

THE EFFECT OF BACK MASSAGE (EFFLEURAGE TECHNIQUE) ON CHANGES IN PAIN IN MOTHERS IN THE FIRST STAGE OF LABOR

Puji Astutik¹, M.Wahyu Nur Arifin²

¹Lecturer STIKes Satria Bhakti Nganjuk,² Student STIKes Satria Bhakti Nganjuk

*Corresponding Author : puji73sbn@gmail.com

ABSTRACT

Labor pain causes uncoordinated uterine activity resulting in prolonged labor, this can be overcome with back massage (effleurage technique) to help relaxation and reduce labor pain in the first stage. The purpose of this study was to determine the effect of back massage (effleurage technique) on changes in maternal pain in the first stage of labor in the delivery room of Nganjuk Regional Hospital. The design of this study was pre-experimental with a one group pre-posttest design approach. Conducted on October 3-7, 2023 in the delivery room of Nganjuk Regional Hospital. The population of this study was all mothers giving birth in the first stage, totaling 39 people. The sampling technique used Accidental Sampling with a sample of 20 respondents. The Independent Variable is back massage (effleurage technique), the Dependent Variable is changes in pain in mothers giving birth in the first stage. Data collection for the Independent Variable uses SOP and the Dependent Variable uses Observation. Statistical tests use Wilcoxon with $\alpha = 0.05$. The results of the study showed that out of 20 respondents before being given back massage (effleurage technique), most had a moderate pain scale of 15 respondents (75%) and almost half had a severe pain scale of 5 respondents (25%). After being given massage, almost all had a moderate pain scale of 18 respondents (90%). Because respondents who had severe pain decreased to moderate pain of 5 respondents (25%) and those who had moderate pain decreased to mild pain of 2 respondents (10%). Based on the results of the Wilcoxon statistical test with $\alpha = 0.05$ and obtained $p \text{ (value)} = 0.008 \leq \alpha \text{ (0.05)}$ which means H_a is accepted and there is an effect of back massage (effleurage technique) on changes in pain in mothers in the first stage of labor in the delivery room of Nganjuk Regional Hospital. Back massage (effleurage technique) can reduce back pain, reduce muscle tension and increase blood circulation in areas that are painful in mothers in the first stage of labor. Thus, it can provide an analgesic or pain-relieving effect on mothers who are in labor.

Keywords: Back Massage (effleurage technique), First stage of labor, Mother in labor
Pain

BACKGROUND

The labor process is identical to pain. Labor pain is a physiological thing that occurs during the labor process. Pain is a subjective experience for each individual as a result of changes in the function of body organs (Lubis, 2023). The main effect that occurs is due to the triggering of the sympathetic system where there is an increase in plasma levels of catecholamines, especially epinephrine, which can cause disruption to contractions. Contraction disorders can cause prolongation of the labor period. Pain also causes uncoordinated uterine activity which will cause prolonged labor, which can ultimately threaten the life of the fetus and mother. This condition can result in less controlled labor management and can cause trauma to the baby. The pain that occurs can affect the mother's condition in the form of fatigue, fear, worry and cause stress. Stress can cause uterine contractions to weaken and result in prolonged labor.

Labor pain felt by the mother occurs due to activity in the body to expel the baby. The pain of contractions starts from the lower back then spreads to the lower abdomen, this pain is felt differently by each individual. The end of pregnancy is marked by uterine contractions that cause cervical dilation and push the fetus out of the birth canal (Ma'rifah, 2022). Labor pain needs to be managed properly so as not to cause excessive worry. Pain management can be done in two ways, namely pharmacologically and non-pharmacologically. In women in labor, back massage (effleurage) is usually performed, namely reducing pain by massaging the back used to help relax and reduce pain by increasing blood flow to the affected areas, stimulating touch receptors in the skin so that it relaxes the muscles, changes skin temperature and generally provides a comfortable feeling related to the closeness of human relationships (Ahmad, 2023).

Previous research conducted by Herinawati, et al. (2019) obtained the results of research and analysis of data on the effect of effleurage massage on active phase I labor pain, the results showed that most of the labor pain experienced by mothers decreased after massage. This is proven that effleurage massage can reduce labor pain stimuli from a severe pain scale to moderate pain and a moderate pain scale to mild pain. The results of the statistical test showed a dominant difference with a sig value (2-tailed) count of $0.000 \leq 0.05$, so it can be concluded that there is a significant effect between effleurage massage on active phase I labor pain in the Independent Practice of Midwife Nuriman Rafida and the Independent Practice of Midwife Latifah, Jambi City in 2019.

