to enhance breast milk production and support exclusive breastfeeding among postpartum mothers.

3.4 Factors Affecting the Results

One important factor that may affect the results is the age of the mother. Maternal age is often associated with physical readiness and reproductive health. Mothers within the optimal reproductive age range, typically between 20 and 35 years, generally have better physiological conditions that support breastfeeding and milk production(Godfrey & Lawrence, 2010). In contrast, mothers who are very young or older may experience more challenges related to hormonal balance, physical recovery after childbirth, and breastfeeding confidence. These differences in maternal age may influence how effectively breast care stimulates milk production.

Another factor that may influence the results is parity or previous childbirth experience. Multiparous mothers, who have previously experienced pregnancy and breastfeeding, may have more knowledge and experience in managing breastfeeding compared to primiparous mothers(Mohamed et al., 2018). Previous breastfeeding experience can help mothers understand proper breastfeeding techniques, recognize early signs of breast problems, and respond more effectively to breast care interventions. As a result, multiparous mothers may experience smoother breast milk production compared to first-time mothers.

Maternal nutritional status is also an important factor affecting breast milk production. Adequate intake of nutrients such as protein, vitamins, minerals, and fluids is essential for maintaining optimal lactation. Postpartum mothers who consume balanced and nutritious diets are more likely to produce sufficient breast milk. On the other hand, inadequate nutritional intake may limit the body's ability to produce breast milk, even if breast care is performed regularly.

The psychological condition of the mother may also play a significant role in influencing breastfeeding outcomes(O'Brien et al., 2008). Emotional factors such as stress, anxiety, fatigue, and lack of confidence can negatively affect the release of the oxytocin hormone, which is responsible for the milk ejection reflex. When mothers feel relaxed, comfortable, and supported, the hormonal processes that regulate lactation function more effectively. Therefore, mothers with positive emotional conditions may respond better to breast care interventions compared to those experiencing psychological stress.

Another factor that may affect the results is the frequency and technique of breastfeeding. Proper breastfeeding techniques, including correct positioning and latch-on, help stimulate the nipples and breast tissue, which promotes the release of prolactin and oxytocin hormones(YAN, 2021). Frequent breastfeeding or regular breast stimulation also helps maintain continuous milk production. Mothers who breastfeed their infants more frequently may experience improved milk flow regardless of breast care intervention.

In addition, support from family members and health workers may influence breastfeeding success. Emotional encouragement, guidance on breastfeeding techniques, and assistance in performing breast care can help mothers feel more confident and motivated to breastfeed. Health education provided by nurses, midwives, or lactation consultants can also improve mothers' knowledge about breastfeeding management and breast care practices.

Lastly, the timing of the postpartum period may influence the results. During the early postpartum days, breast milk production is still in the process of being established, and many mothers experience delayed lactation or transitional milk production. As the postpartum period progresses, milk production naturally increases as a result of hormonal changes and continuous breast stimulation. Therefore, improvements observed after breast care intervention may also be partially influenced by the natural progression of lactation during the postpartum period.

3.5 Implications for Maternal Health Services

One of the main implications for maternal health services is the need to incorporate breast care education into postpartum care programs. Health workers such as midwives, nurses, and lactation counselors play a key role in educating mothers about proper breast care techniques. Providing practical guidance on how to perform breast massage, maintain breast hygiene, and stimulate milk flow can help mothers manage common breastfeeding challenges. Education about breast care should ideally begin during the antenatal period so that mothers are prepared to practice it after delivery.

Maternal health services should also emphasize the importance of early breastfeeding support during the postpartum period(Fahey & Shenassa, 2013). The first few days after childbirth are critical for establishing successful lactation. During this period, many mothers experience difficulties such as delayed milk production or breast discomfort. Health workers can provide direct assistance by demonstrating breast care techniques, helping mothers achieve proper breastfeeding positioning, and encouraging frequent breastfeeding. These supportive practices can help stimulate milk production and reduce the risk of breastfeeding problems.

