Section: Maternity Nursing

The effect of back massage on relieving pain in primigravida mothers during labor

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Abstract

Pain is a normal process experienced by mothers during childbirth. If not properly managed, unresolved pain can lead to an increase in the mother's heart rate and breathing, which may disturb blood flow and oxygen supply to the placenta, potentially resulting in complications for both the mother and the baby. Various non-pharmacological therapies are available to reduce labor pain, one of which is back massage. This study aims to assess the effectiveness of back massage in reducing labor pain in primigravida mothers at PKU Muhammadiyah Temanggung Hospital. This case study was conducted using a stepwise and systematic approach. Back massage therapy was applied to relieve labor pain. The treatment results indicated a reduction in the level of pain, with the pain scale decreasing from 9 to 6. It can be concluded that back massage is an effective therapy for reducing labor pain in mothers during childbirth.

Keywords: Pain; normal birth; labour; low back pain; maternity nursing

Introduction

Pregnancy is a physiological process in women that involves many physiological and psychological changes. Psychological changes can occur, particularly in the third trimester, when mothers may experience anxiety, depression, disappointment, and feelings of rejection (Abdelhafez et al., 2023). These emotions are often influenced by hormonal changes that affect the mother's mood. In the third trimester, physiological changes also frequently occur, such as the softening and loosening of connective tissues, which can lead to back pain (Salari et al., 2023). Pain during childbirth is a physiological process experienced by women. During labor, the descent of the baby's head into the pelvic cavity puts pressure on the pelvic nerves, causing pain for the mother (Pietrzak, Mędrzycka-Dąbrowska, Tomaszek, & Grzybowska, 2022). Labor pain can also increase anxiety, especially in primigravida mothers, potentially leading to prolonged labor, as the mother's pushing strength may diminish. Unmanaged labor pain can affect circulation and metabolism, and if not quickly addressed, it may result in fetal death (Boudry, Lallemant, Ramanah, & Mottet, 2023).

Pain during labor is a complex and multifaceted experience that involves both physiological and psychological components. From a nursing perspective, labor pain is seen as a natural, physiological process that results from uterine contractions, cervical dilation, and the pressure of the fetus descending into the birth canal (Mwakawanga, Mselle, Chikwala, & Sirili, 2022). However, the perception and intensity of pain can vary widely among women due to factors such as previous childbirth experiences, individual pain tolerance, and emotional state. Nurses play a crucial role in assessing and managing labor pain, understanding that it not only affects the mother's physical well-being but also her emotional and psychological state (Smith, Laflamme, & Komanecky, 2021). Pain can trigger increased heart rate, elevated blood pressure, and rapid breathing, all of which may disrupt the normal labor process by affecting uterine perfusion and oxygen supply to the fetus (Cohen, Vaiman, Sibai, & Haddad, 2015). Effective pain management is therefore essential to promote both maternal and fetal health during labor. In addition to physical interventions, nurses recognize the importance of psychological support in managing labor pain. Anxiety, fear, and uncertainty, especially for primigravida mothers, can heighten the perception of pain, potentially leading to prolonged labor. Nursing care includes providing emotional support, fostering a calm environment, and using non-pharmacological pain management techniques such as breathing exercises, back massages, and positioning (Khan, Hameed, & Avan, 2023). These interventions can help mothers manage their pain more effectively by promoting relaxation and reducing anxiety. Moreover, nurses work closely with mothers to empower them with knowledge and coping strategies, ensuring they feel supported and confident throughout the labor process (Chang, Gau, Huang, & Cheng, 2022). This holistic approach, integrating both physical and emotional care, is fundamental in nursing to ensure a positive childbirth experience and improve outcomes for both mother and baby.

Non-pharmacological methods for managing labor pain include massage, which helps release endorphins to reduce pain, alleviate anxiety, and shorten labor significantly. Back massage during labor can function similarly to

epidural analgesia by reducing pain and stress while providing comfort to the mother (Pawale & Salunkhe, 2020). This method does not produce side effects for either the mother or baby. Back massage can be performed by healthcare workers, the patient's family, or the patient herself. It stimulates receptors that promote relaxation, helping the mother feel more comfortable during labor. Back massage is a widely used non-pharmacological technique for pain relief during labor, offering both physical and emotional benefits. It works by stimulating pressure receptors in the skin, which helps release endorphins, the body's natural painkillers, leading to a reduction in pain perception (Unalmis Erdogan, Yanikkerem, & Goker, 2017). Additionally, back massage promotes muscle relaxation, reduces tension, and improves circulation, all of which contribute to pain relief and a sense of comfort for the mother. From a nursing perspective, it provides a simple, safe, and effective method of pain management without the risk of side effects for the mother or baby. Massage also offers emotional support, as the gentle, rhythmic motions help reduce anxiety and promote a calming atmosphere during labor, making it an ideal complementary therapy for managing labor pain. Therefore, this study aims to evaluate the use of back massage in relieving pain during labor.

Case Description

This study utilized a case study method, in which nursing care was provided over a period of 7 hours. The nursing process began with a comprehensive assessment of the client's condition. Data collection was conducted through interviews with both the patient and her family, as well as by reviewing the patient's Electronic Medical Records (ERM). This detailed assessment allowed for a thorough understanding of the patient's health status and labor experience. The collected data was then analyzed to establish an appropriate nursing diagnosis. Based on this analysis, a nursing care plan was formulated, which included interventions aimed at managing labor pain through non-pharmacological methods, specifically back massage. Each step of the nursing process was carried out with careful consideration of the patient's specific needs and circumstances. Following the implementation of the back massage, the focus shifted to evaluating the effectiveness of the intervention. The evaluation involved assessing the reduction in pain levels after the massage was completed, which was documented using a pain scale. The patient, a 27-year-old woman diagnosed with labor pain, experienced significant relief after receiving the back massage as part of her nursing care. The intervention not only helped in reducing the intensity of her labor pain but also contributed to her overall comfort and emotional well-being during labor. This case study demonstrates the effectiveness of non-pharmacological interventions, such as back massage, in managing labor pain and highlights the importance of a systematic nursing approach in providing patient-centered care.

