

RESEARCH ARTICLE

Analysis of Breast Care Factors for Increasing Breast Milk Production in Pagar Merbau Public Health Community Centre, Medan

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Abstract: Breastfeeding is the obligation of a mother to provide milk to her baby after childbirth (childbirth). Proper treatment, such as breast maintenance and care, is required to provide adequate quantity and quality of breast milk. Breast care should begin during pregnancy and continue until delivery (childbirth). Breast massage, keeping the breast clean, using a bra as a breast protector, and consuming nutrition are all important aspects of breast care. This study examined whether breast care could increase milk production in postpartum mothers. This study was designed with a pre-test and post-test approach. The subjects of this study were 71 postpartum mothers from the Pagar Merbau Health Community Centre Work Area. The findings revealed that postpartum mothers' milk production increased when they massaged their breasts, kept their breasts clean, and consumed nutrition. Using postpartum bras does not significantly increase milk production in postpartum mothers.

Keywords: breast massage, breast hygiene, nutrition consumption, milk production

INTRODUCTION

Breastfeeding is a mother's obligation to feed her child after childbirth (postpartum). The milk that a mother gives to her baby is breast milk, which comes from the mother's breast. Breastmilk quantity and quality vary greatly depending on how many nutrients and vitamins the mother consumes while breastfeeding.¹

0-6 months cannot consume other foods; exclusive breastfeeding is essential. As a result, the amount and quality of breast milk affect the baby's growth and

development.² Furthermore, providing exclusive breastfeeding reduces the risk of infant death due to respiratory infections and diarrhoea.¹

However, not all breastfeeding mothers have breast milk for their babies. Breast engorgement is one of the issues with breastfeeding during the puerperium.³ A dam in milk is caused by a narrowing in the lactic duct, an incomplete emptying event, or an abnormality in the nipple.³ As a result, good breast care is required to run milk dams from pregnancy to childbirth (puerperium).

World Health Organization (WHO) data from 2015 shows that the percentage of breastfeeding women who experienced breast milk dams in the United States reached an average of 87.05% or as many as 8242 post-partum mothers out of 12,765; in 2014, 7198 mothers experienced breastfeeding out of 10,764 people. In 2015, 6543 mothers out of 9,862 experienced breast milk dams.⁴ According to national data, the proportion of infants receiving exclusive breastfeeding in 2018 was 68.74%, exceeding the target of 47%.

According to national data, the percentage of infants receiving exclusive breastfeeding in 2018 was 68.74%, exceeding the target of 47%. West Java Province had the highest coverage of exclusive breastfeeding (90.79%), while Gorontalo Province had the lowest (30.71%).⁵ The province of North Sumatra has only 34.86% coverage of exclusive breastfeeding, with a target of 55% achieved in 2018.⁶ More specifically, North Nias district had the lowest coverage of exclusive breastfeeding at 1.17%, followed by Nias district (5.68%) and Tanjung Balai at 9.68%. Meanwhile, only two districts/cities have achieved the provincial target: West Nias (81.30%) and Sibolga (60.54%).⁶ The Medan region was only able to achieve 34.49% coverage of exclusive breastfeeding.

According to the data presented above, many breastfeeding mothers still cannot provide exclusive breastfeeding for various reasons, including damaging milk in postpartum mothers. As a result, solutions to improve the quality and quantity of breast

milk mothers produce during childbirth are required.

Subagio (2019) recommends giving boiled sweet potato leaves to postpartum mothers for seven days to supplement breast milk (1). He says sweet potato leaf stew can supplement getting enough nutrition to increase breast milk production. Breast milk adequacy is also accompanied by the provision of nutrients that babies require, such as protein, fibre, and minerals, particularly K, P, Ca, Mg, Fe, Mn, and Cu.⁷

Another option is to treat the breasts during pregnancy until the puerperium. According to Alhadar and Umaternate, 95% of mothers who had breast care since pregnancy had smooth milk production, with nutrition influencing the remaining 5%.⁸

Utami et al. expressed the same sentiment. (2019) found that breast care significantly impacts breastfeeding in breastfeeding mothers.^{2,3} Breast care that can be done is oxytocin massage, which is a massage done on the fifth to sixth spine (ribs) to the scapula (shoulder blade) that will accelerate the work of the parasympathetic nerves that cause the myoepithelial contractility of the breast so that milk production from the mammary glands can be increased or facilitated.⁹

Breast care during breastfeeding aims to maintain breast hygiene to avoid infection, thicken the nipples so they do not blister breast milk, highlight the nipples, keep the shape of the breasts in good condition, prevent blockages, increase milk production, and detect any abnormalities.¹⁰

According to a preliminary study conducted by researchers at the Pagar Merbau Community Health Center using the results of a field survey, the number of mothers who gave birth in the last three months was 247. The findings of the initial interviews with post-partum mothers revealed that those who did not practice proper breast care frequently experienced discomfort in their breasts, as it was discovered that there were mothers whose breasts were swollen, sometimes painful, and whose nipples had blisters.

