

The Effect of Effleurage Massage on the Intensity of Primigravida Stage I Labor Pain Latent Phase

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Abstract: Effleurage Massage is a touch or gentle, slow, long and unbroken stroke using the tips of the fingers. This massage effleurage aims to make the mother feel comfortable and relaxed, close the gate of pain and increase endorphin hormone production. A research has been conducted which aims to find out whether there is the effect of massage effleurage on the intensity of primigravida labor pain in the first phase of latent phase at BPM Nureli Purba, Bandar Khalifah District. This type of research is a quasi-experimental research design with one group pretest posttest. The population in this study were all primigravida first-stage mothers in the latent phase, the sample in this study was 10 respondents with accidental sampling technique in accordance with inclusion criteria. Based on the results of the study it was found that prior to the intervention of the mother with 70% severe pain and 30% moderate pain, while after the intervention was obtained 40% mild pain and 60% moderate pain. Based on these results, the P-value $0.004 < 0.05$ was obtained. This means that there was an effect of effleurage massage on the intensity of primigravida labor pain in the first stage of latent phase.

1 INTRODUCTION

One of the goals of Health Development Towards Healthy Indonesia is Making Pregnancy Safer (MPS) which means that in every delivery it is expected to take place safely, mothers and babies are in good health. Pregnancy and childbirth are a coveted condition for all Fertile Age Couples, especially for women. Within a period of nine months a woman conceives, maintaining the health condition of herself and her fetus, the time has come for a woman or so-called prospective mother to prepare for the birth of her baby (Maryunani, 2017).

Labor is a natural process that every woman will experience when she will become a mother. In the labor process itself, the mother must go through several stages, starting from the stages of opening, fetal removal, removal of the placenta, and supervision. Between these stages, the opening stage is the stage that causes the most pain, even to great pain (Pratiwi, 2019).

The childbirth experience is a process during women's life and the most important consequence of

labour. The separation of woman from the family is a factor to increase the feelings of isolation and stress in the mother. During labour the increased anxiety level in mother enhances the pain perception, increases the labour duration and secretion of catecholamine which reduces the blood flow in the uterus. This decreases the effectiveness of uterine contractions and increases the labour duration. Labour duration is one of the effective factors on the pregnancy consequences and maternal and neonatal complications. Due to prolongation of the labour there is risk of fetal or neonatal death, choking, infection and neural and physical damages in the infant. In addition, the mother is at risk of postpartum haemorrhage and infection and psychological distress due to the anxiety, lack of sleep and fatigue (Haghighi, 2016).

Labor pain is a problem that has not received special attention, whereas one of the goals of intrapartum care itself is to reduce pain in labor, while providing peace and comfort to the mother. Efforts made in reducing labor pain itself still prioritize the pharmacological way, while the non-pharmacological way is still rarely known and applied

by the community (Arikhman, 2010). It is undeniable that in labor process will always be accompanied by pain. Because physiologically all women will experience pain during labor during the labor process. but each individual will feel the intensity or level of pain that is different (Puspita,2013).

Fear and anxiety of a prospective mother is very haunting women. psychologically a mother will be disturbed when going to face the labor process. it can also trigger autonomic nerves to become more tense, and the pain that occurs will be stronger (Pertwi, 2019)

It is not uncommon to find that every mother is very worried about the birth process that will be passed, this alone can trigger perceptions maternal pain. In addition there are still mothers who are afraid and cannot stand the process or stages of labor due to severe pain in the first stage of labor, this sometimes makes mothers think short and choose the action of Sectio Cesaria as one of the best solutions. Though there are many actions or ways that can be done in reducing labor pain in the first stage, both pharmacologically and non-pharmacologically (Magfuroh,2012).

Severe labor pain and anxiety in the active phase on labor causes increased levels of catecholamine and cortisol hormone leading to reduced uterine contraction strength, uncoordinated contractions, and eventually prolonged labor duration. The previous research on 28 American women showed that massage therapy caused reduction of anxiety, depression, pain, and postpartum depression. Massage therapy along with body relaxation leads to anxiety and stress reduction. Based on the results from previous studies, it is understood that ice massage causes significant reduction in labor duration. With the onset of labor pains, stress hormones increase, which leads to increased respiration rhythm rate, heart rate, energy reduction, and fatigue. Stress increases cortisol hormone secretion in all vertebrates in response to various stresses. In addition, cortisol, as the most important stress-induced hormone, is a significant modulator of anxiety disorders. The studies have shown that ice massage significantly reduces duration of the first phase of labor and probably leads to labor pain reduction. The underlying reason is that catecholamine and cortisol hormones, secreting in response to labor pain and anxiety, cause disruption in progress of cervical dilation, lower the contraction of smooth muscles of the uterine wall, and

subsequently prolong labor duration. Since prolongation of labor duration can entail risks to both mother and fetus, so the objective of nursing and midwifery personnel in the delivery room is using suitable methods to shorten labor duration as far as possible. Therefore, this research is conducted with the purpose of investigating the effect of massage therapy on reduction of labor duration and cortisol hormone level (Hosseini, 2013).

