







# The Effect of Cabbage Leaf Compresses on Breast Milk Engorgement: A Pre-Experimental Design

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## Abstract

**Background:** The rate of exclusive breastfeeding in Indonesia was 61.33% in 2021 and increased to 64.5% in 2022. The government has set a target of 80% for exclusive breastfeeding; however, this target has not yet been achieved. Efforts to increase this coverage include providing accurate and appropriate information regarding the benefits of exclusive breastfeeding for both mothers and infants, which can enhance public awareness of its importance. Inadequate breast milk removal can result in breast swelling or breast milk engorgement. Breast milk engorgement in postpartum mothers requires proper care and management. The researchers conducted this study at PMB Tjasini because many postpartum mothers experience breast milk engorgement at this facility. This study aimed to determine the effect of cabbage leaf compresses on breast milk engorgement at PMB (Independent Midwife Practice) Tjasini in 2025. **Methods:** This study used a pre-experimental design with a one-group pretest–posttest approach. The study population comprised 10 postpartum mothers in the PMB Tjasini area. The sample included 10 respondents selected using purposive sampling.

**Results:** The univariate analysis showed that the mean breast pain score in postpartum mothers before receiving cabbage leaf compresses was 5.80, while after the intervention it decreased to 3.80. The bivariate analysis showed a significant effect of cabbage leaf compresses on breast pain in postpartum mothers in the PMB Tjasini area in 2025 (p-value = 0.000).

**Conclusion:** Breast milk engorgement can be prevented by increasing support for postpartum mothers to initiate breastfeeding early.

**Keywords:** Breast Milk, engorgement, Cabbage Leaf, Complementary Therapies

## BACKGROUND

The postpartum period following a normal delivery begins a few hours after placental delivery and continues for the next six weeks. The postpartum period is the recovery phase from the end of labor until the reproductive organs return to their pre-pregnancy state. This period generally lasts 6–8 weeks. A common problem among postpartum mothers, especially primigravidas (first-time mothers), is breast milk engorgement (1, 2). Breast milk engorgement is an uncomfortable physiological condition characterized by swelling and pain in the breasts due to increased milk production. Breast milk engorgement can reduce the frequency of breastfeeding, thereby preventing infants from receiving exclusive breastfeeding (3).

The rate of exclusive breastfeeding in Indonesia was 61.33% in 2021 and increased to 64.5% in 2022. The government has set a target of 80% for exclusive breastfeeding; however, this target has not yet been achieved. Efforts to increase this coverage include providing accurate and appropriate information regarding the benefits of exclusive breastfeeding for both mothers and infants, which can enhance public awareness of its importance. Inadequate breast milk removal can result in breast swelling or breast milk engorgement (4).

Breast swelling that is not properly managed can progress to more severe postpartum infections, such as mastitis, acute mammary gland infection, breast abscess, or even septicemia, accompanied by signs of inflammation such as fever, pain, and chills (5). The main factors contributing to breast swelling in Indonesia include maternal fatigue or illness (2%), infant illness (5%), infants not breastfeeding at night (9%), poor breastfeeding position (10%), flat nipples (24%), and infrequent or short-duration breastfeeding (47%), which can result in breast milk engorgement. Based on data from the Indonesian Health Research and Development Agency, the highest incidence of breast milk engorgement in Indonesia in 2020 occurred among working mothers, with 16% of breastfeeding mothers experiencing breast milk engorgement (4).

Breast milk engorgement is a condition characterized by narrowing of the lactiferous ducts or glands that are not emptied properly, or it may occur due to nipple abnormalities. Breast milk engorgement occurs due to obstruction of venous blood flow or lymphatic drainage as a result of milk accumulation in the breast. This condition occurs due to excessive milk production, while the infant's needs are still limited during the first few days (6). Breast milk engorgement is a common problem in the early postpartum period that can cause discomfort and become a barrier to exclusive breastfeeding. During the postpartum period, prevention and management of conditions that can affect the health of both mother and infant are essential. Breast milk engorgement often occurs due to delayed or infrequent breastfeeding, or ineffective breast emptying (7). Effective methods for addressing this issue include several interventions that can be implemented to reduce breast swelling, both pharmacologically and non-pharmacologically. Cabbage leaf compresses are one non-pharmacological intervention that can be used to reduce breast swelling.