According to the above description, the goal of this study in 2020 is to determine the relationship between breast care and milk production in post-partum mothers at the Pagar Merbau Community Health Center. Breast care is providing breast massage, maintaining breast hygiene, wearing a bra, and providing nutrition through nutritious food.¹¹

METHODS

The time-series design approach, namely research by pre-test and post-test design, is used in this study to conduct breast milk-experimental research (breast milk-experimental design).¹² The ethical approval number for this study is 066/EC/KEPK.UISU/XI/2020. In this study, research subjects were taught how to perform breast care, such as massage, cleaning the nipples, and selecting a safe and comfortable bra, to determine the effect of breast care on milk production in post-partum mothers working at the Community Health Center Pagar Merbau in 2020.

The number of subjects used was determined through a non-probability sampling technique, namely purposive sampling. The issues taken were postpartum mothers who gave birth at the Pagar Merbau Health Centre, had babies around two weeks old, and were willing to be respondents. The Slovin formula determined the minimum sample/subject size, producing 71 research subjects.

The data used in this study are primary; that is, they were collected directly from research subjects using instruments that were given just as a source of information. A closed questionnaire is used to collect data on breast health (checklist). Data on breast milk production is obtained by observing and measuring the amount (volume) of breast milk with a measuring cup. The collected data is then analysed to understand the relationship between various risk factors, such as massage, breast hygiene, bra use, and the consumption of nutritious foods. The Chi-square test was used to analyse the data, with a 95% confidence level.

RESULTS

Respondent Characteristics

The instruments provided to respondents were used to create a descriptive picture of the relationship between the variables in this study, such as massage, breast hygiene, bra use, and nutritious food, on milk production in postpartum mothers in the work area Pagar Merbau Community Health Centre in 2020.

Table 1. The relationship between the variables

Aspect	f	(%)
Giving Massage		
Awarded	49	69,01
Not Awarded	22	30,99
Breast Hygiene		
Clean	46	64,79
Not Clean	25	35,21
Use of a Bra		
Use	37	52,11
Not Use	34	47,89
Provision of Nutritious Food		
Meet the needs of	48	67,61
Not Fulfill	23	32,39

The questionnaire collected from the study's samples revealed that more than half had received breast care. There were 69.01% who massaged their breasts, 64.79% who cleaned their breasts thoroughly, 52.11% who used a bra that fit the shape of their breasts, and 67.61% who met their nutritional needs through food.

This pre-existing data was then used to investigate the relationship between breast care and increased milk production. Tables 2-5 show the results of data processing.

Table 2. The Relationship between Breast Massage and Breast Milk Production

Massage	BREAST MILK		Total	P-Value
	increase	Not-Increase		
Awarded	43	6	49	0,001
Not-Awarded	11	11	22	
Total	54	17	71	

According to Table 2, 87.8% of 49 respondents experienced an increase in milk production after doing breast massage, while 12.2% of 49 respondents did not

experience an increase in milk production. Meanwhile, 50% of the 22 respondents who did not receive massages reported increased breast milk production. According to the chi-square test, a significant relationship ($p < 0.05$) exists between breast massage and increased milk production in the Pagar Merbau Community Health Center work area in 2020.

Table 3. The Relationship between Breast Hygiene and Breast Milk Production

Breast hygiene	BREAST MILK		Total	P-Value
	increase	Not-Increase		
Clean	40	6	46	0,005
Not-Clean	14	11	25	
Total	54	17	71	

According to Table 3, 87% of the 46 respondents increased their milk production after cleaning their breasts, while 13% of the 46 respondents did not increase their milk production. Meanwhile, 56% of 25 respondents reported an increase in breast milk production while maintaining breast cleanliness. According to the chi-square test, there is a significant relationship ($p < 0.05$) between maintaining breast hygiene and increasing breast milking milk production in the Pagar Merbau Community Health Centre's work area in 2019.

Table 4. The Relationship between Bra Use and Breast Milk Production

Use of a Bra	BREAST MILK		Total	P-Value
	increase	Not-Increase		
Use	31	6	37	0,094
Not-use	23	11	34	
Total	54	17	71	

According to Table 4, 83.8% of 37 respondents experienced an increase in milk production after using a bra that fit their breasts, while 16.2% did not experience an increase in milk production. Meanwhile, 67.7% of the 34 participants reported increased milk production despite not wearing a bra that fit their breasts.

