

## THE EFFECT OF EFFLEURAGE MASSAGE ON REDUCING 1st STAGE LABOR PAIN

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### ABSTRAK : PENGARUH PIJAT EFFLEURAGE TERHADAP PENURUNAN NYERI PERSALINAN TAHAP 1

**Pendahuluan:** Nyeri persalinan merupakan kondisi berupa perasaan yang tidak menyenangkan, apabila tidak diatasi dengan baik akan menimbulkan masalah lain yaitu meningkatkan kecemasan. Data di Indonesia didapatkan 21% menyatakan bahwa persalinan yang dialami merupakan persalinan yang menyakitkan karena merasakan nyeri. Salah satu pijatan dalam proses persalinan dengan menerapkan teknik *effleurage*. Stimulasi kulit dengan *effleurage* ini menghasilkan pesan yang dikirim lewat serabut A- $\delta$ , serabut yang menghantarkan nyeri cepat, yang mengakibatkan gerbang tertutup sehingga korteks serebri tidak menerima sinyal nyeri dan intensitas nyeri berubah/berkurang.

**Tujuan:** Untuk mengetahui pengaruh pijat *effleurage* terhadap penurunan nyeri persalinan kala 1 di Wilayah Kerja Puskesmas Bandar Negeri Suoh tahun 2023.

**Metode Penelitian:** Jenis penelitian ini adalah penelitian kuantitatif yaitu dengan rancangan *pre experiment* dan desain *one group pretest and posttest design*. Populasi dalam penelitian ini adalah seluruh ibu bersalin kala 1 di Wilayah Kerja Puskesmas Bandar Negeri Suoh jumlah Juni-Juli dengan sampel yang berjumlah 30 orang. Teknik sampel yang digunakan yaitu *purposive sampling*. Instrumen pengambilan data dalam penelitian ini menggunakan skala NRS (*Numeric Rating Scale*). Analisis data yang digunakan adalah *wilcoxon*.

**Hasil:** Hasil penelitian ini menunjukkan bahwa rata-rata nyeri persalinan kala 1 sebelum dilakukan pijat *effleurage* adalah 5,30 dan sesudah dilakukan pijat *effleurage* menurun menjadi 2,5. Hasil uji *wilcoxon* didapatkan  $p\text{ value } 0,000 < 0,05$  artinya ada pengaruh pijat *effleurage* terhadap penurunan nyeri persalinan kala 1 di Wilayah Kerja Puskesmas Bandar Negeri Suoh tahun 2023.

**Kesimpulan:** Ada pengaruh pijat *effleurage* terhadap penurunan nyeri persalinan kala 1 di Wilayah Kerja Puskesmas Bandar Negeri Suoh tahun 2023.

**Saran:** Dapat menerapkan asuhan dalam penatalaksanaan nyeri kontraksi berupa pijat *effleurage*.

**Kata kunci:** *Nyeri Persalinan, Effleurage, Postpartum*

### ABSTRACT

**Introduction:** Labor pain is a condition characterized by unpleasant sensations. If not properly managed, it can lead to other issues, such as increased anxiety. The data from Indonesia indicates that 21% of women consider painful labor due to experiencing pain. One of the massage techniques used during labor is *effleurage*, which involves stimulating the skin. *Effleurage* stimulates the A-fibers, which transmit pain signals quickly, leading to a closed gate mechanism that prevents the cortex from receiving pain signals, ultimately altering or reducing the pain intensity.

**purpose:** To determine the effect of *effleurage* massage on the reduction of pain during the first stage of labor in the working area of Bandar Negeri Suoh Primary Health Care in 2023.

**method:** This research was a quantitative study with a pre-experimental design and a one-group pretest and posttest design. The population of this study included all mothers experiencing the first stage of labor in the working area of Bandar Negeri Suoh Primary Health Care during June and July, with a sample size of 30 participants. A purposeful sampling technique was used for sample selection. The data collection instrument in this study was the Numeric Rating Scale (NRS), and the data analysis employed the Wilcoxon test.

