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Warm compress therapy's impact on labour pain in intranatal patient: A systematic review

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ABSTRACT

Labor and birth is a normal physiological events, a thrilling thing for prospective mothers because they will experience conditions of discomfort and fear. One of the problems in laboring women is pain that has an impact on physical and psychological. Here non-pharmacological pain management can be done, among others, with warm compresses and proven to lessen labouring mothers' suffering. The purpose of this study was to determine how warm compresses affected laboring mothers' pain. This study employed a systematic review as its research approach. Article searches are carried out using Google Scholar and Pubmed, Semantic, and Portal Garuda with the Keywords: labour pain is decreased by warm compress therapy. Original randomized controlled trials (RCTs) published between 2013 and 2023 met the inclusion requirements. There were ten randomized controlled trials in total. The main methods of employing warm compresses to lessen labor pain included the hydro collator pack, which was submerged in warm water, A warm, damp towel that saturates the contact and causes the iron to oxidize Belt with infrared. Conclusion: Warm compress therapy affects reducing pain in intranatal patients.

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INTRODUCTION

Labor and birth are normal physiological events, namely the occurrence of fetus and placenta at full term) or that can exit the womb through the birth canal or in other ways, either independently or with assistance (own strength) (Ulfah and Rosmaria, 2021; Kurniawati *et al.*, 2017). The phase of labor phase according to Bobak 2015 is divided into four, namely when 1 (opening) labor begins from the occurrence of regular uterine contractions and increases (frequency and strength) until the cervix opens completely (10 cm) and this phase will arise contractions, ranging from small and brief contractions to contractions that are getting stronger, frequent, and regular and begin with an interval of 30 minutes to 1 hour from the first contraction to the next contraction,

Until the contractions are getting stronger and longer with an interval of approximately 3-5 minutes for 1-1.5 minutes per contraction. Kala II is the period of infant discharge, which starts at full opening and lasts until the baby is born. The third period is the placenta's detachment and removal, which happens 5–30 minutes after the baby is born and is accompanied by a 100–200 cc blood discharge. The IV starts 1-2 hours after the placenta is born and requires observation because postpartum bleeding usually happens in the first two hours(Mastiningsih, 2016).

For aspiring new mothers in particular, the birthing process can be an exciting experience, since labouring mothers often endure feelings of anxiety and anguish. Pain is one issue Obstetrical mothers encounter (Choirunissa et al., 2021). Hypoxia is brought on by cervical dilatation of the uterine muscles. Pain during labor is a physiological procedure that takes place during contraction, ischemia of the uterine corpus, stretching of the lower section of the uterus, and nerve compression in the cervix (Sari et al., 2021).

Because labor pain affects both the physical and psychological aspects of labor, managing pain throughout labor is the main priority. Since nonpharmacological pain management offers several benefits over pharmacology, it has received a lot of attention lately. As stated by According to some research, nonpharmacology is better at managing pain because it is simple, affordable, non-invasive, and fosters a stronger bond and sense of confidence between patients and carers (S. Ma et al, 2019). Based on these data, The impact of warm compress therapy on labor pain in patients who are stillborn is a topic of interest to researchers.

Research on the impact of warm compress therapy on labor pain in intranatal patients in this systematic review is expected to benefit from a deeper understanding of the effectiveness of this non-pharmacological method in reducing pain during labor. This research aims to provide scientific evidence that can be used to develop better clinical guidelines for health workers, improve the quality of maternal and infant health services, and reduce dependence on pharmacological analgesia which often has side effects. In addition, it is hoped that the research results will reduce maternal stress and anxiety, increase maternal comfort and satisfaction during labor, and promote a more humane and supportive care approach, all of which contribute to a more positive birth experience and better health outcomes for mother and baby.

RESEARCH METHOD

His research method uses a systematic review utilizing randomized controlled trials (RCTs) with a focus on warm compresses that can be administered in a variety of ways between 2013 and 2023, gathered from many nations including Iran, Egypt, Japan, Portugal, and India.

The tool is a pain scale that combines the NRS and VAS (Visual Analogue Scale). Which is carried out on patients in labor both primipara and multipara without complications with gestational age between 37 weeks to 42 weeks, the age of the mother in labor between 18 to 35 years, and a population of 88 to 150 mothers in labor.

RESULTS AND DISCUSSIONS

Results

According to research findings by Paulo Silva (2019), Silvia Rodrigues, Mahnaz Farahmand, and Simin Taavoni (BSc, MSc, PhD, 2013), Dastjerd Fatemeh, 2023 In table 1, Chanakarn Suthisuntornwong, M. D., 2021, Soumaya Modoor, 2018; Mansoureh Yazdkhasti, 2016; and Sujata Goswami, 2022, gave a thorough explanation of the t-test results.

Based on research results from Simin Taavoni, BSc, MSc, PhD, 2013 Fatemeh, Mahnaz Farahmand, Silvia Rodrigues a, Paulo Silva (2019), Jasvir Kaur, Poonam Sheoran, 2018. Dastjerd, 2023, and Soumaya Modoor, 2018 claimed that labor pains and Women who got warm compresses had better outcomes than those who did not receive warm compresses during routine care were significantly less likely to report severe pain or the worst pain experienced during childbirth. The

use of warm compresses after delivery decreased, and the perineum was remarkably unaltered by 47% Women who received warm compresses had a much lower risk of infection than those who received conventional treatment without using them. to report experiencing severe pain or the greatest agony they had ever encountered during labour.

According to studies by Simin Taavoni (2014) and Marzieh Akbarzadeh (2018), The application of warm bags and towels to the mother's back, sacral region, and perineum has the effect of decreasing discomfort during all phases of labor and increasing the activity of uterine contractions and labor duration.