Table 5. The Relationship between Consuming Nutritious Food and Breast Milk Production

Nutritious Food	BREAST MILK		Total	p-Value
	increase	Not-Increase		
Good	42	6	48	0,002
Not-good	12	11	23	
Total	54	17	71	

According to Table 5, 87.5% of the 48 respondents experienced an increase in milk production after consuming nutritious foods, while 12.5% did not experience an increase in breast milk production. Meanwhile, 67.7% of the 34 participants reported increased milk production despite not wearing a bra that fit their breasts. 52.2% of the 23 respondents without consuming nutritious foods experienced increased breast milk production. The chi-square test revealed a significant ($p < 0.05$) relationship between eating healthy food and increased breast milk production in the Pagar Merbau Community Health Centre work area in 2020.

DISCUSSION

The government is concerned about post-partum maternal health to reduce maternal and infant mortality rates. As a result, it was suggested that post-partum

mothers have their health checked at least three times after giving birth.^{3,6} Breast examination and exclusive breastfeeding for babies are two factors that health workers are concerned about regarding the health of postpartum mothers.^{5,13}

One of the issues that nursing mothers face is the possibility of pain, sore nipples, swollen breasts, and mastitis, all of which can be avoided with proper breast care.^{14,15} A massage around the breast is often recommended for breast care, aiming to improve blood circulation and prevent blockage of the milk production channels.^{2,16} Massage is a non-pharmacological management intervention. The purpose of giving a massage is to relieve the patient's discomfort and help the patient relax. Relaxation is appropriate for breastfeeding mothers because it lowers the levels of epinephrine and norepinephrine in the blood, restoring balance.

Oxytocin massage is a type of massage that provides comfort while also relieving stress on the mother by stimulating the release of the hormone oxytocin. The effect of oxytocin massage is to increase milk movement to the breasts and milk output.^{9,17,18} Giving massage (massage) can increase milk production in post-partum mothers, as found in this study, where 87.8% of respondents experienced a significant increase in milk production.

Breast care can also be accomplished by keeping the nipples and the entire breast clean. According to Prawita and Salima (2018), breast hygiene care can achieve breast care during the puerperium. Breast

care entails keeping the nipples clean, supple, not stiff, and dry.¹⁹

Keeping the breasts clean, especially around the nipple, will help to reduce milk flow blockage caused by dirt (20). Furthermore, cleaning the nipples minimises the risk of dams, swelling, and difficulty breastfeeding.¹²

Maintaining breast hygiene will also help to maintain breast shape and facilitate the release of breast milk (19). According to Prawita and Salima, there is a significant relationship between maintaining breast hygiene and increased breast milk production, with 83.8% of the 37 respondents who cleaned their nipples experiencing an increase in milk production.

Another aspect of breast care that must be considered is using a bra. The bra is a piece of clothing that helps to prevent sagging breasts, maintain breast firmness, and cover the breasts. Using a tight bra can also cause segmental engorgement, which is painless swelling of the breasts. As a result, postpartum mothers must select a bra that fits the shape of their breasts and uses warm bra care.²¹

However, according to the findings of this study, wearing a bra does not affect increbreast milking breast milk production. The data in Table 4 show whether a bra is suitable and can still increase milk production in postpartum mothers. It suggested using warm care bras that act as breast compressors to increase milk production.²¹

The post-partum mother's consumption of nutritious foods is the final factor observed in breast care. Food that has

been digested can be converted into energy for the body. As a result, it is critical to maintaining a diet and nutritional content in food. What postpartum mothers eat determines the amount of breast milk produced.

The higher the nutritional content the postpartum mother consumes, the higher the nutritional content the baby receives.^{22,23} Wardana's (2018) research results show a relationship between breastfeeding mothers' macronutrient intake and the macronutrient content of breast milk.²³

The higher the food quality consumed, the more breast milk is produced and the baby's birth weight.²² Breast milk production was shown in this study, where 87.5% of respondents increased milk production after eating nutritious foods.

Overall, breast care has the potential to accelerate and increase milk production in postpartum mothers. This is consistent with Damanik's (2020) assertion that there is a link between breast care and the ease of breastfeeding.^{11,24,25,26} As a result, postpartum mothers require ongoing education in caring for their breasts.²⁷ Breast health workers should conduct community outreach regularly.²⁸

CONCLUSIONS

According to the study's findings, postpartum mothers' milk production increases when they massage their breasts, keep their breasts clean, and consume nutrition. Bras use in postpartum mothers does not affect the increase in milk production in these women. As a result, health workers should educate pregnant

women on breast care so their children can receive adequate and high-quality breast milk when they give birth.

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