



Treatment of perineal wounds using complementary alternative therapies: Evidence-based case review

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ABSTRACT

Background: Perineal wounds can cause pain, inflammation, and mechanical trauma and even affect daily mobility. Furthermore, over a long period, prolonged pain can also cause women to become irritable, tired, and even depressed. Midwives are responsible for providing episiotomy pain management services and offering evidence-based good practices for such problems or complaints.

Objective: This evidence-based case review aims to determine the results of alternative treatments in relieving and healing perineal wound pain, both spontaneous tears during childbirth and suture wounds.

Method: This review is based on a good practice stage report carried out by a group of midwife professional program students who handled midwifery care in the Fatimah Azzahra postpartum ward, Islamic Hospitals, Banjarmasin, in June 2023 with cases including spontaneous lacerations, episiotomies, and second-degree suturing. Then, three articles were assessed and analyzed to provide comparison and evidence relevant to our case report. Criteria indicators use the PICO format.

Findings: The problem was seen in episiotomy wound pain, with some differences in intervention, including lavender oil, ice blocks, rosemary cream, and lavender oil vapor. Furthermore, the comparison between the studies was the group of material used, method, and design of interventions. The outcomes were reduced local temperature of the skin and subcutaneous tissue and a lower rate of the wound in the intervention.

Conclusion: Complementary therapy of midwifery care in hospitals has been implemented quite well as long as it does not conflict with procedures, raw materials are easy to obtain, and it is also under continuous supervision by other practitioners.

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1. Introduction

Nowadays, the best possible level of health for postpartum women, babies, and their



families, as well as society in general, is one area of health services that must receive attention from health workers such as obstetricians, midwives, nurses, and the women themselves. According to Victoria and Yanti (2021), the postpartum period is the time that begins after the placenta comes out and ends when the genitals return to their original condition. Perineal lacerations or wounds are injuries resulting from spontaneous tearing of the birth canal or as a result of an episiotomy during childbirth. These wounds cause pain before or after suturing the perineum, inflammation, and mechanical trauma, and even affect daily mobilization. In addition, over a long period, persistent pain can also result in women being irritable, tired, and even depressed. In one study, it was revealed that 69% of women usually took painkillers and ice packs to reduce pain, while 75% took analgesic drugs. In non-pharmacological therapy, pain can be relieved by applying relaxation techniques, massage, compression, essential oils, music, and aromatherapy.

Results of a semi-randomized controlled trial study by Eminov et al. (2022) include using ice therapy or cold compresses, aromatherapy, or applying gel/ointment containing antibacterials to prevent infection. Applying ice or cold compresses is one method of treating wounds to relieve pain. Ice shows its effect in reducing local temperature in the skin and subcutaneous tissue. The application of ice slows down tissue metabolism in the wound area and creates a local anesthetic effect to reduce pain. The use of essential oils, according to studies by Abedian et al. (2020) and Samuelson et al. (2020), in several developed countries on the European and Asian continents, such as the United States, Iran, and Turkey, as well as others including Indonesia by Sa'idah et al., (2022), has a place in the treatment of perineal wounds and their painful effects. Another example is lavender essential oil, which has benefits in healing wounds. In addition, lavender essential oil has long been used as an anxiolytic in medicine in the East. Interestingly, lavender oil is also a wound care method for pain management. Due to the antiseptic properties of lavender oil accelerates healing the more regularly it is used in wound care. However, research by Liem (2019) reports from Asian Psychologists emphasizing adaptations to tradition and culture when conventional Western psychotherapy is applied to Eastern patients due to differences in perspectives and approaches to treating any disease between the two cultures. This research aims to determine alternative and complementary treatments for postpartum women who have perineal wounds.



2. Method

This review is based on a report on the stages of good practice carried out by a group of midwife professional program students who handled midwifery care in the postpartum ward of the Fatimah Azzahra Islamic Hospital Banjarmasin in June 2023 with cases including spontaneous lacerations, episiotomies, and second-degree sutures. Then, carry out literacy, assess, and analyze articles to provide comparisons and evidence relevant to our case report. Analysis criteria indicators use the PICO format. This learning is intended so that our midwifery profession students are able to understand the differences between clinical case studies and evidence-based practice. (P) Specific problems that occur in patients or the general public; (I) Use of the intervention or research design indication; (C) Comparison or difference of methods with other studies; and (O) Results are results that have an impact and implications for good practice.