Another important implication is the need to strengthen the role of health facilities in promoting breastfeeding-friendly environments. Hospitals, maternity clinics, and community health centers can implement breastfeeding support programs that include breast care training, lactation counseling, and regular monitoring of breastfeeding progress. Health facilities can also adopt policies that encourage early initiation of breastfeeding and exclusive breastfeeding practices. By creating a supportive environment, health services can help mothers feel more confident and motivated to continue breastfeeding.

In addition, maternal health services should consider community-based education and outreach programs to increase awareness of breast care and breastfeeding practices. Community health workers and maternal health volunteers can provide information and support to mothers at the household level(Panday et al., 2017). These programs can be particularly beneficial in areas where access to professional healthcare services is limited. Through community engagement, mothers can receive continuous support and guidance in maintaining successful breastfeeding practices.

The results of this study also highlight the importance of capacity building for healthcare providers. Training programs for midwives, nurses, and other maternal health professionals should include practical skills related to breast care and lactation management. When healthcare providers are well trained, they can deliver more effective counseling and interventions to support breastfeeding mothers. Continuous professional development in maternal and child health can improve the quality of postpartum care services.

Furthermore, integrating breast care into routine maternal health services may contribute to improving exclusive breastfeeding rates. When mothers receive appropriate support and interventions to overcome breastfeeding challenges, they are more likely to continue breastfeeding exclusively for the recommended six months. Increasing exclusive breastfeeding rates can significantly reduce infant morbidity and mortality, improve child nutrition, and support long-term health outcomes.

4. CONCLUSION

The results of this study indicate that breast care is effective in improving the smooth production of breast milk in postpartum mothers. There was a significant difference in breast milk production before and after the breast care intervention, showing that breast care can stimulate the lactation process and facilitate the flow of breast milk. Breast care helps stimulate the hormones involved in milk production and improves blood circulation in the breast tissue, thereby supporting successful breastfeeding.

Therefore, breast care can be considered an important non-pharmacological intervention to support breastfeeding among postpartum mothers. Health workers, especially midwives and nurses, are recommended to provide education and guidance on proper breast care techniques so that mothers can perform breast care independently and improve the success of breastfeeding during the postpartum period.

REFERENCES

Alghamdi, S., Horodynski, M., & Stommel, M. (2017). Racial and ethnic differences in breastfeeding, maternal knowledge, and self-efficacy among low-income mothers. *Applied Nursing Research*, *37*, 24–27.

Amaliasari, G., & Pradanie, R. (2020). The Effect of Breast Treatment and Oxytocin Massage on the Production of Breast Milk. *Journal of Computational and Theoretical Nanoscience*, *17*(7), 3047–3052.

Campos, A. M. de S., Chaoul, C. de O., Carmona, E. V., Higa, R., & Vale, I. N. do. (2015). Exclusive breastfeeding practices reported by mothers and the introduction of additional liquids. *Revista Latino-Americana de Enfermagem*, *23*, 283–290.

Cherian, S. (2018). *Effectiveness of breast massage on the volume of expressed breast milk among mothers of neonates admitted in nicu in selected hospitals, Mangaluru*. Rajiv Gandhi University of Health Sciences (India).

Cooke, M., Sheehan, A., & Schmied, V. (2003). A description of the relationship between breastfeeding experiences, breastfeeding satisfaction, and weaning in the first 3 months after birth. *Journal of Human Lactation*, *19*(2), 145–156.

Dagnaw, F. T., Tiruneh, S. A., Azanaw, M. M., Desale, A. T., & Engdaw, M. T. (2020). Determinants of person-centered maternity care at the selected health facilities of Dessie town, Northeastern, Ethiopia: community-based cross-sectional study. *BMC Pregnancy and Childbirth*, *20*(1), 524.

Deif, R., Burch, E. M., Azar, J., Yonis, N., Abou Gabal, M., El Kramani, N., & DakhlAllah, D. (2021). Dysphoric milk ejection reflex: the psychoneurobiology of the breastfeeding experience. *Frontiers in Global Women's Health*, *2*, 669826.

