



EFFECTIVENESS OF EFFLEURAGE MASSAGE ON REDUCING INTENSITY OF FIRST-STAGE INPARTUM PAIN

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ARTICLE HISTORY

Received: 11 January 2024
Accepted: 22 February 2024

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ABSTRACT

Introduction: Labor can be defined as the process of opening and thinning the cervix, as well as the descent of the fetus into the birth canal. This pain can be felt like strong cramps in the stomach, groin, and back, as well as aches (Rosmiarti et al., 2020). In general, the pain that arises can affect the physiological and psychological state of the mother in the form of intense fatigue, the emergence of fear and worry, and cause stress, thus making a lack of contractions which can cause prolonged labor. The purpose of this literature review is to find out and analyze the effectiveness of effleurage massage in reducing the intensity of labor pain in the first stage.

Methods: This study uses a literature review method with article searches conducted in three search databases Science Direct, Garuda, Google Scholar and there are 10 articles that meet all inclusion criteria and are reviewed.

Results: Effleurage massage can reduce the intensity of labor pain in the 1st stage.

Conclusion: Based on the results of a review of 10 articles, one of the non-pharmacological therapies to reduce the intensity of labor pain is using effleurage massage therapy. This is evidenced by the average headache scale before being treated with effleurage massage which is on the moderate pain scale (4-6). After being treated with effleurage massage, the pain intensity was on a mild pain scale (1-3). Effleurage massage therapy is also able to reduce the scale of severe pain (7-10) to mild pain (0-3).

Keywords: *Effleurage Massage, Inpartum, Pain*

Cite as:

Puspitasari R.A.H., Kusuma E., Handayani D., Nastiti A.D., Toba M., Novitasari B.A. (2024). Effectiveness of Effleurage Massage on Reducing Intensity of First-Stage Inpartum Pain. *Indonesian Journal of Community Health Nurs.*, 9(1), 1-7. Doi: 10.20473/ijchn.v9i1.42363

INTRODUCTION

Labor can be interpreted as the process of opening and dilating the cervix, as well as the descent of the fetus into the birth canal. When the uterine muscles contract, they open the cervix and push the baby's head toward the hips, causing labor pains to arise. This pain can be felt like strong cramps in the stomach, groin, and back, as well as a feeling of aches (Rosmiarti et al., 2020). High levels of pain may be experienced during labor so childbirth is considered a period of suffering in a woman's life, where she may experience intense pain that lasts for hours (Cevik, 2019). According to a journal written by (Pinar & Demirel, 2021), labor pain can cause a lack of oxygen in the fetus due to ischemia in the placenta. In addition, the effectiveness of uterine contractions

decreases, causing labor to take longer. The phenomenon that is happening at this time occurs in women giving birth who have experienced the active phase of the first stage of labor and have experienced 3 or more contractions, mules, and a strong opening of the uterus within 10 minutes 40 seconds or more. The pain that arises can affect the physiological and psychological state of the mother in the form of extreme fatigue, the emergence of fear and worry, and causes stress. During labor, this stress creates contractions that can lead to prolonged labor. As a result, many mothers feel unable and unable to survive the birth process. In addition, some mothers tend to have a caesarean section without any obvious symptoms. Caesarean section is carried out at the request of the mother herself because it is assumed

that the mother will not feel pain during caesarean section, as mothers feel during normal delivery.

Based on the results of research conducted by Ebrim, Buowari, and Ghosh (Sulistyowati et al., 2021), in England, as many as 93.5% of mothers said that labor pain was very severe pain. According to Lameze, there are 85-90% of deliveries cause pain, while deliveries that do not cause pain are only 10-15%. According to (Puspitasari et al., 2022), 89 percent of multiparous mothers in Finland feel that the pain they experience is very strong and excruciating. In Indonesia, as many as 21% of mothers experience very severe labor pain and only 26 people (8.12%) experience mild pain during the first stage of the active phase.