Discussion

Based on the research results, it was noted that Mrs. R, a 27-year-old woman, presented with complaints of abdominal tightness, back pain, and ruptured amniotic fluid. This aligns with previous studies that highlight the inevitable pain and discomfort during childbirth, where most labor experiences are accompanied by pain. Pain during childbirth is a natural process, but if not managed, it can lead to excessive anxiety and make it difficult for the mother to cope with labor. According to a study, the pain experienced during labor is intense and prolonged, impacting both blood circulation and energy levels (Labor & Maguire, 2008). This necessitates timely and effective management to ensure the safety of both mother and fetus. High levels of labor pain can exacerbate anxiety, particularly in primigravida mothers, potentially leading to prolonged labor and exhaustion. In many cases, labor pain is not adequately managed, which may result in longer, more physically draining deliveries for mothers. Based on the assessment, two nursing diagnoses were formulated for Mrs. R. The first diagnosis (D.0079) was "Labor pain related to cervical dilation," as evidenced by the patient's report of intense pain, characterized by squeezing sensations, lower abdominal pain, and back pain. The second diagnosis (D.0080) was "Anxiety related to situational crisis," as evidenced by the patient's statements of feeling anxious about childbirth, difficulty sleeping, restlessness, and visible tension. The nursing care plan was developed based on the priority issues identified, though not all theoretical interventions were applicable. The care plan was tailored to Mrs. R's specific complaints and condition at the time of assessment. The primary goal of the interventions was to reduce labor pain and anxiety. Nursing actions included assessing the pain scale, which ranged from 0 (no pain) to 10 (severe pain), and implementing non-pharmacological pain relief techniques, such as back massage, to lower pain levels.

The back massage was performed to reduce the patient's pain, and the patient's family was taught how to administer the massage as well. Research supports the effectiveness of back or sacral massage in reducing labor pain (Pawale & Salunkhe, 2020). The technique involves positioning the patient comfortably, using warm baby oil to rub the lower back, and applying circular motions with moderate pressure to the sacrum. This helps prevent lumbar lordosis and promotes relaxation. Studies show that continuous back massage during labor can significantly lower pain perception by stimulating sensory nerves and blocking pain signals (Bolbol-Haghighi, Masoumi, & Kazemi, 2016). Psychosocial benefits are also noted, as the massage helps calm the mother during labor. It is important that the massage be performed continuously, as stopping the massage could increase the mother's pain perception due to nerve adaptation to the stimuli. For the second diagnosis, anxiety related to situational crisis, nursing actions included monitoring for signs of anxiety, educating the patient about the situation, and encouraging the family to remain present

and supportive. Research indicates that pregnant women approaching labor often experience heightened anxiety (Cheung, Ip, & Chan, 2007). Excessive worry can inhibit cervical dilation, prolong labor, and intensify pain perception. Anxiety may also increase the risk of postpartum bleeding and fetal distress. At the end of the nursing care period, the intervention outcomes were evaluated. After 7 hours of care, Mrs. R's pain level had decreased from a scale of 9 to a scale of 6, indicating that the interventions were effective in reducing her pain and anxiety during labor.

Maternity nurses play a critical role in delivering back massage as a non-pharmacological intervention to relieve pain during labor. Their responsibilities include assessing the mother's pain level, determining the appropriateness of back massage, and applying the technique with proper care. With performing back massage, nurses help stimulate the release of endorphins, reduce muscle tension, and provide comfort, all of which can alleviate labor pain (Field, 2010). Maternity nurses also educate the mother and her family on how to perform the massage, enabling continuous support even when the nurse is not present. Through their knowledge of pain management and personalized care, maternity nurses enhance the childbirth experience, ensuring both physical and emotional comfort for the mother during labor. Healthcare policymakers also play a vital role in shaping the framework and guidelines that support effective pain management strategies during labor, including non-pharmacological interventions like back massage (Smith et al., 2018). Their responsibilities involve developing policies that ensure maternity nurses are adequately trained in these techniques and have the resources necessary to implement them in clinical practice. Policymakers also contribute by establishing regulations that promote patient-centered care, ensuring that laboring women have access to a range of pain relief options, both pharmacological and non-pharmacological. Incorporating evidence-based practices into healthcare policies help create standards that enhance the quality of maternal care, improve outcomes for mothers and babies, and reduce disparities in pain management. Furthermore, healthcare policymakers can advocate for funding and support for research that continues to evaluate and improve labor pain interventions, ensuring that these practices remain effective and widely available.

Conclusion

Back massage has proven to be an effective non-pharmacological intervention for relieving pain in primigravida mothers during labor. Stimulating endorphin release and promoting muscle relaxation helps reduce the intensity of labor pain without side effects, offering both physical and emotional comfort. The use of back massage can also help decrease anxiety, which is particularly important for first-time mothers who may experience heightened fear and stress during labor. Additionally, it is a simple and cost-effective technique that can be administered by maternity nurses, healthcare providers, or family members. The evidence supports that incorporating back massage into labor pain management strategies can enhance the overall childbirth experience, contributing to better maternal outcomes and more positive perceptions of labor and delivery.

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