

The Effect of Giving Effleurage Massage Techniques on Reduction of Labor Pain in Labor Pain in Women in Labor

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Abstract. *Childbirth is the process of expelling the living products of conception from the uterus and then out through the birth canal, in the process of labor starting from the first stage with uterine contractions, dilatation and thinning of the cervix and descent of the fetus during labor accompanied by pain. Labor pain is characterized by uterine contractions, contractions starting at the 30th week of pregnancy which are called braxton hicks caused by irregular changes in the hormones estrogen and progesterone. Pain that accompanies uterine contractions affects the physiological mechanisms of a number of body systems which always cause a stress response so that Efforts are made to reduce labor pain, while one technique to relieve pain is massage effleurage technique. Effleurage massage is a massage technique using the palms of the hands in a circular motion pattern on several parts of the body. This technique can help distract and reduce anxiety. The role of Effleurage is to produce impulses that are sent through the cerebrum nerve fibers that are on the surface of the skin of these fibers, which can inhibit pain so that the brain cannot receive pain stimuli. The research method used is pre-experimental research with a pretest design post test one grub design is a measurement that is done before and after the study. In this study, it was shown that there was an effect of massage effleurage on reducing labor pain during the first stage of the latent phase in labor mothers.*

Keywords: *Massage Effleurage, Labor Pain, Maternity Mother*

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INTRODUCTION

The phenomenon of labor and birth can be understood as a natural physiological occurrence, wherein the body expels the living products of conception from the uterus and subsequently through the birth canal, with the assistance of healthcare professionals. This intricate process unfolds in stages, commencing with the initial phase characterized by uterine contractions, cervical dilatation, and thinning. As labor progresses, the fetus descends within the birth canal, accompanied by sensations of discomfort and pain (Seftianingtyas et al., 2021).

The phenomenon of labor pain is distinguished by the occurrence of uterine contractions, which commence around the 30th week of gestation and are commonly referred to as Braxton Hicks contractions. These contractions are triggered by irregular fluctuations in the hormonal levels of estrogen and progesterone (Sari et al., 2018).

Furthermore, during the labor process, Braxton Hicks contractions transition from sporadic occurrences to a consistent and observable pattern, coinciding with the full dilation of the cervix and the subsequent expulsion of amniotic fluid.

In the process of childbirth, the pain that is felt is increasingly repeated when entering the next opening which causes hyperventilation so that the need for oxygen and blood pressure increases, this can stimulate an increase in catecholamines. Catecholamines that increase in the blood can cause uterine contractions so that labor becomes prolonged and reduces blood flow to the placenta, this will increase the risk of postpartum hemorrhage and fetal distress (Wulan & Munthe, 2019).

Pain can cause an increase in blood pressure, pulse, breathing, sweating, muscle tension and the concentration of the mother during labor becomes disturbed. If the mother can't endure the pain, all of that can have a bad effect on the smoothness of labor so that a long labor occurs. This will cause distress to the baby and affect the baby to be born (Fitriyanti, 2017).

To reduce labor pain, various efforts have been made. The severity of the pain felt by the mother and how the mother responds in dealing with pain will affect the continuity of the delivery process. There are several methods to reduce labor pain in the form of alternative therapies, namely acupuncture, aromatherapy, effleurage, relaxation distraction therapy, and effleurage massage (Jasmi et al., 2020).

In a recent study conducted by Karuniawati (2020) titled "Effects of Effleurage Massage on Primipara Pain during the First Stage of Labor," compelling evidence emerged regarding the potential of effleurage massage as an effective intervention for alleviating pain. The study demonstrated a notable reduction in pain levels, as indicated by a decrease from a scale of 7 to 6. This reduction can be attributed to the differential characteristics of pain fibers and touch fibers. Pain fibers, responsible for transmitting pain stimuli to the brain, possess a narrower conduction pathway and slower transmission speed. Conversely, touch fibers exhibit a broader conduction pathway and faster transmission speed.

