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Effectiveness of Nipple Puller in Flat Nipples among Postpartum Cesarean Section Mothers: A Case Study

Nina Sunarti[1]*, Wanda Diasti Ningrum[2], Joao Manuel Correia Ximenes[3]

[1]Nursing Program, Akademi Keperawatan Bina Insan, DKI Jakarta, Indonesia, sunartinina2@gmail.com
[2]Nursing Program, Akademi Keperawatan Harum, DKI Jakarta, Indonesia, wandadiastiningrum@gmail.com
[3]Faculty of Health Science, Universidade de Dili, Dili, Timor Leste, xiaomanuelcorreia23@gmail.com

*Corresponding Author: sunartinina2@gmail.com

Abstract

Research Objective: To evaluate the effectiveness of nipple puller exercises using the syringe method in improving nipple eversion and the quality of breastfeeding attachment in postpartum mothers after cesarean section with flat nipples. **Methodology:** This study employed a case study design with a non-pharmacological intervention approach in maternity nursing care. The intervention was conducted prospectively to assess the effectiveness of nipple puller exercises using a modified syringe method according to standard procedures. The intervention was applied to three postpartum mothers with flat nipples following cesarean section. The exercises were performed from day 1 to day 4 postpartum, two to three times daily. Data were collected through interviews, direct observation, and documentation of nipple shape changes, breastfeeding attachment success, and the baby's ability to breastfeed effectively. Evaluation focused on nipple eversion, the quality of infant attachment during breastfeeding, effective sucking, and maternal comfort during the breastfeeding process.
Results: The results showed that all three participants experienced significant improvement in nipple eversion and breastfeeding attachment quality after consistently performing nipple puller exercises. The nipples became more protruded, allowing better infant latch and more effective sucking. Mothers also reported improved comfort during breastfeeding, reduced pain, and fewer episodes of latch detachment. These improvements contributed to a smoother breastfeeding process during the early postpartum period. **Conclusion:** Nipple puller exercises using the syringe method are a simple, safe, low-cost, and practical intervention to help overcome flat nipples in postpartum cesarean section mothers. This technique can support successful breastfeeding and may be recommended as part of lactation care practices in health facilities.

Keywords: *postpartum cesarean section, flat nipples, nipple puller, syringe method, breastfeeding*

INTRODUCTION

The increase in cesarean section delivery rates globally has implications for increasing challenges in breastfeeding success, especially in postpartum mothers with flat nipple conditions. Physical barriers, such as postoperative pain and limited mobility, as well as psychological factors, often interfere with the initiation of early breastfeeding and the sustainability of breastfeeding. This condition is a concern in the global health agenda, in line with *the Sustainable Development Goals* (SDGs), especially SDG 3 which emphasizes improving maternal and infant health.(Apriyanti & Syahda, 2022) In addition, the exclusive breastfeeding promotion policy promulgated by the WHO and adopted in the national health policy places health workers, especially nurses, as key actors in supporting breastfeeding success through safe, effective, and easy-to-apply interventions in health services.(Parellangi & Syukur, 2023)

Mothers who give birth via sectio caesarea often face the initial journey of becoming a mother with different challenges. After surgery, pain in the wound area makes it difficult for many mothers to move, get out of bed, or simply find a comfortable position to breastfeed their babies.(Anggelita et al., 2024) This condition often gives rise to a sense of helplessness and concern about whether the mother will be able to take care of her baby on her own.(Purwanti & Sujono, 2023) This situation is aggravated by the effects of anesthetic drugs that make the body feel weak, dizzy, or sleepy in the first days, so the

time to start skin contact and early breastfeeding is often delayed. This delay then has an impact on the process of milk excretion, because nipple stimulation does not take place optimally from the beginning (Bagal et al., 2017).

Emotionally, many postoperative mothers feel anxious and even some experience *baby blues* due to hormonal changes, pain, and pressure to be able to "immediately succeed" breastfeeding. The fear that the breast milk has not come out or that the baby seems fussy often makes the mother feel less confident.(Taj et al., 2025) When they are faced with additional obstacles such as flat or non-protruding nipples, that psychological burden is even greater. It is not uncommon for mothers to feel like failures, when in fact this condition is very common and can be treated with the right help(Lerika & Hanim, 2025).

