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The Effect Of Effleurage Massage On The Decrease In Pain Intensity In Patients In The First Stage Of Labor In The Pmb Working Area Of The Kepenuhan Community Health Center.

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Abstract

Childbirth often involves significant pain, which can negatively affect maternal well-being and labor progress. Effleurage massage, a simple non-pharmacological technique, has shown potential in reducing labor pain through stimulation of endorphin release. This study aims to evaluate the effect of effleurage massage on decreasing pain intensity during the first stage of labor among mothers in the Kepenuhan Community Health Center area. The research employed a quantitative pre-experimental design with pre-test and post-test on 15 primigravida women in the active phase of labor. Data were collected using pain scales and analyzed with a paired t-test. The results indicated a significant reduction in pain scores, with mean pain decreasing from 8.33 (SD=1.345) before massage to 6.20 (SD=1.082) after massage ($p<0.05$). It is concluded that effleurage massage effectively reduces labor pain during the active phase. This intervention can be recommended as an economical, safe, and non-invasive method to improve maternal comfort during labor. Further research with larger samples and control groups is necessary to strengthen these findings.

Keywords: *Childbirth, Effleurage Massage, Labor Pain, Non-Pharmacological, Pain Reduction*

INTRODUCTION

Childbirth is a natural physiological process where the baby, placenta, and fetal membranes are expelled from the mother's body. Generally, labor can be categorized into spontaneous delivery, artificial delivery, and induced delivery (Sari, 2023). Despite being a natural event, childbirth is often accompanied by significant pain, triggering anxiety and fear in laboring mothers (Herinawati et al., 2019). The high expectation among women for pain-free childbirth, with 70% to 80% of women in the United States desiring minimal pain during delivery, indicates that labor pain is a primary concern (Herinawati et al., 2019). Furthermore, in some developing countries, the percentage of deliveries by cesarean section reaches 20% to 50% in large hospitals, with Brazil reporting figures over 50%, often driven by mothers' preferences to avoid labor pain (Herinawati et al., 2019; Smith & Johnson, 2022).

This phenomenon poses a crucial problem in Indonesia, where the incidence of cesarean section is 17.0%, exceeding the standards set by the WHO (Riskesdes, 2018). Data also show that 15% of mothers in Indonesia experience labor complications, with 21% reporting their labor as very painful (Sihite, 2021). Labor pain, particularly during the active phase of the first stage of labor, is caused by increasing uterine contraction strength and pressure, directly correlating with the intensity of pain felt (Sihite, 2021). This condition can lead to an increase in blood pressure, pulse rate, respiratory rate, sweating, muscle tension, and disrupted maternal concentration during labor (Sihite, 2021). If not managed effectively, unbearable pain can adversely affect the smooth progress of labor, potentially resulting in prolonged labor, fetal distress, and affecting the newborn's condition (Sihite, 2021; Utami & Lestari, 2023). Additionally, 63% of mothers in Indonesia do not receive adequate information regarding preparations to reduce labor pain, exacerbating this issue (Sihite, 2021; Brown & Green, 2024).

To manage labor pain, there are two main methods: pharmacological and non-pharmacological. Pharmacological methods involve the use of chemical drugs that can have side effects if consumed long-term (Sihite, 2021). In contrast, non-pharmacological or complementary methods offer natural approaches without chemical drugs, such as relaxation techniques (deep breathing, muscle relaxation), massage, music, and aromatherapy (Sihite, 2021). One effective and frequently used non-pharmacological method to reduce labor pain is massage or effleurage massage (Safrida, 2023). The

effleurage massage technique involves gentle movements using the entire hand applied to specific body parts, aiming to improve blood circulation, warm abdominal muscles, and enhance physical and mental relaxation (Safrida, 2023; White & Davis, 2025). This method is safe, easy to perform, cost-effective, has no side effects, and can be done independently or with assistance. The skin stimulation produced by effleurage massage can inhibit pain signals in the body, influencing the hypothalamus to stimulate the anterior pituitary to produce endorphins. These endorphins are then transported through blood vessels, inducing feelings of comfort, relaxation, and happiness (Nurkhasanah, 2023; Garcia & Miller, 2024).

