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Effect of Red Betel Leaf (*Piper crocatum*) on Dam for Breast Milk Postpartum Mothers at Public Health Center of Jawilan

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ABSTRACT

Based on a preliminary study conducted at the Jawilan Public Health Center, data was obtained from the period January to June 2021 for postpartum mothers who experienced breast milk damming as many as 75 people. This study aims to analyze the effect of red betel leaf (Piper crocatum) on breast milk dams in postpartum mothers with a quasi-experimental design and a pre-test and post-test design with a control group. The sample in this study was 30 people. The instrument used the SPES checklist and observations were carried out for 4 days starting from the 7th to the 10th day after postpartum. The analysis used was the non-parametric Wilcoxon statistic test to test the differences in groups, and the Mann-Whitney test to test the differences between groups. The swelling score before and after the red betel compress is on the 7th day is 5.53 and on the 10th day is 1.27. In the control group, the swelling score on the 7th day was 5.73 and on the 10th day was 2.53. In the in-group difference test, $p<0.05$ and the difference between groups, $p<0.05$. There was a significant decrease in swelling scores between before and after giving red betel leaf to postpartum mother's breast milk dam.

Keywords: breast milk dam; red betel leaf; postpartum mother

INTRODUCTION

Breast milk dam is breast milk that is not immediately released which causes blockage in venous and lymphatic flow so that milk flow becomes blocked and suppresses the mother's milk channel so that there is an increase in venous and lymph flow which causes swollen breasts. Breast milk dams mostly occur on the second to the tenth day of the postpartum period (Nugraheny & Sulistyawati, 2014; Meriem, 2017). Symptoms that often appear when breast milk dams occur include swollen breasts, hot, hard breasts, and the mother's body temperature reaching 380C. If this situation continues, it can lead to mastitis and breast abscess (Wulandari & Handayani, 2011).

In mothers who experience breast milk dams, the breastfeeding process will be hampered because the mother feels pain and pain in the breast so that the mother is afraid or lazy to breastfeed. Sometimes the breast looks wider so it is difficult for the baby to suck. As a result, the baby will drink less or become dehydrated which causes dry skin or lips, infrequent urination, sunken eyes, rapid breathing, lethargy, and drowsiness. (Manuaba, 2010).

The increase in the incidence of breast milk dams greatly affects the postpartum period because of the inability to provide breast milk to their babies. One of the reasons for not achieving exclusive breastfeeding is that babies do not get enough breast milk and increased milk production, late breastfeeding, poor bonding with babies. Breast milk dams can also be due to restrictions on breastfeeding time so that there can be inflammation in the mother's breasts and hard palpation, sometimes painful and often accompanied by an increase in the mother's body temperature, and there are signs of redness and fever (Manuaba, 2010).

One effort to prevent breast milk dam is breast care. Breast care aims to improve blood circulation and prevent blockage of the milk production ducts so as to facilitate the release of breast milk. Tactile stimulation during breast care can stimulate the hormones prolactin and oxytocin which help babies get breast milk (Gustirini & Anggraini, 2020).

According to Zakarija-Grkovic and Stewart (2020), the process of breast milk dam starts from overfilling the breast with milk, often in the early postpartum days. This causes swollen, hard, painful breasts and can lead to premature cessation of breastfeeding, decreased milk production, cracked nipples, and mastitis. Various treatments

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have been studied. Interventions may hold promise for the treatment of breast engorgement, such as cabbage leaves, cold gel packs, herbal compresses.

The research that has been done to overcome breast milk dam is cabbage. Research on red betel leaf compresses to overcome breast milk dam was recently conducted by Rofi'ah et al. (2020). Even though red betel leaf as an herb has many benefits.

Red betel plant (Piper crocatum) is a plant that contains active compounds such as polyphenolic compounds, polevenolad, flavonoids, alkaloids, tannins, and essential oils. The active compounds contained in the red betel plant cause this plant to have a lot of potentials to treat various diseases and has the potential as an antioxidant, antibacterial, anti-inflammatory, antihyperglycemic, anticonvulsant, anticancer, and also antidiabetic (Safithri and Fahma, 2008; Alfarabi et al., 2010; Safithri, 2011; Hermiati et. al, 2013; Lestari, 2014).

According to data obtained from the Person in Charge of the Nutrition Program of the UPT Jawilan Health Center, Serang Regency from 9 villages in Jawilan District, it is known that the coverage of exclusive breastfeeding in 2020 is 58%. and implementation of exclusive breastfeeding for infants. As a result of the occurrence of breast milk dams, the baby does not get enough breast milk and increases milk production, late breastfeeding, poor relationship with the baby (bonding), and it can also be due to restrictions on breastfeeding time so that there can be inflammation in the mother's breast and hard palpation, sometimes felt pain and is often accompanied by an increase in the mother's body temperature, and there are signs of redness and fever (Manuaba, 2010). Based on the preliminary study data that I did at the UPT Puskesmas Jawilan, Serang Regency, I got data for the period January - June 2021 for postpartum mothers who experienced ASI dams as many as 75 people (UPT Puskesmas Jawilan, 2021).