In a hospital setting, post-sectio mothers usually require longer treatment time, but this is not always accompanied by intense breastfeeding opportunities. Some facilities still separate the baby and the mother after surgery, so the breast stimulation and bonding experience are reduced. In the midst of limited mobility, mothers often rely on the help of nurses or families, and this sometimes makes them feel out of control. This challenge causes the success rate of breastfeeding in caesarean section mothers tends to be lower than that of mothers who give birth normally(*Vino Rika Nofia Stikes Syedza Saintika Padang Ratna Indah Sari Dewi Stikes Syedza Saintika Padang A . Pendahuluan Penyakit Jantung Koroner Merupakan Penyakit Jantung Yang Sering Dialami Oleh Orang Dewasa (Riskesdas , 2013). Penyakit Ini Juga Merupakan P*, 2018).

But behind all these challenges, every post sectio mother has the same potential to successfully breastfeed as long as she gets the right assistance(Wahyuningsih, 2024). Simple interventions such as nipple exercises, *syringe/nipple puller*, emotional support, and breastfeeding position education can be a great helper(Alifah et al., 2023). With an empathetic approach, family support, and responsive lactation services, mothers who have just undergone major surgery can still live the beginning of life with their baby warmly and confidently(Lerika & Hanim, 2025).

The phenomenon of inverted or flat nipples is not a rare case in breastfeeding mothers. Various international reports show that about 8–10% of mothers have inprotruding nipples, even a cohort study found 12.5% of mothers had *retracted nipples*. (Ghosh & Singh, 2019)This condition can complicate the baby's attachment process, so that breastfeeding stimulation is not optimal. The impact is even more pronounced when this condition is experienced by mothers who give birth through sectio caesarea, because this group already has a higher risk of experiencing delays in milk production.

Although various national and international studies have discussed the success of breastfeeding and the use of the LATCH Scoring System, most studies still focus on education on breastfeeding techniques in general, while anatomical issues such as flat nipples have not received much special attention. Research on simple interventions such as nipple pullers, particularly syringe methods, is still limited and generally has not been studied prospectively with measurable outcome indicators. In addition, postpartum postpartum mothers who have physical and psychological challenges in breastfeeding are often not the main focus of the study.

Research shows that *Delayed Onset of Lactogenesis* II (DOLLARS) can occur in 8.7% to 57.9% mothers in various populations, and especially in post-sectio mothers the number reaches 33,3%**.** A large meta-analysis even summarizes the average prevalence of DOLII around 31%**,** indicating that this issue is quite significant and has a direct impact on the success of early breastfeeding(Chowdhry et al., 2024). The combination of inverted nipples and cesarean delivery makes the lactation process even more challenging, often leading to the use of premature formula or breastfeeding failure. These data confirm that interventions such as *syringe method* or nipple eversion exercises are very relevant to be researched, especially in an effort to support postpartum mothers to still be able to successfully breastfeed optimally(Wahyuningsih, 2024).

Previous studies have shown that various non-invasive interventions can help mothers with

inverted or flat nipples in improving breastfeeding success. RCT studies (Liu et al., 2024) found that *Hoffman's exercise* Effectively improves nipple projection and breastfeeding success score(Hassan Ahmed et al., 2024). Other quasi-experimental research(Alifah et al., 2023) Compare *Hoffman's exercise* and *inverted syringe method***,** where both methods both methods increased nipple eversion, although Hoffman's exercise showed a slightly higher success rate(Hassan Ahmed et al., 2024).

Systematic review by (Wahyuningsih, 2024) also affirms that reverse syringe It is the most widely used technique and has been considered effective in various studies. Local observational findings suggest that inverted nipples are associated with breast milk stasis and breastfeeding difficulties, so the support of eversion techniques is essential. Even minimal-invasive RCT studies using distractors showed a high rate of breastfeeding success, confirming that putting correction both mechanical and auxiliary had a significant effect on smooth lactation(Chowdhry et al., 2024). Overall, the evidence supports the need for further research on specific populations such as ibu post sectio caesarea**,** who have a higher risk of developing lactation resistance, to assess effectiveness *syringe method* in a more specific clinical context.