Strategies to reduce breast swelling non-pharmacologically can be performed through traditional breast care (cabbage leaf compresses can be combined with massage) to reduce breast milk engorgement (8). The use of cabbage leaf compresses for breast milk engorgement is supported by their availability and content. Cabbage leaves are known to contain the amino acid methionine, which functions as an antibiotic, as well as other compounds such as mustard oil, magnesium, and sulfur oxalate heterosides. These components can help dilate capillaries, thereby increasing blood flow into and out of the area and allowing the body to reabsorb the accumulated fluid in the breast. In addition, cabbage leaves produce a cooling effect that can absorb heat, as indicated by the mother feeling more comfortable and the cabbage leaves wilting after approximately 30 minutes of application (9).

Breast milk engorgement in postpartum mothers requires appropriate care and management. Therefore, the researchers were interested in conducting this study at PMB Tjasini because many

postpartum mothers experience breast milk engorgement at this facility. This study aimed to determine the effect of cabbage leaf compresses on breast milk engorgement at PMB (Independent Midwife Practice) Tjasini in 2025.

## METHODS

### *Study Design*

This study was a quasi-experimental study with a pretest–posttest design. The design focused on the use of cabbage leaf compresses to treat breast milk engorgement. Observations were conducted before (pretest) and after (posttest) the intervention within a predetermined timeframe.

### *Sample/Participants*

The population in this study comprised all postpartum mothers who experienced breast milk engorgement and visited PMB Tjasini, Ogan Komering Ilir Regency, totaling 10 individuals. The sample included the entire study population, as all participants met the inclusion criteria (experienced breast milk engorgement and were willing to participate in this study).

### *Instruments*

The study instrument was an observation sheet. The instrument used in this study was an observation sheet developed by the researchers based on the study objectives and relevant literature. The observation sheet was designed to systematically record indicators related to the observed variables. Each item was arranged in a structured checklist format to ensure consistency during data collection. Prior to use, the instrument was reviewed by experts to assess the relevance, clarity, and suitability of each item. The observation sheet enabled standardized data collection and helped minimize subjectivity during the observation process.

### *Data Analysis*

Data were analyzed using the paired t-test to determine the difference in mean scores before and after the intervention. This test was selected because the data were obtained from the same participants at two different measurement points. The results showed a statistically significant difference between the pre-test and post-test scores, with a p-value of 0.000. Since the p-value was less than 0.05, it can be concluded that there was a significant change after the intervention. For reporting purposes, the p-value should be written as  $p < 0.001$ , rather than  $p = 0.000$ .

## RESULT AND DISCUSSION

### RESULT

**Table 1.** Breast Milk Engorgement in Postpartum Mothers Before Cabbage Leaf Compresses at PMB Tjasini in 2025

Variable	n	Mean	SD	Min-Max	95%CI (Lower-Upper)
Pre-test	10	5.80	1.033	4-7	5.06-6.54

Based on Table 1, it was found that breast milk engorgement in postpartum mothers before receiving cabbage leaf compresses had a mean of 5.80 (95% CI: 5.06–6.54) with a standard deviation of 1.033; the minimum value was 4 and the maximum value was 7. Based on this estimation, breast milk engorgement before receiving cabbage leaf compresses ranged from 5.06 to 6.54.

**Table 2.** Breast Milk Engorgement in Postpartum Mothers After Cabbage Leaf Compresses at PMB Tjasini in 2025

Variable	n	Mean	SD	Min-Max	95%CI (Lower-Upper)
Posttest	10	3.80	0.919	2-5	3.14-4.46

Based on Table 2, it was found that breast milk engorgement in postpartum mothers after receiving cabbage leaf compresses had a mean of 3.80 (95% CI: 3.14–4.46) with a standard deviation of 0.919; the minimum value was 2 and the maximum value was 5. Based on this estimation, breast milk engorgement after receiving cabbage leaf compresses ranged from 3.14 to 4.46.

**Table 3.** Data Normality Test Results (n = 10)

Variable	F	Sig.
Breast milk engorgement in postpartum mothers before receiving cabbage leaf compresses	10	0.191
Breast milk engorgement in postpartum mothers after receiving cabbage leaf compresses	10	0.149

Based on Table 3, the results of the normality test showed  $\alpha > 0.05$ , indicating that the data were normally distributed. Therefore, bivariate analysis was conducted using a paired sample t-test. The results of the bivariate analysis in this study are as follows.

