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RESEARCH ARTICLE

The Effect of Husbands' Breast Care and Midwives on Postpartum Mothers' Pain After Cesarean Section

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ABSTRACT

Breast engorgement is a common breastfeeding issue experienced by postpartum mothers, causing symptoms like pain, tenderness, and fever. Breast care interventions are crucial for maintaining health and comfort. The study examines the impact of husbands' breast care on postpartum mothers' pain after cesarean section at Doktor Johannes Leimena Ambon Central General Hospital. The study involved 72 respondents, divided into two intervention and one control group. The intervention was conducted twice daily for 30 minutes. Data analysis included chi-square tests and the checklist six-point engagement scale. There was a difference in breast pain intensity scores before and after breast care intervention by the husband, with an average pre-pain intensity with a scale of 6 and post with a scale of 1; using the Friedman test, the results obtained of ap value = 0.000 where the p-value <0.05. Breast milk fluency increases with the intervention from the baby and mother indicators. The implementation of breast care by husbands is effective in reducing the intensity of breast pain and milk production in Early puerperium post-sexual women.

INTRODUCTION

Breast engorgement is a breastfeeding problem for postpartum mothers that must be addressed. Breast engorgement is associated with discomfort due to pain, which may lead to the discontinuation of breastfeeding. (Eittah & Ashour, 2019). Breast engorgement obstructs milk ducts and mastitis. (Munsittikul et al., 2022). Common complaints in women who have breastfeeding problems include breast pain, tenderness, redness, swelling, fever, malaise, chills, lethargy, sweating, headache, cracked nipples, and hot feeling in the breast. (Lin et al., 2023).

The type of delivery also affects breast pain; Sectio cesarean (SC) delivery hurts breastfeeding, with delayed onset of lactation and pain that inhibits sucking activity. (Zhan et al., 2023). Breastfeeding is more difficult after SC surgery due to delayed early initiation of breastfeeding, but once breastfeeding is established, the mode of delivery may not affect continued breastfeeding. (Kruse et al., 2023).

Several studies continue to be developed for alternative breastfeeding treatments. A study investigated the nonpharmacological effects of reducing breast engorgement in breastfeeding, where hollyhock, ginger, herbal compresses, and cabbage leaves were influential in the treatment of breast engorgement. (Razmjouei et al., 2020).

Family support, especially from the husband, is a critical factor in the success of breast care for mothers post-cesarean section. Family support provides motivation, reduces stress, offers practical assistance, and includes knowledge about breastfeeding so that mothers can overcome various challenges that may arise and enjoy the breastfeeding process. However, this aspect has still not been explored.

Breast care is an intervention done to maintain the health and comfort of the breasts and support the process of successful breastfeeding. Breast care is a necessary treatment needed during the postpartum period. Breast care also aims to prevent breast swelling due to the accumulation of breast milk, which is characterized by stiff, swollen, and painful breasts. (Sarworno Prawirohardjo, 2010). In meeting the needs of breast milk, breast care can be done according to the standard.

Dr. Johannes Leimena Ambon Central General Hospital is a vertical hospital under the Ministry of Health, the only central referral hospital in the surrounding area of Ambon City. The number of patients who gave birth by SC in 2023 was 352 out of 742 total deliveries. In December 2023, there were 48 SC deliveries. Researchers interviewed patients who experienced breast swelling on the first day after cesarean section and said that their breasts were swollen, and the patient and family did not know how to handle the problem. The handling of breast swelling at Dr. J Leimena Ambon Hospital uses warm compresses and is given painkillers. The husband has never been directly involved in the implementation of breast care at Dr. Johannes Leimena Ambon Central General Hospital.

Breast care is very important for women, especially after surgery or those with medical conditions that affect breast tissue. Beast *care* provided by a husband is a precious form of love and support. This shows that husbands care about the health and well-being of their partners. With good cooperation, husbands and wives can maintain optimal breast health.