3. Result

Literacy was carried out in three articles, as shown in Table 1. The data is then analyzed to describe critical thinking attitudes and the strengths and weaknesses of statements. PICO analysis of the articles found is presented in Table 2.

Table 1. Summary of articles

Author/Journal	Aims	Method	Results	Appraisal
Eminov et al., (2022) Turkey Ege Journal of Medicine	To determine effectiveness of lavender oil and ice application in episiotomy wound care, pain and wound healing	<i>Design:</i> semi-randomized controlled trial; <i>Population:</i> birth by episiotomy; <i>Sample:</i> 32 lavender oil group, 31 ice application group, and 33 control group; <i>Instrument:</i> Visual Analog Scale (VAS)	a. Mean VAS value before intervention: lavender 7.90±0.92; ice application 8.29±1.03; and control 8.00 ± 1.00. b. Difference in pain scores: found in the second hour after intervention. c. Pain scores decreased more in both interventions than in the control group. Pain scores decreased more in the ice application group.	JBIS score appropriate. Study variables used in midwifery care in hospitals.
Hadizadeh-Talasz et al., (2022) Iran BMC (Complementary Medicine and Therapies)	To determine the effect of rosemary cream on episiotomy wound healing in primiparous women	<i>Design:</i> triple-blind RCT; <i>Population:</i> primiparous postpartum 80; <i>Sample:</i> The intervention group (rosemary cream) and the control group (placebo)	a. The mean ±SD REEDA scores on day four were 3.82±0.93 rosemary cream and 4.25±1.29 placebo, respectively (P=0.17). b. The tenth day obtained 0.75 ± 0.74 and 3.32 ± 2.54. c. Rosemary cream is effective in healing episiotomy wounds.	JBIS score appropriate. Study variables used in hospitals. Including how to process the cream, dosage and how to use it.
Sa'idah et al., (2022) Indonesia	To determine the effect of lavender aromatherapy on the intensity	<i>Design:</i> quasi experiment, case study, pretest and posttest; <i>Sample:</i> women after 2 hours postpartum, grade 2 perineal	It was found that before the lavender aromatherapy inhalation was given, the pain scale reached 7 (controlled severe pain) and after the intervention was	JBIS score appropriate. This case study & intervention



Jurnal Ilmu Kedokteran dan Kesehatan Indonesia	of pain in perineal suture wounds in postpartum	laceration; <i>Instrument:</i> Visual Analog Scale (VAS)	given, the pain scale dropped to 3 (light pain).	maybe combine with other intervention for more effective results.
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Table 2. Critical thinking analysis and justification

Eminov et al., (2022)				
Criteria	Critical Thinking		Justification	
P	The problem with this study was seen in episiotomy wound pain. The magnitude of the problem is 9.7% in Switzerland, 100% in Taiwan, 62.5% in the United States, and 30% in Europe.		The perineal pain referred to is scars from stitches and broken tissue. The magnitude of the problem in some countries is significant enough to be discussed in this study.	
I	The three groups included two interventions (lavender oil and ice blocks) and one control group without intervention; carried out for one week; Each intervention is carried out with complete procedures including bath water temperature, quantity, size and dosage of materials, stages, duration of application time and wound pain results measured using validated instruments (VAS).		These interventions should report in detail whether the trial caused allergic effects or other complications.	
C	Compared with other studies, differences exist in the number of groups and types of materials, such as the study by Hadizadeh-Talasaz et al., (2022), which used rosemary cream which was applied to the surface of the perineal wound. Apart from measuring the pain scale, the study by Parizi et al., (2021), used the PUSH instrument to evaluate the size of the wound area, the amount of exudate, and the type of tissue abnormality.		This intervention fulfill the aspects of readiness in everyday conditions, does not require a long time, is economical and materials are easy to obtain.	
O	The effect of ice application is to reduce the local temperature of the skin and subcutaneous tissue. Meanwhile, lavender oil functions as an antiseptic.		Lavender and ice application, have been proven to have implications in reducing pain thereby causing a comfortable effect on patients.	
Talasaz et al., (2022)				
Criteria	Critical Thinking		Justification	
P	In Iran, episiotomy wounds are also a major problem, because the incidence is quite high, around 41.5%.		Episiotomy is a type of surgical incision to reduce the risk of severe perineal rupture.	
I	Apply rosemary cream to the intervention group and placebo cream to the control group. Rosemary extract is mixed with cream and made 3% rosemary cream. Meanwhile, placebo cream is made from base cream for safe wound care. Implementation of the intervention began 2 hours after birth. Each intervention is equipped with complete procedural techniques, namely the number, size and dosage of ingredients, stages, duration of time for implementation and evaluation measured on days 4 and 10 using the REEDA scale instrument (Redness, Edema, Echimosi, Drainage & Approximatly).		Rosemary has antioxidant, anti-inflammatory, antiviral, anti-fungal and anti-bacterial effects, containing carnosic acid, carnosal, rosemary acid, diterpenes, triterpenoids, phenolic acids and flavonoids. Functions to inhibit the growth of pathogens and reduce the inflammatory response in the body and protect living tissue.	
C	Comparison with other studies, be found in the method, design and one sample. For example, Nikpour et al., (2019), study used honey combined with curcumin.		<ul style="list-style-type: none"> • Continue to fulfill study procedures. • The evidence of this study can be applied to similar populations in other countries. 	
O	Pre-intervention, REEDA scores were not significantly different in the two groups. The rate of wound healing on day 10 was higher in the intervention group. The mean post-intervention score was approximately 4.4 times lower in the intervention group.		Daily use of rosemary ointment for seven days significantly improves perineal wound healing.	
Sa'idah et al., (2022)				
Criteria	Critical Thinking		Justification	