Although a variety of interventions have been developed to address the problem of flat nipples, the scientific evidence that specifically examines the effectiveness of *nipple pullers* in postpartum mothers with sectio caesarean delivery is still limited, especially in the context of case-study-based nursing practice. Most previous studies have focused on the postpartum maternal population in general and have not explored in depth the role of nurses in implementing *nipple pullers* as a stand-alone nonpharmacological intervention. These limitations indicate a significant research gap, so this study is expected to strengthen the empirical evidence while increasing scientific contribution by presenting an applicative picture of the role of nurses in supporting successful breastfeeding in postpartum SC mothers with flat nipples, in line with the SDGs targets and exclusive breastfeeding policies.

Research on the effectiveness of nipple puller exercises (syringe method) on flat nipples in postpartum caesarean section mothers at Koja Hospital is very urgent because it aims to evaluate changes in nipple projection and quality of breastfeeding attachment after nipple puller intervention in post sectio caesarean mothers with flat nipples, which is one of the main factors that inhibit the success of initiation and smooth breastfeeding. Especially in post-caesarean section mothers who generally experience delayed mobilization, surgical wound pain, and limited breastfeeding position.

This condition increases the risk of failure to breastfeed, the use of early formula milk, and decreases the chances of success of exclusive breastfeeding. Although the *nipple puller* method is known as a simple, inexpensive, non-pharmacological, and easy to teach technique,(Nabulsi et al., 2022) local scientific evidence on its effectiveness in the post-caesarean section maternal population is still very limited, especially in service facilities such as Koja Hospital. This data gap makes health workers do not have an evidence-based practice basis to treat flat nipple problems quickly and effectively. By researching the effectiveness of this method, health facilities can develop more standardized breastfeeding SOPs, improve latching success, and improve breastfeeding outcomes in postpartum caesarean section mothers.

Therefore, a case study is needed that documents in depth the effectiveness of nipple puller interventions on the improvement of nipple condition and breastfeeding success as a basis for strengthening more empathetic and applicable maternity nursing practices.

METHODS

This study uses a case study design with a nonpharmacological intervention-based maternity nursing care approach. A case study was conducted prospectively to evaluate the effectiveness of nipple puller exercises using the syringe method in postpartum mothers with flat nipples after sectio caesarean delivery. This approach allows for an in-depth exploration of the individual's response to interventions, both physically and functionally in supporting breastfeeding success.

The study subjects used three postpartum mothers with the inclusion criteria of days 1 to 3 post-sectio caesarea who had a flat nipple condition, hadno complications from surgical wounds or breast infections and were willing to be research subjects. And exclusion criteria include postpartum mothers with sectio caesarean delivery who have severe postoperative complications, have medical contraindications to breastfeeding, or have breast anatomical abnormalities other than flat nipples that require special treatment. In addition, postpartum mothers who were using other interventions for nipple correction, experienced severe psychological distress or decreased consciousness, were uncooperative in following the intervention procedure, and refused or stopped participation during the study.

The intervention provided was in the form of nipple puller exercises using a modified syringe method, carried out with a frequency procedure 2 times a day, with a duration of approximately 5-10 minutes per session, implementation time for 1-3 days postpartum, carried out before the breastfeeding session and given education and demonstration by the nurse.(Wahyuningsih, 2024) The aim was to evaluate the effectiveness of the Nipple Puller exercise using *the syringe method* in postpartum cesarean section mothers with flat nipple conditions. This approach was chosen to describe the profound changes in nipple condition after intervention during the treatment period.

The outcome and measurement tool used were an observation sheet of changes in nipple protrusion *to assess changes in the shape and protrusion of the nipple before and after the intervention.*(Pada & Menyusui, 2024) The breastfeeding attachment assessment sheet is based on *the indicators of latch on* (mouth wide open, rhythmic straw, no pain, lips evert), the ability of babies to breastfeed effectively by observing the suction pattern and duration of breastfeeding. Mother's comfort while breastfeeding using a *Numeric Rating Scale* (NRS) and subjective statements from mothers about initial breast milk production in the form of maternal reports and observations of breast milk expenditure.(Maya Cahyani et al., 2025) As well as clinical photo documentation (with respondent's permission) to reinforce the visual data of development.

Data were collected through direct observation, recording of *Nipple Puller exercise results*, assessment of attachment during breastfeeding, and documentation of changes in nipple projection. Each intervention session was recorded in a daily format to see the consistency of the changes. The data was supplemented by direct interviews with mothers to find out information about the mother's knowledge about breast care, observations to find out whether the mother could do breast care or not, and documentation of nipple changes and the baby's response.