**Table 4.** The Effect of Cabbage Leaf Compresses on Breast Milk Engorgement in Postpartum Mothers at PMB Tjasini in 2025

Variable	F	Sig.
Breast milk engorgement in postpartum mothers before receiving cabbage leaf compresses	10	0.191
Breast milk engorgement in postpartum mothers after receiving cabbage leaf compresses	10	0.149

## DISCUSSION

The analysis results showed that breast milk engorgement in postpartum mothers before receiving cabbage leaf compresses had a mean of 5.80 with a standard deviation of 1.033, while after receiving cabbage leaf compresses it had a mean of 3.80 with a standard deviation of 0.919. There was a decrease in breast milk engorgement in postpartum mothers by 2.00. The results of the paired sample t-test showed a p-value of 0.000; therefore,  $H_a$  was accepted and  $H_o$  was rejected, indicating that there was an effect of cabbage leaf compresses on breast milk engorgement in postpartum mothers at PMB Tjasini in 2025.

The results of this study showed that breast milk engorgement in postpartum mothers before receiving cabbage leaf compresses had a mean of 5.80 (95% CI: 5.06–6.54) with a standard deviation of 1.033; the minimum value was 4 and the maximum value was 7. Based on this estimation, breast milk engorgement before receiving cabbage leaf compresses ranged from 5.06 to 6.54.

The results of this study are consistent with Apriyani, which states that the breasts generally become engorged, hardened, and uncomfortable due to increased blood supply, occurring simultaneously with milk production. This condition is normal and typically lasts for a few days. However, breast engorgement can sometimes cause pain, making it difficult for mothers to wear bras or tolerate contact with the breasts (10,11). Swollen breasts may feel sore, warm, painful to the touch, and tense (12).

The results of this study are also consistent with Damayanti (2019), who examined the effect of cold cabbage leaf compresses on the degree of swelling, intensity of breast pain, and the amount of breast milk in postpartum mothers with breast milk engorgement (13). The results showed that cold cabbage leaf compresses had a significant effect on reducing the degree of swelling and the intensity of breast milk engorgement and increasing the amount of breast milk, with a p-value of 0.000 ( $\alpha < 0.05$ ). There was a significant difference between groups in reducing the degree of swelling (p-value  $< 0.005$ ), but no significant difference in increasing the amount of breast milk (p-value = 0.344). The study concluded that cold cabbage leaf compresses can be used as a therapy to reduce breast milk engorgement in mothers.

Based on theory and related studies, the researchers assume that postpartum mothers experience breast milk engorgement due to the accumulation of breast milk in the ducts, which can cause breast pain. If the infant does not latch properly after birth, or if the mammary glands are not emptied completely, this can result in a burning, painful, and hard sensation in the breasts, in addition to breast swelling due to accumulated milk.

The results of this study showed that breast milk engorgement in postpartum mothers after receiving cabbage leaf compresses had a mean of 3.80 (95% CI: 3.14–4.46) with a standard deviation of 0.919; the minimum value was 2 and the maximum value was 5. Based on this estimation, breast milk engorgement after receiving cabbage leaf compresses ranged from 3.14 to 4.46. Andira explains that strategies to reduce breast swelling and pain non-pharmacologically include acupuncture, traditional breast care (warm compresses combined with massage), cabbage leaf compresses, alternating warm and cold compresses, cold compresses, and ultrasound therapy (8). Cabbage can be used to treat swelling. Cabbage (*Brassica oleracea* var. *capitata*) is known to contain the amino acid methionine, which acts as an antibiotic, as well as other compounds such as sinigrin (allyl isothiocyanate), mustard oil, magnesium, and sulfur oxalate heterosides. These components can help dilate capillaries, thereby increasing blood flow into and out of the area and allowing the body to reabsorb retained fluid in the breast (14–16). In addition, cabbage leaves produce a cooling effect that absorbs heat, as indicated by increased maternal comfort and the cabbage leaves wilting after approximately 30 minutes of application (17–19).

The results of this study are consistent with Hasibuan (2021), who examined the effect of cold cabbage leaf (*Brassica oleracea*) compresses on reducing breast swelling in postpartum mothers. The results showed a significance value of  $0.000 < 0.05$  and a t-value of  $6.768 > t\text{-table } 2.1009$  (t-table 0.025,  $df = 18$ ), indicating that cold cabbage leaf compresses had an effect on reducing breast swelling in postpartum mothers at RSIA Pratama Siti Kholijah Marelan Medan (20). Based on theory and related studies, the researchers hypothesize that cold cabbage leaf compresses can reduce breast milk engorgement in postpartum mothers because they help dilate capillary blood vessels, thereby increasing blood flow into and out of the area and allowing the body to reabsorb accumulated fluid in the breast. In addition, cabbage leaves produce a cooling effect that absorbs heat, as indicated by increased maternal comfort.