**Results:** The results of this study revealed that the average pain score during the first stage of labor before undergoing *effleurage* massage was 5.30, and after the massage, it decreased to 2.5. The Wilcoxon test yielded a  $p\text{-value of } 0.000 < 0.05$ , indicating a significant effect of *effleurage* massage on the reduction of pain during the first stage of labor in the working area of Bandar Negeri Suoh Primary Health Care in 2023.

**Conclusion:** An effect of *effleurage* massage on the reduction of pain during the first stage of labor in the working area of Bandar Negeri Suoh Primary Health Care in 2023.

**Suggestion** Can apply care in the management of painful contractions in the form of *effleurage* massage.

Keywords: Labor Pain, Effleurage, Postpartum

## INTRODUCTION

Childbirth is a natural process experienced by birth mothers and takes place normally in life. Labor can be defined as the process of moving the fetus, placenta, and membranes out of the uterus through the birth canal. This process begins with the opening and dilatation of the cervix due to uterine contractions with regular frequency, duration and strength (Rohani et al, 2014).

During the delivery process, the mother will experience pain. Labor pain is a condition in the form of an unpleasant feeling, if it is not handled properly it will cause other problems, namely increasing anxiety, due to a lack of knowledge and no experience in primigravida mothers when facing labor so that the production of the hormone adrenaline increases and results in vasoconstriction which causes maternal blood flow to the fetus. decreased causing fetal distress such as fetal distress (Utami & Putri, 2020).

Pain in labor is caused by uterine contractions which can result in increased activity of the sympathetic nervous system, changes in blood pressure and heart rate, respiration and skin color. If this is not handled immediately it will increase feelings of worry, tension, fear and stress. The progress of labor is influenced by passanger, passage, position, and psychology. In addition, the progress of labor is also influenced by the position of the fetus. Mother's perception of labor pain can affect the psychological condition of the mother which can ultimately have an impact on labor (Sujiyatini, 2016).

Pain is normal, but if it is not managed properly, it will cause more severe pain, causing problems related to the mother's physical and psychological health. The impact of unresolved pain is not only painful for the mother but also for the fetus. These impacts include post partum depression, bleeding, prolonged labor, increased blood pressure and pulse, in the fetus causing acidosis due to hypoxia in the fetus, as well as psychologically increasing anxiety and fear (Maryunani, 2015).

Bonica's research on 2,700 parturients in 121 obstetric centers from 36 countries found that only 15% of deliveries took place without pain or mild pain, 35% of deliveries were accompanied by moderate pain, 30% of deliveries were accompanied by severe pain and 20% of deliveries were accompanied by very severe pain. (Dartiwen, 2023).

Based on delivery data centers at hospitals throughout Indonesia, it is known that 15% of mothers in Indonesia experience complications

during childbirth and 21% say that the labor they are experiencing is a painful birth because they feel pain, while 63% do not receive information about the preparations that must be made to reduce pain in labor. (Yuliasari and Santriani, 2015).

Emergency problems that affect mortality and morbidity in mothers giving birth at the Bandar Negeri Suoh Health Center, namely 12 (23%) mothers experience anxiety, 3 (5.8%) mothers experience bleeding, 2 (3.8%) mothers experience prolonged labor, and 8 (15.4%) mothers experienced an increase in blood pressure (Puskesmas Bandar Negeri Suoh, 2023).

In addition, due to physiological labor pain, it will cause significant changes, including hyperventilation with severe respiratory alkalosis, increased cardiac output (50-150%), increased blood pressure (20-40%) and can cause psychological changes in the form of post partum depression by 11% - 30% (Dewi, 2013).

The impact of unresolved labor pain is not only painful for the mother but also for the fetus, so management is needed to deal with labor pain. This is so that the mother can adapt and respond positively to labor pain so that it does not cause problems or complications during the delivery process (Maryunani, 2015).

Various methods can be attempted to reduce pain during childbirth, both pharmacologically and non-pharmacologically. Pharmacological treatment includes administration of analgesics and anesthetics to reduce pain. Its use is still limited and officers will not give it if it is not really needed and according to indications. Non-pharmacological methods can be relaxation techniques, hynobirthing, TENS, massage and various other techniques (Maryunani, 2015).

