



(REVIEW ARTICLE)



## The effect of effleurage massage on decreasing active first period labor pain: A literature review

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### Abstract

**Introduction:** Labor pain is a visceral nociceptive pain caused by contractions and cervical dilatation. Pain that occurs can affect the mother's condition in the form of fatigue, fear, worry, and stress. Effleurage massage is one of the effective non-pharmacological methods to overcome labor pain. Effleurage massage aims to improve blood circulation, warm abdominal muscles, and promote physical and mental relaxation. This study aims to determine v in the first phase of active labor.

**Method:** This study uses a literature review method with a quasi-experiment research design. Literature search sources used five databases namely Google Scholar, PUBMED, and Science Direct with published years 2018-2023. Study selection according to inclusion criteria with a prism checklist of abstract titles, full text and assessed the feasibility of further studies analyzed from the study findings.

**Result and Discussion:** The search results found 6 journals that met the inclusion criteria. From the overall review of 6 journal articles, it was found that 5 journal articles had a significant effect of giving effleurage massage on labor pain during the active phase I. In contrast, 1 article did not have a significant effect between effleurage and counter-pressure in reducing labor pain.

**Conclusion:** Effleurage massage affects reducing the level of labor pain during the active phase I.

**Keywords:** Effleurage Massage; Decrease Pain; Active First Period; Labor; Mother in Labor

### 1. Introduction

In the philosophy of midwives, labor is considered a normal physiological process, so a midwife is expected to be able to promote and advocate for normal labor without intervention [5]. The process of labor is identical to the pain that will be experienced. Labor pain is a visceral nociceptive pain caused by contractions and cervical dilatation [1]. Physiologically, pain occurs when the muscles of the uterus contract in an effort to open the cervix and push the baby's head towards the pelvis [2]. Pain in labor phase I is a physiological process caused by the process of cervical dilatation, hypoxia of the uterine muscles during contractions, ischemia of the corpus uteri and stretching of the lower segment of the uterus and compression of the cervical nerves [6].

Research in the United States shows that 70% to 80% of women who give birth expect labor to be painless. Various ways are done so that mothers giving birth do not always feel pain and feel comfortable. Currently in developing countries 20% to 50% of deliveries in large hospitals are performed by section caesaria because mothers want to give

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birth preferring relatively painless surgery while in Brazil this figure reaches more than 50% of the number of births in a hospital which is the highest percentage worldwide. Pain that occurs can affect the mother's condition in the form of fatigue, fear, worry and stress [4].

Stage I of labor is the onset of true labor contractions, characterized by progressive cervical changes that end with complete opening (10 cm) in primigravida stage I which lasts approximately 13 hours, while in multigravida approximately 7 hours. The progress of labor in the active phase I is the most tiring, heavy, and most mothers begin to feel pain or pain, in this phase most mothers feel intense pain because the activity of the uterus begins to be more active. In this phase the contractions are getting longer, stronger, and more frequent which can cause anxiety. Anxiety in first-time laboring mothers can have an impact on increasing adrenaline secretion. One of the effects of adrenaline is the contraction of blood vessels so that the supply of oxygen to the fetus decreases [16].

Various efforts are made to reduce pain in labor, both pharmacologically and non-pharmacologically. Some types of management in overcoming pain with non-pharmacological methods, namely effleurage massage which can reduce physiological pain. In using techniques to reduce labor pain, considerations that must be made include taking into account the effectiveness of time, cost, safety (no harm to the mother and fetus) and effectiveness.

Massage effleurage aims to improve blood circulation, warm abdominal muscles, and promote physical and mental relaxation. Effleurage massage is a relaxation technique that is safe, easy, costless, has no side effects and can be done alone or with the help of others. The main action of effleurage massage is the application of Gate Control theory which can "close the gate" to inhibit the passage of pain stimuli to higher centers in the central nervous system [8].