RESEARCH METHODS

Design Research

This study was conducted at Dr. Johannes Leimena Ambon Hospital from May to July 2024 after obtaining a recommendation from the research ethics committee of the Faculty of Public Health, Hasanuddin University, with Number. 1136/UN4.14.1/TP.01.02/2024. This study used quantitative research methods, namely with a *quasi-experimental* approach. The subjects of this study consisted of two groups, namely the intervention group and the control group. Assessment of breast pain intensity due to breast dams was measured using the SPES checklist, and evaluation of breast milk production was calculated based on maternal and infant indicators. The review was conducted before (pretest) and after (posttest) the intervention. The experimental group implemented breastfeeding care by the husband, and the researcher implemented breastfeeding care, while the control group implemented breastfeeding technique education. The intervention was carried out twice a day for three days. This study consisted of two independent variables: breast care management by husbands, breast care by researchers, and breastfeeding technique education management. Based on mother and baby indicators, the dependent variable is breast pain intensity and milk fluency—non-probability sampling technique consecutive sampling type. The experimental sample of 72 subjects consisted of 2 intervention groups, namely breast care by the husband and the implementation of breast care by the researcher, and the control group of breastfeeding technique education with 24 subjects each. Previously, normality test data was collected with the Chi-Square test. The Friedman test used data analysis to determine the mean difference before and after treatment in the experimental and control groups.

Research Tools

Breast care leaflet

Breastfeeding Techniques Leaflet

Breast care tools

Towel

two washcloths

Clean coconut oil/baby oil

The basin contains warm water

The basin contains cold water

Cotton in place

Bent

Research Instrument

Breast care checklist or guide

Table 1Breast care guide checklist

No	Implementation	Yes	No
1	Tell mother to wash her hands.		
2	Invite the mother to sit comfortably.		
3	Help mother take off her top and cover her back with a towel.		
4	Compress the nipple with cotton soaked in sterile coconut oil or warm water for 2-3 minutes.		
5	Pour coconut oil into both palms.		
6	Place both hands between the breasts, with the fingers facing down.		
7	Massage up to the side, down, and across so that the hand supports the breast, then remove the hand from the breast.		
8	Massage the left breast with the left hand supporting the left breast and massage with the right fist from the top towards the nipple, from the right side to the bottom left all towards the nipple, and alternating each side 5		
9	Give coconut oil to both mother's palms.		
10	Apply warm and cold water compresses to the right and left breast, alternately using a washcloth for 3-5 minutes.		

.**Breast milk production**

Baby Indicator

Baby urinate at least 6-8 times a day

Urine is clear

The baby is calm and sleeps soundly for 2-3 hours

Defecate 2-5 Times a Day

Defecate Golden/Greenish Black

Weight loss of no more than 10%

Mother Indicator

The breasts are tense because they are filled with breast milk

Mom relax

Let-down reflexes are good

Frequency of breastfeeding >8 times a day

Mother uses both breasts alternately

The attachment position is correct; the nipple is not sore

Mother breastfeeds baby without schedule

Mother looks red because her breasts are full

The breasts are empty after the baby has fed until he is full and falls asleep

The baby appears to be sucking hard with a slow rhythm

Intervention Procedures

Research procedure

Procedures for providing intervention to the group implementing *breast care* by the family

Researchers provide education and stimulation for implementing breast care on day 0 (12-24 hours) after SC action. The researcher guided the respondent's husband in carrying out breast care using a checklist to carry it out independently.

Before the husband carried out the breast care intervention, the intensity of breast pain was assessed using the *six-point engagement scale checklist* (SPES).

The research will be carried out in the hospital from day one after SC until the end of the treatment period, a maximum of day three, which will be carried out twice a day in the morning and evening by the husband and monitored by the researcher.

Researchers distributed observation sheets for breast milk production to respondents to fill in from day 1 to day 3

After three days of implementing *breast care*, mothers are asked to complete a breast pain score checklist using the *six-point engagement scale checklist.* (SPES).

Procedure for providing intervention to the *breast care implementation group* by researchers.

Researchers provide education on breastfeeding on day 0 (12-24 hours) after the SC procedure.

Before the husband carried out the breast care intervention, the intensity of breast pain was assessed using the *six-point engagement scale checklist* (SPES).

