



## COLD COMPRESS FOR REDUCE PERINEAL WOUNDS PAIN : EVIDENCE BASED CASE REPORT

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**Abstractntroduction:** Perineal tear due to labor can cause secondary pain in postpartum women. Not resolved pain will be negative impact on the social and emotional of the mother. The one of non-pharmacological method in reducing perineal pain is cold compress.

**Method:** This report is evidence based case report (EBCR). The evidence articles searched on science direct, google scholar, and Pubmed databased that were published in the last 5 years with cold method on perineal pain as the keywords. The articles selected with inclusion and exclusion criteria, then analyzed to become the basis cold compress application on this report.

**Objectives:** This report discusses cold compress as one of methods for reducing perineal pain.

**Result:** Cold compress reduced perineal wound pain and the application process was comfortable.

**Conclusion:** Cold compress was easy and affordable as perineal pain relief.

**Keywords:** cold compress, non-pharmacological, pain relief, perineal wound

## INTRODUCTION

Labor is the period from the onset of regular uterine contractions until the expulsion of the placenta. The second stage of labor is when the baby's head appears at the vulva then passes through the vagina sometimes cause perineal tears.(1) The incidence of perineal tears is 84.3%.(2) Perineal tears causes secondary pain that be the most common discomfort in postpartum women.(3,4) Not only on women with perineal tear, perineal pain also experienced even by women with an intact perineum.(4)

Pain during postpartum period affects to the postpartum women activities.(3) It also affects the social and emotional well-being as mother, such as interfering with with the ability on care the baby especially the breastfeeding process, decreased mobilization, and difficulty urinating that will slow down the recovery process.(4,5) Perineal pain also increase the risk postpartum depression, mainly on low resistance women.(5,6)

The possibility of these effects indicates the importance of prevention efforts in the form of pain relief (pain reduction) of perineal wounds in postpartum mothers. Perineal pain can be managed with oral analgesics or topical anesthetics, but not all pain is relieved so it needs to be improved with non- pharmacological interventions.(3) Various non-pharmacological methods as an alternative or additional treatment of pharmacological therapy.(5,7) The most common non-pharmacologic therapy is cold compresses.(4) Cold compresses physiologically make blood vessels vasoconstrict so as to reduce bleeding, reduce muscle nerve endings activity and suppress pain stimulation.(8,9) Cold compress is effective in reducing perineal wound pain.(10,11)

The use of the cold compress method in reducing pain in the perineum is considered safe and does not cause harmful effects if done according to instructions.(12,13) This method also felt comfortable by some women, so it can offered to early postpartum women (immediately at 24 hours) on the basis of the mother's choice from various existing methods.(4,8)

All ice packs should be coated with a soft, absorbent material and application should not for longer than 20 minutes to protection on freezing injuries.(4,5) The use of solid ice, crushed ice, ice packs or ice gel can be used and is useful in reducing swelling and relieving perineal pain.(1,4,5) Based on these results, the authors will apply cold compress as a non-pharmacological intervention to reduce perineal suture pain in postpartum women.