P	Perineal wound pain was a problem in this study. The magnitude of the problem in Indonesia is not yet known as to its severity.	Episiotomy is the most common surgical procedure in obstetric.
I	Treatment is given after 2 hours of portpartum, 2nd grade perineal laceration. The material used is 100% concentrated lavender oil vapor which is dripped in 4-5 drops then dissolved in warm water as an inhalation form. Applied for 30 minutes, in a room measuring 10-16 square meters and without air ventilation.	Aromatherapy or steam has been widely used as an alternative for treating pain. The various types of aromatherapy from several plants. Generally used to adapt a calm mind, so that it has effect of reducing pain. Lavender essential oil has anticonvulsant and anxiolytic natures.
C	No comparison was found in this study.	Using only one sample in a pre-post quasi experimental design.
O	The pain before inhaling the aromatherapy reached a scale of seven (controlled severe pain) and after 30 minutes of therapy the pain fell to a scale of three (minor pain).	In line with a study by Mayangsari & Sari (2021), lavender aromatherapy is more effective than chamomile in reducing perineal pain in postpartum women.

4. Discussions

Refers to the health sector law “Undang-Undang Nomor 44 tahun 2009 tentang Rumah Sakit”, states that "Every patient has the right to receive information which includes the diagnosis and procedure for medical treatment, the purpose of medical treatment, alternative actions, risks and complications that may occur, and the prognosis for the action taken as well as the estimated cost of treatment" (article 32-point j)”. In serving patients at the Islamic Hospital, Banjarmasin, this is also carried out by medical personnel, especially for complete informed consent, which is one of the 18 rights of patients and families, as well as providing therapy, both pharmacological and non-pharmacological, advice and supervision from the Doctor in Charge of Therapy is required. This was also reinforced by hospital rules regarding hospital accreditation guidelines that require every inpatient to have at least one doctor in charge of therapy to care for them. In Indonesia, the need for health education for patients and families is known as KIE or Educational, Information, and Counseling. The aim is to understand health conditions. The cause of complaints of perineal pain is perineal suture wounds, and because of this, suture wound pain occurs 2 hours post-partum.

Pain begins to be felt after birth because the effects of local anesthetic have gradually worn off. It was further explained why episiotomy was performed despite multiparity; evidently, one of the causes of tearing of the birth canal was inappropriate pushing position. This, according to a study by Maisaroh (2019); Larion & Leal (2014), stated that one of the perineal lacerations occurred due to the straining position. Then, after birth, early mobilization is recommended to speed up the recovery process for postpartum wounds unless there are contraindications. Early mobilization is the act of moving, positions, or



activities carried out by postpartum women several hours after giving birth. Apart from that, efforts to prevent postpartum infections also emphasize the basic steps of maintaining personal hygiene, including the genital organs, so they do not become a place for bacteria and other microorganisms to enter. In Indonesia, studied by Sari, (2019); Supardi & Yani, (2020), this effort is necessary, so that the wound heals quickly, even within 6-7 days.