The intricate interplay between touch and pain is a fascinating phenomenon. When the delicate receptors responsible for touch are stimulated, a remarkable journey commences as the resulting sensation travels towards the majestic realm of the brain. Once arrived, a gate within the cerebral domain is dutifully closed, effectively constraining the intensity of pain experienced within this cerebral sanctuary. This intricate mechanism serves as a protective shield, shielding the brain from the full brunt of painful stimuli. The therapeutic practice of massage possesses a captivating attribute that has been observed to enhance the production of endorphins within the descending control system. This phenomenon, in turn, contributes to the heightened comfort experienced by patients, owing to the profound relaxation of their muscles. According to the scholarly work of Seftianingtyas et al. (2021) it is evident that.

In a scholarly investigation conducted by Sihite (2021), the study titled "The Impact of Effleurage Massage on Primipara" delves into the effects of this specific massage technique on individuals experiencing their first childbirth. The experience of pain during the initial stage of physiological labor at RSIA Bunda is a significant aspect that warrants careful examination. Arif Purwokerto's research demonstrates the efficacy of effleurage massage as an initial intervention for pain reduction, effectively diminishing pain levels from a magnitude of 7 to 6. This outcome can be attributed to the differential characteristics of pain fibers, which transmit pain stimuli to the brain at a relatively

smaller scale and slower pace compared to the broader tactile fibers, which facilitate faster sensory transmission. When the sensory experiences of touch and pain converge, a remarkable phenomenon occurs: the sensation of touch embarks on a journey to the brain, where it deftly navigates the intricate neural pathways and ultimately arrives at a crucial juncture. At this pivotal moment, the gate within the brain is dutifully closed, effectively imposing a constraint on the intensity of pain experienced. This intriguing interplay between touch and pain highlights the intricate mechanisms at play within our neural circuitry. By elucidating the manner in which these sensations interact, we gain a deeper understanding of the complex processes that govern our perception of physical stimuli.

The therapeutic practice of massage possesses a remarkable attribute that serves as a catalyst for the production of endorphins within the intricate framework of the descending control system. This phenomenon, in turn, engenders a heightened state of comfort for the patient, owing to the profound relaxation of their musculature. The practice of effleurage massage entails the skilled manipulation of the palms of the hands, employing gentle circular motions across various regions of the body. The initial stage of labor, known as the latent phase, encompasses the period during which the cervix dilates from 0 to 3 centimeters. Following this, the active phase commences, characterized by the cervix expanding further from 4 to 7 centimeters. The technique of effleurage can be understood as an embodiment of the principles underlying the Gate Control Theory. Various strategies can be employed to effectively address the gate mechanism, including the utilization of skin stimulation, distraction techniques, and anxiety reduction methods. Effleurage, a technique employed in various therapeutic practices, assumes the responsibility of eliciting impulses that traverse the prominent neural fibers situated on the superficial layer of the skin. These impulses possess the remarkable ability to impede the transmission of pain signals, thereby preventing the brain from perceiving and processing such stimuli. According to the scholarly work conducted by Sari et al. (2018), it has been observed that.

Drawing upon the aforementioned context, the authors express their desire to employ alternative methodologies that are readily implementable, with the aim of mitigating discomfort and averting potential complications during the process of childbirth. Motivated by the aforementioned concerns, the researchers express their keen interest in undertaking an investigation on "The Impact of Massage Effleurage Techniques in Alleviating Pain during the Initial Phase of Labor among Maternal Patients at RSIA Siti Khadijah, Gorontalo City".

METHODS

The present study falls under the purview of quantitative research methodology. The research employed a pre-experimental design known as the "one-group pretest-posttest design." Prior to administering the treatment, this design incorporates a preliminary assessment known as a pretest. The execution of this design was exclusively conducted within a singular group. According to Nursalam (2017) the absence of a control group in an experimental study allows for a more precise assessment of the treatment's effects, as it enables a direct comparison with the pre-treatment conditions.

Sample Research Objects consist of an accessible population that can be used as a subject through sampling. While sampling is the process of selecting a portion of the population that can represent the existing population (Nursalam, 2020). The samples in this final scientific work are two in-partu patients in the 1st stage of labor. The method of

data collection is through interviews with respondents explaining the purpose of the research, after If the patient is willing to become a respondent, fill in the consent form by signing an informed consent. Then the nurse assesses the degree of pain using the NRS (Numerical Ranking Scale) prior to treatment.

