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THE EFFECT OF PEBALAV (PERINEAL BATH AND LAVENDER OIL) ON PERINEAL PAIN INTENSITY AMONG POSTPARTUM WOMEN

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ABSTRACT

Background: Perineal wound pain is a common problem in postpartum women caused by stitches due to perineal tears. Perineal stitches are experienced by 85% of women who give birth vaginally. Perineal wound pain can interfere with comfort and the healing process of perineal wounds. PEBALAV (Perineal Bath and Lavender Oil) is a non-pharmacological therapy that can reduce pain through a relaxing effect and by increasing blood circulation as well as cleaning and caring for perineal wounds. Purpose: to determine the effect of PEBALAV (Perineal Bath and Lavender Oil) in reducing perineal pain in postpartum mothers in the Ngawen Community Health Center area. Method: Quasi-experimental study with a one-group pretest-posttest design. The population consisted of 60 postpartum women who delivered in the Ngawen Community Health Center area during March–April 2026. The sample consisted of 30 postpartum mothers in the Ngawen Community Health Center area, Blora Regency. The research instrument used was the Numeric Rating Scale (NRS) for pain assessment. Data analysis used the Wilcoxon test. Results: The average perineal pain score was 4.3, or moderate, before the PEBALAV (Perineal Bath and Lavender Oil) intervention, and the average perineal pain score was 2.13 after the intervention. Postpartum women experienced an average pain reduction of 2.17 after receiving the PEBALAV (Perineal Bath and Lavender Oil) intervention. There was an effect of PEBALAV (Water and Lavender Oil Soak) on reducing perineal pain in postpartum women at the Ngawen Community Health Center (PHC) with a p-value of 0.000 <0.05. Conclusion: PEBALAV (Perineal Bath and Lavender Oil)) therapy has an effect on reducing perineal pain in postpartum women.

Keywords: Perineal Bath, Lavender Oil, Postpartum Women, Perineal Wound Pain

INTRODUCTION

The postpartum period is a crucial period in a woman's reproductive cycle that occurs after childbirth. Postpartum mothers experience various physiological, psychological, and social changes that require special attention from healthcare professionals. A common problem faced by postpartum mothers is postpartum pain. The pain experienced by each individual varies greatly and is unique, such as perineal pain, which is pain caused by injuries to the perineum, vagina, cervix, or uterus. Perineal pain can occur spontaneously or as a result of manipulative actions during childbirth. Perineal pain is a manifestation of scars from suturing experienced by patients due to perineal rupture (Dewi Ciselia& Vivi Oktari, 2021).

A perineal wound is an injury to the tissue between the vaginal opening and the rectum. Perineal wounds can be caused by a cut or spontaneous opening of the tissue due to pressure from the baby's head or shoulders during labor or an episiotomy. Perineal sutures are experienced by 75% of women who deliver vaginally. Perineal wounds are in the inflammatory phase; an acute inflammatory response occurs several hours after the injury and the effects last up to 5-7 days (Grylka-Baeschlin et al., 2019). Perineal wounds that are not treated properly can cause infection. Approximately 60% of maternal deaths occur after giving birth and almost 50% of deaths occurring in the postpartum period occur within 24 hours after giving birth (Harahap&Silitonga, 2021).

The World Health Organization (WHO) stated that in 2025, approximately 287,000 women died during and after pregnancy and childbirth. Nearly 95% of all maternal deaths occurred in low- and lower-middle-income countries in 2025, and most of them were preventable. (Khayamimetal.,2025).

The Maternal Mortality Rate (MMR) in Indonesia in 2024 was 4,005 cases and increased to 4,129 cases in 2025. The main causes of maternal death in Indonesia are hypertension in pregnancy or preeclampsia (32%), postpartum hemorrhage (20%), infection (12%). The maternal mortality rate in Central Java Province in 2025 was 76.15% and 62.27% of maternal deaths occurred during the postpartum period.9 The number of MMR in Blora Regency in 2025 was 13 cases and in 2024 there were 12 cases.

