

Cabbage Effectively Overcomes Breast Swelling on Post-Partum Mothers

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Abstract

Breastfeeding is the best ideal food for a healthy baby growth and development. One of the breastfeeding problems in the post-early delivery is breast engorgement. A cabbage leaf compress is one of complementary therapy to overcome pain due to breast swelling. Cabbage leaves contain sinigrin (allylisoithiocyanate) rapine, mustardoil, magnesium, oxylate, sulfur and with antibiotic, anti-irritant and anti-inflammatory. This study used quasy experimental design studies, with a pretest-posttest with control group design. The study population was about 30 postpartum mothers in the working area in Magelang. Respondents were divided into 2 groups, 15 postpartum mothers with the whole cabbage compress intervention group, 15 postpartum mothers with the fine cabbage compress intervention group. Analysis was using the Wilcoxon test. The results showed that the pain scale average change in the whole cabbage compress group was 2.8 and in the fine cabbage compress group it was 1.73. Compressing whole cabbage without a mixture of water is more effective in lowering the degree of swelling of the postpartum mother's breasts. It is recommended to postpartum mothers and midwives to apply cabbage compresses without any mixture of ingredients as one of the techniques to reduce the degree of breast swelling.

1. Introduction

Breast milk is the first natural food for babies. Breast milk contains all the energy and nutrients a baby needs in the first months of life. Breastfeeding is the best way to provide the ideal food for the growth and development of a healthy baby. The percentage of breast milk in Indonesia according to Basic Health Research in 2018 is still at 37.3% (R&D Agency of the Ministry of Health of the Republic of Indonesia, 2019). This figure is still far below the WHO target of at least 50% of babies under the age of 6 months must get exclusive breast milk (Prasetyo et al., 2023). One of the problems that can arise in the post-early delivery period is breast engorgement. Improper milk production in post-partum mothers causes breast milk dams. This disorder will be more severe if the mother rarely breastfeeds her baby, as a result of which the baby does not get breast milk exclusively. This condition if not treated immediately will cause the breast milk dam to get worse.

Breast milk retention can occur due to narrowing of the lactofery ducts or by the glands not emptied completely or because of abnormalities in the nipples resulting in swelling of the breast (Cunningham et al., 2013). Breast swelling due to the process of breastfeeding that

is not adequate causes the remaining breast milk to collect in the duct system so that swelling occurs. Static conditions in the blood vessels and lymph will cause an increase in intraductal pressure (Sivaprasad et al., 2022), which will affect various segments of the breast, resulting in increased pressure of the entire breast. This results in breasts often feeling full, tense, and often painful. Then followed by a decrease in breast milk production and a decrease in letdown reflexes (Destri and Rahmadani, 2021). Post partum mothers will feel breast pain, heat, pain in touch, tension, swelling that occurs on the third to sixth day after delivery (Anonymous, 2010). This disorder if not treated immediately will cause mastitis and breast abscesses. As a result, babies do not get breast milk exclusively (Maryunani, 2015).

Prevention efforts to breast swelling are breastfeeding the baby after birth with the correct position and attachment immediately, breastfeeding the baby on demand, removing breast milk manually using hands / pumps when production exceeds the needs of the baby, do not give drinks other than breast milk to the baby, and do postnatal breast care including breast massage. Breast care significantly affects the smoothness of breast milk so that there is no swelling of the breast (Tyfani, Utami and Susmini, 2017). Similarly,

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oxytocin massage (Isnaini and Diyanti, 2015) (Rofi'ah, Widatiningsih and Rahayuni, 2016). If the breast has experienced swelling then various ways can be done, including by doing lactation periods as done by (Taqiyah, Sunarti and Rais, 2019) or with oketani massage (Kusumastuti, Qomar and Pratiwi, 2018). The results of the study (Sari, Dewi and Indriati, 2019) aloe vera compresses can be recommended as a complementary therapy with breast swelling pain. Another complementary therapeutic ingredient that can be used to reduce breast swelling is cabbage leaves. The selection of cabbage that is most needed for the use of cold compresses on the breasts of mothers who experience breast engorgement is those containing elements of high sulfur value (Septiani, Anggorowati and Nur, 2021)

Cold cabbage leaves according to research (Wong et al., 2017) can relieve pain and hardness in breast swelling, so it is recommended to postnatal mothers to manage breast swelling. Cabbage leaves contain sinigrin (allylisothiocyanate) rapine, mustardoil, magnesium, oxylate, sulfur and have antibiotic, anti-irritant and anti-inflammatory properties. With the content of cabbage leaves helps in increasing the perfusion of blood to the area of swelling. The cabbage content dilates capillaries and acts as a counter repellent thus reducing swelling and inflammation of the breast so that milk flows. Research on cabbage has also been conducted by (Eittah and Ashour, 2019) with the results of cold cabbage leaves are very effective in the treatment of breast swelling and pain compared to warm compresses. Based on this, researchers are interested in conducting research on "Cabbage Compresses against postpartum mother's breast bending degree".

