

## EFFLEURAGE MASSAGE AND DEEP INHALATION WITH AROMATHERAPY FOR REDUCING POSTPARTUM PAIN IN MULTIPAROUS MOTHERS

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### ABSTRAK EFFLEURAGE MASSAGE DAN TARIK NAFAS DALAM DENGAN AROMATERAPI TERHADAP PENURUNAN RASA NYERI POSTPARTUM PADA IBU MULTIPARA

Latar Belakang : Kontraksi uterus terjadi secara fisiologis dan menyebabkan nyeri yang dapat mengganggu kenyamanan ibu di masa postpartum. Rasa nyeri meningkat pada ibu postpartum yang telah melahirkan lebih dari satu kali atau multipara karena terjadinya penurunan otot uterus secara bersamaan yang menyebabkan relaksasi intermitten (berjeda). Lebih dari 85% ibu multipara mengalami nyeri postpartum. Strategi penatalaksanaan nyeri merupakan suatu tindakan untuk mengurangi rasa nyeri dengan terapi nonfarmakologi. Salah satu terapi nonfarmakologi yang dapat mengurangi rasa nyeri adalah *effleurage massage*, Tarik nafas dalam dan aromaterapi.

Tujuan : Tujuan penelitian ini adalah melihat Efektifitas *Effleurage Massage* dan Tarik Nafas Dalam dengan Aromaterapi Terhadap Penurunan Rasa Nyeri Postpartum Pada Ibu Multipara Di Wilayah Kerja Puskesmas Langsa Barat Kota Langsa.

Metode : Desain yang digunakan dalam penelitian ini adalah *Quasi eksperimen, pre-test and post-test desain* yang terdiri dari 2 kelompok yang diberikan perlakuan *effleurage massage* dengan aromaterapi lavender yang diberikan selama 15 menit dan tarik nafas dalam dengan aromaterapi lavender yang diberikan selama 10 menit. intervensi diberikan pada hari ke 2 sampai hari ke 4 postpartum. Nyeri diukur sebelum dan sesudah intervensi dengan menggunakan kuesioner skala nyeri Numerical rating scale (NRS). Uji yang digunakan pada analisis bivariat dengan uji statistik *Uji Wilcoxon* dan *Uji Mann-Whitney*.

Hasil : Hasil penelitian menunjukkan bahwa kelompok *effleurage massage* dan tarik nafas dalam dengan aromaterapi lavender dari 15 responden perkelompok ada mengalami penurunan nyeri postpartum dari nilai pretest ke nilai posttest. Mean rank atau rata-rata penurunan sebesar 8,00, sedangkan jumlah rangking negatif atau sum of rank adalah sebesar 120,00. Setelah uji perbandingan didapatkan hasil pemberian *effleurage massage* dengan aromaterapi lebih efektif dalam menurunkan nyeri postpartum pada ibu multipara.

Kesimpulan : *effleurage massage* dengan aromaterapi lebih efektif dari pada tarik nafas dalam dengan aromaterapi dalam menurunkan nyeri postpartum pada ibu multipara.

Saran membuat pelatihan dan penyuluhan kepada bidan agar dapat memberikan terapi nonfarmakologi untuk mengurangi nyeri yang dirasakan ibu.

Kata Kunci : Aromaterapi Lavender, Nyeri Postpartum Teknik *Effleurage Massage*, Tarik Nafas dalam

### ABSTRACT

Background: Uterine contractions occur physiologically and cause pain that can make the mothers feel uncomfortable during the postpartum period. Pain increases in postpartum mothers who have given birth more than once or are multiparous because of the simultaneous decrease in uterine muscle causing intermittent relaxation (pause). More than 85% of multiparous mothers experience postpartum pain. Pain management strategy is an action to reduce pain with non-pharmacological therapy. One of the non-pharmacological therapies that can reduce pain is *effleurage massage*, deep inhalation and aromatherapy

Purpose: to determine the effectiveness of *Effleurage Massage* and Deep Inhalation with Aromatherapy on Reducing Postpartum Pain in Multiparous Mothers in the Work Area of the West Langsa Health Center, Langsa City.