The effleurage massage technique can reduce apprehension, increase physical and emotional relaxation by reducing anxiety, with reduced anxiety felt by the mother can be successful, it is hoped that labor will run smoothly and there will be no problems during labor [3]. In addition to reducing anxiety during labor, effleurage techniques can help prevent depression in the time after childbirth (postpartum blues). As in various studies on effleurage techniques effleurage techniques really help the body experience maximum relaxation [12].

Research conducted by Herinawati states that there is an effect of effleurage massage on reducing the intensity of physiological labor pain [4]. The same opinion was expressed by Lestari & Apriyani that there was an effect on reducing labor pain when given effleurage massage [8].

Based on this, the researcher is interested in conducting research with the title " The Effect of Effleurage Massage on Decreasing Active First Period Labor Pain: A Literature Review " to increase the knowledge of health workers, especially midwives, mothers and labor assistants to carry out maternal care in providing effleurage massage to reduce the pain felt by mothers during labor phase I, especially when labor opening occurs.

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## 2. Material and methods

The article is a literature review using 6 main articles that have been selected based on the inclusion and exclusion criteria, namely original research-type articles with a discussion of the effect of Massage Effleurage on Reducing Active Period Labor Pain, articles published from 2018 to 2023 or the last five years, and articles in English / Indonesian. Exclusion criteria were articles that discussed Massage Effleurage on Reducing Active Period Labor Pain with the literature review study method. Articles were first selected and obtained through the Google Scholar, PUBMED, and Science Direct databases. Selected articles will be analyzed descriptively through the identification of the author and year of publication of the article, research location, methods, research subjects, and description of the intervention as an effort to reduce labor pain.

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## 3. Results and discussion

Studies conducted by the National Birthday Trust on 1000 women showed 90% of women felt the benefits of relaxation and to determine the effect of effleurage massage on reducing pain in active phase I labor [15]. Based on 6 articles, it is stated that laboring women experience labor pain on a scale of 6-7, which is included in moderate pain and severe pain, and laboring women experience pain in the abdomen. The results of data analysis from the 6 articles show that the average response of labor pain in the first stage can be reduced by performing effleurage massage. This is in accordance with research Priharyanti & Prasita that Massage effleurage or the act of rubbing the abdomen slowly, in rhythm with breathing during contractions, can be used to distract the mother's mind, so that the mother does not focus her attention on pain during contractions. In the active phase I, the majority of respondents experienced severe pain so that

researchers are interested in providing non-pharmacological therapy, namely by performing effleurage massage on the abdomen to relieve labor pain in the active phase I [9].

Research conducted by Yudha & Kurniawati states that before being given Massage Effleurage the most research respondents were in the category of severe pain as many as 10 people and moderate pain as many as 5 people with a total of 15 respondents. After being given Massage Effleurage research respondents with mild pain category 7 people, moderate pain 8 people [17]. Research conducted by Putri & Juliarti states that there are changes in the pain scale. At the opening of 4 cm the pain felt by the mother is on a moderate pain scale, after being given Massage Effleurage the pain at the opening of 8 cm decreases and is on a mild pain scale [11].