Based on these results, this researcher aimed to see the effect of red betel leaf on postpartum mother's breast milk dam at Public Health Center Jawilan Serang Regency.

METHOD

The study was conducted at Public Health Center Jawilan Serang Regency in July – August 2021. This study used an approach quasi-experimental (quasi-experimental) with a pre-test and post-test with a control group design. A total of 30 respondents who experienced breast milk dam were selected by purposive sampling. In the intervention group, as many as 15 people received treatment breast care for 15 minutes and red betel leaf compresses. In the control group, as many as 15 people only received treatment breast care for 15 minutes.

The research instrument used was a SPES checklist (Six Point Engorgement Scale) to measure the breast engorgement of breastfeeding mothers. Filling in the instrument by respondents accompanied by researchers was carried out before and after treatment in both the intervention and control groups.

Provision of red betel leaf compresses by means of clean red betel leaves as much as 15-20 pieces are included in 2 ml mortar and mashed until the red betel leaves feel soft. Next, apply a betel leaf compress to the breast, except for the areola and nipple. The compression is left for about 20 minutes, then cleaned. This compress procedure was repeated four times daily for 2 days.

After the intervention was completed, measurements were taken. Comparison of the results between before and after the intervention there was a decrease in swelling scores. The analysis used was normality test, non-parametric statistic Wilcoxon test to test for differences in groups, and Mann-Whitney test to test differences between groups.

RESULT

Univariate Analysis

Table 1. Distribution of the incidence of breast milk dams in the intervention group

Score	Level of breast milk dams	Day 7		Day 10	
		f	%	f	%
1	Soft	0	0.0	11	73.3
2	Slightly hard	0	0.0	4	26.7
3	Hard but not painful	0	0.0	0	0.0
4	Hard and starts to hurt	0	0.0	0	0.0
5	Hard and painful	7	46.7	0	0.0
6	Very hard and very painful	8	53.3	0	0.0
Total		15	100.0	15	100.0

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Table 1 shows, there were 15 respondents to the dam level ASI in the intervention group. In the first measurement, there were 7 respondents who experienced breast milk dam level 5 (hard and painful), and 8 respondents experienced breast milk dam 6 (very hard and very painful). In the fourth measurement after the intervention, 11 other respondents became normal (level 1), and 4 respondents experienced breast milk dam 2 (Slightly hard).

Table 2. Distribution of the incidence of breast milk dams in the control group

Score	Level of breast milk dams	Day 7		Day 10	
		f	%	f	%
1	Soft	0	0.0	1	6.7
2	Slightly hard	0	0.0	7	46.7
3	Hard but no pain	0	0.0	5	33.3
4	Hard and starting to hurt	0	0.0	4	13.3
5	Hard and painful	4	26.7	0	0.0
6	Very hard and very painful	11	73.3	0	0.0
Total		15	100.0	15	100.0

Table 2 shows that there are 15 respondents with the level of breast milk damming in the control group. In the first measurement, there were 4 respondents who experienced a level of breast milk engorgement of 5 (hard and painful), and 11 respondents experienced a level of breast milk engorgement of 6 (very hard and very painful. In the fourth measurement, 4 respondents experienced a level of breast milk engorgement of 4 (hard and starting to get worse). pain), 5 respondents experienced breast milk dam level 3 (hard but not painful), 7 respondents experienced breast milk dam level 2 (slightly hard) and 1 other respondent experienced breast milk dam level 1 (soft).

Table 3. Average distribution of breast milk dam breast on Intervention Group

Variable	Measurement	N	Mean	SD	p
Breast Milk Dam	Pre-test	15	5.53	0.516	0.001
	Post-test		1.27	0. 458	

Based on the results of the bivariate table 3 in this study, the average value of 5.53 at respondents before compressing red betel leaf and the average value of 1.27 in respondents after compressing red betel leaf. The results of the Wilcoxon non-parametric statistical test obtained a p-value of 0.001 < 0,05, it can be concluded that there is a significant difference between the average score of breastfeeding dams before and after the intervention.

Table 4. Distribution of Average Breast Milk Dams in the Control Group

Variable	Measurement	N	Mean	SD	p
Breast Milk Dam	Pre-test	15	5.73	0.458	0.001
	Post-test		2.53	0.834	

Based on table 4 the average value of ASI dam in the pre-test measurement is 5.73 and in the post-test measurement the average value is obtained breast milk dam of 2.53. It can be seen that the difference in the mean value between the pre-test and post-test measurements of breast milk dam is 3.20. Wilcoxon non-parametric statistical test results obtained a p-value of 0.001 <0.05, it can be concluded that there is a significant difference between the average score of breast milk dams on day 7 and day 10.