Cervical dilatation, uterine muscle hypoxia during contractions, ischemia of the uterine corpus, contractions of the lower uterine segment, and compression of nerves in the cervix are factors that cause pain in the first stage of labor. The cause is decreased blood flow resulting in a local decrease in oxygen due to the contraction of the myometrial arteries. This pain starts from the lower abdomen, extends to the lumbar region of the back, and descends to the femur (Turkmen & Oran, 2021). The first stage of labor begins with zero dilatation and progresses to complete dilatation. Labor pain begins in the early stages of labor, the latent phase, and progresses into the active phase. During the first stage, uterine contractions are more flexible and longer, and stronger, thereby increasing the sensation of pain (Utami & Fitriahadi, 2019). According to (Yulistiana, 2020), the causes of labor pain involve external and internal elements. Culture, environment, and medical activities are examples of external factors. Meanwhile, anxiety, fear, tension, fatigue, age, and education are internal factors. The more often and the longer the mother experiences pain during childbirth, the more likely the mother experiences tachycardia when pushing, increased oxygen supply, lactic acid production, hyperventilation, and muscle tension increase.

To deal with labor pain, there are several ways that are often used, including deep breathing relaxation techniques, music therapy, warm/cold compresses, aromatherapy, and effleurage massage. Effleurage massage is a method that is often used to treat pain. This method is the simplest relaxation technique, easy to do, and very effective in dealing with labor pain and providing comfort to inpartum mothers. Effleurage massage is done by gently pressing the surface of the body using the palms of the hands in a circular motion. This method increases blood circulation, warms the abdominal muscles, increases physical and mental relaxation, and can inhibit pain stimuli (Lai et al., 2021). According to (Suardi, 2018), effleurage massage stimulates tactile fibers in the skin on the abdomen so that pain is reduced and provides a relaxing effect on the abdominal muscles. This method not only reduces pain but also has no impact on the mother or baby,

this can actually have a relaxing effect so that the mother can adapt to the pain she feels.

Based on the description above, the authors are interested in discussing the literature review on the effect of effleurage massage on reducing the intensity of labor pain in stage 1.

METHOD

The search strategy in this literature study uses databases including Science Direct, Garuda, and Google Scholar. In the early stages of the search found (Science Direct = 9, Garuda = 17, Google Scholar = 306), and after that, they were filtered from 2017 – 2022 and obtained results (Science Direct = 3, Garuda = 13, Google Scholar = 231). After that, selecting articles based on full text totaled 95 articles and 27 duplicate articles. The total number of articles that can be reviewed is 10 articles. The articles used in this literature review are still in the form of Original Research or have never been reviewed, to speed up or facilitate selection based on study areas, titles, and abstracts using the Mendeley application. With this application, you will find the number of search results, and duplicate journal articles from the Science Direct, Garuda, and Google Scholar databases. Below are diagrams sorted from initial search results, duplicates, and selections based on studies, titles, abstracts and selected or reviewable journals.

