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The Effect of Breast Care on the Smoothness of Breast Milk in Postpartum Mothers

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Abstract

Background: Breast milk (ASI) is the primary and optimal source of nutrition for infants during the first six months of life. However, many mothers do not provide exclusive breastfeeding due to perceived insufficient milk production, often indicated by frequent infant crying, which leads to early supplementation with formula milk. Inadequate breast milk flow is a major factor contributing to early cessation of breastfeeding and suboptimal infant growth, highlighting the need for effective interventions to improve lactation. **Objective**: This study aimed to analyze the difference in breast milk flow before and after the application of breast care in postpartum mother. **Method**: This study employed a quasi-experimental design with a one-group pretest– posttest approach. The sample consisted of 15 postpartum mothers in the working area of the Piru Health Center, selected using total sampling. Breast milk flow was measured before and after the intervention. Data were analyzed using the Wilcoxon test, with ethical principles applied throughout the research process. **Results**: The findings showed a significant difference in breast milk flow before and after the application of breast care, with a ρ value of 0.005 ($p < 0.05$). **Discussion**: The improvement in breast milk flow after breast care can be explained by stimulation of the breast tissue, which enhances blood circulation and triggers the release of prolactin and oxytocin hormones, thereby facilitating milk production and ejection. These results are consistent with existing lactation theories that support breast care as an effective non-pharmacological intervention. **Conclusion**: Breast care has a positive effect on improving the smooth flow of breast milk in postpartum mothers and can be recommended as a supportive intervention to promote exclusive breastfeeding in the Piru Health Center working area.

Keywords: breast care, breast milk flow, community health center, piru, postpartum

INTRODUCTION

Pregnancy, childbirth, and breastfeeding are both natural and a gift for women. After the birth of a baby, or during the postpartum period, mothers play a crucial role in supporting their baby's growth and development through breast milk (ASI). Every baby has the right to receive breast milk from birth until the age of 6 (six) months, except for medical indications [1]. The benefits of breast milk include babies gaining immunity through skin-to-skin contact with the mother, babies getting protection and warmth, exclusive breastfeeding can reduce diarrhea, respiratory problems, allergies and obesity in children [2]. The rate of exclusive breastfeeding worldwide continues to increase from year to year. According to the 2023 Breastfeeding Scorecard, exclusive breastfeeding for six months has reached 48%. This figure is approaching the 2025 World Health Assembly target of 50% [3].

According to [4] that in Maluku Province the percentage of babies under 6 months of age who received exclusive breastfeeding in the last five years has fluctuated, where in 2020 (57.19 percent) there was a slight increase from the previous year, namely (56.55 percent). In 2021, there was a significant increase to 61.32 percent, but in 2022, it decreased to 59.62 percent. In 2023, the figure rose again, albeit insignificantly, to 61.52 percent, and in 2024, it reached 61.61 percent. This figure is still far from the coverage of exclusive breastfeeding in Indonesia, which was 74.73% in 2024, placing Maluku Province in the fifth lowest ranking for exclusive breastfeeding in Indonesia. The coverage of exclusive breastfeeding in the Piru Community Health Center's work area in 2024 was 38.6% [5].

Successful breastfeeding is not something that comes naturally but is a skill that needs to be taught [6]. Efforts that can be made to overcome this problem include breast care so that mothers can continue to provide breast milk to their children after giving birth by knowing the function and benefits of breast milk [7].

At the end of pregnancy, the milk-producing glands produce milk and can produce 50–100 ml a day from the time the baby is born [6]. So, new mothers must take care of their breasts to maintain their health and to increase and facilitate breast milk production. This breast care should be started on the first or second day after giving birth [7]. Case study conducted by [8] that breast care in the form of breast care is important for postpartum mothers, which is effective in increasing breast milk production. [9] that the breast milk production of mothers who do breast care is greater than that of mothers who do not do breast care. The goal of breast care is to balance blood flow so as not to interfere with the lactation process. The process of breast milk production is influenced by the prolactin and oxytocin hormones.

Breast care is useful for calming the let-down reflex, and this method can also increase the amount of breast milk in the breast, in addition, breast milk stasis can be prevented by doing breast care. Research conducted by [10] Studies have shown that the better a mother cares for her breasts, the smoother her breast milk supply will be. Breast care for postpartum mothers is highly recommended to maintain adequate breast milk production.

Postpartum mothers who immediately perform breast care have a positive impact on breast milk production. Stimulation of the area around the corpus, areola and nipple increases the sensitivity of the sympathetic nerves around the nipple to immediately transmit information to the pituitary gland to immediately produce the hormones prolactin and oxytocin. Breast care provides great benefits for mothers, because gentle massage of the breasts stimulates blood flow in the breasts and lactiferous ducts for vasodilation, thus facilitating the release of breast milk and preventing breast swelling due to breast milk stagnation [11].

Research conducted by [7] that there is an increase in breast milk volume after postpartum mothers receive breast care. The results of other research conducted by [12] that breast care is able to provide an effect of increasing the volume of breast milk in postpartum mothers, where the breast care method is very effective for breast milk production.

Based on initial data on May 5, 2025, conducted by researchers by interviewing five

postpartum mothers, four mothers complained that in the first week after giving birth, their breast milk was still low, so they gave formula milk because their babies were fussy and one mother said that her breast milk was enough for her baby, even though she had to eat more [13]. Interviews conducted with the Piru Health Center Administration Department showed that 40 mothers were expected to give birth in May-June 2025. Regarding exclusive breastfeeding, it is acknowledged that in the Piru Health Center work area, the coverage of exclusive breastfeeding is not yet optimal. In 2024, the number of mothers giving birth reached 512 and 275 were exclusively breastfeeding, meaning the exclusive breastfeeding coverage in the Piru Community Health Center's work area in 2024 was 38.6%. This figure is still far from the 2024 coverage in Maluku Province, which was 61.61%.