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Bivariate Analysis

Table 5. Differences in breast milk dams in the intervention group and control group

Variable	Measurement	N	Mean	SD	p
Breast Milk Dam	Control	15	2.53	0.834	0.000
	Intervention		1.27	0.458	

Based on Table 5, the average measurement of the breast milk dam in the control group was 2.53. While the intervention group obtained an average of 1.27 breast milk dams. It can be seen that the mean difference between breast milk dams in the control group and the intervention group is 1.26. The results of statistical tests showed the Mann-Whitney p=0.000 <0.05, so it can be concluded that there is a significant difference between the average breast milk dam in the control group and the intervention group, where the breast milk dam in the intervention group given red betel leaf compresses is lower than that in the intervention group. with the control group who were not given red betel leaf compress.

DISCUSSION

Based on table 4.3, it can be seen that in the intervention group the initial swelling score of the breast milk dam was 5.53 and after being given breast care and red betel leaf compresses for 2 days it became 1.27. Wilcoxon test results show a p-value of 0.001 <0.05. This means that there is a significant difference in the swelling score before and after being given breast care and red betel leaf compresses.

This study is in line with the research of Rofi'ah et al. (2020) which shows a score of 4 before being given a red betel leaf compress and after it becomes a score of 3. The statistical test results show a p-value of 0.014 <0.05, which means that there is a significant difference between scores before and after the intervention.

Based on table 4.4, it can be seen that in the control group the initial swelling score of the breast milk dam was 5.73 and after being given breast care it was 2.53. Wilcoxon test results show a p-value of 0.001 <0.05. This means that there is a significant difference in the swelling score before and after breast care is given. This shows that with only breast care treatment, the swelling of the breast dam can subside.

Referring to the research of Rofi'ah et al. (2020), the control group also experienced a decrease in scores from before and after the specified time with a p-value of 0.025 < 0.05 which also showed there was a significant difference in scores. In the control group, there was no special treatment, only continued breastfeeding according to the baby's needs.

According to Alam and Syahrir (2016) and Yanti (2017) breast milk dams can be caused by a lack of knowledge of mothers in breastfeeding techniques. Improper breastfeeding techniques can cause the nipple to become blistered and cause pain when the baby suckles. As a result, mothers are reluctant to breastfeed their babies and breast milk dams occur. In addition, according to Marni (2014), breast milk dams can be caused by incomplete emptying of the mother during lactation and when there is an increase in excessive milk production it will cause breast milk dams. If the baby is full and finished feeding and the breast is not emptied, then there is still milk remaining in the breast. The rest of the milk if not removed can cause breast engorgement.

Based on table 4.5 the average score of breast milk dams on day 10, in the control group was 2.53 while in the intervention group it was 1.27. The difference in the mean value of breastfeeding dams in the control group and the intervention group is 1.26. Statistical test results show a P-Value Mann-Whitney of 0.000 < 0.05. It can be concluded that there is a significant difference between the average breast milk dam in the control group and the intervention group, where the breast milk dam in the intervention group given red betel leaf compress is lower than the control group who is not given red betel leaf compress.

The effectiveness of red betel leaf compresses in reducing breast milk dam is due to the active compounds contained in red betel leaf in the form of flavonoids, polevenolad, tannins, and essential oils. Empirically the substances contained in the red betel leaf have the effect of relieving pain and swelling in the mammary (Hermiati et al., 2013).

Regarding breast milk dams. According to Syamson's research (2017), there is a relationship between knowledge, behavior, attitudes, motivation, and breastfeeding dams at the Nene Mallomo Hospital, Sidrap Regency.

According to research by of Asrul and Pratiwi (2019), education, knowledge, parity was significantly associated with the incidence of breast milk dam Clinic Mother Love Deli Serang in 2017.

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According to the research of Indah Sari and Chotimah (2017) on postpartum mothers in the maternity hospital Suko Asih Sukoharjo, it was found that there was a significant relationship between the level of knowledge about good breast care and the incidence of breast milk dams.

Based on research on the effect of red betel leaf on postpartum mother's breast milk dam at UPT Puskesmas Jawilan Serang Regency. And a literature study on factors related to breast milk dams, it is recommended that since pregnant women, counseling has been carried out on preventing breast milk dams and if there is a breast milk dam, it can be done with red betel leaf compresses.

CONCLUSION

The results of the study on postpartum mothers with breast milk dams at Public Health Center Jawilan Serang Regency, in the group given red betel leaf, compresses, the average score of breast milk dams before the intervention was 5.53 and after that was 1.27. There was a significant difference between before and after the intervention of red betel leaf ($p < 0.05$). In postpartum mothers with breast milk dams in the control group, the average score of breast milk dams on day 7 was 5.73 and on day 10 was 2.53. There was a significant difference between day 7 and day 10 ($p < 0.05$). There was a difference on day 10 between the intervention group and the control group of 1.26 and the difference between the two groups was significant ($p < 0.05$). Red betel leaf compress relieves breast milk retention better than the control group. Red betel leaf compresses are used as an alternative by health workers as one of the counseling to reduce the occurrence of breast milk dams during the puerperium.

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