RESULTS AND DISCUSSION

Intensity of Pain in Maternity Stage I Latent Phase Before being given the Effleurage Massage Technique in the Delivery Room of RSIA Siti Khadijah.

Table 1. Assessment of the level of labor pain in the first stage before being given effleurage massage therapy to mothers in labor in the delivery room of RSIA Siti Khadijah

Intervention	Labor Kala I Latent Phase	Pain Scale Measurement Results
Pain Intensity Before Intervention	Patient 1	Below Average
	Patient 2	Average

Based on the table above, it can be seen that there were 2 respondents with the first stage of labor in the latent phase. where the researcher measured the pain scale at opening 3 and the results were obtained before the effleurage massage was carried out in case I multiparous pain scale with mild intensity. And in case II Primipara obtained a pain scale with moderate intensity. Intensity of Pain in Maternity Stage I Latent Phase After being given the Effleurage Massage Technique in the Delivery Room of RSIA Siti Khadijah.

Table 2. Assessment of the level of pain in the first stage of labor after being given effleurage massage therapy to mothers in labor in the delivery room of RSIA Siti Khadijah

Intervention	Labor Kala I Latent Phase	Pain Scale Measurement Results
Pain Intensity After Intervention	Patient 1	Below Average
	Patient 2	Average

Based on the table above, after being given the effleurage massage technique in both cases, in case I, multipara, after effleurage massage therapy by measuring the pain scale, the pain scale decreased with mild intensity. Whereas in case II Primipara a pain scale with mild pain intensity was obtained.

Intensity of maternal pain during a latent phase before being given an effleurage massage technique in the delivery room of RSIA Siti Khadijah

Based on the table above, it can be seen that there were 2 respondents with the first stage of labor in the latent phase. where the researcher measured the pain scale at opening 3 and the results were obtained before the effleurage massage was carried out in case I multiparous pain scale with mild intensity. And in case II Primipara obtained a pain scale with moderate intensity. From the results obtained the two cases had differences, in case I multipara with mild pain intensity where Mrs. Sm already has experience in controlling pain, when the pain scale was measured, Mrs.Sm seemed calm in dealing with her pain. Whereas in case II primipara with moderate intensity. In case II this was the first experience, so that Mrs. Sd could not adapt to pain because she responded to her pain with fear and anxiety which could stimulate the release of large amounts of stress hormones which resulted in uterine contractions which could cause labor pain.

In accordance with Telfer's theory (Herinawati, Hindriati and Novilda, 2019) that labor pain is a subjective, personal, and complex multi-factorial phenomenon that is influenced by psychological, biological, socio-cultural and economic factors. So it is natural that the level of pain felt by each respondent varies according to the factors that influence it. Pain that is felt is influenced by several factors such as anxiety and fear, past pain experiences, preparation for childbirth, and respondent's support system

In line with Research. (Gulo, 2017) suggests that primigravidas and multigravidas feel different pain during childbirth so that it affects the perceived comfort. In primigravidas it is possible to experience greater pain during early labour. Rizki and Anggraini's research (2020) showed the results that most of the research respondents had a history of more than one pregnancy (multigravida). Mothers who have a history of previous pregnancies will have experience in dealing with pregnancy and the delivery process so that mothers are more prepared and more confident in facing the delivery process.

Intensity of maternal pain during a latent phase after being given an effleurage massage technique in the delivery room of RSIA Siti Khadijah

Based on the aforementioned table, following the application of the effleurage massage technique in both scenarios, it is observed that in the case of multipara individuals (Case I), the pain scale exhibited a reduction of mild intensity subsequent to the administration of effleurage massage therapy, as quantified through pain scale measurements. In contrast, in the second case involving a primipara, a pain scale was utilized to assess the intensity of pain, revealing a classification of mild discomfort.