2. Methodology

This study used quasy experimental design studies, with a pretest-posttest with control group design (Asiri et al., 2023). The population was 30 postnatal mothers in the working area in Magelang regency. Respondents were divided into 2 groups, namely 15 postpartum

mothers of the whole cabbage compress intervention group, 15 postpartum mothers of the fine cabbage compress intervention group. The sample technique was accidental sampling (Fahlevi et al., 2023). The determination sample of the study based on the inclusion criteria that have been established, namely postpartum mothers primipara, experiencing breast swelling postpartum days 3 to 5, babies alive and in the process of breastfeeding and willing to be research respondents. The exclusion criteria are postpartum mothers who have done other treatments to reduce breast swelling, there are breast infections, breast abscesses, mastitis, septicemia, blistered / blistered milk putting and postpartum mothers who have allergies to sulfa / cabbage leaves.

Research activities consist of 3 stages, namely pre-test, research implementation, and posttest (Fahlevi et al., 2022). In this pre-test stage, researchers together with enumerators conducted an assessment of the engorgement scale (breast swelling) before doing a cabbage compress. At the intervention stage respondents were divided into two groups. The first group with the provision of a whole cabbage compress attached to the breast that has swelling for about 20 minutes. Group two is given intervention by means of cabbage leaves in the input into the blender added 2 ml of water waited until the cabbage is soft, after which it is applied to the breast except areola and putting. Compressing is left for about 20 minutes.

This compress procedure in groups I and II is repeated four times daily for 2 days. In the post test stage researchers together with the enumerator again conducted an assessment of the engorgement scale (breast swelling). Bivariate analysis of this study using wilcoxon statistical test with a significant level of 0.05 (Ramadhani et al., 2022).

3. Result & Discussion

Degree of breast swelling before and after being given whole cabbage compress in postpartum mother

Table 1. Degree of breast swelling in postpartum mother before and after given intact cabbage compress

Scale before	Frequency before	Percent before	Scale after	Frequency after	Percent after	Change	Amount
3	2	13,3	1	8	53,3	decreased	15
4	8	53,3	2	7	46,7	increased	0

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5	4	26,7			fixed	0
6	1	6,7			Amount	15
Total	15	100.0	Total	15	100.0	P value : 0.0001

Table 1. It was obtained that most of the breast swelling scale in postpartum mothers before being given cabbage compresses on a scale of 4 while after being given cabbage compresses on a scale of 1. There is a difference in the scale of pain due to swelling of the breast before and after being given a cabbage leaf compress.

Cabbage contains a good source of the amino acid glutamine and is believed to treat all types of inflammation, one of which is inflammation of the breast. In addition Cabbage contains mustard oil, magnesium, oxalate and sulfur heterosides. Methionine acid as an antibiotic and anti-irritant, which in turn draws additional blood flow to the area. It can dilate capillaries and act as a counter irritant, thereby eliminating swelling and inflammation as well as allowing breast milk to come out smoothly (Zuhana, 2017).

Cabbage can be used as an outside therapy by compressing the part of the body that swells or feels pain. The high sulfur content in cabbage is also believed to reduce swelling and inflammation in the breast. Cabbage leaves contain sulphure substances. The presence of such substances causes cabbage leaves

to have antibiotic and anti-inflammatory properties, which can help widen (vasodilate) capillary blood vessels, so it will increase blood flow to get in and out of the breast area (Damayanti, Ariani and Agustin, 2020).

The results of the study (Masoud et al., 2018) stated that cabbage leaves are effective for reducing breast swelling. According to the study, cabbage leaves are more effective and provide a rapid recovery effect on breast swelling and are cheap and easy to obtain. Research (Wong et al., 2017) that cold cabbage leaves are more effective in reducing breast swelling than cold colg gel so it can be recommended to postpartum mothers to overcome breast swelling. Cabbage compresses can relieve pain because cold can reduce prostaglandins that strengthen pain receptors, inhibit inflammatory processes, stimulate the release of endorphins so as to reduce pain transmission through the diameter of smaller C fibers and activate faster and larger transmission of A-beta sensory nerve fibers (Andari, Yuliasari and Iqmy, 2021).