Fahey, J. O., & Shenassa, E. (2013). Understanding and meeting the needs of women in the postpartum period: the perinatal maternal health promotion model. *Journal of Midwifery & Women's Health*, *58*(6), 613–621.

Giugliani, E. R. J. (2004). Common problems during lactation and their management. *Jornal de Pediatria*, *80*, s147–s154.

Godfrey, J. R., & Lawrence, R. A. (2010). Toward optimal health: the maternal benefits of breastfeeding. *Journal of Women's Health*, *19*(9), 1597–1602.

Hendriyani, F., & Suharto, A. (2019). Effectiveness of Oxytocin Massage and Breast Care Treatment on Breast Milk Production. *Indian Journal of Forensic Medicine & Toxicology*, *13*(4).

Kent, J. C., Gardner, H., & Geddes, D. T. (2016). Breastmilk production in the first 4 weeks after birth of term infants. *Nutrients*, *8*(12), 756.

Leonard, S. A., Labiner-Wolfe, J., Geraghty, S. R., & Rasmussen, K. M. (2011). Associations between high prepregnancy body mass index, breast-milk expression, and breast-milk production and feeding. *The American Journal of Clinical Nutrition*, *93*(3), 556–563.

Martínez-Galiano, J. M., Hernández-Martínez, A., Rodríguez-Almagro, J., Delgado-Rodríguez, M., & Gómez-Salgado, J. (2019). Relationship between parity and the problems that appear in the postpartum period. *Scientific Reports*, *9*(1), 11763.

Mohamed, M. J., Ochola, S., & Owino, V. O. (2018). Comparison of knowledge, attitudes and practices on exclusive breastfeeding between primiparous and multiparous mothers attending Wajir District hospital, Wajir County, Kenya: a cross-sectional analytical study. *International Breastfeeding Journal*, *13*(1), 11.

O'Brien, M., Buikstra, E., & Hegney, D. (2008). The influence of psychological factors on breastfeeding duration. *Journal of Advanced Nursing*, *63*(4), 397–408.

Oddy, W. H. (2001). Breastfeeding protects against illness and infection in infants and children: a review of the evidence. *Breastfeeding Review*, *9*(2).

Olza, I., Leahy-Warren, P., Benyamini, Y., Kazmierczak, M., Karlsdottir, S. I., Spyridou, A., Crespo-Mirasol, E., Takács, L., Hall, P. J., & Murphy, M. (2018). Women's psychological experiences of physiological childbirth: a meta-synthesis. *BMJ Open*, *8*(10), e020347.

Panday, S., Bissell, P., Van Teijlingen, E., & Simkhada, P. (2017). The contribution of female community health volunteers (FCHVs) to maternity care in Nepal: a qualitative study. *BMC Health Services Research*, *17*(1), 623.

Power, M. L., & Schulkin, J. (2016). *Milk: the biology of lactation*. JHU Press.

Riordan, J., Gill-Hopple, K., & Angeron, J. (2005). Indicators of effective breastfeeding and estimates of breast milk

intake. *Journal of Human Lactation*, *21*(4), 406–412.
Statistics, L. (2013). Descriptive and inferential statistics. *Retrieved From*.
Svennersten-Sjaunja, K., & Olsson, K. (2005). Endocrinology of milk production. *Domestic Animal Endocrinology*, *29*(2), 241–258.
Taherdoost, H. (2021). Data collection methods and tools for research; a step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management (IJARM)*, *10*(1), 10–38.
Wudineh, K. G., Nigusie, A. A., Gesese, S. S., Tesu, A. A., & Beyene, F. Y. (2018). Postnatal care service utilization and associated factors among women who gave birth in Debretabour town, North West Ethiopia: a community-based cross-sectional study. *BMC Pregnancy and Childbirth*, *18*(1), 508.
YAN, W. (2021). *INTERVENTIONS TO TREAT BREASTFEEDING COMPLICATIONS: BEST PRACTICE RECOMMENDATIONS*.