**Table 1** Results of Review of 6 Articles

No	Author	Research Title	Location	Method	Subject	Result
1	Yudha, I. N., & Kurniawati, H. F. (2023).	The Effect of Effleurage Massage on the Level of Labor Pain In Normal Laboring Women During the Active Phase I at PKU Muhammadiyah Gamping Hospital of Yogyakarta.	PKU Muhammadiyah Gamping Yogyakarta Hospital, Indonesia	pre-experiment with one group pretest - posttest design	15 mother in labor	There is an effect of effleurage massage on the level of labor pain during the active phase I at PKU Muhammadiyah Gamping Hospital Yogyakarta. It is expected that laboring mothers can do effleurage massage as one of the methods to reduce the level of labor pain during the active phase I.
2	Putri, S. M., & Juliarti, W. (2022).	Effluarge Massage Pada Ibu Bersalin Untuk Mengurangi Nyeri Persalinan Kala I Fase Aktif	Hasna Dewi Midwife Practice, Indonesia	case study	Primigravida aged 24 years	There is a change in the pain scale. At the opening of 4 cm the pain felt by the mother was on a moderate pain scale, after which the pain evaluation was carried out at the opening of 8 cm, the pain felt by the mother decreased and was on a mild pain scale.
3	Santiasari, R. N., Nurdiati, D. S., Lismidiati, W., & Saudah, N. (2018).	Effectiveness of Effleurage and Counter-Pressure Massages in Reducing Labor Pain	patients of Midwife Practice Surabaya, Indonesia	quasi experiment design with pre-post test non-equivalent control group.	The research subjects were 68 mothers in stage 1 of the active labor phase, which was divided evenly into two groups.	There was no significant difference between effleurage and counter-pressure in reducing labor pain.
4	Retni, A., Harismayanti,	The Effect of Giving Effleurage	Siti Khadijah Mother and Child	pre-experimental	The samples in this final	In this study, it was shown that

	H., & Umani, R. P. (2023).	Massage Techniques on Reduction of Labor Pain in Labor Pain in Women in Labor	Hospital, Indonesia	research with a pretest design post-test one grub design	scientific work are two inpartu patients in the 1st stage of labor.	there was an effect of massage effleurage on reducing labor pain during the first stage of the latent phase in labor mothers.
5	Herinawati, H., Hindriati, T., & Novilda, A. (2019).	Effect of Effleurage of Massage on Active Phase I Labor Pain in the Independent Practice of Midwife Nuriman Rafida and Independent Practice of Midwife Latifah Jambi City in 2019.	Nuriman Rafida Midwife Practice and Latifah Midwife Practice in 2019, Indonesia	quasi experimental design with the design used is pretest-posttest one group design	30 mothers who experienced abor pain.	Giving effleurage massage has a significant effect on pain during the active phase.
6	Purwandari, A., Tuju, S. O., Tombokan, S., Korompis, M., & Losu, F. N. (2022).	Effleurage Massage by Husband on the Level of Pain in Maternal When the 1 Phase is Active	Sifra Langowan Maternity Clinic, Minahasa Regency, Indonesia	A pre-experimental design	16 respondents were mothers in normal birth	This approach is effective, has no side effects, and can lessen contraction-related labor discomfort for mothers in active phase 1 of labor. It is thought that effleurage massage can alleviate labor discomfort during the initial portion of the active phase.

Research conducted by Santiasari states that labor pain before and after intervention in the effleurage group is  $9.26 \pm 1.05$  and  $6.88 \pm 1.22$  respectively ( $p = 0.00$ ). While in the counter-pressure group it amounted to  $9.00 \pm 0.98$  and  $6.59 \pm 1.28$  respectively ( $p = 0.00$ ). The average decrease in labor pain in the effleurage and counter-pressure groups was 2.38 and 2.41 respectively ( $p=0.74$ ). There is no significant difference between effleurage and counter-pressure in reducing labor pain [14]. Research conducted by Retni states that before being given Massage Effleurage multiparous respondents experienced mild pain and primiparous experienced moderate pain with the number of respondents 2 people. After being given Massage Effleurage, the research respondents experienced a decrease in the pain scale in multiparous experiencing mild pain and primiparous experiencing mild pain [13].

Research conducted by Herinawati states that before being given Massage Effleurage the most research respondents were in the category of moderate pain as many as 16 people and severe pain as many as 14 people with a total of 30 respondents. After being given Massage Effleurage research respondents with mild pain categories 17 people, moderate pain 10 people and severe pain 3 people [4]. Research conducted by Purwandari states that before being given Massage Effleurage (56.25%) respondents experienced severe pain, but after being given Massage Effleurage there was a decrease in pain (37.50%) respondents [10].