Degree of breast swelling before and after being given a smooth cabbage compress on postpartum mother

Table 2. Degree of breast swelling in Postpartum Mother before and after being given a fine cabbage compress

Scale before	Frequency before	Percent before	Scale after	Frequency after	Percent after	Change	Amount
2	1	6.7	1	4	26.7	decreased	15
3	5	33.3	2	8	53.3	increased	0
4	7	46.7	3	3	20.0	fixed	0
5	2	13.3				Amount	15
Tota	15	100.0	Total	15	100.0	P value : 0.0001	

Table 2. It was found that most of the breast swelling scale in postpartum mothers before being given cabbage compresses on a scale of 4 while after being given cabbage compresses on a scale of 2. There is a difference in the scale of pain before and after being given a cabbage leaf compress Swelling and breast pain begin to arise postpartum, the third to fifth day and may continue longer in women who do not breastfeed (Sinclair, 2010)

Breast swelling is a static state in the blood vessels and lymph that results in increased intraductal pressure that affects various segments of the breast, so that the pressure of the entire breast increases (Bahiyatun, 2009). Breast swelling can also occur due to blockages in the milk ducts. Blockages in the breast can occur in one or more ducts. This disorder can cause breast milk dams and if not treated immediately will cause mastitis and breast abscesses (Maryunani, 2015)

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Respondents in this study before being given cabbage compresses experienced breast swelling on a scale of 4 things this is likely due to knowledge about improper breastfeeding techniques (Yanti, 2017) The lack of maternal knowledge about the correct breastfeeding technique will cause improper breastfeeding techniques of the baby, resulting in nipples becoming blistered and causing pain when the baby suckles. As a result, the mother does not want to breastfeed and breast swelling occurs (Alam and Syahrir, 2016) (Hasanah, Hardiani and Susumaningrum, 2017)

The scale of breast swelling in postpartum mothers after being given a cabbage compress on a scale of 2 which can be interpreted to be there is a slight change in the breast. In this study obtained the results of p value 0.0001 which means that the cabbage leaf compress is effective in reducing breast swelling. The results of the analysis were evidenced by descriptive analysis that showed that all respondents experienced a decrease in the pain scale. This study is supported (Zuhana, 2017) which states that there is a difference in the scale of breast swelling before after being given

cold cabbage leaves. Cabbage is a form of non-pharmacological therapy that can be used to reduce breast swelling. Cabbage contains a lot of vitamin C, Protein, Riboflavin, Niacin, Folate, vitamin K, Potassium, Magnesium, Pantothenic Acid, Iron and fiber (Komala Sari and Nelda Putri, 2020).

Decreased breast swelling scale after being given a compress of cabbage leaves according to cabbage has a high content of high sulfur so it is believed to reduce swelling and inflammation of the breast. Cabbage leaves contain sinigrin (allylisothiocyanate) rapine, mustardoil, magnesium, oxylate, and sulfur and have antibiotic, anti-irritant and anti-inflammatory properties. With the content of cabbage leaves helps in increasing the perfusion of blood to the area of swelling. Cabbage content dilates capillaries and acts as a counter repellent so as to reduce swelling and inflammation of the breast so that milk flows (Eittah and Ashour, 2019).

Effectiveness of cabbage compresses on breast swelling postpartum mothers

Table 3. Difference in effectiveness of whole and smooth cabbage compresses against breast swelling in postpartum mothers

	Whole Cabbage Compress	Fine Cabbage Compress
Average Pain Scale Before Intervention	4,27	3,67
Average Pain Scale After Intervention	1,47	1,93
Average Change	2,8	1,73
P value	0,001	0,001

The results showed that whole cabbage compresses were more effective than fine cabbage compresses. The average change in the pain scale in the whole cabbage compress group was 2.8 while in the fine cabbage compress group it was 1.73. The process of making a fine cabbage compress by means of cabbage leaves in the input into the blender added 2 ml of water is awaited until the cabbage is soft. The mixture of water in cabbage is smooth and heating during the smoothing process is thought to reduce the content of substances contained in cabbage.

Cabbage contains the antibiotic and anti-inflammatory amino acid glutamine which can help dilation of capillary blood vessels. In addition Cabbage contains mustard oil, magnesium, oxalate and sulfur heterosides. This can help widen the capillary blood

vessels thereby increasing blood flow to get in and out of the area, thus allowing the body to reabsorb the fluid contained in the breast. Cabbage leaves also secrete a cold gel that can absorb the marked heat from the client feeling more comfortable and the cabbage leaves become wilted / ripen after sticking (Zuhana, 2017).

Whole cabbage compresses were shown to change the average swelling pain by a scale of 2.8 so that it was more effective in reducing the degree of breast swelling pain than fine cabbage compresses that had been given additional water to help the process of softening cabbage with an average swelling pain of 1.73. A whole cabbage compress with an unchanged substance content is more effective in reducing the degree of breast swelling pain in post partum mothers

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4. Conclusion

Compressing whole cabbage without a mixture of water is more effective in lowering the degree of swelling of the postpartum mother's breasts. It is recommended to mothers with breast swelling can apply cabbage compresses without any mixture of ingredients as one technique to lower the degree of breast swelling. For health workers, especially midwives, it is expected to teach the technique of cabbage compresses without any mixture of ingredients to mothers as one of the non-pharmacological therapies to reduce the degree of breast swelling of postpartum mothers.

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