The findings from both scenarios revealed a notable reduction in pain levels as assessed by the numerical Rating Scale measurement. The respondent's reaction to the effleurage massage therapy was indicative of a sense of composure, tranquility, and enhanced comfort. The therapeutic procedure commences with a gentle opening of 5 cm, wherein the researcher diligently seeks the respondent's informed consent prior to initiating the therapeutic intervention. Subsequently, the researcher meticulously prepares the requisite tools and proceeds to administer the effleurage massage technique, ensuring the patient's optimal comfort through appropriate positioning. The therapeutic maneuver commences with the synchronized movement of both palms, which have been generously anointed with olive oil. The therapeutic procedure commences with the gentle placement of both palms upon the patient's dorsal region, initiating a soothing motion characterized by a sequential rubbing and gliding action from the back towards the sacrum. Subsequently, a delicate circular motion is executed, employing the palms, along the spinal region. Furthermore, a sweeping stroke is administered, commencing from the cranial region and extending all the way down to the coccyx, specifically targeting the lumbar region. Throughout this therapeutic intervention, utmost consideration is given to ensuring the patient's comfort and well-being. The administration of this therapeutic intervention occurs for a duration exceeding 20 seconds or specifically timed to coincide with the occurrence of contractions.

As per scholarly investigations, the technique of massage effleurage emerges as a noteworthy determinant in mitigating labor pain. This phenomenon operates on the principle that tactile stimulation engenders impulse fibers, which traverse the cerebral pathways. These fibers possess the remarkable ability to impede the transmission of pain signals, effectively closing the metaphorical gates through which the brain would otherwise receive such stimuli. This observation aligns with the principles elucidated in

the scholarly work of Wulandari & Hiba (2015), specifically the Gate Control Theory. According to this theory, the experience of pain diminishes subsequent to the application of massage therapy. This phenomenon can be attributed to the fact that pain fibers transmit pain stimuli to the cerebral cortex via narrower neural pathways, resulting in slower transmission of sensations compared to the broader fibers, which facilitate faster sensory conduction.

The intricate interplay between touch and pain is a fascinating phenomenon, wherein the sensation of touch is accompanied by the activation of pain receptors. This sensory information is then transmitted to the brain, where a remarkable process occurs: the gate in the brain is effectively closed, resulting in a regulated perception of pain intensity. It is within this neural framework that the brain imposes limitations on the magnitude of pain experienced. Massage therapy is a captivating intervention that has the potential to enhance the production of endorphins within the descending control system, thereby inducing a heightened sense of comfort for patients through the promotion of muscle relaxation. Massage therapy is a therapeutic practice that places a significant focus on manipulating the soft tissues of the body, regardless of their organization. This can be achieved through a variety of techniques, such as deliberate movements or gentle vibrations, and may involve the use of specialized tools or be performed solely with the therapist's hands.

The therapeutic practice of massage has been observed to have a profound impact on alleviating and pacifying the inherent tension that often accompanies the transformative stages of pregnancy and childbirth. The application of therapeutic touch to the areas encompassing the neck, shoulders, back, legs, and hands has been known to elicit a profound sense of comfort and relaxation. Engaging in a tender caress of the abdominal region can elicit a soothing sensation amidst the throes of contractions. The selection of an optimal approach for employing massage or touch during the labor process can be delineated as follows: the application of delicate tactile contact accompanied by rhythmic tapping, the implementation of assertive strokes, the utilization of massage techniques to alleviate tension in rigid musculature, and the administration of firm massage or friction on the dorsal region (Vebyola, 2019).

This study aligns with the theoretical framework positing that massage, specifically effleurage, serves as a modality of skin stimulation employed during childbirth to effectively alleviate pain. According to the scholarly work of Puspitasari (2020), the application of massage effleurage during the labor process involves the gentle and delicate utilization of fingertips. The application of the effleurage technique on the skin elicits a cascade of neural impulses along the superficial nerve fibers. These nerve fibers, being of considerable size, effectively obstruct the transmission of pain signals to the brain by closing the metaphorical "gate." Consequently, the perception of pain undergoes a transformative shift due to the inhibitory effect induced by the skin stimulation associated with this technique.

The findings of Tri Handayani's (2020) study, as cited in Fathia et al. (2023), reveal a notable alteration in pain levels experienced by primigravida patients during the initial stage of the active phase following the implementation of the effleurage massage technique.

