Effects of Effleurage Massage in Reducing Pain in Intranatal Patients

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Abstract

At the time of labor the mother experiences pain, pain during childbirth is felt by the mother due to uterine contractions. Massage is an act of producing relaxation and improving circulation so as to reduce pain. The purpose of the research to determine the effect of massage effleurage technique on the pain of active phase maternity mothers. Research is quantitative research with the Quasy Experiment method. The design of this study is one group pretest posttest design. The sampling technique in this study was total sampling. The sample in this study was 30 pregnant women who experienced labor pain during the 1st active phase. The instrument used in data collection in this study used a Numeric Rating Scale (NRS) observation sheet. The patient will be given an effleurage massage for 15 minutes, Data analysis using paired sample test. The results of the analysis found that the average value of pain at the time of pretest measurement was 2.27 (0.64), while in the posttest measurement, the average value of pain was 1.30 (0.46). The mean difference between pretest and posttest measurements was recorded at 0.96 with a confidence interval (95% CI) of 0.784; 1.150. The statistical results show a value of p = 0.001. Providing intervention in the form of massage effleurage in intranatal patients when 1 is active can help provide comfort so as to reduce the pain felt.

Keyword: Complementary Therapy, Intranatal Patient, Massage Effleurage, Pain

INTRODUCTION

The Normal Childbirth Care standard in Peraturan mentri kesehatan No. 21 Tahun 2021 explains 5 basic aspects, namely making clinical decisions, care for mothers and babies, infection prevention, recording (medical records) of maternity care, and referrals to cases of maternal and newborn complications (Peraturan Menteri Kesehatan No 21, 2021). Improper and fast handling of childbirth will cause death to the mother (Rosnani et al., 2021). The maternal mortality rate (MMR) according to the World Health Organization (WHO) in 2017, as many as 295,000 due to childbirth. In Indonesia, MMR in 2019 amounted to 4,221 cases from 4,778,621 live births. Based on Riskesdas in 2018, one of the complications of childbirth in Indonesia is old partus. Old partus became the second order of labor complications (Kementerian Kesehatan RI, 2018).

At the time of labor the mother experiences pain, pain during childbirth is felt by the mother due to uterine contractions. The movement of uterine contractions causes the muscular muscles of the uterine wall to constrict, clamping blood vessels, vagina and surrounding soft tissues to stretch. Uterine contractions begin to adequately occur 3 to 5 times in 10 minutes with contraction duration between 30 to 60 seconds (Sulastri, 2021). Severe pain is thought to result in hyperventilation and respiratory alkalosis which results in a decrease in oxygen in

hemoglobin thereby reducing the flow of oxygen from mother to fetus (Ambarwati, 2023; Yosepha, 2020). There are several ways to relieve pain, one of which is by using pharmacological methods. A nonpharmacological method that can be used to reduce labor pain is massage (Pujiastutik et al., 2021; Susanti, 2023).

Massage is an action that produces relaxation and improves circulation so as to reduce pain by applying hand pressure to soft tissues, usually muscles, tendons or ligaments, by not causing movement or changes in joint position (Azzahroh et al., 2022). The process of massage work is by inhibiting the course of pain stimulation in the higher center of the central nervous system. The effect of massage is strengthened when done in the form of tactile attention and empathy to control pain with the appearance of tactile stimuli and positive feelings that develop (Juwita, 2019). Some types of massage techniques that are commonly done on maternity mothers to reduce pain are: Deep Back Massage method, Effleurage Massage, Counter Pressure method, Abdominal Lifting (Rosnani et al., 2021).

Effleurage is a massage technique in the form of gentle, slow and long or uninterrupted strokes. This technique can also stimulate tactile fibers so that pain signals can be inhibited. Massage is one of the nonpharmacological methods performed to reduce pain. Massage effleurage techniques can improve blood circulation, apply pressure, heat up the abdominal muscles, and encourage physical and mental relaxation (Şanli & Satilmiş, 2023; Swariningrum, 2019). The results of a previous literature study by Wati et al., (2023) stated that there were changes in pain after being given massage effleurage by giving massage to the abdomen in the form of skin stimulation so that it can be concluded that there is an effect of effleurage on reducing pain levels in the active phase of the first stage of normal labor.