The analysis results showed that breast milk engorgement in postpartum mothers before receiving cabbage leaf compresses had a mean of 5.80 with a standard deviation of 1.033, while after receiving cabbage leaf compresses it had a mean of 3.80 with a standard deviation of 0.919. There was a decrease in breast milk engorgement in postpartum mothers by 2.00. The results of the paired sample t-test showed a p-value of 0.000; therefore,  $H_a$  was accepted and  $H_o$  was rejected, indicating that there was an effect of cabbage leaf compresses on breast milk engorgement in postpartum mothers at PMB Tjasini in 2025. Rahayu states that a cabbage leaf compress is used to reduce breast pain using cabbage leaves. Breast care using cold cabbage leaf compresses is a procedure, especially during the postpartum period (breastfeeding), to reduce pain caused by breast swelling (16,21,22).

If breast care with cabbage leaf compresses is carried out properly, the pain caused by breast swelling can be reduced (23).

A cold cabbage leaf compress helps dilate capillaries, thereby increasing blood flow into and out of the area and allowing the body to reabsorb retained fluid in the breast. Furthermore, cabbage leaves produce a cooling effect that absorbs heat, resulting in increased maternal comfort (24,25). According to Apriyani, the breasts generally become engorged, hardened, and uncomfortable due to increased blood supply, occurring simultaneously with milk production. This condition is normal and typically lasts for a few days. However, breast engorgement can sometimes cause pain, making it difficult for mothers to wear bras or tolerate contact with the breasts. Swollen breasts may feel sore, warm, painful to the touch, and tense (12).

The results of this study are consistent with Hasibuan, who examined the effect of cold cabbage leaf (*Brassica oleracea*) compresses on reducing breast swelling in postpartum mothers. The results showed a significance value of  $0.000 < 0.05$  and a t-value of  $6.768 > t\text{-table } 2.1009$  (t-table 0.025, df = 18), indicating that cold cabbage leaf compresses had an effect on reducing breast swelling in postpartum mothers at RSIA Pratama Siti Kholijah Marelan Medan (20).

Similarly, Damayanti examined the effect of cold cabbage leaf compresses on the degree of swelling, intensity of breast pain, and the amount of breast milk in postpartum mothers with breast milk engorgement. The results showed that cold cabbage leaf compresses had a significant effect on reducing the degree of swelling and the intensity of breast milk engorgement and increasing the amount of breast milk, with a p-value of 0.000 ( $\alpha < 0.05$ ). There was a significant difference between groups in reducing the degree of swelling (p-value  $< 0.005$ ), but no significant difference in increasing the amount of breast milk (p-value = 0.344) (13). Cold cabbage leaf compresses can be used as a therapy to reduce breast swelling and pain in mothers experiencing breast milk engorgement (24, 26,27).

Based on theory and related studies, the researchers hypothesize that cold cabbage leaf compresses help dilate capillaries, thereby increasing blood flow into and out of the area and allowing the body to reabsorb retained fluid in the breast. Furthermore, cabbage leaves produce a cooling effect that absorbs heat, resulting in increased maternal comfort.

## CONCLUSION

The mean breast milk engorgement in postpartum mothers before receiving cabbage leaf compresses was 5.80. The mean breast milk engorgement after receiving cabbage leaf compresses was 3.80. There was an effect of cabbage leaf compresses on breast milk engorgement in postpartum mothers at PMB Tjasini in 2025 (p-value = 0.000). Breast milk engorgement can be prevented by increasing support for postpartum mothers to initiate breastfeeding early. However, if breast milk engorgement has already occurred, cold cabbage leaf compresses can be used as an alternative non-pharmacological therapy to reduce the degree of swelling and the intensity of breast pain in postpartum mothers experiencing breast milk engorgement. Therefore, reducing discomfort due to breast milk engorgement may help mothers maintain their willingness to continue breastfeeding their infants.

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## **AUTHOR'S CONTRIBUTION STATEMENT**

RL, AA, TA, RA and YS made substantial contributions to the study, including conceptualization, methodology development, software management, validation, Drafting and formal analysis.

## **CONFLICT OF INTEREST**

The author declares that there is no conflict of interest.

## **DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS**

All Authors declare no use AI in writing process.