Methods: The design used in this study was a quasi-experimental, pre-test and post-test design consisting of 2 groups which were given *effleurage massage* treatment with lavender aromatherapy given for 15 minutes and deep breaths with lavender aromatherapy given for 10 minutes. The intervention was given on day 2 to day 4 postpartum. Pain was measured before and after the intervention using a Numerical rating scale (NRS) pain

scale questionnaire. The test used was bivariate analysis with statistical tests Wilcoxon test and Mann-Whitney test.

Results: The results showed that the effleurage massage and deep inhalation group with lavender aromatherapy, from 15 respondents per group, experienced a decrease in postpartum pain from the pretest to the posttest value. The mean rank or average decrease was 8.00, while the number of negative ranks or sum of rank was 120.00. After the comparison test, it was found that giving effleurage massage with aromatherapy was more effective in reducing postpartum pain in multiparous mothers.

Conclusion: effleurage massage with aromatherapy was more effective than deep inhalation with aromatherapy in reducing postpartum pain in multiparous mothers.

Suggestion: it is hope to be able to make training and counseling to midwives so that they can provide non-pharmacologic therapy to reduce the pain felt by the mother

Keywords: Deep Inhalation, Effleurage Massage Technique, Lavender Aromatherapy, Postpartum Pain

## INTRODUCTION

The period of recovery from the nine months of pregnancy and childbirth is called the postpartum period. The postpartum period lasts for approximately 6 weeks, starting from the expulsion of the placenta and ending when the uterine organs returned to their original state before pregnancy (Nugroho 2014). One of the physiological and psychological changes experienced during the puerperium is uterine contractions. The intensity of uterine contractions increase significantly after the birth of the baby, which is an immediate response to reduce the amount of intrauterine volume or can be called uterine involution (Maryunani, 2010).

Uterine contractions occur physiologically and cause pain that can make the mothers feel uncomfortable during the postpartum period. Subsequent pain felt by postpartum mothers is called *His royan* (Afterpain) (Sunarsih, 2011). *His royan* occurs on days 2-3 postpartum in which the mother will feel heartburn caused by uterine contractions so she needs to get an explanation about the pain she feels (Pitriani and Andriyani, 2014). Pain increases in postpartum mothers who have given birth more than once or are multiparous due to a simultaneous decrease in uterine muscle causing intermittent relaxation, while in breastfeeding women *his royan* is caused by baby sucking which can stimulate the production of oxytocin which not only triggers let-down (the excretion of milk) but also causes uterine contractions. More than 85% of multiparous mothers experience postpartum pain (Sulistyo, 2013).

Pain is a subjective sensory and unpleasant emotional experience relating to actual, potential, or perceived tissue damage in events when damage occurs (International Association for the Study of Pain in Azizah, 2020). Pain caused by uterine contractions requires various treatments to minimize

the pain felt by the mothers so the mothers can feel comfortable again. The role of a nurse in this condition is to help relieve maternal pain postpartum by providing interventions to relieve pain (Susilo and Keumala, 2016).

Pain management strategy is an action to reduce pain by pharmacological and non-pharmacological therapy. The development of medical science in several countries such as the United States has developed non-pharmacological methods to speed up healing process in the postpartum period (Nuraini and L, 2016). Non-pharmacological therapies include acupuncture, acupressure, hypnosis, warm compresses, cold compresses, relaxation, bathing techniques, transcutaneous electrical nerve stimulation (TENS) and massage. Non-pharmacological techniques are proven to be safe in reduce pain during postpartum period (Andarmoyo, 2013).

Effleurage massage is one of the easiest relaxation techniques to do to provide a sense of comfort for postpartum mothers. 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 direction repeatedly (S.Freeder, Martin, and Giffirin, 2011). This technique aims to increase blood circulation and warm the abdominal muscles, as well as promote physical and mental relaxation. Effleurage is a massage technique that is safe, easy to do, does not require many tools, does not cost money, has no side effects and can be done alone or with the help of others. The main treatment of effleurage massage is an application of Gate Control theory that can "close the gate" to inhibit the passage of pain stimuli at higher centers in the central nervous system (R., Wahjuni, and Alifa, 2012).

Deep inhalation (deep breathing relaxation) is one of the pharmacological therapists used in pain management. Relaxation is an action to free

mentally and physically from tension and stress so that it can increase tolerance to pain (Pitriani and Andriyani, 2014). The purpose of this relaxation is to regulate the respiratory frequency, reduce anxiety, reduce pain intensity, improve respiratory muscle strength and improve chest mobility (Prima and Ap n.d.)