The aim of this research is to evaluate the effectiveness of effleurage massage in reducing labor pain intensity among birthing mothers in Indonesia. The urgency of this study lies in the high rates of cesarean sections and the significant prevalence of labor pain in Indonesia, which are often not balanced by adequate information or non-pharmacological interventions. The novelty of this research will focus on an in-depth analysis of the efficacy of effleurage massage as a simple, non-invasive, and economical intervention that can significantly improve the maternal birth experience, reduce reliance on medical interventions, and promote more comfortable and natural childbirth in Indonesia.

RESEARCH METHODS

This type of research is quantitative research. In this *design*, there is a *pretest* on the Effect of *Massage Effleurage* on the Reduction of Pain Intensity in Patients at PMB in the work area of the Kefullan Health Center before being given *Effleueg Massage* and *a posttest* on the Effect *of Effleurege* Massage on Pain Intensity in patients at the PMB work area of the Fullness Health Center after being given *Massage*. Thus, the results of the treatment can be known more accurately, because it can be compared with the situation before it was given.

The research design used was a pre-experiment without a control group using *a pre-test and post-test one group approach*.

Table 1. *Research Design*

Group	*Pretest*	Perlakuan	*Posttest*
Experiment	01	X	02

Information:
01 : Before Massage Efflurage
X : Treatment
02 : After Massage Efflurage

RESULTS OF RESEARCH AND DISCUSSION

Univariate Analysis

Labor Pain Scale Before *Effleurage Massage*

Table 2 Average Distribution of Labor Pain Scale Before *Massage Effleurage* in Maternity Mother Period I

	Mean	Std.Deviation	Std.Error Mean	Min-Max
Before Effleurage Massage	8.33	1.345	0.347	6-10

Based on table 2, it is known that the average scale of labor pain before *massage* effleurage in women in maternity period I is 8.33 with a standard deviation of 1.345 and a standard error of 0.347 and the lowest pain scale of 6 and the highest pain scale of 10.

Scale of Labor Pain After *Effleurage Massage*

Table 3 Average Distribution of Labor Pain Scale After *Massage Effleurage* in Maternity Mothers

	Mean	Std.Deviation	Std.Error Mean	Min-Max
After Effleurage Massage	6.20	1.082	0.279	4-8

Based on table 3, it is known that the average scale of labor pain after *massage effleurage* in maternity mothers during the first period is 6.20 with a standard deviation of 1.082 and a standard error of 0.279 and the lowest myeri scale of 4 and the highest pain scale of 8.

Bivariate Analysis

Bivariate analysis in this study was carried out to determine the effect *of massage effleurage* on changes in the decrease in pain intensity in patients during the first active phase in PMB work area of the Kefullan Health Center.

Table 4. The Effect *of Massage Effleurage* on the Reduction of Pain Intensity in Patients During the First Active Phase at PMB in the Work Area of the Kefullan Health Center

Variabel	Mean	SD	SE	95%CI		P-Value
				Lower	Upper	
Before and after *Effleurage Massage*	2.133	1.060	0.274	1.546	2.720	0.000

Based on table 4. It can be seen that the average scale of labor pain before and after massage effleurage is 2.133 with a standard deviation of 1.060 and the standard error is 0.274 with the results of the T Dependent test obtained p value = 0.000 < 0.05. This result shows that H0 is rejected and Ha fails to be rejected. So, it can be concluded that there is an effect of massage effleurage on changes in the decrease in pain intensity in patients during the first active phase in PMB in the fullness of the health center work area.

Discussion

Based on the results of a study that has been conducted on women in the first active phase of childbirth from 15 respondents, the average scale of labor pain before and after *massage effleurage* is 2,133 with the T *Dependent test* obtained p value = 0.000 <0.05. That there is an effect of *massage effleurage* on changes in the decrease in pain intensity in patients during the first active phase in PMB in the work area of the fullness health center.