The research will be carried out in the hospital from day one after SC until the end of the treatment period, a maximum of day 3, which will be carried out twice a day in the morning and evening, as monitored by researchers.

Researchers distributed observation sheets for breast milk production to respondents to fill in from day 1 to day 3.

After carrying out breast care for three days by the researcher, the mother was asked to fill in a breast pain score *checklist using the six-point engagement scale checklist method.* (SPES).

RESULTS

Respondent Characteristics

Table 1. Frequency Distribution of Respondent Characteristics

Characteristics	Experimental group Breast care by husband (n=24)		Experimental group Breast care by the researcher (n=24)		Control group Breastfeeding technique (n=24)		Total		p-value
	n	%	N	%	n	%	n	%	
Age At risk (<20->35 years old) Not at risk 20-35 years	3 21	12.5 87.5	8 16	33.3 66.7	5 19	20.8 79.2	16 56	22.2 77.8	0.217*
Education High school University	13 11	54.2 45.8	20 4	83.3 16.7	18 6	75.0 25.0	51 21	70.8 29.2	0.073*
Occupation No Occupation Labor	13 11	54.2 45.8	14 10	58.3 41.7	13 11	54.2 45.8	40 32	55.6 44.4	0.945*
parity Primiparous Multiparous	8 16	33.3 66.7	8 16	33.3 66.7	8 16	33.3 66.7	24 48	33.3 66.7	1,000*

*Chi-Square Test

Table 1 shows the results of the highest age of respondents between 20-35 years, as many as 56 respondents (77.8%), and the highest high school education, as many as 51 respondents (70.8%). Most occupations do not work as many as 40 respondents (55.6%), and the most parity is multiparous parity, with as many as 48 respondents (66.7%). Statistical analysis showed no significant differences in characteristics between the group results ($p < 0.05$).

Table 2. Results of the Breast Pain Intensity scale in the Intervention Group and Control Group Before and After Breast care Implementation

Group	Breast pain intensity scale												P-Value
	1		2		3		4		5		6		
	n	%	n	%	n	%	n	%	n	%	n	%	
Breast care by husband													0,000*
Day 1	-	-	-	-	-	-	-	-	12	50.0	12	50.0	
Day 2	-	-	18	75.0	6	25.0	-	-	-	-	-	-	
Day 3	16	66.7	8	33.3	-	-	-	-	-	-	-	-	

Breast care by researchers													0,000*
Day 1	-	-	-	-	-	-	-	-	13	54.2	11	45.8	
Day 2	-	-	23	95.8	1	4.2	-	-	-	-	-	-	
Day 3	22	91.7	2	8.3	-	-	-	-	-	-	-	-	
Breastfeeding techniques education													0,000*
Day 1	-	-	-	-	-	-	-	-	13	54.2	11	45.8	
Day 2	-	-	-	-	16	66.7	8	33.3	-	-	-	-	
Day 3	-	-	3	12.5	21	87.5	-	-	-	-	-	-	

*Friedman test

Note:

1: soft breasts, no constriction of the breasts

2: there are slight changes in the breasts

3: hard breasts start to feel a bit painful

4: breasts are hard and starting to feel painful

5: complex and painful breasts

6: breasts are challenging and very painful

Based on table 2 shows that after the intervention, the data shows that the group experienced a decrease in breast pain intensity from stiff and painful breasts (scale 5) with challenging and very painful breasts (scale 6) to breasts experiencing slight changes in the breast (scale 2) and flaccid breasts no contractions (scale 1) respectively from the highest with the intervention of breast care implementation by the researcher then following breast care by the husband.

The statistical analysis results show a relationship between the intervention and control groups in reducing the intensity of breast pain where the P value = 000, ($p < 0.05$).

Table 3. Breast milk output results are based on infant and maternal indicators in the Breast Care by husband intervention group with breast care by researchers and the breastfeeding technique control group.