Another non-pharmacological therapy is the application of aromatherapy by inhalation, one of which can reduce pain is lavender aromatherapy (Prima and Ap n.d.). Lavender aromatherapy contains linalool, and linalyl acetate, which have an analgesic effect that can calm a person (Snow et al., 2004). Therefore, it is not surprising that some current researches suggest aromatherapy to reduce the level of pain, illness and stress in pregnancy and childbirth (Widayani 2016).

Based on the data from West Langsa Health Center, the number of postpartum mothers was 654 people. Then, the number of multigravida mothers with postpartum pain was 145 people.

Based on the background of the study above, the researchers are interested in conducting a study entitled "Effleurage Massage and Deep Inhalation with Lavender Aromatherapy on Reducing Postpartum Pain in Multiparous Mothers".

## RESEARCH METHODOLOGY

The research design used in this study was quasi-experimental, pre-test and post-test design consisting of 2 groups and each group was given a different intervention (Sugiyono 2008). It was carried out by measuring before and after being given the intervention. In this design, there was no comparison groups (control group), but the first observation (pretest) was carried out which allowed the researchers to test changes that occurred after the treatment (posttest). This study was carried out in West Langsa Health Center Working Area.

The population in this study were all multiparous postpartum mothers in working area of

West Langsa Health Center. Sampling used the Slovin formula, with accidental sampling technique in which the respondents were those who are available at the time of the study (Firdaus and Zamzam, 2018). Then, the number of samples in this study was 30 people.

The application of massage and respiratory techniques with lavender aromatherapy was given on day 2 to day 4 of postpartum for 15 minutes for massage treatment with aromatherapy and 10 minutes for giving respiratory techniques with lavender aromatherapy. Pain scale assessment instruments used a pain scale questionnaire Numerical Rating Scale (NRS) with pain intensity scale (0-10) (S. Freeder et al., 2011). The assessment had been carried out before it was given treatment and after treatment.

To determine whether the data distribution is normal or not, Shapiro-Wilk test was carried out. Then, Wilcoxon Test was conducted to test each treatment and the Mann Whitney Test was used to determine which treatment was the most effective. (Lusiana, Andriyani, and Megasari, 2015).

## RESEARCH RESULTS

### Univariate Analysis

**Table 1**  
**Frequency Distribution of Respondents Characteristics**

Characteristics	f	%
Mother's Age		
20- 35 Years	22	73.3%
>35 Years	8	26.7%
Mother's Education		
High school	18	60
University	12	40

**Table 2**  
**Postpartum Pain Normality Test in the Treatment Group**

Group	Statistic	Sig	Description
Effleurage Massage Group with Aromatherapy			
Pretest	0.896	0.82	Normal
Posttest	0.861	0.25	Abnormal
Respiratory Techniques Group with Aromatherapy			
Pretest	0.853	0.019	Abnormal
Posttest	0.832	0.010	Abnormal

Of the 30 respondents, the majority of mothers aged 20-45 years were 22 people (73.3%)

and the minority aged > 35 years were 8 people (26.7%). Regarding mother's education of 30

respondents, the majority had high school education as many as 18 people (60%) and the minority had college education as many as 12 people (40%).

Based on the results of the Shapiro-Wilk test above, it can be seen that only one data was

normally distributed, namely the group pretest effleurage massage with sig value. 0.82 ( $> 0.05$ ) and the other data were not normally distributed with the P value  $< 0.05$ , it could be concluded that for further testing, a nonparametric test was used.

**Table 3.**  
**The Results of Wilcoxon Test for Postpartum Pain in the Group of Effleurage Massage with Lavender Aromatherapy**

Effleurage Massage Group		N	Mean Rank	Sum of Rank	Asymp. Sig. (2-tailed)
Pretest-	Negative Rank	15	8.00	120.00	0.000
Posttest	Positive Rank	0	0.00	0.00	
	Ties	0			
Total		15			

Based on the results of the Wilcoxon test above, it was found that the negative rank or the difference (negative) between pretest and posttest postpartum pain was 15, which means that 15 respondents experienced a decrease in postpartum pain viewed from the pretest to the posttest value. The mean rank or average decrease was 8.00, while the number of negative ranks or sum of rank was 120.00.