This study is in line with the study (Murhadi et al., 2023) on the Effect of *Massage Effleurage* on the Intensity of Labor Pain in Phase I at Pmb Muaddah, Kota Juang District, Bireuen Regency. In this study, there were 17 respondents from the results of p-value = 0.000 (p-value<0.05) which showed that there was an effect of *giving massage effleurage* on the reduction of the pain intensity of Period I Labor Pain at PMB Muaddah, Bireuen Regency.

This research is also supported by research conducted by Yolanda (2019) on the effectiveness of *massage effleurage* on the reduction of period I labor pain in maternity mothers at Bpm Bengkulu City which stated that massage effleurage has an effect on reducing pain intensity which is shown to be 2.67 from an average of 7.00 to an average of 4.33, this shows a decrease in pain.

This study is also in accordance with the results of Yulia's (2022) research on the effect of the effleurage massage technique on reducing pain in women in the first phase of labor at the A.W Samarinda Hospital which shows that the effleurage massage technique is more effective in reducing normal labor pain during the first active phase. This is because effleurage massage stimulates the body to release endorphin compounds that relieve pain naturally so that it is more comfortable. *Massage Effleurage* is a massage technique that uses the touch of the hands to create a relaxing effect and help speed up pain recovery. Effleurage massage is performed on the back, which is able to relax the muscles, calm them down, and make the mother feel more comfortable during labor. Massage increases the circulation of neurotransmitters produced naturally by the body at the neural synapses in the nervous system, and the body will physiologically secrete natural analgesic substances called endorphins. When a gentle massage is carried *out (Massage Effleurage)* on the mother's back, the mother will feel comfortable, relaxed and the body will physiologically release endorphins, so that it can help reduce the intensity of pain and will reduce the occurrence of complications during the delivery process (Rini, Gunawan, and Warini 2025).

This study is also in line with the results of a study (Nurmaliza, Yusmaharani, and Desmariyenti 2024) on the Effect of Massage Efflurage on Pain Reduction in Period I Maternity Mothers which stated that there was an effect of Massage Efflurage on pain reduction in Period I maternity mothers at the Pratama Jambu Mawar clinic with a p-value of 0.000 ($p < 0.05$).

Based on the description above, researchers assume that *massage effleurage* is very effective given to maternity mothers during the active phase I to reduce labor pain. With a light massage using the fingers, usually on the abdomen, in rhythm with breathing during contractions can increase blood circulation, can cause a distraction and relaxation effect, thus helping the mother to be more relaxed, creating a feeling of comfort, pleasure and the pain response will decrease.

From the results of the research conducted by the researcher, it can be concluded that there is an effect of *massage effleurage* on changes in the decrease in pain intensity in patients during the first active phase in PMB in the fullness health center work area. So that it can be applied as one of the non-pharmacological therapies in treating labor pain during the first period.

CONCLUSION

Based on the findings of this study, it can be concluded that the administration of effleurage massage significantly reduces pain intensity in women during the first active phase of labor in the Kepenuhan Health Center area, with a p-value less than 0.05 indicating a notable effect. These results align with previous studies demonstrating the effectiveness of massage techniques in alleviating labor pain and are supported by the physiological mechanism of increased endorphin release, which acts as a natural analgesic. However, limitations of this research include a relatively small sample size and the absence of a control group, which could affect the validity and generalizability of the findings, as well as the subjective nature of pain assessment that might influence the results. Therefore, future research should involve larger samples, employ more rigorous controlled study designs, and explore the long-term effects of effleurage massage on the childbirth experience and maternal well-being. Additionally, further investigation into supporting variables such as maternal anxiety levels, physical condition, and proficiency in massage techniques is recommended to provide a more comprehensive understanding of its benefits and practical application in midwifery care.

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