The Data Analysis technique carried out was by comparing the initial and final conditions of nipple projection, describing the improvement in the quality of breastfeeding attachment, and formulating the pattern of changes that occurred in each respondent. Results were analyzed narrativeally to see the effectiveness of interventions based on measurable clinical progress.

From this data, researchers can get an overview of the effectiveness of interventions in providing real understanding in nipple puller exercises so that they can help mothers with cesarean section overcome flat nipple obstruction and improve lactation success in real situations in the field.

In the research process, the researcher pays attention to research ethics, including *informed consent*, identity confidentiality, and the physical and emotional comfort of the patient, so that the data can be disclosed humanely and respectfully.

Results and Discussion

At this stage, the researcher collects data through patients, families, nurses in the room and the patient's medical records to establish a nursing diagnosis with the help of an assessment format with a nursing process approach.

Patient 1 is 27 years old, G1P0A0, postpartum day 2 after cesarean section, primipara, with bilateral flat nipple condition. The patient did not experience any postoperative complications and showed motivation to breastfeed his baby. The condition of breast milk has not come out, the breasts

are symmetrical, the left and right mammals are inverted, the areola is hyperpigmented, the colostrum has come out, the breasts are enlarged and swollen. Patients express a lack of understanding about breast care and how to breastfeed their babies. Patients complain of pain in the wound section of the caesarean section, pain such as incision, pain scale 6 and pain loss arises, increasing if moving is reduced if it is silent. Vital signs: TD 100/90 mmHg, RR 18x/min, temperature 36ºC, pulse 85x/min, received 3x500 mg of cataractic drugs, ceftriaxone 2x2 grams and vitamin C 2x1gram, there was a caesarean section suture wound,

Patient 2 aged 21 years, G1P0A0, postpartum day 1 postpartum after cesarean section with inverted left and right mammary papillae conditions, extreme. The patient did not experience any postoperative complications and showed motivation to breastfeed his baby. The condition of breast milk has not come out, the breasts are symmetrical, the areola is hyperpigmented, colostrum has come out, the breasts are enlarged and swollen. Patients express a lack of understanding about breast care and how to breastfeed their babies. The patient complained of pain in the wound section of the caesarean section, pain such as incisions, pain scale 5, pain loss arises, increases if movement decreases if it is silent. Vital signs: TD 110/86 mmHg, RR 20x/min, temperature 36ºC, pulse 83x/min. got the drug Keterolac 3x500 mg, ceftriaxone 2x2 grams and vitamin C 2x1 gram, there was a caesarean section stitch wound,

Patient 3 aged 21 years, G2P1A0, postpartum day 1 postpartum after cesarean section, with the condition of putting the left mammary papilla experted and right, inverted. The patient did not experience any postoperative complications and showed motivation to breastfeed his baby. The condition of breast milk has not come out, the breasts are symmetrical, the left and right mammals are inverted, the areola is hyperpigmented, the colostrum has come out, the breasts are enlarged and swollen. Patients express a lack of understanding about breast care and how to breastfeed their babies. Patients complain of pain in the caesarean section, pain such as incisions, pain scale 7, pain loss arises, increases if movement decreases if you are still. Vital signs: TD 120/90 mmHg, RR 22x/min, temperature 36.7ºC, pulse 86x/min, 3x500 mg of cataractic drugs, ceftriaxone 2x2 grams and vitamin C 2x1grams, there is a caesarean section suture wound,

Before the syringe method nipple puller exercise intervention was carried out on the three patients, the condition of the nipples was assessed as flat, with a LATCH score of 5 which showed that the baby's attachment was not optimal. Mothers complain of discomfort while breastfeeding with an NRS score of 4, and babies tend to have difficulty maintaining attachment during the breastfeeding process.

After three days of nipple puller training, there was an improvement in the condition of the nipple to semi-protruding. The LATCH score increases to 8 which indicates effective baby attachment. The mother's level of discomfort decreases with an NRS score of 1, and the baby is able to breastfeed with stronger suction and a more stable duration of breastfeeding.

The results of the analysis showed that there was a variation in response between cases after the administration of *nipple puller intervention* in postpartum mothers with flat nipples after sectio caesarea. In patient 3 there was a faster increase in nipple protraction, the effects of the intervention began to be seen in the first 24 hours after the use *of the nipple puller* accompanied by an improvement in the baby's ability to attach to the breast, which was demonstrated by an improvement in breastfeeding score after the intervention. This improvement is more optimal after the intervention is carried out continuously until the 3rd day postpartum.