*Massage*Or massage can also reduce labor pain. Massage that is done gently can help the mother feel refreshed, relaxed, and comfortable during labor. Massage also makes mothers feel closer to the people who care for them. The touch of someone who cares and wants to help is a source of strength when the mother is sick, tired or afraid (Rahman, 2017).

Massage during labor can have a relaxing effect. Relaxation experienced by the mother stimulates the brain to reduce levels of the hormone adrenaline and increase the production of oxytocin which is an important factor in the emergence of adequate contractions. There are many techniques to reduce labor pain, one of which is massage. The

massage technique is an instinctive aspect of humans when they feel pain in several parts of the body and this technique causes the first reaction to stroke the painful body part with their hands to reduce pain (Bohari et al, 2022).

One of the massages during labor is by applying the effleurage technique. Effleurage massage can provide a feeling of comfort, cause relaxation, and stimulate the release of endorphins which can relieve pain scientifically. When effleurage massage is carried out, pain inhibits uterine contractions, because at that time the Delta A fibers will close the gate so that the cerebral cortex does not receive pain messages that have been blocked by this counter stimulus massage so that the perception of pain can change (Septianingti et al, 2021).

Based on the results of Elly Susilawati's research (2018) showed that the average active phase normal labor pain scale in Primigravida mothers, with the Massage Effleurage technique was 2 with Std. deviation of 2.44, while the average labor pain scale with Massage Counterpressure is 6 with Std. deviation 6.36. While the results of the statistical test using the Paired T-test obtained a P value of 0.000, it means that the Massage Effleurage technique is more effective than the Massage Counterpressure technique in reducing normal labor pain during the active phase I.

In addition, according to a study by Loisza et al (2022), there were differences in the intensity of maternal pain during the first active phase before and after the Effleurage massage technique was carried out at PMB Bandung City. It can be concluded that

giving massage or Effleurage massage to mothers in labor can reduce the intensity of labor pain.

Based on the results of observations at the Bandar Negeri Suoh Health Center, it was found that almost all mothers felt pain in the first stage of labor. Currently, 2 out of 3 patients stated that they could not stand the pain, especially during the first stage. The mother felt pain in the abdomen, waist, back and radiated spine. So far, the efforts made by midwives at the Bandar Negeri Suoh Health Center are only stroking the mother's stomach or back without a definite purpose, resulting in birth mothers feeling anxious and there is 1 birth mother who is anxious and has no energy in facing the delivery process due to the pain felt causing the mother to be referred to the nearest hospital.

## RESEARCH METHODS

This type of research is quantitative research, namely the pre-experimental design and the one group pretest and posttest design. The population in this study were all mothers giving birth in the 1st stage in the Work Area of the Bandar Negeri Suoh Public Health Center from June to July with a sample of 30 people. The sample technique used is purposive sampling. The intervention given is in the form of effleurage massage by means of massage using the palms of the hands that apply gentle pressure over the surface of the body in a circular direction repeatedly during contractions for 20 minutes. The data collection instrument in this study used the NRS (Numeric Rating Scale) scale. The data analysis used is Wilcoxon.

## RESEARCH RESULT

**Table 1**  
**The average labor pain stage 1 before effleurage massage**

| Labor Pain                      | n  | Means | Standard Deviation | Min-Max |
|---------------------------------|----|-------|--------------------|---------|
| Before doing effleurage massage | 30 | 5.30  | 0.750              | 4-6     |

Based on the table above, it is known that the average stage 1 labor pain before effleurage massage was performed was 5.30 with a standard

deviation of 0.750, a minimum pain score of 4 and a maximum of 6.

**Table 2**  
**The average labor pain stage 1 after effleurage massage**

| Labor Pain                         | n  | Means | Standard Deviation | Min-Max |
|------------------------------------|----|-------|--------------------|---------|
| After doing the effleurage massage | 30 | 2.50  | 1.167              | 1-5     |

Based on the table above it is known that the average stage 1 labor pain after effleurage massage

is 2.50 with a standard deviation of 1.167, a minimum pain score of 1 and a maximum of 5.