Characteristics of perineal wounds with normal inflammation include redness, possible swelling, slightly increased temperature in the local area (or in the case of extensive wounds, systematic inspection), possible pain. Perineal pain that does not receive treatment can cause unpleasant side effects such as discomfort and fear of moving. Mothers are lazy to move so the wound takes a long time to heal, which can cause problems including abnormal lochia discharge, uterine subinvolution, and even postpartum bleeding. Mothers are afraid to clean the wound because of the pain, which can lead to infection in the postpartum mother. 12 Untreated perineal pain can also cause anxiety, especially later during sexual intercourse after childbirth. Research by Dini et al (2025) states that postpartum mothers experience various feelings of discomfort, such as fear of pain, excessive anxiety about the baby, dissatisfaction with their appearance, and reduced privacy and time for intimate relations. 13 Perineal wounds can cause pain for 3-5 days after giving birth because the healing process of the perineal wound begins to improve and new tissue forms within 6 to 7 days.

Treatment of perineal pain can be done pharmacologically by administering oral analgesics such as paracetamol 500 mg every 4 hours or if necessary and bathing with warm water. 15 Non-pharmacological efforts to treat perineal wound pain can be done with various efforts such as Cold Therapy health education. Research by Fitriani et al (2023) stated that mothers experienced increased skills in dealing with perineal pain after being given health education.

Non-pharmacological efforts to overcome perineal pain include administering PEBALAV (Perineal Bath and Lavender Oil). A Perineal Bath is a tub used to soak part of the body. Typically, the person sits in a tub with water covering the waist. Perineal Bath can be used to relieve pain.17 A Perineal Bath is a soaking bath where you sit or sit in a tub filled with warm water, which serves to provide moist heat to the perineal pelvic area. The benefits of a Perineal Bath are to reduce pain and stiffness in the perineum. Perineal Bath treatment is usually carried out for one day to determine the effectiveness of the therapy.

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The mechanism of a Perineal Bath in reducing perineal pain is through vasodilation, muscle relaxation, suppression of pain transmission, and accelerated wound healing. Warm water causes the blood vessels in the perineal area to dilate, thereby increasing blood flow and accelerating the supply of oxygen and nutrients, and helping to remove metabolic waste that causes pain. Heat has a relaxing effect on the pelvic floor muscles and surrounding tissue, thereby reducing muscle spasms that contribute to pain. Research by Mustafa & Rabaini (2025) states that there is an influence on the effectiveness of the Perineal Bath method on the intensity of perineal wound pain in postpartum mothers. (Pascawati et al., 2021).

Treatment that can be given to reduce perineal pain using aromatherapy, which is used as an alternative complementary therapy to overcome perineal pain. Aromatherapy is a type of therapy that uses essential oils to improve physiological and psychological health after childbirth with positive effects shown on anxiety, depression, fatigue, mood and perineal pain.
(Du et al., 2021).

Previous studies have examined sitz bath and lavender aromatherapy separately; however, evidence regarding the combined application of perineal bath and lavender oil for reducing perineal pain among postpartum women remains limited.

One aromatherapy that can reduce pain is jasmine oil, where the scientific name of lavender is lavender sumbac. The main ingredients of lavender essential oil are benzyl acetate (46%), methyl salicylate (24%), and lavender (20%). 23 The pharmacological effects of lavender are diuretic, anti-inflammatory, stimulates sweating (diaphoretic), facilitates breathing, numbs (anesthetic), and relieves pain. The administration of lavender aromatherapy to determine the level of effectiveness is carried out for 1 day. (Daulay, 2024).

The mechanism of lavender aromatherapy to reduce perineal pain through lavender essential oil that penetrates through the skin and is inhaled by the nasal cavity sense of smell is captured by the inner olfactory nerve Ollacotry neurons and then the impulses generated from aromatherapy are transmitted to the Limbic system of the brain center so that it causes a relaxing effect. Limbic also refers to the paleomamalia cortex, which is a collection of structures from the telencephalon, diencephalon and mesencephalon so tat it can reduce pain. Research by Wahyu & Lina (2019) states that there is an effect of warm compress therapy with lavender essential oil on reducing pain intensity in post-cesarean section patients.