Based on 6 journals that no longer have pain in the severe category occurs because before the intervention is given effleurage massage pain is normal and natural. Active phase I labor pain is caused by a stimulus that is delivered through nerves in the cervix (cervix) and lower uterus/uterus. Strong contractions are a strong source of pain because the uterus contracts isometrically against an obstruction. After being given the effleurage massage technique, labor pain decreased because the provision of effleurage massage techniques on the abdomen stimulates tactile fibers in the skin so that pain signals that should be conveyed to the brain can be inhibited. Therefore, effleurage massage techniques can reduce labor pain that mothers feel from severe pain levels to moderate and mild pain levels.

Based on 6 journals that still have severe pain due to effleurage massage provides an influence on reducing the level of labor pain during the active phase I in laboring mothers, although from the results of the study effleurage massage can affect the decrease in the level of labor pain during the active phase I, but also obtained respondents who did not have the effect of reducing the level of pain after effleurage massage, this is due to different factors of perception or tolerance to pain. Mothers in pain who do not believe that they have control/control over pain, will be able to increase their anxiety and fear which then causes the mother to stress, and tense during contractions, this can cause the failure of effleurage massage.

After the researchers reviewed 6 articles that conducted research on the effect of effleurage massage on labor pain during the active phase I, it was found that all articles had an effect on reducing labor pain during the active phase I. This is in line with Gate Control Theory that pain fibers carry smaller pain stimulation to the brain and the journey of sensation is slower than the extensive touch fibers. This is in line with Gate Control Theory that pain fibers carry smaller pain stimulation to the brain and the sensation journey is slower than the extensive touch fibers. When touch and pain are stimulated together, the sensation of touch goes to the brain and closes the gate in the brain, limiting the amount of pain felt in the brain. During the process of labor contractions so that pain arises how to divert women from the pain is by effleurage or massage on the abdomen regularly with breathing exercises. Likewise, the presence of massage which has a distraction effect can also increase the formation of endorphin in the dendritic control system. Massage can make patients more comfortable because massage relaxes the muscles. Effleurage is a massage technique in the form of soft, slow, and long strokes or not broken. This technique induces a relaxing effect. In labor, effleurage is performed using soft, light fingertips. Strokes are performed lightly and without strong pressure but try to keep the fingertips off the surface of the skin. Effleurage massage can also be performed on the back. The researcher believes that the effleurage massage method can have an effect on reducing pain intensity in active phase I labor, and there is a difference in reducing the pain intensity felt by respondents before and after the intervention. According to the researcher, midwives in this case are very influential in intervening with laboring mothers with maternal care by reducing the pain felt by mothers during labor using the effleurage massage technique which is proven to reduce pain in laboring mothers during the active phase I after identification in 6 journal articles that have been obtained by researchers.

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#### **4. Conclusion**

Based on the results of the analysis of 6 journal articles that have been carried out and the discussion that has been described previously, most of the study results obtained the pain scale experienced by mothers during labor in the first active phase before the Effleurage Massage intervention is mostly moderate-heavy pain. After the intervention was carried out in laboring women in the first phase of active labor, it was found that the pain scale experienced by mothers during labor in the first active phase after being given Effleurage Massage was mostly mild-moderate pain. From the overall results of the review of 6 journal articles, it was found that Massage Effleurage is very influential to reduce and reduce labor pain in the first phase of active labor after statistical tests on each journal article that the results of statistical tests of 5 journal articles have a significant effect of giving effleurage massage on labor pain in the first phase of active labor whereas, the results of statistical tests of 1 article do not have a significant effect between effleurage and counter-pressure in reducing labor pain. In this case, health workers play a very important role to intervene with maternal care by reducing the pain felt by mothers during labor using the effleurage massage technique.

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#### **Compliance with ethical standards**

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There is 1 difference of opinion among the authors in the publication of this paper

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