Table 3  
Effect of massageffleurageon reducing labor pain in the 1st stage

| Labor Pain                         | n  | Means | Positive Rating | Negative Rank | P-value |
|------------------------------------|----|-------|-----------------|---------------|---------|
| Before doing effleurage massage    | 30 | 5.30  | 0.00            | 15.00         | 0.000   |
| After doing the effleurage massage | 30 | 2.50  |                 |               |         |

Based on the table above, it is known that the average labor pain before massageffleurageobtained an average of 5.30 and after massageffleurageobtained an average of 2.50. A positive rank value of 0.00 means that there is no pain intensity after massageffleuragewhich was higher than before the massage intervention was giveneffleurage.Vice versa, a negative rank value of 15 means all pain intensity after massageffleuragelower than before the massage intervention was giveneffleurage.Test resultswilcoxon got pvalue0.000 <0.05 means there is a massage effecteffleurageon reducing labor pain in the 1st stage in the Work Area of the Bandar Negeri Suoh Health Center in 2023.

## DISCUSSION

### The average labor pain stage 1 before effleurage massage

The results of this study indicate that the average labor pain in the 1st stage before effleurage massage was performed was 5.30 with a standard deviation of 0.750, a minimum pain score of 4 and a maximum of 6.

Labor pain is a subjective experience of physical sensations associated with uterine contractions, cervical dilatation and effacement, and fetal descent during labour. Pain in the first stage of labor is due to dilatation of the cervix and lower uterine segments with further distension, stretching, and trauma to the muscle fibers and ligaments (Judha et al, 2017).

At the time of the research, it was found that the mother stated that she could not stand the pain that was felt, especially during the first stage. The mother felt pain in the abdomen, waist, back and radiating to the spine. This is in accordance with Maryuani's theory (2015), namely the cause of pain during labor in the first stage, the pain is visceral. Visceral pain is slow and rather painful due to uterine contractions and cervical opening. The pain begins as a slight stabbing, then reaches a peak, then completely disappears which is signaled by sympathetic afferents and is transmitted to the spinal cord in segment T10-L1 (thoracic 10-lumbar1) via the delta nerve fibers and originates from the lateral wall and uterine fundus.

This is in line with Handayani's research (2016) which said that the pain scale before effleurage massage was carried out in primigravida mothers in the first active phase was the majority with a moderate pain scale, namely 15 (53.6%). In addition, according to Karlinah and Hakameri's research (2022) it shows that the average pain level before an effleurage massage is carried out is 5.00.

According to the researcher's analysis, during the first stage of the active phase, the majority of respondents experienced moderate and mild pain. The intensity of pain in women giving birth can be influenced by the age factor, namely in this study there were 4 mothers who were 19 years old. Besides that, it can be influenced by parity factors where in this study there were 13 (43.3%) mothers with primiparous parity. Primiparous mothers have never given birth so they cannot control pain when contractions occur. Based on this, it is necessary to provide interventions to reduce pain during stage 1.

### The average labor pain stage 1 after effleurage massage

The results of this study indicate that the average labor pain stage 1 after effleurage massage is 2.50 with a standard deviation of 1.167, a minimum pain score of 1 and a maximum of 5.

*Effleurage* is a light massage using the fingers, usually on the stomach, in rhythm with breathing during contractions. Effleurage can be done by the birthing mother herself or by the birth attendant during the contractions. This is used to distract the mother from pain during contractions (Herinawati, 2019).

In accordance with the theory put forward by Handayani (2011), one of the things that can reduce pain is due to giving effleurage massage to the abdomen which stimulates tactile fibers in the skin so that pain signals can be inhibited. Stimulation of the skin with this effleurage results in messages being sent via the A-δ fibers, fibers that transmit pain quickly, which causes the gates to close so that the cerebral cortex does not receive pain signals and the pain intensity changes/reduces, this is in accordance with what was stated.

This research is in line with research conducted by Lestari and Apriyani (2019) which

shows that after being given an intervention is moderate pain (average 4.95). The decrease in pain level after being given the intervention was 2.42.

According to the researcher's analysis, the research respondents seemed able to control themselves, were calmer, and looked more comfortable when doing effleurage massage. Besides that, after measuring the intensity of pain, it was found that most of the mothers had a mild pain scale. This is supported because the pain will decrease after the massage is done because the pain fibers carrying pain stimulation to the brain are smaller and the sensation travels slower than the broad fibers and the sensations run faster. Touch and pain are stimulated along with the sensation of touch traveling to the brain and closing the gate in the brain and there is a limitation of pain intensity in the brain. Massage is a distraction that can increase the formation of endorphins in the descending control system so that it can make the patient more comfortable because of muscle relaxation.