Conversely, in patients1 and 2, the effects of the intervention appeared more slowly, namely on the 2nd day postpartum. Nipple protraction repair occurs gradually and requires a longer intervention time up to the 4th day postpartum to achieve meaningful improvement. Although it still shows an increasing trend compared to the initial conditions. These differences in responses are thought to be influenced by variations in individual conditions, such as postoperative pain levels, maternal readiness to participate in interventions, and breastfeeding support received. However, both cases showed

consistent changes in the direction of change, namely improvement in nipple condition and increased breastfeeding effectiveness after *nipple puller intervention*, indicating the potential benefits of these interventions in nursing care of postpartum SC mothers.

DISCUSSION

The results of a case study on postpartum mothers Sectio Caesarea show that Nipple puller exercises using *syringe method* provides a noticeable effect in helping to accentuate flat nipples So that the breastfeeding process becomes more optimal. This is in line with research conducted by (Alifah et al., 2023) who said that with the technique of creating negative pressure which is able to pull the nipple tissue out gradually, thus helping the baby's attachment to the breast. This method is an effective, safe, and economical non-pharmacological method to treat flat and inverted nipples(Wahyuningsih, 2024).

In postpartum caesarean section mothers, problems delay in initiation of early breastfeeding, surgical wound pain, and limited mobilization is one of the risk factors for the appearance of flat nipples and difficulty breastfeeding. The three patients in this case showed that these factors cause babies to be breastfed infrequently in early life so that nipple stimulation is low and the nipple shape is difficult to stand out. This is in line with the results of research conducted (Chowdhry et al., 2024) which stated that Surgical wound pain, and limited mobilization are factors that worsen the condition of the putting flat**.**(Chowdhry et al., 2024). Therefore, exercise *nipple puller* very helpful as Baby suction stimulation aids, especially in the early days after surgery when the mother is still experiencing limited breastfeeding position (Bagal et al., 2017).

The results were found to increase the success of baby attachment and smoother milk flow.(Youssef Ahmed Abd-Ella & Fouad Mohammed, 2021) Improved attachment also reduces complaints of nipple pain and prevents nipple trauma. In addition, patients reported increased confidence and motivation to breastfeed, as they saw noticeable changes after exercising regularly, this is in line with the results of a study conducted (Damanik et al., 2025) These findings support previous research which stated that *inverted syringe technique* more effective than manual exercises such as Hoffman in highlighting flat nipples and improve breastfeeding outcomes(Hassan Ahmed et al., 2024).

Overall, the results of this study show that the use of nipple puller with syringe method In postpartum mothers, caesarean section is very useful as an early intervention to improve the condition of the flat nipple. These interventions safe, practical, and can be done independently by the mother after being given the right education(Maya Cahyani et al., 2025). In the context of a combination of breastfeeding technique education, lactation assistance, and regular nipple puller exercises, it has been proven to help mothers with caesarean sections to be better prepared to give breast milk despite facing anatomical obstacles in the nipples and postoperative physical limitations(Nabulsi et al., 2022).

In the implementation of this study, there are supporting factors, namely the client and family seem cooperative in carrying out the actions given, the room where the action is carried out is very conducive, in carrying out breast care for the mother post partum section caesaria, there is support from the room nurse. The inhibiting factor of this study is that clients sometimes do not optimally perform the breast care that is taught, this is because all clients still complain of pain in the wound in the sectio caesaria, here the researcher educates the patient to continue to do breast care at home and the deep breath dance technique if the pain in the sectio caesaria wound is felt so that breast care can be carried out optimally

A number of studies show that The Nipple Puller technique with a syringe method is effective to help the nipple eversion flat and inverted and increase breastfeeding success(Nabulsi et al., 2022), which assesses the success of exclusive breastfeeding through the use of inverted syringes, proving that a 10 mL syringe is able to help with nipple projection safely and economically, as well as several recent comparative studies that show that the syringe method has equal or better effectiveness than

Hoffman exercises and the use of electric breast pumps in creating nipple eversion and improving adhesion(Chowdhry et al., 2024). From the results of the research(Hassan Ahmed et al., 2024) It also emphasized that non-invasive interventions such as the syringe method are the most practical option for post-sectio mothers because they do not increase the pain of surgical wounds and can be done independently. It can be used as a strong reference that the nipple puller exercise (syringe method) is a valid, simple, and effective intervention to help postpartum caesarean section mothers with flat nipples (Hassan Ahmed et al., 2024).