Group	**Breastmilk Smoothness Based on**							
	Baby Indicator				**Mother Indicator**			
	Smooth		**Not Smooth**		**Smooth**		**Not Smooth**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Breastcare by Husband								
Day 1	-	-	24	100	-	-	24	100
Day 2	6	25.0	18	75.0	10	41.7	14	58.3
Day 3	18	75.0	6	25.0	15	62.5	9	37.5
Breastcare by Researcher								
Day 1	-	-	24	100	-	-	24	100
Day 2	9	37.5	15	62.5	17	70.8	7	29.2

Day 3	19	79.2	5	20.8	21	87.5	3	12.5
Breastfeeding technique education								
Day 1	-	-	24	100	-	-	24	100
Day 2	4	16.7	20	83.3	4	16.7	20	83.3
Day 3	9	37.5	15	62.5	6	25.0	18	75.0

Note:

Baby Indicator:

1. Current ≥ 4 indicators

2. Not Current<4 indicators

Mother indicators:

1. Current: ≥ 5 indicators

2. Not Current<5

Based on Table 3. The analysis showed an increasing smoothness frequency (>50%) in the group from the first to the third day. The highest smoothness changes were in the group given breast care by the researcher, followed by breast care provided by the husband.

Table 4. The results of breast milk expenditure are based on indicators for babies in the Breast Care intervention group by husbands with breast care by researchers and the Control Group on breastfeeding techniques.

Group	**Breast milk production**				**P-Value**
	Fluent		Not smooth		
	n	%	n	%	
Breastcare by Husband					. a*
H1	-	-	24	100	
H2	6	25.0	18	75.0	
H3	18	75.0	6	25.0	
Breastcare by Researchers					0.257*
H1	-	-	24	100	
H2	9	37.5	15	62.5	
H3	19	79.2	5	20.8	
Education on Breastfeeding Techniques					0.004*
H1	-	-	24	100	
H2	4	16.7	20	83.3	
H3	9	37.5	15	62.5	

*Chi-Square Test

Based on Table 4.4, the results of the analysis show that there is a relationship between breast milk production and intervention from baby indicators from not being smooth on the first day to the majority being soft on the third day in a row, from the highest to breast care intervention by the researcher then followed by breast care by the husband.

DISCUSSION

The study results showed that the decrease in breast scale intensity and increase in breastmilk smoothness were higher in frequency in the group given by researchers who were professional midwives. The group provided by the husband followed this frequency, and the group that was only given education on breastfeeding techniques did not show good changes.

Breast care education is an important step, but not enough to guarantee optimal breast health. Breast care is very important for mothers after a cesarean section, as it helps stimulate hormones such as prolactin and oxytocin, prevents mastitis, and increases comfort. (Mamuroh et al., 2020). This treatment also facilitates the breastfeeding process by making the breast easier for the baby to suck on. Education should be combined with clinical breast examination, management of breast problems, and emotional support. (Nurhayati, 2020). Combining these three components in breast care is a holistic approach crucial to achieving optimal results. Each element has a complementary and mutually supportive role in improving breast health, early detection of breast cancer, and providing comprehensive support for patients.

The group that was only given breastfeeding techniques did not succeed in normalizing breast swelling. On the third day, the majority of mothers still experienced hard breasts, and the breasts were still slightly painful (Scale 3). A study found that 38.7 % of postpartum mothers experienced breast milk dams, namely swollen breasts that cause swelling and rigid feeling. A survey conducted by Petro Nustas (2013) found that most women knew about breast tumors and BSE and had done it in the past, but only a few reported their current practices. Perceived barriers and self-confidence are significant factors.

Damaged breast milk can disturb the mother's comfort and prevent exclusive breastfeeding. To ensure that exclusive breastfeeding is successful, new mothers must be educated about excellent and correct breastfeeding techniques. (Sinaga et al., 2023). Breastfeeding techniques alone do not normalize breast engorgement, increase breast milk production from the mother's indicators, or improve the baby's indicators. (C. Wulandari, 2022). On the third day, most mothers experience hard and slightly painful breasts, while the baby's indicators are still not smooth. This study aligns with research by Ranny and Sumiyati (2022) and shows that breast care can reduce breast swelling in breastfeeding mothers with a Six Point Engorgement Scale (SPES) score. (Septiani & Sumiyati, 2022).