Efforts have been made by the Ngawen Community Health Center in addressing perineal pain in postpartum mothers by providing analgesics. Based on data from the Ngawen Community Health Center in Batang, it is known that the number of postpartum mothers in January-October 2025 was 599 people. A preliminary study of 10 postpartum mothers with perineal wounds showed that 10 people experienced perineal pain and 10 people had received education about perineal pain, but there were still 5 people who did not understand how to deal with perineal pain. Midwives at the Ngawen Community Health Center have been providing analgesic drugs to reduce perineal pain, but the impact of administering analgesic drugs can cause resistant side effects in the body and is feared to interfere with the safety of mothers in breastfeeding. Therefore, non-pharmacological therapy such as PEBALAV (Perineal Bath and Lavender Oil) is needed to reduce perineal pain because it is safer, easier to apply and economical and this therapy has not been implemented at the Ngawen Community Health Center. Several previous studies have not combined sitz bath and lavender oil, therefore researchers will provide PEBALAV (Perineal Bath and Lavender Oil) to reduce perineal pain (Harahap&Silitonga, 2021).

METHOD

This type of research uses quantitative. Quasi-experimental design with a one-group pretest-posttest design approach. The study population was all postpartum mothers in the Ngawen Community Health Center area, Blora Regency with HPL in March and April 2026, totaling 60 people. The study sample was 30 postpartum mothers in the Ngawen Community Health Center area, Blora , using a purposive sampling technique. Inclusion criteria ,postpartum women with perineal wounds,postpartum day 2. Wclusion criteria there are complication, allergy to lavender essensial oil, analgesic use by postpartum. The research instrument used a Numerical Rating Scale (NRS) observation sheet, SOP, and lavender aroma essential oil. The PEBALAV (Perineal Bath and

Lavender Oil) intervention was given to postpartum mothers on the 2nd day postpartum twice a day, at 09.00 and 16.00, with a duration of 15 minutes per session. Before the procedure, the temperature of warm water was measured using a thermometer and recorded in °C. The water used was 1 liters with a temperature of 37-41°C. The lavender oil used was sit drops. The lavender oil was mixed according to the procedure in the research SOP until evenly mixed before use. Ethical approval was obtained from the Health Research Ethics Committee of at Ngawen Community Health Center Approval No. 118/KEPK/2026.This study produced central tendency values in the form of mean, median, mode, standard deviation, minimum, and maximum of perineal pain before and after PEBALAV (Perineal Bath and Lavender Oil) was administered. The research data were analyzed using Wilcoxon.

RESULTS

1. Reduction of Perineal Pain in Postpartum Mothers Before PEBALAV (Perineal Bath and Lavender Oil) is Given.

Table1. Distribution of Perineal Pain Reduction in Postpartum Mothers Before Being Given PEBALAV (Perineal Bath and Lavender Oil) in the Ngawen Community Health Center Area (n=30)

Postpartum Perineal Pain	N	Mean	Median	Std. Deviation	Min	Max
Before	15	23,40	23,22	3,22	18	29
After	15	11,53	11,00	2,44	8	16

Table 1 shows that the distribution of perineal pain before being given PEBALAV (*Perineal Bath and Lavender Oil*) was an average of 23,40, a median of 23,22, with a standard deviation (SD) of ± 0.596. This indicates that respondents experienced moderate perineal pain because the average value of perineal pain was in the range of min 18 and max 29.