This research has several limitations. First, the design of a case study with a limited number of subjects makes it impossible to generalize the results to a wider population. Second, the duration of the intervention and the relatively short observation period limit the monitoring of the sustainability effects of nipple puller exercises on long-term breastfeeding success. Third, the measurement of several outcomes, such as initial milk production and maternal comfort, is still subjective and has the potential to cause perception bias. In addition, this study did not use a comparison group, so the effects of the intervention could not be compared with other methods or standard treatments. Nevertheless, this study still provides a meaningful preliminary picture of the application of simple and applicable interventions in maternity nursing practice.

CONCLUSION

This study shows that nipple puller exercises (syringe method) have a positive impact in helping postpartum sectio caesarean mothers with flat nipple conditions to achieve a more effective breastfeeding process. This intervention has been shown to be able to gradually increase nipple projection, ease the *latch on* process, reduce maternal tension, and increase confidence in breastfeeding, especially in primipara mothers who tend to experience postoperative anxiety.

Through simple, safe, and independent exercises with the guidance of health workers, mothers show increased breastfeeding ability, characterized by more stable baby attachment, longer breastfeeding duration, and more optimal colostrum/breast milk output (Stocks, 2016) Overall, *nipple pullers* have proven to be an effective, cheap, and practical alternative to nonpharmacological interventions in treating flat nipple problems in postpartum caesarean section mothers, especially in health care facilities such as Koja Hospital.

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References

Alifah, A. N., Ekayanthi, N. W. D., & Fauzia, F. (2023). PUTING SUSU TENGGELAM : SEBUAH LAPORAN KASUS ASUHAN NIFAS Inverted nipples: a postpartum care case report. *Jurnal Kesehatan Siliwangi*, *3*(3), 688–693. https://doi.org/1034011/jks.v3i3.1256

Anggelita, D., Dhilon, D. A., & Lubis, D. S. (2024). Asuhan Kebidanan Pada Ibu Nifas Dengan Puting Susu Terbenam Grade II Di PMB Nislawaty Wilayah Kerja Puskesmas Bangkinang Kota Tahun 2024 Midwifery Care for Postpartum Mothers with Grade II Immersed Nipples at PMB Nislawaty Bangkinang Kota Health Center Wo. *Evidance Midwifery Journal*, *1*(4), 272–277. https://journal.universitaspahlawan.ac.id/

Apriyanti, F., & Syahda, S. (2022). Analisa Hubungan Teknik Menyusui dengan Kejadian Nipple Trauma pada Ibu Menyusui di Desa Laboi Jaya Wilayah Kerja UPT Puskesmas Laboy Jaya. *Jurnal Ners*, *6*(1), 114–118. https://doi.org/10.31004/jn.v6i1.4080

Bagal, S. U., Salunkhe, J. A., Salunkhe, A. H., Kakade, S. V, Mohite, V. R., Jyoti, M., & Salunkhe, A. (2017). A Comparative Study to Assess Problem of Inverted Nipple and Its Relationship to Successful Breast Feeding Among Antenatal Mothers. *International Journal of Health Sciences & Research (Www.Ijhsr.Org)*, *7*(4), 280. www.ijhsr.org

Chowdhry, B. K., Nair, A., Jha, S., Banerjee, A., Singh, P., & Dalai, R. (2024). Breastfeeding Success With Use of Electric Breast Pump Versus Inverted Syringe Technique in Lactating Women With Inverted Nipple: Open Labelled Randomized Control Trial. *Cureus*, *16*(8), 1–8. https://doi.org/10.7759/cureus.68153

Damanik, S., Nasution, Y. E., & Rosa, E. (2025). *BREAST MILK RETENTION CAUSED BY INVERTED NIPPLES AND BREASTFEEDING TECHNIQUES FOR POSTPARTUM MOTHERS*. *11*(10), 965–971.