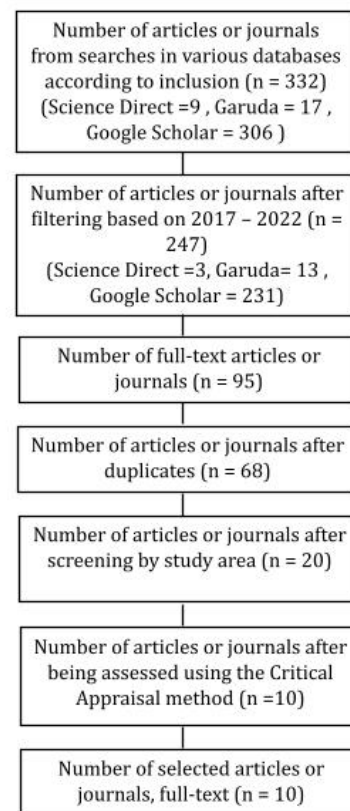


Figure 1. Diagram of article selection

RESULTS

Table 1. Overview Of Study Result

Author	Title	Characteristics of respondents by age	Characteristics of respondents by parity
(Syahida, 2022)	Effects of Relaxation Techniques Effleurage Against Pain in the First Stage of Labor in Mothers Inpartum at the Zulaini Practice Midwife, Langsa City	Respondents as many as 16 people 21-25 years old	Primiparous numbered 5 and 11 multiparous respondents
(Hartinah et al., 2018)	Effects of Massage Effleurage on the Level of Labor Pain during the 1st Active Phase	Respondents as many as 22 people 20-35 years old	Primiparous numbered 1 and 10 multiparous respondents
(Herinawati et al., 2019)	Effect of Effleurage Massage for Labor Pain in the Active Phase I in the Independent Practice of Midwife Nuriman Rafida and Independent Practice of Midwife Latifah in Jambi City in 2019	Respondents as many as 30 people Age not explained	Not explained
(Abd-ella, 2018)	Effect of Effleurage Massage on Labor Pain Intensity in Parturient Women	Respondents as many as 80 people Aged < 25 years, 25-35 years, and >30	Not explained
(Fithri, 2018)	Effect of Method Massage Effleurage on Reducing Pain Intensity in the First Stage of Labor at the Mimi Sm Clinic. King of Medan in 2018	Respondents as many as 10 people 18-25 years old and 26-33 years old	Not explained
(Sitorus et al., 2021)	Effect of Massage Effleurage on Labor Pain Intensity and Opening of the Active Phase Birth Canal	Respondents as many as 18 people Age not explained	Not explained
(Lestari & Apriyani, 2020)	Effect of Massage Effleurage on Changes in Pain Levels in Patients with the Active Phase 1 of Labor	Respondents as many as 38 people Age not explained	Not explained
(Magfirah et al., 2020)	Effleurage Massage Method Regarding Pain Intensity in the First Stage of Labor	Respondents as many as 16 people Aged <20, 20-35, and >35	Primiparous as many as 10 and multiparous respondents as many as 6
(Nurchayanti et al., 2020)	Differences in Pain Intensity In Inpartum Patients in the Active Phase I with Effleurage Techniques at the Bendo Kediri Health Center	Respondents as many as 12 people Aged <20 years 20-35 years > 35 years	Primiparous as many as 7 and multiparous respondents as many as 5
(Rosalinna, 2017)	Effect of Massage Effleurage on the Pain Level of Maternity During Active Phase I in the Delivery Room East Kalimantan Pupuk Hospital in 2021	Respondents as many as 52 people <20 years old, 20-35 years and >35 years old	Primiparous numbered 20 and 10 multiparous respondents

This study uses the characteristics of respondents from the age and parity groups of all the articles reviewed. From all the articles that have been

reviewed, the results show that the majority of respondents used are aged 18-35 years, and the majority are primiparous.

Table 2. Results Of Literature Studies

Author	Tittle	Result
(Syahida, 2022)	Effects of Relaxation Techniques Effleurage Against Pain in the First Stage of Labor in Mothers Inpartum at the Zulaini Practice Midwife, Langsa City	The results of the research show that there is a decrease in the intensity of labor pain during the first stage after being given an effleurage massage intervention. This is evidenced by the majority of respondents before being given effleurage massage (pre-test), namely as many as 10 respondents (62,5%) felt moderate pain and after being given effleurage massage (post-test) the majority felt mild pain with a total of 10 respondents (62,5 %). The results were the average pain score obtained before being given treatment (pre-test) was 2,38 and after giving treatment (post-test) was 1,38. Giving effleurage massage can reduce labor pain in the 1st stage.
(Hartinah et al., 2018)	Effects of Massage Effleurage on the Level of Labor Pain during the 1st Active Phase	Based on the research results obtained majority of respondents in the intervention group before being treated (pre-test), 11 respondents (100%) experienced moderate pain, whereas after being treated with effleurage massage (post-test) the majority felt moderate pain as many as 8 respondents (72,3%) and as many as 3 respondents (27,3%) felt mild pain. For the control group, before being given the effleurage massage treatment, the respondents experienced moderate pain, namely 11 (100%), whereas after being treated, 10 respondents (90,9%) experienced moderate pain and 1 (9,1%) experienced severe pain. The results of this study provide evidence that effleurage massage is effective in reducing pain in the first stage of labor.
(Herinawati et al., 2019)	Effect of Effleurage Massage for Labor Pain in the Active Phase I in the Independent Practice of Midwife Nuriman Rafida and Independent Practice of Midwife Latifah in Jambi City in 2019	Based on the research results obtained that the majority of respondents before being given effleurage massage experienced moderate pain as much as 16 (53%). After effleurage massage, respondents experienced a decrease in pain with 17 (57%) respondents experiencing mild pain. This proves that there are significant differences before and after being treated with effleurage massage.
(Abd-ella, 2018)	Effect of Effleurage Massage on Labor Pain Intensity in Parturient Women	Based on the research results obtained that the majority of respondents before being given the effleurage massage treatment were 6,3 while after being given the effleurage massage treatment the pain scale was 5,9. Furthermore, 60% of mothers reported high levels of satisfaction with effleurage massage as a method of pain relief, while only 10% were not satisfied. It shows that effleurage massage is an effective pain relief method for reducing labor pain.
(Fithri,2018)	Effect of Method Massage Effleurage on Reducing Pain Intensity in the First Stage of Labor at the Mimi Sm Clinic. King of Medan in 2018	The results of the research show that there is an influence on the pain intensity of the respondents after and before the effleurage massage intervention. Evidenced by the average pain intensity before being given treatment (pre-test) was 6,10, whereas after being given treatment (post-test), the average pain intensity was 3,90. So it can be concluded that there is a significant difference between pain intensity before and after being given the intervention. It is stated that the implementation of effleurage massage is effective in reducing the intensity of the first stage of labor pain.