METHOD

This research design uses pre-experimental with a one group pretest-posttest approach. This research was conducted on October 3-7, 2023 in the Delivery Room of Nganjuk Hospital, Nganjuk Regency. The population in this study were all mothers giving birth in the first stage, totaling 39 people. The sampling technique used was Accidental sampling. The sample used was 20 respondents. In data collection using research ethics with anonymity. The independent variable is back massage (effleurage technique) and the dependent variable is changes in pain in the first stage. The measuring instrument in this study used SOP and Scale Numeric Rating.

RESULTS

1. Respondent characteristics (n = 20)

Tabel 1 Respondent characteristics

Variabel	f	%
Age		
17 – 20 Years	0	0
21 – 30 Years	10	50
31 – 40 Years	10	50
41 – 50 Years	0	0
Education		
No School	0	0
Elementary School	0	0
Junior High School	0	0
High School	19	95
College	1	5
Work		
Civil Servants	0	0
TNI/Police	0	0
Private	5	25
Self-Employed	1	5
Farmers	4	20

Housewives	10	50
Birth		
First	11	55
Second	7	35
Third	2	10
> 3	0	0
Support Sistem		
Husband	20	100
Parents/In-Laws	0	0
Siblings	0	0

Based on table 1, it is known that half of the respondents, namely 10 respondents (50%) are aged 21-30 years and work as housewives, almost all of them, namely 19 respondents (95%) have a high school education, the majority, namely 11 respondents (55%) are giving birth for the first time and all of them, namely 20 respondents (100%) receive support from their husbands.

1. Pain in the First Stage of Labor in the Nganjuk Regional Hospital Delivery Room Before Back Massage (Effleurage Technique)

Table 2 Distribution of Frequency of Pain in the First Stage of Labor Before Back Massage (Effleurage Technique) in the Delivery Room of Nganjuk Regional Hospital, Nganjuk Regency on 3-7 October 2023

No.	Pain	f	%
1.	No pain	0	0
2.	Mild pain	0	0
3.	Moderate pain	15	75
4.	Severe pain	5	25
5.	Very severe pain	0	0
	Total	20	100

Based on table 2 it shows that of the 20 respondents before being given a back massage (effleurage technique), the majority had a moderate pain scale of 15 respondents (75%).

2. Pain in the First Stage of Labor in the Nganjuk Regional Hospital Delivery Room After Being Given a Back Massage (Effleurage Technique)

Table 3 Distribution of Frequency of Pain in the First Stage of Labor After Back Massage (Effleurage Technique) in the Delivery Room of Nganjuk Regional Hospital, Nganjuk Regency on 3-7 October 2023

No.	Pain	f	%
1.	No pain	0	0

2.	Mild pain	2	10
3.	Moderate pain	18	90
4.	Severe pain	0	0
5.	Very severe pain	0	0
	Total	20	100

Based on table 3, it shows that out of 20 respondents after being given back massage (effleurage technique), almost all of them had a moderate pain scale of 18 respondents (90%) because respondents who had severe pain experienced a decrease to moderate pain of 5 respondents (25%) and respondents who had moderate pain decreased to mild pain of 2 respondents (10%).

3. The Effect of Back Massage (Effleurage Technique) on Changes in Pain in the First Stage of Labor in Mothers Giving Birth in the Delivery Room of Nganjuk Regional Hospital

Table 4 Tabulation of the Effect of Back Massage (Effleurage Technique) on Changes in Pain in the First Stage of Labor in Mothers in the Delivery Room of Nganjuk Regional Hospital, Nganjuk Regency on October 3-7, 2023

Pain	Pre		Post	
	<i>f</i>	%	<i>f</i>	%
No pain	0	0	0	0
Mild pain	0	0	2	10
Moderate pain	15	75	18	90
Severe pain	5	25	0	0
Very severe pain	0	0	0	0
Total	20	100	20	100
<i>p (value) = 0,008 ≤ α (0.05)</i>				

Based on table 4, it can be seen that out of 20 respondents, most of them had moderate pain levels before being given back massage (effleurage technique), namely 15 respondents (75%) and almost all of them had moderate pain levels after being given back massage (effleurage technique), namely 18 respondents (90%). Because respondents who had severe pain experienced a decrease to moderate pain as many as 5 respondents (25%) and respondents who had moderate pain decreased to mild pain as many as 2 respondents (10%). Based on the results of the Wilcoxon Signed Rank statistical test, a p value of $0.008 \leq \alpha (0.05)$ was obtained, meaning H_a was accepted so that it can be concluded that there is an Effect of Back Massage (Effleurage Technique) on Changes in Pain in Mothers in the First Stage of Labor in the Nganjuk Hospital Delivery Room.