At the time of uterine contractions, occur also stretching the lower uterine segment and cervix. Stretching the muscles pelvic or stretching tissue pelvic floor around the birth canal, too is a source of pain the other. This pain sensation will generally be felt very heavy especially by the mother who just went through childbirth first (Sari, 2015).

A mother's lack of knowledge about pregnancy and childbirth will also affect the pain and anxiety experienced during labor. then there are so many factors that influence it starting from the experience, knowledge, and also the mother's trust in the birth attendant. this will all affect the psychological mother (Juniartati, 2018).

At the first stage where a mother feels prolonged pain, starting from the opening 0-10 cm. Murray said that labor pain occurred for 2,700 mothers giving birth, 15% said they experienced mild pain, 35% said moderate pain, 30% had severe pain and 20% gave birth with severe pain (Kristina & Fransiska,2016).

Although pain that occurs during pregnancy until delivery is a natural thing, but this must also be overcome, because labor pain is also very decisive for the mother and the delivery process for the baby, and the increase in labor itself (Khomsah, 2017).

Giving a massage can increase levels of dopamine, a neurohormone produced by the hypothalamus. Fine motor activities such as painting or playing musical instruments are influenced by dopamine which affects intuition, inspiration, excitement, and enthusiasm. insufficient levels of dopamine are likely to cause awkwardness, difficult to focus, and easily distracted, Keckes (2014).

Massage is an ancient method that women had received relaxation through it for thousands of years but in modern labour rooms no accurate evaluation has been conducted. Massage is an old technique that is widely used in childbirth and can decrease the childbirth pain by reducing the adrenaline and noradrenaline secretion and increasing the endorphins and oxytocin release thus reducing the childbirth duration by increasing the uterine contractions. In earlier studies on the effect of

massage on labour duration, inconsistent results have been reported. The complications caused by prolonged labour in mother and fetus are enormous and the massage for shortening of duration of labour is simple, affordable, safe and more acceptable for pregnant women (Haghighi, 2016).

Research results show that giving massage can provide positive results. For example, a 15 minute sitting massage will stimulate the sympathetic nervous system to increase levels of epinephrine (adrenaline). this action can increase one's awareness. Conversely, slower, deeper, and more rhythmic massage can reduce epinephrine levels, produce a feeling of relaxation, and can lead to restful sleep Kecskes (2014).

Accuracy and Trigger Point Therapy (can suppress soft muscle tissue that relieves pain and dysfunction) are other examples of massage techniques that provide a number of important benefits. These techniques produce endorphins (a compound known to reduce pain and create a feeling of euphoria. Endorphins come into play after 15 minutes of massage and their effects can last up to 48 hours in the form of comfort Kecskes (2014).

In choosing a method to reduce pain during labor, the mother can also be assisted by a midwife. Midwives can build trust in the mother, so that the mother can make her more comfortable and relaxed in labor. Pain control during childbirth plays an important role during labor because it contributes to the physical well-being of both mother and fetus. Different techniques both regional and nonregional to provide labor analgesia. Non regional methods may be divided into pharmacological and nonpharmacological methods. Pharmacological agents include inhalational agents (nitrous oxide, Inhalation of halogenated agents) and systemic analgesics as morphine, diamorphin, fentanyl, meperidine (pethidine) .A according to non-pharmacological techniques includes transcutaneous electrical nerve stimulation (TENS), Relaxation and/or breathing techniques, Temperature modulation: hot or cold packs, water immersion, hypnosis, massage, Acupuncture, and Aromatherapy. One of the non- pharmaceutical methods for labor pain reduction is effleurage. Effleurage is one type of massage which include light or deep stroke by using a flat surface of hand or forearm over back and/ or abdominal areas of laboring women. Outcome of effleurage are reducing pain, relieving stress and anxiety, relaxation, comfort and decrease the labor duration of mothers in labor (Zaghloul, 2018).

Reduction of labor pain can be done by using massage effleurage. This technique is quite simple and easy to do as a relief for pain in the first stage of labor during active mothers. This massage is quite easy to do by health workers such as midwives by giving gentle, long and unbroken strokes Maryunani (2017).