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## **REFERENCES**

1. Manggopa LS. Factors Influencing Low Interest in Postpartum Intrauterine Device (IUD) use among Women in South Bolaang Mongondow Regency, Indonesia. *An Idea Heal J.* 2026;6(01):1–9. doi:10.53690/ihj.v6i01.545.
2. Maharani LC, Dewi FK, Surtiningsih. Vulva Hygiene Dan Konsumsi Telur Terhadap Laserasi Perineum Ibu Nifas di Puskesmas Vulva Hygiene and Egg Consumption on Perineal Lacerations in Postpartum Mothers at Public Health Center. *An Idea Heal J.* 2025;1(5):28–32. doi:10.53690/ihj.v5i01.391
3. Lim AR, Song JA, Hur MH, Lee MK, Lee MS. Cabbage compression early breast care on breast engorgement in primiparous women after cesarean birth: a controlled clinical trial. *Int J Clin Exp Med.* 2015;8(11):21335–42. Epub 20151115. PubMed PMID: 26885074.
4. Ministry of Health Indonesia. Indonesia Health Profile in 2020. Ministry of Health Indonesia. 2020. 487 p. Available from: <https://pusdatin.kemkes.go.id/>
5. Ariandini S, Kusmiati M, Yusnia N, Rahmawati A. Faktor-faktor yang mempengaruhi bendungan ASI pada ibu nifas. *J Public Heal Innov.* 2023;3(2):157–63. doi:10.34305/jphi.v3i02.717.
6. Alya A, Hentu AS, Utami L. Effect of Complementary Therapy Application: Moringa oleifera in Increasing Breast Milk Production in Mothers. *An Idea Heal J.* 2022;2(03):117–23. doi:10.53690/ihj.v2i03.121
7. Nafisa S, Indarwati F, Anisah L. Nutritional Management of Very Low Birth Infant (VLBW ) Through Human Milk Fortification, Formula Milk, and Breast Milk. *An Idea Heal J.* 2025;5(02):170–5. doi:10.53690/ihj.v5i02.486
8. Andari Y, Yuliasari D, Astriana, Iqmy LO. Pemberian Kompres Daun Kubis Untuk Mengurangi Nyeri Akibat Pembengkakan Payudara Pada Ibu Postpartum. *Midwifery J.* 2021;1(4):253–60.
9. Zaleha S, Ardhiyanti Y. Pemberian Kompres Daun Kubis dalam Mengatasi Bendungan ASI pada Ibu Nifas. 2022;1(2):74–81. doi:10.58794/jubida.v1i2.211
10. Di X, Ge XL, Wang D. Effect of care intervention with a health education form for breastfeeding on breast distension, pain, and lactation in postpartum mothers. *World J Clin Cases.* 2024;12(22):5059–66. doi:10.12998/wjcc.v12.i22.5059
11. Boi B, KOH S, Gail D. The effectiveness of cabbage leaf application (treatment) on pain and hardness in breast engorgement and its effect on the duration of breastfeeding. *JBI Evid Synth.* 2012;10(20). doi:10.11124/jbisrir-2012-58
12. Apriyani T, Rahma M, Aryanti, Lestari I. Kompres Daun Kubis (*Brassica oleracea* var. capitata) terhadap Penurunan Intensitas Nyeri dan Pembengkakan Payudara Ibu postpartum. *Cendekia Med.* 2021;6(2):94–102. doi:10.52235/cendekiamedika.v6i2.95.