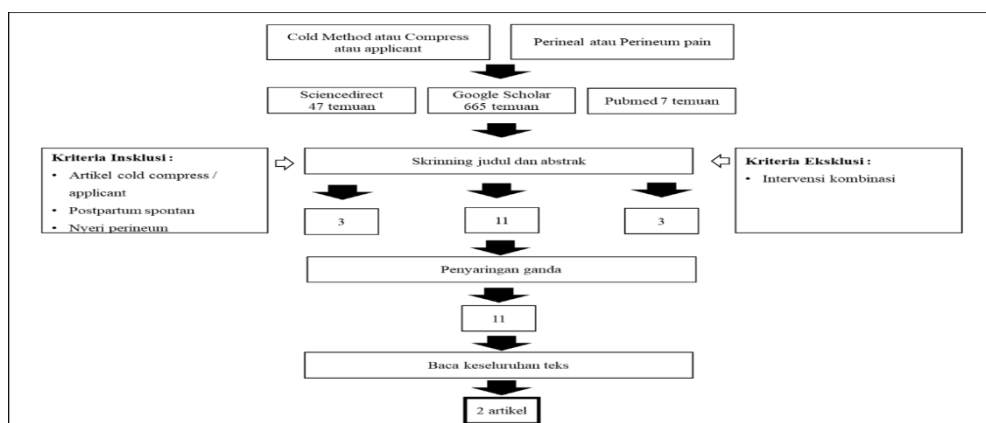


Figure 1 Alur Penelusuran Bukti

## METHODS

The method in this article is Evidence Based Case Report (EBCR), several steps are taken starting from formulating problems with PICO, formulating problems, determining journal search keywords, selecting journals with inclusion and exclusion criteria to reviewing quality and relevance using VIA (validity, importance and acceptability)

The research question here is 'How os the effect of cold compress on reducing perineal pain in postpartum women?

- P : Postpartum women
- I : Cold compress
- C : No comparison
- O : Perineal pain

Article were conducted at science direct, google scholar, and Pubmed. The keywords used are words, namely cold AND pain. The article search was limited to articles published in the last 5 years, were according to the inclusion and exclusion criterias. The inclusion criterias were: (i) cold compress articles, (ii) postpartum spontan (iii) perineal pain and the exclusion is (i) combined interventions.

**Tabel 1 Article Review Results**

No.	Jurnal	Validity	Important	Applicable
1	Kim, Hyun-Jung, dkk. <i>The effects of cryotherapy on perineal pain after childbirth: A systematic review and meta-analysis</i> . <i>Midwifery</i> , 89 (2020): 102788.(8)	The aim of this systematic review and meta-analysis was to verify the effectiveness of cryotherapy (cold therapy) in relieving perineal pain in postpartum women by reviewing RCTs that had been selected using PICO criteria and all those selected were listed in the bibliography. The results of the retrieved RCTs were similar and the variations were discussed.	The study effect size values (hedge's) between the intervention group (cold compress) and the control group as well as the cool pack and ice gel groups are displayed in the article with 95% CI. The results Cryotherapy with ice pack or ice gel performed immediately within 24 hours is effective in reducing perineal pain after childbirth.	Cryotherapy with ice packs or ice gel can be performed on postpartum women with perineal suture wounds to reduce pain within immediately - 24 hours.
2	Francisco A., De Oliveira., Steen, M., Nobre, M., & De Souza. (2018). <i>Ice pack induced perineal analgesia after spontaneous vaginal birth: Randomized controlled trial</i> . <i>Women and Birth</i> , 31(5), e334-e340.(13)	This RCT evaluates the use of ice compress for 10 minutes in postpartum 6-24 hours can relieve perineal pain and has an effect for 2 hours. Sample participation was taken through single-blind randomization in accordance with the allocation and conducted clearly until each group had 35 participants. The results showed 69 participants with details of participants lost to follow-up <10% and clear reasons. The characteristics and sample recruitment time of the two groups were similar with the details of the ice pack intervention being very clear.	Immediately after the application of ice compress, the average pain intensity in the experimental and control groups was reduced from 5.1. (SD = 1.7) to 1.1 (SD = 2.0), in the control group reduced from 5.1 (SD = 1.6) to 4.4 (SD = 2.2). Reduction in perineal pain level from before the intervention (T0) to immediately after the intervention (T1) in the experimental group significantly higher compared to the control group (4.0 versus 0.7, respectively, p <0,0001).	Cold therapy is an effective non-pharmacological method, non-invasive and inexpensive because tools and materials are available in health facilities for analgesics in perineal pain in postpartum women. This method is also easily accepted by the mother herself.

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## RESULTS AND DISCUSSION

Article were conducted at science direct, google scholar, and Pubmed. The keywords used are words, namely cold AND pain. The article search was limited to articles published in the last 5 years, were according to the inclusion and exclusion criterias. The inclusion criterias were: (i) cold compress articles, (ii) postpartum spontan (iii) perineal pain and the exclusion is (i) combined interventions.