Other factors that may affect the perception of labor pain include age, socioeconomic, parity of baby size, its presentation as well as knowledge and understanding of childbirth. Lack of knowledge and understanding result to high anxiety and lead to pain. However, various methods are performed to reduce labor pain, both pharmacologically and nonpharmacologically. The use of pharmacological methods has better effectiveness, compared with nonpharmacological methods, but the use of pharmacological methods often causes side effects and sometimes does not have the expected effect. While nonpharmacological methods, in addition to reducing pain in labor, have non-invasive effects, simple, effective, and without harmful effects. One of nonpharmacological techniques that can reduce labor pain include acupressure and effleurage (Khomsah, 2017).

Based on the results of research conducted by Kurniasih (2017) states that mothers with severe pain before massage as much as 61.8% while after interventions / actions of maternal massage with severe pain as much as 33.3%. And based on the results of research also conducted Rossalina (2017) states the results obtained from 30 respondents that the respondent's pain scale before performing massage effleurage measures are mostly moderate pain as many as 22 people (73.3%), severe pain as many as 7 people (23.3 %) and only 1 person (3.3%) had mild pain whereas after the massage effleurage action was seen there had been a decrease in pain level, most of which were moderate pain by 20 people (66.7%), respondents with mild pain increased to 8 people (26.7%) and only 2 people (6.7%) who had severe pain. Based on preliminary studies conducted at BPM Nurleli Purba, Bandar Khalifah Subdistrict, Serdang Bedagai District in January to March, as many as 16 women gave birth, stating that every mother had severe pain during the first stage of labor, and they did not know about therapy or massage that could done to reduce the pain, for example massage effleurage. Basically this massage can also be done by a midwife or husband or other labor companions. Add to this the midwife's ignorance that treats these patients about the pain reduction effleurage massage method.

Based on the background above, the authors are interested in conducting research on the effect of massage effleurage on the intensity of primigravida labor pain in the first phase of latent phase at BPM Nureli Purba, Bandar Khalifah District, Serdang Bedagai Regency in 2019.

2 RESEARCH METHODS

This type of research is a quasi experiment with cross sectional design in which the design of this study researchers used a control group that is the group not treated and the experimental group is the group that was treated

2.1 Population and Sample

The population in this study were all women giving birth in May to June at BPN Nureli Purba, Bandar Khalifah District, Serdang Bedagai District. Sampling technique with accidental sampling, which was accidental or collision sampling according to inclusion criteria, with a sample of 20 people.

2.2 Data Collection Technique

Data collection techniques in this study was used observation sheets that were given intervention and not given intervention.

2.3 Data Analysis

This study was used Univariate Analysis aims to explain or describe each research variable, as well as using Bivariate Analysis with the Normality Test using the Shapiro Wilk Test and then the data was not normally distributed, then the Bivariate Test was carried out with the Wilcoxon Test.



Figure 1: effleurage message technic



Figure 2. implementation of effleurage massage

In the Figure 1 we can see how to do effleurage massage. There are two types of effleurage massage, the first type with one hand and making round shape, and the second type with two hands and making butterfly shape.

And in the Figure 2 we can see that this research uses types of effleurage massage which is two hands and making butterfly shape.

3 RESEARCH RESULTS

3.1 Univariate Analysis

The results of the analysis of the mean intensity of labor pain in the first stage of the Latent phase with control group is 5.10 with a standard deviation (SD) of 0.73. With information experiencing moderate pain (3-5) as many as 7 people (70%) with a scale distribution of 4 as many as 2 people, scale 5 as many as 5 people, while severe pain (6-7) as many as 3 people (30%) with a scale distribution 6 as many as 3 people.

This research was strengthened by the results of research conducted by Kurniasih (2017), that the results stated that before intervention or massage effleurage there were 61.8% stated severe pain, while after the massage effleurage results that experienced severe pain dropped to 33.3%. This research was proven by the results of the bivariate test with a P-value of $0.017 < 0.05$.

According to the author's assumption, pain that occurs in labor due to contractions arising from the jani in the womb looking for a way out through the cervix, causing contractions and causes strong pain. This indicates that labor has begun with other signs of labor such as cervical tenders mixed with blood. Besides labor pain was also influenced by several factors, namely, age, anxiety, mother's knowledge.

Table 1. Mean Intensity of First Stage of Labor Pain Latent Phase With Control Group at BPM Nurleli Purba, Bandar Khalifah District, Serdang Bedagai Regency

Intensity	N	%	Mean	SD
Moderate Pain	7	70		
Severe Pain	3	30	5,10	0,73
Total	10	100		

We can see in Table 1 that the results of the analysis of the mean intensity of labor pain in the first stage of the Latent phase with control group is 5.10 with a standard deviation (SD) of 0.73. With information experiencing moderate pain (3-5) as many as 7 people (70%) with a scale distribution of 4 as many as 2 people, scale 5 as many as 5 people, while severe pain (6-7) as many as 3 people (30%) with a scale distribution 6 as many as 3 people.