Positive rank or difference (positive) between pretest and posttest postpartum pain was 0, both on the value of N, mean rank and sum of rank. This 0

value showed no increase from the pretest value to the posttest value.

Ties is the similarity of the pretest value to the posttest value. The ties value was 0 which means that there is no similar value between the pretest and posttest.

The test results on asymp.Sig (2-tailed) showed 0.000. Therefore, it could be concluded that the application of effleurage massage with aromatherapy was effective in reducing postpartum pain in multiparous mothers.

**Table 4.**  
**The Results of Wilcoxon Test for Postpartum Pain in the Group of Deep Inhalation with Lavender Aromatherapy**

Deep Inhalation Group		N	Mean Rank	Sum of Rank	Asymp. Sig. (2-tailed)
Pretest-	Negative Rank	15	8.00	120.00	0.000
Posttest	Positive Rank	0	0.00	0.00	
	Ties	0			
Total		15			

Based on the results of the Wilcoxon test, it was found that the negative rank or the difference (negative) between pretest and posttest of postpartum pain was 15, which means that 15 respondents experienced a decrease in postpartum pain viewed from the pretest to the posttest value. The mean rank or average decrease was 8.00, while the number of negative ranks or sum of rank was 120.00.

Positive rank or difference (positive) between pretest and posttest postpartum pain was 0, both on the value of N, mean rank and sum of rank. This 0

value showed no increase from the pretest value to the posttest value.

Ties is the similarity of the pretest value to the posttest value. The ties value was 0 which means that there is no similar value between the pretest and posttest.

The test results on asymp.Sig (2-tailed) showed 0.000. Therefore, it could be concluded that the implementation of deep inhalation technique with aromatherapy was effective in reducing postpartum pain in multiparous mothers

**Table 5**  
**The Results of the Mann-Whitney Test for Postpartum Pain in the Treatment Group**

<b>Effleurage Massage Group</b>	<b>N</b>	<b>Mean Rank</b>	<b>Sum of Rank</b>	<b>Asymp. Sig. (2-tailed)</b>
Value				
Effleurage Massage + Aromatherapy Positive Rank	15	11.90	178.50	0.015
Deep Inhalation + Aromatherapy	15	19.10	286.50	

The table above shows that the mean rank or average of each group in which in the effleurage massage group with aromatherapy, the average decrease in postpartum pain is 11.90 which is lower than the average decrease in postpartum pain in the deep inhalation group, which is 19.10. It can be interpreted that there is a difference in the mean decrease in postpartum pain from the groups.

Based on the statistical test results, it was found that there was a significant difference between the two groups with an asymp.Sig(1-tailed) value of 0.015. It can be interpreted that the effleurage massage group with aromatherapy is more effective than the deep inhalation group with aromatherapy in which the mean value of postpartum pain in the effleurage massage group is smaller than the average value of postpartum pain with respiratory techniques.

## **DISCUSSION**

### **Effleurage Massage with Aromatherapy has an effect on postpartum pain**

The results of this study showed that there were 15 respondents experienced a decrease in postpartum pain from the pretest value to the posttest value. The mean rank or average decrease was 8.00, while the number of negative ranks or sum of rank was 120.00. Statistical results showed that the application of effleurage massage with lavender aromatherapy was effective in reducing post-partum pain in multigravid mothers with a sig value of 0.000.

Pain after childbirth is caused by the successive contractions and relaxation of the uterus that occur continuously. This pain is more common in high parity and in breastfeeding women. The reason for more severe pain in women with high parity is a concomitant decrease in uterine muscle tone, causing intermittent relaxation. It is different in primiparous women whose muscle tone is still strong and the uterus remains contracting without intermittent relaxation (PPNI, 2016).

To reduce or overcome postpartum pain, non-pharmacological therapy can be applied. Non-pharmacological therapy in this case is effleurage massage and aromatherapy. Effleurage massage aims to increase blood circulation and warm the

abdominal muscles so that they can reduce pain, and promote physical and mental relaxation. Lavender aromatherapy has the effect of being repressive, anti-septic, anti-spasmodic and a mild sedative and reduces pain (Ersila, Prafitri, and Zuhana, 2019).