Application of the cold compress method begins with an initial assessment of pain. Then the pain intensity is assessed using NRS, and the method can be offered if the pain is  $>3$ . Ice pack application was carried out for 10 minutes with observation of temperature and side effects after obtaining client consent. Pain assessment was reassessed immediately after application and 2 hours after the intervention.(13)

Client Mrs. P, age 32 years P2A0 had a 2nd degree perineal tear, and was treated with suturing. The initial assessment of perineal pain was investigated in this client with the question "Do you feel pain in the perineal area now?". Pain was considered when the postpartum patient reported sensations of soreness, stinging, aching, burning, pinching and discomfort in the perineum.(13)

The client was an 8-hour post partum who felt pain in the perineum where the client conveyed discomfort when having to walk to the bathroom to urinate and felt painful when having to clean her vagina. The intensity of pain felt was measured by numeric rating scale (NRS) from 0 to 10 (0 for no pain and 10 the worst pain imaginable). If the pain was on a scale  $>3$  then an intervention was given.(13) The client's perineal pain assessment results were on a scale of 6.

The use of non-pharmacological cooling therapy is useful in reducing perineal pain and can be offered to clients from early postpartum up to 24 hours based on maternal

preference.(1,4,5) Therefore, perineal cold compress was offered to the client, explaining the technique, method and benefits followed by informed consent.

All ice packs to be used should be coated with a soft, absorbent material and to avoid cold injury.(4,5) *Ice packs measuring 8x22 cm come from plastic filled with 250ml of water, put in the freezer until it becomes ice then wrapped in thin cotton gauze for application.*(13) In this client, ice packs were prepared using 8x12 cm plastic clips filled with 200 ml of water and frozen in a freezer until it became ice. Then covered with 2 pieces of sterile gauze (One Med, 40x40 cm, LOT: 0108288).

Cold compress was done for 10 minutes, before and after the compress the perineal temperature was measured using a thermogun.(13) During application watch for side effects of cold allergy, chills, frostbite, or headache.(8) The client is positioned lying on the back, both feet flat against the bed, knees bent and thighs opened. The client's perineal temperature before application was 35.2° C Cold compress was applied for 10 minutes with no chills or headache complaints found during the compress. After the compress was performed the perineal temperature was at 33.8°C.

Measurement of pain scale using NRS was done again immediately after the compress was applied.(13) The client's pain intensity immediately after the intervention decreased to scale 2. This shows that perineal cold compresses reduce the pain that clients feel, where pain is considered to be reduced when there is a decrease in scale  $\geq 30\%$  and the effect of cold compresses up to 1 hour 45 minutes.(13) Then the assessment of pain intensity scale was measured again at 2 hours after application. After 2 hours the intensity of perineal pain that the client felt remained on a scale of 2. The compress was not reapplied because there was no improvement in the pain scale.

Clients said that they felt comfortable during the compress process and afterwards felt more comfortable moving including walking unlike before getting the compress. This is in accordance with previous research where cold compresses were felt comfortable by 77% of postpartum women.(13)

The client in this case underwent a second delivery which may also affect the results of the application of EBP perineal cold compress, where the labor pain experienced by multiparous is less than primiparous. But on the other hand it was also found that there was no significant difference between primiparous and multiparous labor pain and there were even results reporting that multiparous had more intense afterpains than primiparous.(14) This shows the importance of assessing the pain scale of postpartum women, because it can vary greatly. Health workers can facilitate perineal cold compresses to be one intervention that postpartum women can choose as a non-pharmacological pain relief method. In cold temperature, the physiological mechanism makes blood vessels vasocontracted so as to reduce bleeding, reduce muscle nerve endings activity and suppress pain stimulation.(8,9)

The application of cold compress therapy can be provided immediately where key equipment is available in the health service. Cold packs on episiotomy sutures have shown significant healing, but may delay or interfere with wound healing as contact with the ice pad may cause contamination of the wound surface.(15)

## CONCLUSION

The application of evidence based perineal cold compress is effective in reducing perineal suture wound pain in postpartum women. This method is comfortable and has

minimal effect, it is also a choice of non-pharmacological pain relief methods that are easy and can be given immediately and are affordable in cost

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