The group that was only given breastfeeding techniques did not succeed in increasing breast milk production from both baby and mother indicators. On the third day, the majority of baby indicators were not smooth (62.5%), while based on maternal indicators, on the third day, the majority were not smooth (75.0%). This study aligns with research conducted by Nurliza (2020), who found that animal care, or breast care, can help stimulate the secretion of the hormone oxytocin to produce breast milk earlier. This may play an essential role in overcoming problems associated with breastfeeding. Effective breast care can increase breast milk production, but if the treatment is not carried out properly, it will cause decreased milk production, substandard milk production, and breast milk dams. (Faiza et al., 2023)

Research conducted by Mentari (2022) shows that postpartum mothers who receive breast care and massage experience increased breast milk production, significantly impacting the mother-baby bond. This research shows that this treatment can improve breastfeeding. (Ramadhini & Kurniati, 2022). Breast care provided by midwives offers education, examination, treatment, and management of breast problems and can refer mothers to specialists for further care if necessary. (Roslianti et al., 2022). They also provide comprehensive education about the importance of breast milk, teaching correct breastfeeding techniques to prevent problems such as sore nipples and blocked milk ducts. is a safe, effective, and affordable option for women who want to maintain the health of their breasts while breast care carried out by husbands can be a practical and helpful way to help wives maintain healthy breasts (Widiantoro et al., 2024). By providing emotional support, practical help, and open communication, husbands can help their wives feel more confident and assertive in dealing with breast health problems. (Prasetyawati & Kartikasari, 2022). The study conducted by Ribka involved 89 participants, including mothers aged 6 to 12 months who were willing to be respondents and mothers who were breastfed. The research results show that there is a significant relationship between the husband's support needed by the mother and exclusive breastfeeding, which shows that the husband plays a vital role in influencing the amount of breast milk produced, the duration of exclusive breastfeeding, and the mother's choice in providing breast milk. (S. R. Wulandari & Winarsih, 2023). Support from partners increases maternal confidence in breastfeeding, and this review serves as a reference for future research on partner support for breastfeeding participation. (Pratiwi et al., 2023)

Changes and recovery of physical and mental conditions after giving birth, primarily through Sectio Caesarea, make help from other people very important. Midwives are professionals in breast care, so the results are better than my husband's. Husbands have the potential to become breastcare helpers if they are given professional training. Research conducted by Desrianti Sinaga (2022) found a significant difference in the scale of swelling of breast milk dams in postpartum mothers before and after breast treatment; this supports the theory that early and appropriate breast care can prevent and reduce the incidence of breast milk dams, thus showing the importance breastfeeding (Desriati Sinaga, 2022)

The breastfeeding reflex in babies can be improved by reducing stress, anxiety, and confusion felt by the mother. The presence of a midwife or husband is a very effective support system in reducing stress in mothers. When breastmilk is smooth, things that often occur, such as hyperbilirubinemia, can be avoided. (Shahshahani et al., 2024).

Midwives and families have an essential role in postnatal support. This role is also vital in preventing mothers from falling in emergencies and can also reduce hospital stays. Breastmilk smoothness helps the mother's and child's health recover more quickly and improve; vice versa; if it is not smooth, it can prolong the length of stay in the hospital. (Eikemo et al., 2024). Midwives have high value in mothers' eyes and increase the sense of security of mothers and even families during pregnancy, childbirth, and postpartum. (Fahlbeck et al., 2022).

CONCLUSIONS

The implementation of breast care by husbands and the implementation of breast care by researchers or midwives both affect reducing the scale of breast pain intensity due to breast engorgement with breast milk release in postpartum mothers after cesarean section.

CONFLICT OF INTEREST

All authors state that they have no conflicts of interest.

AUTHOR CONTRIBUTIONS

LS was responsible for designing the experimental methodology and carrying out the experiments. ANU, SMTC, and ECJ drafted the initial manuscript. SR, LS, ANU, SMTC, ECJ, and BR reviewed and finalized the text. All authors contributed to the conceptualization of the study and approved the final version of the manuscript.

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