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Table 2. Mean Intensity of Labor Pain in First Stage Latent Phase With The Experimental Group at BPM Nurleli Purba, Bandar Khalifah District, Serdang Bedagai Regency

Intensity	N	%	Mean	SD
Moderate Pain	4	40		
Moderate Pain	6	60	3,10	1,19
Total	10	100		

We can see in Table 2 that the results of the analysis of the mean intensity of labor pain in the first stage of the Latent phase with experimental group is 3.10 with a standard deviation (SD) of 1.19. With the distribution of mild pain (1-2) as many as 4 people (40%) with a scale distribution of 2 as many as 4 people, while moderate pain (3-5) as many as 6 people (60%) with scale 3 distribution of 3 people, scale 4 of 1 person and scale 5 of 2 people.

This research is also supported by the results of research conducted by Rossalina (2017). Data analysis using paired t-test. The pretest pain scale was moderate pain of 22 people (73.3%) with an average of 5.50 while the posttest was moderate pain by 20 people (66.7%) with an average of 4.60. And the results obtained P-value of 0.001 (p<0.05). According to the researchers' assumptions, by doing massage effleurage when the mother experiences contractions, the center of the mother's concentration of pain will be disrupted and make the mother no longer focus on pain, so the mother will feel comfortable and relaxed, this will increase the mother's endorphin hormone and close the pain gate mother.

3.2 Bivariate Analysis

3.2.1 Normality Test

Before doing a bivariate test, the data obtained from the study must be tested for normality. The results of the normality test will determine what bivariate analysis should be used. If the results were significant from the normality test > 0.05 then the data was normally distributed and continued with the paired sample t test. However, if the distribution of data was not normally distributed or the results were significant <0.05, a Wilcoxon test must be performed.

Table 3. Normality Test Results

Variable	N	Shapiro-Wilk	
		Df	Sig
<i>Control group</i>	10	10	0,036
<i>Experiment group</i>	10	10	0,028

The Table 3 explains the results of the normality test using Shapiro-Wilk because the number of respondents in this study was less than 50 people Dahlan (2012). The normality test results obtained in the control group is 0.036 and in the experiment

group is 0.028. This shows that the data was not normally distributed, because the value obtained was smaller than the p-value (0.05). Then this data was tested with the Wilcoxon test.

3.2.2 Bivariate Test

Table 4. Effects of Massage Effleurage on the Intensity of First Stage First Labor Pain in BPM Nurleli Purba

Variable	N	Mean	p-value
Control group	10	5,10	
Experiment group	10	3,10	0,004

The Table 4 shows the average value of labor pain intensity with the Wilcoxon test analysis with a value of $\alpha = 0.05$ which was obtained the significance value of 0.004 (p-value <0.05). Statistically there was a significant effect of massage effleurage performed on the intensity of labor pain in the first stage of the latent phase before and after intervention or treatment. According to the authors' assumption massage effleurage has an influence on the decrease in the intensity of labor in the first stage of the latent phase, because this massage will provide comfort to the mother, so that maternal anxiety will be reduced due to increased labor pain due to increased production of endorphin hormone so that labor pain was reduced.

4 CONCLUSIONS AND SUGGESTIONS

4.1 Conclusions

1. Pain intensity the people of control group for 10 respondents, namely moderate pain (3-5) as many as 7 people (70%) and severe pain (6-7) as many as 3 people (30%), with an average value of 5,10
2. Pain intensity massage effleurage or experiment group to 10 respondents, namely mild pain (1-2) by 4 people (40%) and moderate pain (3-5) by 6 people (60%), with an average value of 3,10.
3. From the results of the research with the Wilcoxon test with $\alpha = 0.05$, the significance value was 0.004 (p-value <0.05), meaning there was an effect of massage effleurage on the intensity of labor pain in the first stage of latent phase.

4.2 Suggestion

1. For Health Services

The results of this study can be used as an intervention in midwifery care in pain management in labor.

2. For further researchers

The results of this study can be used as additional information or references in developing further research, by using multigravida respondents with pain intensity that was different from this study using primigravida respondents.

3. For Public

The results of this study can be used as a source of information for the community that in reducing or overcoming labor pain can be done with simple techniques such as massage effleurage, and can be done by husband or family.

4. For Husband

The results of this study can be used as a method that can be done by the husband in reducing the pain of childbirth labor.

5. For Institution

The results of this study can be a theoretical source of information about the effect of massage effleurage on labor pain intensity.

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