Ghosh, D., & Singh, A. (2019). Effectiveness of Hoffman Exercise on Breastfeeding among Primipara Mothers with Flat and Retracted Nipple: A Narrative Review. *International Journal of Nursing Education*, *11*(4), 44. https://doi.org/10.5958/0974-9357.2019.00086.2

Hassan Ahmed, A., Hassan Shamekh Taman, A., & I Hassan, S. (2024). Effect of Hoffman's Exercise Versus Inverted Syringe Technique on Nipple Length and Breastfeeding Outcomes among Primiparous Women with Inverted Nipples. *Egyptian Journal of Health Care*, *15*(3), 1972–1991. https://doi.org/10.21608/ejhc.2025.443793

Lerika, A. L., & Hanim, B. (2025). Asuhan Berkelanjutan pada Ny. N dengan Perawatan

Payudara dan Pijat Oksitosin untuk Persiapan Laktasi di RS Awal Bros Ujung Batu. *Jurnal Penelitian Multidisiplin Bangsa*, *2*(3), 691–697. https://doi.org/10.59837/jpnmb.v2i3.569

Liu, H., Lou, V. W. Q., & Xu, S. (2024). Randomized controlled trials on promoting self-care behaviors among informal caregivers of older patients: a systematic review and meta-analysis. *BMC Geriatrics*, *24*(1), 1–17. https://doi.org/10.1186/s12877-023-04614-6

Maya Cahyani, V., Lestari, W., Purwani Suci a-c Program Studi Ilmu Keperawatan, W., & Keperawatan Universitas Riau, F. (2025). Gambaran Perilaku Ibu Menyusui Dalam Mengatasi Permasalahan Puting Lecet. *Jurnal Keperawatan*, *13*(1), 102–113.

Nabulsi, M., Ghanem, R., Smaili, H., & Khalil, A. (2022). The inverted syringe technique for management of inverted nipples in breastfeeding women: a pilot randomized controlled trial. *International Breastfeeding Journal*, *17*(1), 1–8. https://doi.org/10.1186/s13006-022-00452-1

Pada, T., & Menyusui, I. B. U. (2024). *pranata2019,+Journal+editor,+9.+JTG24_Dwi+Suryanti+Wahyuningsih+CE+OK+1999-2007*. *6*, 1999–2007.

Parellangi, A., & Syukur, N. A. (2023). *PENGARUH KOMBINASI PIJAT OKETANI DAN PIJAT LAKTASI TERHADAP PRODUKSI ASI PADA IBU MENYUSUI DI RSUD ABADI SAMBOJA TAHUN 2023 Politeknik Kesehatan Kalimantan Timur Article Information Article history : Keywords : Kata Kunci : PENDAHULUAN World Health Organi*. *4*, 623–631.

Purwanti, R., & Sujono, M. S. R. (2023). Early Breastfeeding Initiation, Caesarean Section, And Pre-Lacteal Feeding Practices. *Jurnal Kesehatan Prima*, *17*(2), 48. https://doi.org/10.32807/jkp.v17i2.998

Stocks, N. (2016). *universita Andalas tentang gambaran tingkat pengetahuan hipertensi*. *2018*, 1–23.

Taj, S., Kausar, S., Naz, F., Manzoor, N., & Zareef, S. (2025). Effectiveness of Breastfeeding Techniques to Improve Latching and Prevention of Nipple Soreness among Primipara Mothers. A Randomized Control Trial. *Journal of Neonatal Surgery*, *14*(1), 852–859. https://doi.org/10.52783/jns.v14.1610

VINO RIKA NOFIA STIKES Syedza Saintika Padang RATNA INDAH SARI DEWI STIKES Syedza Saintika Padang A . Pendahuluan Penyakit jantung koroner merupakan penyakit jantung yang sering dialami oleh orang dewasa (Riskesdas , 2013). Penyakit ini juga merupakan p. (2018). *1*(1), 139–146.

Wahyuningsih, D. S. (2024). *DOI: http://dx.doi.org/10.33846/sf15238 Jarum Suntik Terbalik sebagai Teknik Paling Populer untuk Mengatasi*. *15*(4), 356–360.

Youssef Ahmed Abd-Ella, N., & Fouad Mohammed, S. (2021). Effectiveness of Hoffman's Exercise on the Level of Breastfeeding among Primiparous Women with Inverted Nipple. *Egyptian Journal of Health Care*, *12*(1), 607–624. https://doi.org/10.21608/ejhc.2021.143538