The results of the preliminary study obtained data from the Kartasura health center which showed high cases of pain in patients who gave birth in midwives who practiced independently, the lack of available analgesic drugs made patients feel pain sensations continuously, thus impacting the patient's physical and psychological condition, in these data were obtained mothers who lost consciousness due to enduring pain felt during labor, So that it can have an impact on the safety of mothers and babies. So that a therapy is needed that can be done independently by midwives and families to reduce pain. Therefore, this study aims to determine the effectiveness of effleurage massage in reducing pain during labor.

METHODS

This research is included in the type of quantitative research with the Quasy Experiment method. The design of this study is one group pretest posttest design. This study is a pre-experimental study to determine the effect of massage effleurage technique on active phase labor pain. This research was conducted in one of the Independent Practices of Midwives in the Kartasura area. The time for this research will be carried out in October 2023. The sampling technique in this study was total sampling. The sample in this study was 30 pregnant women who experienced labor pain during the 1st active phase in the Midwife Independent Practice in the Kartasura area. The instrument used in data collection in this study uses a Numeric Rating Scale (NRS) observation sheet which has been tested for validity and reliability by Alghadir et al., (2018) and is declared valid and reliable with a Cronbach Alpha value of 0.95. The patient will be given informed consent before the study, then the patient is given an effleurage massage for 15 minutes when the pain begins to be felt. Data analysis used the Paired Sample Test to determine the effect of before and after actions on the same group. Application to analyze data using SPSS. This research received ethical qualifications from Moewardi Hospital with Number: 2,111/XI/HREC/2023.

RESULTS

The results of the study were obtained as many as 30 female respondents participated in the study. The data obtained the characteristics of respondents consisting of age, education, and occupation. The results of univariate analysis data obtained the level of pain of respondents before and after the intervention. The results of bivariate analysis obtained data on the effect of *massage effleurage* on pain levels during 1 active phase.

Table 1. Data Characteristics Responden

Characteristics	f	%
Age		
21-30 year	13	43.3
31-40 year	17	56.7
Education		
Elementary School	8	26.7
Junior High School	12	40.0
Senior High School	7	23.3
College	3	10.0
Work		
Housewives	18	60.0
Entrepreneurial	2	6.7
Wiraswasta	5	16.7
Other	5	16.7

Most respondents aged 31-40 years as many as 17 people (56.7%) with a junior high school education level of 12 people (40%) and the majority working as housewives as many as 18 people (60%).

Table 2. Pain Characteristics of Responders Before and After the Intervention

Characteristics	Pre-Test		Post-Test	
	Total (n)	Presentation (%)	Total (n)	Presentation (%)
Mild pain	3	10.0	21	70.0
Moderate pain	16	53.3	9	30.0
Severe Pain	11	36.7	0	0

The results of univariate analysis showed the level of pain felt by respondents before and after the intervention. The data from the analysis found that most respondents felt moderate pain before the intervention as many as 16 people (53.3%) and severe pain as many as 11 people (36.7%). After being given massage effleurage intervention, results showed that most respondents felt mild pain as many as 21 people (70%) and moderate pain as many as 9 people (30%).

Table 3. The effect of therapy on respondents' pain levels

Variable	Mean	SD	Mean Dif	OR 95% CI	P-Value
Pre-Test	2.27	0.640	0.967	0.784 - 1.150	0.001*
Post-Test	1.30	0.466			

*Paired Sample Test

The results of the analysis found that the average value of pain at the time of pretest measurement was 2.27 with a standard deviation of 0.64, while in the posttest measurement, the average value of pain was 1.30 with a standard deviation of 0.466. The mean difference between pretest and posttest measurements was recorded at 0.96 with a confidence interval (95% CI) of 0.784; 1.150. The statistical results from analysis using paired sample test showed a value of $p = 0.001$, which indicates a significant difference in pain levels between the pretest and posttest.

DISCUSSION

The results of the distribution of respondent characteristics in this study were obtained by the majority of respondents having a junior high school education level. This is in line with research by Purwandari et al., (2022) which shows that the majority of respondents who participated in their research were in secondary schools. Education is the process of changing the attitudes and behaviors of individuals or groups into adult humans through teaching and training; Mothers with low levels of education prefer to face childbirth as it is. Knowledgeable mothers usually learn about childbirth, how to deal with labor, and preparation for childbirth.