Analyzing the decrease in maternal pain scale during the latent phase before and after being given massage effleurage techniques in the delivery room RSIA Siti Khadijah

The findings derived from the meticulous research and comprehensive analysis of the collected data pertaining to the impact of effleurage massage on labor pain during the initial stage of the latent phase have revealed a noteworthy outcome. It has been observed that, on average, the respondents experienced a reduction in pain subsequent to the administration of effleurage massage. This empirical evidence substantiates the efficacy of effleurage massage in mitigating the perception and experience of labor pain. In the event of a multipara scenario, following a session of effleurage therapy, a discernible reduction in pain intensity was observed, manifesting as a mild decrease on the pain scale. In the context of Case II Primipara, a pain assessment was conducted, revealing a scale indicative of moderate to mild intensity.

This empirical investigation provides compelling evidence supporting the efficacy of massage effleurage in mitigating pain perception during the Latent phase of labor, specifically within the initial stage of labor. The findings presented align with the theoretical framework proposed by Tamsuri in the scholarly work of Setianto (2017). Tamsuri's theory posits that massage serves as an effective non-pharmacological approach for alleviating labor pain. Massage therapy is a widely employed technique that offers solace and respite to numerous women in the initial phases of childbirth. The practice under consideration involves the skilled manipulation of soft tissue in order to address a range of physical, functional, and occasionally psychological concerns.

Drawing upon Mander's assertion (2013) as cited in Sihite's recent publication (2021), it is posited that the primary function of massage therapy resides in its capacity to effectively "close the gate," thereby impeding the transmission of pain-inducing stimuli to the higher echelons of the central nervous system. In addition, the application of a compassionate and empathetic touch not only enhances the tactile stimulation but also fosters positive emotions, thereby reinforcing the efficacy of massage therapy in pain management.

The provision of emotional support during the labor process can elicit a profound sense of pleasure, serving as a catalyst for the release of neurotransmitters within the limbic system. These neurotransmitters subsequently transmit signals to the amygdala, which acts as a relay station, facilitating the transmission of these signals to the hypothalamus. As a consequence, the ventromedial nucleus and its adjacent regions are stimulated, engendering a state of tranquility and serenity.

The study conducted by Sheoran and Panchal (2015), as cited in Fathia et al. (2023), elucidated that effluarage demonstrates efficacy in mitigating the intensity of labor pain experienced by primigravida mothers during the active phase.

Based on the meticulous analysis conducted by the esteemed researcher, it can be confidently inferred that the application of massage effleurage yields a discernible impact in mitigating the intensity of labor pain experienced during the initial stage of the Latent phase in both primiparous and multiparous mothers. The maternal figure experiences an enhanced sense of nurturance, enabling her to effectively manage her discomfort in a state of tranquility and composure, thereby avoiding the recurrence of heightened apprehension and distress.

CONCLUSION

The results showed that in case I the pain scale before being given the effleurage technique with mild intensity at opening 3, and at opening 4 5 with moderate intensity, in case II Primipara the scale of mild pain at opening 3, moderate pain scale at opening 4, and at opening 5 with heavy intensity. The results of the study showed that in case I of multiparas after effleurage massage therapy, the pain scale decreased with mild intensity at opening 3 and 4 cm and at opening 5 with moderate intensity. Whereas in case II Primipara obtained a pain scale with mild pain intensity at opening 3 and 4 cm and at opening 5 with moderate pain intensity. From the results of the research and analysis before and after the intervention, it can be concluded that massage effleurage has an effect on reducing the scale of labor pain in women giving birth during the I RSIA Siti Khadijah.

SUGGESTION

Based on the research results and conclusions above, there are several things that can be suggested for the development of the results of this study. The suggestions are as follows:

Hospital

The results of this study can be used as an intervention in nursing care and midwifery care for pain management in labor.

For Further Research

The results of this study can be used as additional information to develop this research further so that we can conduct similar research using primigravida mothers because the pain level is higher than the multigravida mothers used in this study.

For the Nursing Profession

This research is expected to be able to add and enrich information for nursing, especially maternity nursing and can be used as a reference for non-pharmacological labor pain management in maternity nursing care for in-partu mothers who experience labor pain.

For Society

The results of this study provide information to the public that effleurage massage performed by husbands is effective in reducing labor pain and strengthening the bond between husband and wife in welcoming the birth of a child.

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