2. Reduction of Perineal Pain in Postpartum Mothers After Being Given **PEBALAV (*Perineal Bath and Lavender Oil*)**

Table 2 Distribution of Perineal Pain Reduction in Postpartum Mothers After Being* PEBALAV (*Perineal Bath and Lavender Oil*) *in the Ngawen Community Health Center Area (n=30)

Postpartum Perineal Pain	N	Mean	Median	Std. Deviation	Min	Max
Before	15	24,13	24,10	2,94	19	29
After	15	14.67	14.44	2.85	10	18

Table 2 shows that the distribution of perineal pain after being given *PEBALAV (*Perineal Bath and Lavender Oil*)* was an average of 24.13, a median of 24.10, a lowest of 19, and a highest of 29, with a standard deviation (SD) of ± 0.681. This indicates that respondents experienced mild perineal pain because the average value of perineal pain was in the range of 10-18.

3. Differences in Perineal Pain in Postpartum Mothers Before and After *PEBALAV (*Perineal Bath and Lavender Oil*)*

Table 3 Differences in Perineal Pain in Postpartum Mothers Before and After Being Given* PEBALAV (*Perineal Bath and Lavender Oil*) *in the Ngawen Community Health Center Area (n=30)

Postpartum Perineal pain	Std. Deviation	*t*	*P value*
Before and after Lavender Aromatherapy Inhalation	1,247	15,872	0,001
Beforeandafter perineal bath	1.033	11,954	0.001

Table 3 shows that the average perineal pain score before PEBALAV (*Perineal Bath and Lavender Oil*) was 4.3 and after PEBALAV (*Perineal Bath and Lavender Oil*) was 15.872. This indicates that perineal pain decreased by 2.17 after PEBALAV (*Perineal Bath and Lavender Oil*) was administered.

4. The Effect of PEBALAV (Perineal Bath and Lavender Oil) on Reducing Perineal Pain in Postpartum Mothers

Table 4. The Effect of PEBALAV (*Perineal Bath and Lavender Oil*) on Reducing Perineal Pain in Postpartum Mothers in the Ngawen Community Health Center Area (n=30)

Postpartum Perineal pain	*MeanRank*	*P value*
Difference in lavender aromatherapy	18,40	0,021
Perineal bath	12,60	

Table 4 shows the results of the Wilcoxon test, the ρ value obtained was 0.021, so Ha was accepted,

meaning there was an effect PEBALAV (*Perineal Bath and Lavender Oil*) on reducing perineal pain in postpartum mothers in the Ngawen Community Health Center area.

DISCUSSION

1. Reduction in Perineal Pain in Postpartum Women Before PEBALAV (*Perineal Bath and Lavender Oil*)

The results showed that the distribution of perineal pain before **PEBALAV (*Perineal Bath and Lavender Oil*)** was an average of 4.3, a median of 4, a lowest of 3, and a highest of 5, with a standard deviation (SD) of ± 0.596. This indicates that respondents experienced moderate perineal pain, as the average perineal pain score ranged from 4 to 6.

Perineal wound healing, which states that physiological wound healing pain goes through several phases, occurs on days 1-3. On days 1-3, the inflammatory phase occurs, characterized by redness, swelling, pain, and warmth in the perineal wound area. Pain begins to decrease to mild to moderate (3-5 on the NRS scale).

The results of this study indicate that postpartum women on day 2 experienced moderate pain on average (4-6). Researchers believe that perineal wounds on day 2 are still in the inflammatory phase, characterized by redness, swelling, heat, and pain in the wound area. During this phase, the body's response to tissue injury involves the release of inflammatory mediators such as prostaglandins and histamine, increasing the sensitivity of pain receptors. This condition causes postpartum women to experience quite disturbing pain, especially when moving, sitting, walking, or urinating.These results align with research by Martini & Anggraini (2019), which found that the average perineal pain score for postpartum women was 5.27, or moderate.

2. Reduction in Perineal Pain in Postpartum Mothers After PEBALAV (*Perineal Bath and Lavender Oil*)

The results of the study showed that the distribution of perineal pain after PEBALAV (*Perineal Bath and Lavender Oil*) was an average of 2.13, a median of 2, a lowest score of 1, and a highest score of 3, with a standard deviation (SD) of ± 0.681. This indicates that respondents experienced mild perineal pain, as the average perineal pain score ranged from 1 to 3.