Author	Tittle	Result
(Sitorus et al., 2021)	Effect of Massage Effleurage on Labor Pain Intensity and Opening of the Active Phase Birth Canal	Based on the result of the research show that the majority of the average pain scale before being given treatment was 5,80 while after being given treatment the average pain scale was 3,80. This proves that there is a decrease in stage 1 labor pain after being given an effleurage massage intervention. So this method is very effective in reducing the first stage of labor pain.
(Lestari & Apriyani, 2020)	Effect of Massage Effleurage on Changes in Pain Levels in Patients with the Active Phase 1 of Labor	The results obtained from this study namely a decrease in pain intensity after effleurage massage. Before the effleurage massage, most of the respondents 30 (78,9%) experienced severe pain. After effleurage massage, the majority of respondents who experienced moderate pain in as many as 22 (57,9%) had pain mild as many as 12 (31,6%) respondents and severe pain in as many as 4 (10,5%) respondents. This is proof that effleurage massage is effective in reducing labor pain in the 1st stage.
(Magfirah et al., 2020)	Effleurage Massage Method Regarding Pain Intensity in the First Stage of Labor	The research results show that before the intervention (pre-test) the average pain scale was 6,25 while after the intervention (post-test) the average pain scale was 4,00. It can be concluded that there is a significant decrease in pain intensity after effleurage intervention massage. So effleurage massage is effective in reducing labor pain in the 1st stage.
(Nurchayanti et al., 2020)	Differences in Pain Intensity In Inpartum Patients in the Active Phase I with Effleurage Techniques at the Bendo Kediri Health Center	Based on the research results show that before being given the effleurage massage intervention the average pain scale was 5,92, then after being given the effleurage massage technique the pain scale became 4,50. It shows that the effleurage massage technique is effective in reducing the intensity of the first stage of labor pain.
(Rosalinna, 2017)	Effect of Massage Effleurage on the Pain Level of Maternity During Active Phase I in the Delivery Room East Kalimantan Pupuk Hospital in 2021	Based on the research results show that the average pre-test pain scale was 5,50 while the average post-test pain scale was 4,60. It shows the effect of reducing pain intensity after being given an effleurage massage intervention.

DISCUSSION

Based on the 10 articles that have been reviewed, the results of the characteristics of the respondents based on age indicate that the majority of respondents are mothers aged 18-35 years. Based on the theory (Sutrisminah et al., 2021), which states that pregnancy aged <20 years and >35 is included in the high-risk category. The risks that occur in respondents aged > 35 years will experience decreased fertility, hypertension, diabetes mellitus, and reluctance to do a caesarean section to death. Childbirth aged <20 years is said to be at risk because based on body autonomy, pelvic development at that age is not perfect so it can cause difficulties during childbirth. Of the 10 articles reviewed, the majority of respondents were primiparas. This is in accordance with the theory put forward by (Afritayeni, 2017), where primiparous women are proven to experience labor pain in the 1st stage which is more severe than multiparous mothers. This happens because primiparous mothers experience a longer and more tiring labor process compared to multiparas. Long

labor is caused as a result of stronger contractions during labor and primiparous women need more strength to stretch the cervix. Besides, because they have never given birth before, primiparous mothers show greater anxiety and fear in facing childbirth. As a result, uterine contractions become longer and stronger.