On the other side, Hulya Turkmen, 2023; Chankarn Suthisuntornwong, 2022; and Sujata Goswami, 2022 reported that the use of heat before intervention decreased pain levels ($p < 0.0001$). Two hours after birth ($p = 0.028$) and after delivery (8.54 ± 1.38 vs 9.56 ± 0.57, $p < 0.0001$), there were differences in perineal discomfort and pain: 2.20 ± 1.72 vs 3.64 ± 2.07, $p < 0.0001$), and 0.30 ± 0.78 vs 0.68 ± 0.98.

Heat therapy was found to be superior to the standard therapy group in terms of better Apgar scores at the fifth minute of newborn birth and significantly shorter than the first stage of labour (pooled MD= -50.09; 95% CI: -89.70-10.48; p=0.01).

Discussion

Warm compresses used in pain management for mothers during labor can be done in various ways. Warm compress method using warm water, an elastic belt, a warm towel, rubber or hot blade, and sterile gauze. A warm bag, and a hot water bottle, and a warm pillow. Malarewicz and Taavoni et al., who demonstrated how Nulliparous women may find that the labor process is aided by warm water. Moneta et al. conducted a follow-up study titled "The effect of warm water on the duration of labor" in 2001, which provided further evidence of the beneficial effects of warm water on the labor process in multiparous women. Laboratory and Bodner-Alder demonstrated the same outcome using massage as well. Heat is produced during massage therapy, which lessens the sensitivity and rigidity of muscles and promotes blood flow to reduce pain and exhaustion. To lessen pain, this therapy also prevents signals from reaching the brain by releasing endorphins. It works in a manner akin to using a heated compress to relieve pain. Heat can be applied using infrared or hot bags, which increase blood flow to damaged or inflamed tissues. Other studies have shown that the intensity of chronic back pain and lumbar discomfort is reduced by infrared heat therapy. Warm bags cause the skin's surface temperature to rise, stimulating skin receptors that in turn trigger pain gate mechanisms. Heated bags may also lessen pain by increasing blood circulation in the affected area. But because of the warm, humid weather, which provides psychological comfort and good feelings, the labor's duration and anguish are shortened, and the pain and length of the labor are decreased. (Marzieh Akbarzadeh, 2018)

In the early stages of labor, heat therapy techniques such as warm bags, warm water, and immersion greatly lessen labor discomfort. In their study, Ilvestrup et al. examined the benefits of warm baths on pain management and mother satisfaction throughout the active portion of the first stage of labor. The control group received no further care beyond lying down, but no ambulation was also allowed Lee et al.'s study on warm water baths showed significantly lower VAS scores at 4 and 7 cm of cervical dilatation ($p < 0.01$) compared to the control group. Shirvani et al. report that during the acceleration phase, the cold therapy group had significantly less discomfort than the control group ($p < 0.02$). The difference in pain severity was statistically significantly lower in the intervention group when Ganji et al. compared routine care for labor pain with local warming with intermittent cold compresses at the end of the acceleration phase ($p = 0.002$) and during the maximum inclination, deceleration phase, and second stage of labor ($p = 0.0001$). Not only does it provide a secure alternative to invasive pharmacological labor management techniques, (M.D. candidate Chanakarn Suthisuntornwong, 2022)

The McGill Questionnaire, the Visual Analogue Scale, and the Numerical Pain Rating Scale—all reliable, valid, and subjective instruments for measuring pain—were used to gauge the intensity of breastfeeding pain.

Length of the initial phase of labor. Our aim of preserving perineal preservation may be impacted by perineal injuries sustained during labor, particularly in primiparous women. Thus, it is ideal to implement measures to lessen perineal pain and trauma. To minimize discomfort, diminish perineal trauma in the second stage of birth, and enhance comfort, midwives and nurses usually recommend warm compresses (Aasheim et al., 2017).

CONCLUSION

The conclusion that can be drawn from this study is that warm compresses given to laboring mothers can be done with a variety of media such as using warm water, warm towels, hot irons, temperature receptor stimulation, oxidized steam irons, warm gauze in warm water infrared belt to reduce pain in laboring mothers and the results obtained that, all mothers are 100% the experimental group exhibited contentment with the application of warm compression, specifically moist heat, as it aids in the alleviation of pain experienced during labor. Similarly, Ganjiet al.,3 found that 43.8% of people expressed great satisfaction, while 12.5% of mothers showcased exceptionally high levels of contentment with the implementation of intermittent hot and cold therapy. satisfaction with and measurement of pain scores at p = 0.175. suggestions that can be given are to conduct further research with other warm compress media such as the use of hot pillows that have never been studied.

This research makes an important contribution to the field of obstetrics by enriching the literature on non-pharmacological methods for managing labor pain. In particular, this study strengthens the evidence that warm compress therapy is effective in reducing pain and discomfort during labor, both in the early and active phases. Using various methods such as warm water, elastic belts, warm towels, and others, this research shows that heat can increase blood flow, reduce muscle sensitivity and stiffness, and stimulate the release of endorphins that block pain signals from going to the brain.

The clinical implications of this research are far-reaching. First, the results of this research can help midwives and other health workers in providing safer and non-invasive pain management alternatives, reducing dependence on pharmacological analgesia which often has side effects. Second, the use of warm compresses that have been proven effective in various studies, such as those conducted by Malarewicz, Taavoni, and Moneta, can be integrated into clinical guidelines to improve the quality of maternity care. Third, by minimizing discomfort and reducing perineal trauma, especially in primiparous women, this study supports the goal of preserving the perineum and increasing maternal comfort during labor. Finally, this research also contributes to improving maternal psychological well-being, shortening the duration of labor, and increasing maternal satisfaction with the birth experience, all of which can have a positive impact on the bond between mother and baby and long-term health outcomes.

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