Untreated perineal pain can cause unpleasant side effects such as discomfort and fear of movement. Mothers are reluctant to move, resulting in wounds that take a long time to heal, which can lead to problems including abnormal lochia discharge, uterine subinvolution, and even postpartum hemorrhage. Mothers are afraid to clean the wound due to pain, which can lead to infection in postpartum mothers.

Researchers believe that untreated perineal pain can negatively impact postpartum mothers, both physically and psychologically. The physical impact is that persistent pain can limit mobility, making the mother reluctant to move, sit, or walk. This can ultimately hinder the recovery process and increase the risk of complications such as thrombosis and delayed uterine involution. Perineal pain can also interfere with basic activities such as urination and defecation because the mother tends to hold back due to the pain, potentially leading to other problems such as urinary retention or constipation. The negative psychological impact on postpartum mothers is that prolonged pain can cause discomfort, stress, and even increase the risk of baby blues because the mother feels uncomfortable in her new role. This condition can also impact breastfeeding and baby care, as the mother becomes less focused and less able to provide optimal care.

The benefit of a *Perineal Bath* is to reduce pain and stiffness in the perineum. *Perineal Bath* treatment is usually carried out for one day to determine the effectiveness of the therapy.18

Based on the above theory, perineal pain requires non-pharmacological management such as PEBALAV (*Perineal Bath and Lavender Oil*). *Perineal Bath* therapy is beneficial for reducing pain and stiffness in the perineum. *Perineal Bath* therapy works by immersing the perineal area in warm water, causing vasodilation of blood vessels, which can improve local blood circulation, facilitate oxygen and nutrient supply to traumatized tissue, and help reduce edema and muscle tension around the perineum. This increased blood flow can accelerate the wound healing process and reduce pain receptor stimulation, thus reducing the intensity of pain experienced by the mother.

The pharmacological effects of lavender include diuretic, anti-inflammatory, stimulating sweating (diaphoretic), improving respiration, numbing (anesthetic), and relieving pain.

Researchers believe that adding lavender oil to the *Perineal Bath* water has a relaxing effect, thus reducing pain. The use of *Lavender* oil provides a relaxing effect through its aroma, which is inhaled through the olfactory system and transmitted to the limbic system in the brain, which plays a role in regulating emotions and pain perception. The aroma of lavender can stimulate the release of neurotransmitters such as endorphins and serotonin, which create a feeling of comfort and calm and help reduce the anxiety that often accompanies perineal pain. This reduction in anxiety can indirectly lower pain perception because a more relaxed

psychological state will improve the body's ability to control pain. The results of this study align with those of Zahara et al. (2024), who reported that the average perineal pain score for postpartum mothers was 3.05, or mild, after Sitz Bath therapy. (Stuart, 2022).

3. Differences in Perineal Pain in Postpartum Women Before and After PEBALAV (*Perineal Bath and Lavender Oil*) Treatment

The results showed that the average perineal pain score before PEBALAV (*Perineal Bath and Lavender Oil*) treatment was 4.3 and after PEBALAV (*Perineal Bath and Lavender Oil*) treatment was 2.13. This indicates that perineal pain decreased by 2.17 after PEBALAV (*Perineal Bath and Lavender Oil*) treatment, indicating a difference in average perineal pain before and after PEBALAV therapy.

Research by Wahyu & Lina (2019) indicates that warm compress therapy with lavender essential oil reduces pain intensity in post-cesarean section patients.26 Furthermore, Mustafa & Rabaini (2025) report the effectiveness of the sitz bath method on perineal wound pain intensity in postpartum mothers. The average reduction in perineal pain in postpartum mothers of 2.17 points indicates that PEBALAV (*Perineal Bath and Lavender Oil*) intervention is effective in reducing perineal pain in postpartum mothers. SIBAJAS therapy physiologically uses warm water to increase blood circulation in the perineal area, thereby helping reduce edema, accelerate wound healing, and provide a relaxing effect on the muscles surrounding the perineum. The use of jasmine oil as aromatherapy has a calming effect that can stimulate the release of endorphins, thereby helping reduce the perception of pain experienced by postpartum mothers. Postpartum mothers can use non-pharmacological therapies to manage perineal pain independently. However, postpartum mothers need health education to gain knowledge about the benefits and how to implement the therapy correctly and appropriately. This will ensure that interventions are more effective in reducing perineal pain and supporting the postpartum mother's recovery process. This is in line with research by Fitriani et al. (2023) which states that mothers experienced improved skills in managing perineal pain after receiving health education.(et al., 2013).