#### **Effect of massage effleurage on reducing labor pain in the 1st stage**

The results of this study indicate that the average labor pain before the effleurage massage is done is an average of 5.30 and after the effleurage massage is done the average is 2.50. The results of the Wilcoxon test obtained a p value of  $0.000 < 0.05$ , meaning that there was an effect of effleurage massage on reducing labor pain in the first stage of labor in the Work Area of the Bandar Negeri Suoh Health Center in 2023.

Massage or massage of the abdomen (effleurage) are forms of skin stimulation used during labor to effectively reduce pain. This is in accordance with the theory according to Paritiwi (2018), namely massage effleurage in labor is done using soft and light fingertips. Do the wiping lightly and without strong pressure, but try not to let the fingertips come off the surface of the skin. Stimulation of the skin with the effleurage technique produces impulses that are sent through large nerve fibers that are on the surface of the skin, these large nerve fibers will close the gate so that the brain does not receive pain messages because it has been blocked by skin stimulation with this technique, as a result the perception of pain will change apart from relieving pain, massage will stimulate the uterine muscles to contract.

Effleurage massage has a role in the components of social relations, namely by utilizing social gestures (body movements that are social). Providing effleurage massage means giving touch as a physical cue to increase the awareness of health

workers in understanding the conditions being faced by clients. Touch will provide calm so that it becomes the basis for creating a feeling of security. The client will feel that he is getting attention through the direct touch given by the health worker, thus fostering closeness and in-depth interaction between the mother and the client, thus the client feels satisfied, safe and comfortable. Effleurage massage bridges social relations through several components including positive eye contact, friendly facial expressions, rhythmic vocalizations, voice intonation, relaxing, and body movements (Qurniasih,

The results of this study are in line with the results of research by Herinawati (2019) which showed that there was a significant effect between effleurage massage on reducing pain in the first active phase at the Independent Midwife Practice Nuriman Rafida and the Independent Midwife Latifah Practice with P (value)  $0.000 < 0.05$ . In addition, according to Bingan's research (2020) which states that there is a significant effect between pain before massage and after massage, in other words if you do Effleurage Massage it can reduce pain. So that from the results of this analysis it can be concluded that there is an effect of the Effleurage Massage technique on the pain of the first stage. In addition, according to Rika and Aryanti (2014) which showed that there was a significant difference in labor pain before and after effleurage massage.

According to the researcher's analysis, massage effleurage has an effect on reducing the intensity of pain in mothers in labor in the active phase I, although from the results of the study massage effleurage can affect the reduction of the intensity of labor pain, but it was also found that respondents had only a slight effect on reducing or increasing pain intensity after massage, this is due to the perception or tolerance factor for pain, which is caused by the characteristics of the mother based on parity, where mothers with multiparous parity have had previous birth experience, so they are more effective in dealing with the pain they feel. Meanwhile, in this study, there were 17 (56.7%) mothers with multipara parity, 13 (43, 43) respondents with primipara parity. 3%) have not had childbirth experience so that the pain they feel can increase their anxiety and fear, which then causes the mother to stress and tense during contractions, this can cause the pain to only decrease slightly after an effleurage massage is done. Based on this, this method is very efficient and does not cause side effects and can reduce labor pain in labor in the first stage of the active phase when contractions occur.

## CONCLUSION

The average labor pain in the 1st stage before effleurage massage was carried out in the Work Area of the Bandar Negeri Suoh Health Center in 2023 was 5.30. The average labor pain in the 1st stage after effleurage massage was carried out in the Work Area of the Bandar Negeri Suoh Health Center in 2023 was 2.50. There is an effect of effleurage massage on decreasing stage 1 labor pain in the Work Area of the Bandar Negeri Suoh Health Center in 2023 with a p value of 0.000.

## SUGGESTION

Can apply care in the management of painful contractions in the form of effleurage massage.

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