13. Wong BB, Chan YH, Leow MQH, Lu Y, Chong YS, Koh SSL, et al. Application of cabbage leaves compared to gel packs for mothers with breast engorgement: Randomised controlled trial. *International Journal of Nursing Studies*. 2017;76:92–9. doi: <https://doi.org/10.1016/j.ijnurstu.2017.08.014>.
14. Aprilina HD, Krislinggardini K, Isnaini N, Suratmi S. The effect of cabbage leaves compress on breast engorgement in postpartum mothers. *Open Access Maced J Med Sci*. 2021;9(T4):124–8. doi:10.3889/oamjms.2021.5777
15. Napisah P, Widiasih R, Maryati I, Hermayanti Y, Natasya W. The effectiveness of cabbage leaf compress and the education of lactation management in reducing breast engorgement in postpartum. *Open Access Maced J Med Sci*. 2021;9(T6):106–10. doi:10.3889/oamjms.2021.7318
16. Eittah HFA, Ashour ESS. Comparing warm compress application vs. chilled cabbage leaves for relieving breast engorgement among post-natal mothers. *Clin Nurs Stud*. 2019;7(3):58. doi:10.5430/cns.v7n3p58
17. Mejias N, Vega-galvez A, Gomez-perez LS, Pasten A, Uribe E, Cort A, et al. Health-Promoting Properties of Processed Red Cabbage (*Brassica oleracea* var. *capitata* f. *rubra*): Effect of Drying Methods on Bio-Compound Retention. 2024; doi:10.3390/foods13060830
18. Deepika Sati, Deepika, Bhatt M, Kumar R, Sood P, Upadhyay J, et al. A Review on Geographical and Pharmacological Distribution of *Brassica Oleracea*. *J Res Appl Sci Biotechnol*. 2023;2(6):80–93. doi:10.55544/jrasb.2.6.12
19. A'yun Q, Rahman AP, Faruk Alrosyidi A. Formulation of Anti-Inflammatory Gel Preparation of Cabbage Leaf Extract (*Brassica oleracea* var. *capitata*) to Reduce Postpartum Breast Swelling. *Nusant Hasana J*. 2025;4(10): Page. doi:10.59003/nhj.v4i10.1361
20. Hasibuan, Juita S, Simarmata D, Farma A, Sitompul, Astri W, Yanti L, Ginting, Chrismis N. Pengaruh Pemberian Kompres Daun Kubis Dingin (*Brassica Oleracea*) Terhadap Penurunan Intensitas Nyeri Dan Pembengkakan Payudara Pada Ibu Post Partum. *J Heal Educ Lit*. 2021;3(2):122–8. doi:10.31605/j-healt.v2i1
21. Niluh Nita Silfia, Hastuti Usman, Asriwijayanti Yuli Admasari, Artika Dewie, Laili U. Cold cabbage leaves compress (*Brassica oleracea* var. *Capitata*) effectively reduces breast swelling in postpartum mothers. *Bali Med J*. 2023;12(3):3347–51. doi:10.15562/bmj.v12i3.4420
22. Marella M, Ridayani R, Rosauli Harianja R, Tianastia Rullyni N, Jayanti V. *Brassica Oleracea* VAR. *Capitata* Efektif Mengatasi Engorgement: Sebuah Review Sistematis. *COMSERVA J Penelit dan Pengabd Masy*. 2023;2(11):2790–7. doi:10.59141/comserva.v2i11.692
23. Suraida, Heni R, Wulandari, Tri E. Perbandingan Efektivitas Kompres Air Hangat Dan Kompres Daun Kol Untuk Mengurangi Nyeri Pada Ibu Dengan Pembengkakan Payudara Di Wilayah Kerja Puskesmas Wana Kabupaten Lampung Timur Tahun 2020. *J Matern*. 2020;1(3):150–7.
24. Anggriani Y, Andri Kariny EJ, Besmaya BM, C. Hardiyanti Rukmana. Pengaruh Kompres Daun Kubis (*Brassica Oleracea*) Untuk Mengatasi Bendungan Asi Pada Ibu Nifas. *J Medicare*. 2025;4(3):449–58. doi:10.62354/jurnalmedicare.v4i3.225
25. Kamila N, Suryatim Pratiwi Y, Wathan Mataram N, Studi Kebidanan Program Sarjana P, Kesehatan Yarsi Mataram I. Kompres Daun Kubis (*Brassica Oleracea* Var. *Capitata*) Sebagai Upaya Mengurangi Nyeri Payudara Pada Ibu Menyusui. *Journal of Fundus*, 5(1), 22-27. *J Midwifery Reprod Sci*. 2025;6(1):2808–1080. doi:10.57267/fundus.v5i1.455
26. Yusita I, Yuliani M, Hayati N. Manajemen Breast Engorgement Kompres Daun Kubis Dingin (*Brassica oleracea* var. *capitata*) dan Breastcare terhadap Pembengkakan Payudara pada Ibu Nifas. *J Ilm Univ Batanghari Jambi*. 2024;24(2):1480. doi:10.33087/jiubj.v24i2.4707
27. Natalia W. Effectiveness of Cold Cabbage Leaf Compress (*Brassica Oleracea* Var. *Capitata*) To Reduce Breast Swelling of Breastfeeding Mothers in Purwakarta Regency, Indonesia. *Eureka Herba Indones*. 2024;5(1):426. doi:10.37275/ehi.v5i1.113