DISCUSSION

1. Pain Scale of Mothers in First Stage of Labor in the Delivery Room of Nganjuk Regional Hospital Before Being Given Back Massage (Effleurage Technique)

Based on table 2, the results of the study show that out of 20 respondents before being given a back massage (effleurage technique), most of them had a moderate pain scale of 15 respondents (75%) and almost half had a severe pain scale of 5 respondents (25%). That pain during labor at the first stage is influenced by age and support system.

This is in accordance with one of the factors that influences pain during labor at the first stage, namely age. According to Dartiwen (2023). Age tends to be related to psychological conditions that are still unstable, triggering anxiety so that the pain felt becomes more severe. Tolerance will increase with age and understanding of pain. A person's age affects the intensity of pain, mothers who are still young (21-30 years) have a high anxiety response, increasing anxiety can increase the stimulus of pain intensity during labor (Dartiwen, 2023). The same research was also conducted by which showed that mothers with birth companions experienced less pain than mothers without birth companions (Indriani, 2014).

Based on the explanation (Ruswantriani, 2021) mothers giving birth will experience hormonal surge changes. Mothers giving birth often feel sad, depressed, and have a decreased appetite. Therefore, a support system from the husband is very important to be present in the lives of mothers giving birth (Ruswantriani, 2021). According to (Erike, 2018) To face the process of pregnancy and childbirth, physical and mental readiness is needed by the mother in accepting her pregnancy condition and in facing the childbirth process. Therefore, during pregnancy, all family members must be involved, especially the husband. The husband's role as a support system in the form of support and affection from the husband can provide a feeling of comfort and security when the mother feels afraid and worried about her pregnancy so that the pregnant woman is better prepared to face childbirth.

Based on facts and theories, it shows that younger mothers have more intense pain sensors compared to older mothers. Young age tends to be associated with unstable psychological conditions that trigger anxiety so that the pain felt is getting stronger. The presence of a husband as a support system that accompanies the mother during childbirth has many positive impacts on the mother, especially in reducing anxiety so that it supports a smooth delivery process. By avoiding or reducing the mother's psychological stress and increasing the mother's sense of well-being, it can encourage the physiological process of labor so that labor progresses.

2. Pain Scale of Mothers in First Stage of Labor in the Delivery Room of Nganjuk Regional Hospital After Being Given Back Massage (Effleurage Technique)

Based on table 3. it shows that out of 20 respondents after being given back massage (effleurage technique), almost all of them had a moderate pain scale of 18 respondents (90%). Because respondents who had severe pain experienced a decrease to moderate pain of 5 respondents (25%) and respondents who had moderate pain decreased to mild pain of 2 respondents (10%). That pain during the first stage of labor is influenced by age and support system.

This is in accordance with one of the factors that influences pain during the first stage of labor, namely age. The results of the study (Sukma & Sari, 2020) show that with increasing age, the ability of the body's organs will naturally decrease. A woman of optimal reproductive age is between 20-35 years. Pregnant women with a risky age group (<20 years and >35 years) have a 2 times greater risk of pregnancy and childbirth compared to women of reproductive age (20-35 years). According to Nolan (Yuliastanti, 2013) one of the non-pharmacological pain management techniques that can reduce maternal pain during labor is a support system from the husband or family, because the effects of feelings including anxiety in every mother giving birth are related to the perception of the person who supports. The presence of a birth companion has an influence on the mother giving birth because it can help the mother during labor and can provide attention, a sense of security, comfort, enthusiasm, reassure the mother, reduce the mother's tension or improve emotional status so that it can shorten the labor process..

According to (Simkin, 2008) massage can calm and relax the tension that arises during pregnancy and childbirth. Gentle rubbing of the stomach and back will feel comfortable during contractions. Effleurage massage is a distraction that can increase the formation of endorphins in the descending control system so that it can make patients more comfortable because of muscle relaxation. According to (Ahmad, 2023), in women in labor, back massage is performed with effleurage, which is reducing pain by massaging the back used to help relax and reduce pain by increasing blood flow to the affected areas, stimulating touch receptors in the skin so that it relaxes the muscles, changes skin temperature and generally provides a comfortable feeling.