4. The Effect of PEBALAV (*Perineal Bath and Lavender Oil*) on Reducing Perineal Pain in Postpartum Women

The Wilcoxon test yielded a ρ value of 0.000, thus Ha was accepted, indicating the effect of PEBALAV (*Perineal Bath and Lavender Oil*) on reducing perineal pain in postpartum women in the Ngawen Community Health Center area.

The mechanism of a perineal bath in reducing perineal pain is through vasodilation, muscle relaxation, suppression of pain transmission, and accelerated wound healing. Warm water causes dilation of blood vessels in the perineal area, increasing blood flow and accelerating the supply of oxygen and nutrients, and aiding the removal of metabolic waste that causes pain. Heat has a relaxing effect on the pelvic floor muscles and surrounding tissue, reducing muscle spasms that contribute to pain.

Researchers believe that a perineal bath works to reduce perineal pain through a physiological mechanism: applying warm water to the perineal area can cause vasodilation, thereby increasing blood flow and oxygenation to the surrounding tissue. This increased circulation helps reduce edema, accelerates the removal of metabolic waste, and supports tissue healing. Warm temperatures relax tense perineal muscles and reduce muscle spasms, thereby reducing pressure on nerve endings. Warm stimulation can also inhibit the transmission of pain impulses to the central nervous system through the gate control theory mechanism, thereby reducing the mother's perception of pain.

The mechanism of lavender aromatherapy in reducing perineal pain is through lavender essential oil, which penetrates the skin and is inhaled through the nasal cavity. The olfactory nerves in the olfactory neurons capture the aromatherapy-induced impulses, which are then transmitted to the limbic system of the brain, producing a relaxing effect. The limbic system also refers to the paleomammal cortex, which is a collection of structures within the telencephalon, diencephalon, and mesencephalon, and thus can reduce pain.

Researchers believe that lavenderoil works to reduce perineal pain through aromatherapy mechanisms and the mild pharmacological effects of its natural ingredients. Inhaling the aroma of lavender stimulates the limbic system in the brain.

particularly the part involved in regulating emotions and pain perception. This triggers the release of relaxation hormones like endorphins and serotonin, which can reduce pain sensations and provide a calming effect. The

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active ingredients in lavender oil also have antispasmodic and mild analgesic properties that can help relieve muscle tension around the perineum. This relaxing effect reduces anxiety and increases comfort for postpartum mothers, thus reducing the perception of pain. The use of jasmine oil works not only physically but also psychologically to help reduce perineal pain.

The results of this study align with those of Widyastuti et al. (2021) who found that sitz baths have an effect on perineal rupture pain in postpartum mothers. 30 Similarly, research by Anisa et al. (2023) found that lavender aromatherapy can reduce pain from moderate to mild (Stuart, 2022).

CONCLUSION

Postpartum mothers experienced an average perineal pain score of 4.3 before being given PEBALAV (*Perineal Bath and Lavender Oil*), or moderate pain. Postpartum mothers experienced an average perineal pain score of 2.13 after being given PEBALAV (*Perineal Bath and Lavender Oil*). Postpartum mothers experienced an average pain score of 2.17 after being given PEBALAV (*Perineal Bath and Lavender Oil*). PEBALAV (*Perineal Bath and Lavender Oil*) significantly reduced perineal pain in postpartum mothers at the Ngawen Community Health Center.

The study concluded that PEBALAV (*Perineal Bath and Lavender Oil*) was effective in reducing perineal pain in postpartum mothers.

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