According to Karnina (2019) the higher a person's level of education, the greater his level of knowledge.

The majority of mothers' work types are housewives, in line with the results of research conducted by Youssef Abd-Ella (2018) shows that most mothers who experience pain during childbirth have activities as housewives. Many mothers work to earn a living for the benefit of them and their families. Occupational factors play a role in the emergence of problems in preparation for childbirth, where working conditions stand out as a factor influencing childbirth preparation due to the time involved, mothers who work outside the home have made preparations for childbirth even though their preparations are sometimes inappropriate (Rumalean et al., 2020; Santiasari et al., 2018).

The results of this study showed that there was an effect of massage efleurage therapy on pain in intranatal patients when 1 was active. These results are in line with Qonitun's research (2020) which shows that effleurage massage can be used as a method in overcoming labor pain in the first phase of the active phase so that the labor process becomes more comfortable. Research by Purwandari (2022) also supports these results by showing statistical results that the p-value is less than 0.05 and it can be concluded that effleurage massage by husbands has an influence on maternal pain levels during the first stage of the active phase. The results of Wati (2023) also state that this approach using intervention is effective, has no side effects, and can reduce contraction-related labor discomfort for mothers in active phase 1 labor.

Labor pain can be said to be pathological pain because it is related to psychological, biological, socioeconomic and cultural influences that can affect the mother in the face of childbirth. Labor is divided into four stages, namely stage 1 opening to opening ten and also stage 2 which is the latent phase and the active phase which lasts for 8 hours or more which is the process in which labor takes place (Ali & Ahmed, 2018; Pujiastutik et al., 2021). Massage Effleurage is a movement that involves the entire surface of the palm and fingers by giving massage to the body. Massage can be given in the chest area, abdomen and on the upper trapezius muscles, the main purpose of which is for relaxation. There is a mechanical effect on massage, which is a technique in which there is rhythmic pressure and push that causes emptying and filling of blood vessels. Furthermore, there is a reflective effect on massage which can cause the nervous system and blood circulation system to vasoconstrict and followed by local vasodilation, so that the process can facilitate blood circulation which in turn, causes chemical effects on massage by stimulating endhorphine hormones that can suppress feelings of pain that arise (Kaçar & Keser, 2021; Suryantini & Ma, 2022).

Efleurage can be performed by the mother herself or a birth attendant during contractions to distract the mother from the pain during contractions. The mechanism that occurs in massage effleurage is the application of the Gate Control theory which can inhibit the passage of pain stimuli to the higher nervous system centers in the central nervous system (Azzahroh et al., 2022; Rahimi et al., 2018). Massage aimed at affecting the motor, nervous and cardiovascular systems, provoking rest and relaxation throughout the body and breath. In addition, massage also aims to restore venous and lymph flow, stimulating sensory receptors in the skin and sub skin to reduce pain. In addition, the hormone relaxin serves to relax the ligaments in the pelvis for the labor process, this hormone also relaxes the ligaments that support the spine, triggering pregnancy pain (Imanurrohmah Lubis et al., 2023).

Massage can lessen the buildup of irritating materials, like lactic acid, in the affected area and increase circulation there. As a result, less pain may be perceived. Research by Türkmen & Oran (2021) revealed that applying a massage during cervical dilatation decreased labor discomfort by 6-7 cm. In a study looking at how nonpharmacological pain management techniques affected labor pain, sacral region massages helped 65.3% of pregnant women experience less pain during labor (Ranjbaran et al., 2017). The research results of Akköz Çevik & Karaduman, (2020) also show that massage given to the sacral area during labor can reduce women's labor pain when measured via the Visual Analogue Scale (VAS) and reduce levels of worry, anxiety, causing greater feelings of satisfaction among pregnant women in terms of labor, as well as positively influencing the perception of labor and having no fetal side effects. The research results of Gönenç & Terzioğlu, (2020) stated that apart from using regular massage, giving acupressure using certain techniques is relatively more effective than therapy applied independently.

CONCLUSIONS

Giving effleurage massage therapy to intranatal patients can reduce the feeling of pain felt by patients when labor occurs. This therapy can be an alternative to help provide comfort by reducing pain in mothers who will give birth, because of the minimal side effects caused and methods that are easy to apply. Researchers suggest that this therapy can also be combined with other relaxation methods so that the resulting effect is maximized.

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