There are many factors that cause mothers not to provide exclusive breastfeeding, including babies crying frequently and mothers thinking their babies are hungry because their breast milk production is low, so they give their babies formula milk [14]. Efforts to increase breast milk production at the Piru Community Health Center have been carried out by providing advice to mothers who have given birth to carry out breast care, but this technique is not explained clearly step by step, so that when postpartum mothers return home, they do not practice it [15]. The description above is the reason for the researcher to conduct research by providing breast care treatment to postpartum mothers in the Piru Community Health Center Work Area. This study aims to analyze the influence of breast care on the smooth flow of breast milk in postpartum mothers in the Piru Health Center Work Area, by identifying the smooth flow of breast milk before and after breast care was implemented.

METHOD

This study employed a quasi-experimental design with a one-group pretest–posttest approach. The independent variable was the application of breast care, while the dependent variable was the smooth flow of breast milk [16]. The population consisted of postpartum mothers with an Estimated Date of Delivery (EDD) in June–July 2025 in the working area of the Piru Community Health Center, totaling 15 respondents. The sample included all postpartum mothers who met the inclusion criteria and was determined based on Gay and Diehl's sample size guidelines, using a consecutive sampling technique. The respondents comprised 6 postpartum mothers from Kawa Village, 4 from Pelita Jaya Village, and 5 from Osi Island Resettlement. Inclusion criteria were postpartum mothers who had normal deliveries and were willing to participate, while the exclusion criterion was the absence of respondents during the study period. Data were collected using a standardized breast care intervention Standard Operating Procedure (SOP), questionnaires, and observation sheets to assess breast milk flow before and after the intervention, ensuring reproducibility of the procedure [17]. Data processing included univariate analysis to describe respondent characteristics and breast milk flow variables, and bivariate analysis using the Wilcoxon test to determine differences before and after the intervention. Ethical considerations were applied throughout the study, including informed consent, voluntary participation, and confidentiality of respondent information.

RESULTS AND DISCUSSION

The majority of mothers are in the healthy reproductive age category (20-35 years) with a total of 13 (86.7%) respondents. The education of postpartum mothers in the Piru Health Center work area is mostly secondary education (high school) with a total of 9 (60%) respondents (Table 1).

Table 1. Respondent Characteristics (n=15)

Variable	Frequency (n)	Percentage (%)
Age		
Healthy Reproductive (20-35 years)	13	86.7
At Risk (<20 years or >35 years)	2	13.3
Education		
Primary (Elementary or Middle School)	2	13.3
Secondary (High School)	9	60
Higher (University)	4	26.7

The smooth flow of breast milk in postpartum mothers before being given breast care was categorized as smooth by 7 (46.7%) respondents and not smooth by 8 (53.3%) respondents (Table 2).

Table 2. Proportion of breastfeeding flow in postpartum mothers

Smooth flow of breast milk	Pre-test		Post-test	
	n	%	n	%
Smooth	7	46.7	15	100.0
Not smooth	8	53.3	0	0.0

The results of the Wilcoxon test shown in table above show that the smooth flow of breast milk in postpartum mothers in the Piru Health Center work area did not experience a decrease during the pretest and posttest. There were 11 respondents who experienced an increase in the flow of breast milk after being given breast care with a mean rank of 6.00 and the sum of rank was 66.00. It is known that there were 4 respondents whose breast milk flow was the same before and after being given breast care. The results of the Wilcoxon test show that the ρ value is 0.002 or <0.05, which means that Ho is rejected and Ha is accepted, so it can be concluded that statistically there is an influence of breast care on the smooth flow of breast milk in postpartum mothers in the Piru Health Center work area [18].

The results of this study indicate that the application of breast care has a significant effect on improving the smooth flow of breast milk in postpartum mothers in the Piru Health Center working area. After breast care was performed for three consecutive days, all

respondents experienced an improvement in breast milk flow [19]. This finding can be explained by lactation theory, which states that breast milk production and release are regulated by prolactin and oxytocin hormones [20]. Breast care stimulates sensory receptors around the areola and nipples, enhancing hormonal release, improving blood circulation, and preventing milk duct obstruction, thereby facilitating milk flow [21]. These findings are consistent with previous studies and national guidelines, which report that regular breast care increases milk production, strengthens the let-down reflex, and provides psychological relaxation that supports oxytocin secretion.

Several studies have confirmed the effectiveness of breast care in increasing breast milk production and flow, although some research highlights that breastfeeding success is also influenced by psychological and social factors such as maternal anxiety, family support, and nutritional status [22]. The research gap addressed in this study lies in its rural setting and its focus on the smoothness of breast milk flow rather than milk volume alone, using both maternal and infant indicators [23]. Overall, breast care is an effective intervention, but optimal breastfeeding outcomes require a holistic approach that integrates physical, psychological, and social support [24].

CONCLUSION

In this study, it can be concluded that before breast care was applied to postpartum mothers, 53.3% of their breast milk production was not smooth, and after breast care was carried out, 100% of their breast milk production was smooth. There is an influence of the application of breast care on the smooth flow of breast milk in postpartum mothers in the Piru Health Center work area.

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