The results of the description above show that younger mothers tend to experience more intense labor pain compared to older mothers. In addition, health conditions that may be more common in younger mothers can also affect the level of pain. However, it is important to remember that each individual has a different pain tolerance, so the experience of labor pain can vary even within the same age group. The role of the husband as a support system is very important in providing emotional and physical support to the wife. A husband who provides good support can help reduce the level of pain felt by the wife during labor. The presence of a husband as a support system can reduce the mother's anxiety and stress, thereby helping to reduce sensitivity to pain. In addition, the presence of a husband can also provide a sense of security and comfort for the wife, which can affect the perception of pain. With the support of the husband, the wife can feel stronger and more motivated in facing the labor process.

3. The Effect of Back Massage (Effleurage Technique) on Changes in Pain in Mothers During the First Stage of Labor in the Delivery Room of Nganjuk Regional Hospital

The results of the Wilcoxon statistical test with $\alpha = 0.05$ obtained $p \text{ (value)} = 0.008 \leq \alpha 0.05$, which means that H_a is accepted and there is an effect of back massage (effleurage technique) on changes in pain in mothers during the first stage of labor in the delivery room of Nganjuk Regional Hospital.

Effleurage massage is a rhythmic and successive upward stroking movement. Effleurage is a form of massage using the palms of the hands that apply gentle pressure to the surface of the body in a circular motion repeatedly. This technique aims to increase blood circulation, apply pressure and warm the abdominal muscles and increase physical and mental relaxation. The effleurage massage technique is a non-pharmacological method used to reduce labor pain in mothers in the first stage of active labor. The massage is in the form of gentle, slow and long or uninterrupted strokes. Can be done in a supine or tilted position, this massage technique has a relaxing effect and creates a feeling of comfort (Badrus, 2019). According to (Ahmad, 2023) in women in labor, back massage with effleurage is performed, namely reducing pain by massaging the back used to help relax and reduce pain by increasing blood flow to the affected areas, stimulating touch receptors on the skin so that it relaxes the muscles, changes skin temperature and generally provides a comfortable feeling.

This study is supported by research by (Sukma & Sari, 2020) showing that there is an effect of back massage on reducing pain. Progress of opening 1 cm to 3 cm opening from 3 cm to complete labor in mothers giving birth normally with a calculated Z value of -4.456 with a 2-way test, the significance value of the p value is 0.00 where $p \leq \alpha 0.05$. Wulandari's research (2015) found that there was an effect of effleurage massage on the level of labor pain in the first active phase in primigravida with the results of the study that had been tested with Wilcoxon with a z value = 4.359 and a p value of $0.000 \leq 0.05$, then the null hypothesis was rejected and the alternative hypothesis was accepted (Wulandari, 2015). Previous research conducted by Herinawati, et al. (2019) obtained the results of research and analysis of data on the effect of effleurage massage on labor pain in the first active phase, the results showed that most of the labor pain experienced by mothers decreased after massage. It is proven that effleurage massage can reduce labor pain stimuli from severe pain scale to moderate pain and moderate pain scale to mild pain. The results of the statistical test showed a dominant difference with a sig value (2-tailed) of $0.000 \leq 0.05$, so it can be concluded that there is a significant effect between effleurage massage on active phase I pain in the Independent Practice of Midwife Nuriman Rafida and Independent Practice of Midwife Latifah, Jambi City in 2019 (Herinawati, 2019).

The results of this study indicate that providing back massage (effleurage technique) has successfully reduced back pain in mothers in the first stage of labor in the Nganjuk Regional Hospital delivery room. Back massage (effleurage technique) can reduce back pain in mothers in the first stage of labor is indeed a positive thing. Back massage (effleurage technique) can help reduce muscle tension and increase blood circulation in the painful area. Thus, it can provide an analgesic or pain-relieving effect on mothers who are in labor. However, it is important to note that each mother in labor has

different preferences and responses to massage techniques. Reducing or increasing the level of pain after back massage (effleurage technique), this is due to different perception or tolerance factors for pain.

CONCLUSION

1. Pain in the first stage of labor in the delivery room of Nganjuk Regional Hospital before being given back massage (effleurage technique) from 20 respondents, most of them had a moderate pain scale, namely 15 respondents (75%).
2. Pain in the first stage of labor in the delivery room of Nganjuk Regional Hospital after being given back massage (effleurage technique) from 20 respondents, almost all of them had a moderate pain scale, namely 18 respondents (90%) because respondents who had severe pain decreased to moderate pain as many as 5 respondents (25%) and respondents who had moderate pain decreased to mild pain as many as 2 respondents (10%).
3. Based on the results of the Wilcoxon statistical test with $\alpha = 0.05$ and obtained p value = $0.008 \leq \alpha 0.05$ which means H_a is accepted and there is an effect of back massage (effleurage technique) on changes in pain in the first stage of labor in the delivery room of Nganjuk Regional Hospital.

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