Regarding the findings and review of the evidence, healing perineal wounds and reducing stitch scar pain can be done using several alternative agents, including applying ice or cold compresses and combining them with lavender oil. Eminov et al. (2022) in Turkey emphasized the results of reduced pain scores. Relevant to studying in Indonesia by Sa'idah et al. (2022), one sample of Lavender oil; Rahmawati & Setiyawati (2022), with a combination of Kegel gymnastics; Lavender aromatherapy is compared to chamomile from the results by Mayangsari & Sari, (2021). Furthermore, Paiva et al. (2016) found that in Brazil, the ice pack intervention's results effectively relieved pain for one to two hours. The application of ice has been shown to stabilize skin and subcutaneous temperature at the site of pain, and lavender oil has antiseptic properties.

Astuti (2022) compared two samples in Indonesia: ice therapy and *Cinnamon* decoction. Both results showed a decreased pain scale ($p < 0.000 < \alpha < 0.05$). This is also in line with the study by Mohammadi et al. (2014) in Iran. *Cinnamon* extract contains two types of phenylpropanoids, namely cinnamaldehyde and eugenol compounds. The skin is boiled and distilled; the brewed water is then consumed as a drink. *Cinnamon* has the potential to be an analgesic, anti-bacterial, and anti-inflammatory. Then, as a comparison of the findings, in a study by Zaied et al. (2022) in Egypt, ice packs were compared with acupuncture, the results were no difference between the two or decreased pain, and the pain score of the acupuncture group was lower $p = 0.040$ compared to the crushed ice pack groups. However, in practical terms, these two types of materials can be applied simultaneously by midwives and nurses in postnatal care for perineal wound pain.

Another method discussed here is the application of rosemary cream or *Rosmarinus officinalis* L. This is quite interesting because most rosemary therapy is also used for various wound healing besides perineal tears, such as Khezri et al. (2019) encapsulated in a nanostructured; Izadpanah et al. (2019) cesarean section; Parizi et al., (2021); and Nikpour et al., (2019) use of honey and curcumin, all four are from Iran. In its pharmacological



mechanism, *R. officinalis* L. is made of bioactive molecules. These phyto compounds are significant in implementing several pharmacological activities, such as anti-inflammatory, antioxidant, antimicrobial, antiproliferative, antitumor, and protective, inhibitory, and attenuating activities. Most importantly, it also contains flavonoids and terpenes, according to Gad & Sayd (2015). According to Oliveira et al. (2019), in Brazil, they emphasized the therapeutic and prophylactic effects of biochemical, chemical, or biological agents on several physiological disorders in their review. The applied implications of rosemary also suggest that plant products could be equivalent to available medicines. In a study by Talasaz et al. (2022) in Iran, wound healing decreased on the tenth day after being given rosemary cream. The wound healing scale was measured using the REEDA instrument.

Meanwhile, for Indonesia itself, we have not found any studies that use rosemary as a complementary alternative, making more use of the richness of local plants such as Binahong leaves (*Anredera cordifolia*), betel leaf (*Piper betle*), lavender, honey, cinnamon and even animal ingredients from snakehead fish (*Channa striata*) in perineal care. As support for this case study review, citing a special report from Stapleton (1995), that a simple perineal tear or the edges are pretty tight does not require stitches if the women can rest in bed for several days, eat regularly and shower or simply soak the perineum twice. Times a day in a relaxed and comfortable manner for 20-30 minutes, using warm infusion in equal proportions with traditional natural ingredients (Stapleton, 1995).

Furthermore, this discussion also conveys the best practice model according to hospital guidelines in Indonesia, that in the standard of care for patients, it is essential to provide for needs, including discharge planning and re-control. Discharge planning is meant in midwifery care where midwives provide advice on how to care for wounds at home, and even collaboration between midwives, patients or their families after hospitalization. This is expected to make the patient and families physically, psychologically, and socially independent, with knowledge, care skills, and a sustainable referral system. The re-control visit aims to ensure the condition is without complications, carry out comprehensive screening, early detection, and treat cases of perineal wounds and the postpartum period in general.



5. Conclusion

Perineal wounds occur due to spontaneous laceration of the birth canal, episiotomy, and suture marks, grade II. Various ways are discussed to reduce the pain of perineal wounds. Several methods that are applied and combined are effective in reducing wound pain, including ice compresses, aromatherapy inhalation of lavender and rosemary oils and others, which can create a feeling of relaxation and comfort for women after giving birth. So far, the implications for the practice of midwifery care in hospitals have been implemented quite well as long as they do not conflict with procedures, raw materials are easy to obtain and also under continuous supervision with other health teams.

6. Conflict of interest

All authors declare no conflict of interest.

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