There are similarities and differences between the 10 articles that have been reviewed. The first difference is the number of samples used in each article, the article with the most samples, namely 80 respondents and at least 10 respondents. The similarities are from all the articles reviewed using the quasi-experimental method. There are articles that have differences regarding the duration of giving effleurage massage therapy, namely one article says the duration of giving effleurage massage is carried out the span of 5-10 minutes every hour during the labor stages. However, 5 articles said that the duration of effleurage massage therapy was carried out within 20 minutes every hour during the labor stage. This is in accordance with the theory put

forward by (Bingan, 2020) that effleurage massage done within 20 minutes every hour during the labor stages will free from pain.

After reviewing 10 articles, researchers found facts about non-pharmacological therapies that can reduce labor pain in the 1st stage, namely by using the effleurage massage method. The labor pain scale before being given the effleurage massage treatment was on the moderate pain scale (4-6). After being given effleurage massage treatment, pain intensity was on a mild pain scale (1-3). This proves that the effleurage massage method can reduce moderate to mild pain (Fithri, 2018; Herinawati et al., 2019; Sitorus et al., 2020; Syahida, 2022). The effleurage massage method is also able to reduce the scale of severe pain (7-10) to mild pain (0-3) (Lestari & Apriyani, 2020). There is also a decrease in the moderate pain scale but it is still in the moderate pain category (4-6) (Magfirah et al., 2020; Nurcahyanti et al., 2020; Rosalina, 2017). Effleurage massage is carried out for 20 minutes every hour during the labor stages (Herinawati et al., 2019; Lestari et al., 2019; Magfirah et al., 2020; Nurcahyanti et al., 2020; Syahida, 2022).

The results of the 10 articles that have been reviewed can be supported according to the theory stated by (Qonitun, 2020), that effleurage massage can reduce pain in women in labor in the 1st stage. Effleurage massage in labor can increase endogenous oxytocin production, causing uterine contractions to accelerate. In addition, it can increase oxytocin which is associated with comfort and satisfaction, decrease hormones, increase oxytocin hormones, and increase physiological functions. A comfortable touch can also speed up labor (Seftianingtyas et al., 2021). Some people, especially midwives and birth attendants, have started using non-pharmacological therapies to reduce labor pain. Non-pharmacological therapy that is often used to reduce labor pain in the 1st stage is by using the effleurage massage method. This method is widely used because it is considered the simplest relaxation method, easy to implement, does not require a large amount of money, and does not hurt or harm the mother or fetus. Effleurage massage has also been widely studied and the results show that effleurage massage is proven to be effective in reducing the intensity of labor pain in the 1st stage of labor. This is because effleurage massage provides a sense of comfort to the mother so that the mother's anxiety about labor pain will decrease because effleurage massage stimulates tactile fibers in the skin during labor abdomen and increased production of the hormone endorphins so that labor pain is reduced.

There are advantages and disadvantages to the 10 articles reviewed. The advantage is that all articles have explained the results according to the title and purpose of the study. The drawback is that of the ten articles reviewed, there are several articles do not include the duration and frequency of giving effleurage massage therapy. Only 6 articles contained duration and frequency while the other 4 did not

include the duration and frequency of giving effleurage massage.

CONCLUSION

One of the non-pharmacological therapies to reduce the intensity of the first stage of labor pain is effleurage massage therapy. Based on the results of an analysis of the effect of effleurage massage on reducing pain intensity in the first stage of labor, it can be concluded that there was a reduction in the intensity of pain felt by respondents after effleurage massage was performed. The effleurage massage method can reduce the intensity of labor pain during the 1st stage of severe and moderate pain to mild pain and moderate pain to mild. The effleurage massage method is carried out for 20 minutes every hour during the labor stage.

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