According to Parulin, et al., the effleurage massage technique given to postpartum mothers for 15 minutes on day 2 to day 4 postpartum can reduce uterine contraction pain felt by postpartum mothers, so that mothers do not feel pain and feel comfortable again because the massage can stimulate endorphin hormone that can scientifically relieve pain (Parulian, Sitompul, and Oktrifiana 2013).

This present study is in line with the results of a study conducted by Widayani (2016) showing that out of 5 respondents who were given inhalation of lavender aromatherapy experienced the decrease of the intensity of postpartum pain from an average scale of 5.4 to 2.8, which can be interpreted that there was an effect of giving aromatherapy to the reduction of postpartum pain.

Then, the present study is also in line with the results of a study conducted by Maryani (2020) showing that there was an effect of giving lavender aromatherapy to reducing pain in postpartum mothers.

In this present study, effleurage massage with lavender aromatherapy was given on day 2 to day 4 postpartum. Pain was assessed before giving treatment and after treatment. During the treatment given there was a reduction in pain in postpartum mothers, because the effect of massage with aromatherapy directly affects the mother. Massage is given with gentle pressure on the mother's stomach, so that it can overcome the pain directly where it is felt. In addition, lavender aromatherapy also provides a sense of comfort and calm so that it can overcome the pain felt by the mother.

### **Deep Inhalation with Aromatherapy Has an Effect on Postpartum Pain**

The results of this study showed that there were 15 respondents experienced a decrease in postpartum pain from the pretest value to the posttest value. The mean rank or average decrease

was 8.00, while the number of negative ranks or sum of rank was 120.00. Statistical results showed that the implementation of deep inhalation technique with lavender aromatherapy was effective in reducing post-partum pain in multigravid mothers with a sig value of 0.000.

Pain after childbirth is caused by the successive contractions and relaxation of the uterus that occur continuously. This pain is more common in high parity and in breastfeeding women. The reason for more severe pain in women with high parity is a concomitant decrease in uterine muscle tone, causing intermittent relaxation. It is different in primiparous women whose muscle tone is still strong and the uterus remains contracting without intermittent relaxation (PPNI, 2016).

The implementation of deep breaths aims to regulate the frequency of breathing, reduce anxiety, increase muscle relaxation so that it can reduce pain. Lavender aromatherapy has the effect of being repressive, anti-septic, anti-spasmodic and a mild sedative and reduces pain (Pambudi and Supriyanti 2015).

The underlying principle of pain reduction by deep breathing relaxation techniques lies in the physiology of the autonomic nervous system which is part of the peripheral nervous system which maintains homeostasis of the individual's internal environment (Lukman, Rahma, and Putri 2020).

This present study is in line with a study conducted by Azizah (2020) showing that lavender aromatherapy can reduce pain in postpartum mothers who suffer from depression given on day 1 and 2 of the puerperium.

This present study is in line with the results of a study conducted by Pambudi and Supriyanti (2015) showing that out of 5 respondents who were given inhalation of lavender aromatherapy experienced the decrease of the intensity of postpartum pain from an average scale of 5.4 to 2.8, which can be interpreted that there was an effect of giving aromatherapy to the reduction of postpartum pain.

Then, the present study is also in line with the results of a study conducted by Maryani (2020) showing that there was an effect of giving lavender aromatherapy to reducing pain in postpartum mothers.

In this present study, the implementation of deep inhalation with lavender aromatherapy was given on day 2 to day 4 postpartum. Pain was assessed before treatment and after treatment. During treatment there was a reduction in pain in postpartum mothers, due to the effects of aromatherapy and techniques breathing that makes

the mother more relaxed.

### **The Effectiveness of Effleurage Massage and Deep Inhalation with Aromatherapy on Reducing Postpartum Pain**

The results of the present study showed that the mean rank or average of each group in which in the effleurage massage group with aromatherapy, the average decrease in postpartum pain was 11.90 which was lower than the average decrease in postpartum pain in the deep inhalation group, which was 19.10. It can be interpreted that there was a difference in the mean decrease in postpartum pain from the groups.

Then, the statistical test results showed that there was a significant difference between the two groups with an asymp.Sig(1-tailed) value of 0.015. It can be interpreted that the effleurage massage group with aromatherapy was more effective than the deep inhalation group with aromatherapy.

Pain after childbirth is caused by the successive contractions and relaxation of the uterus that occur continuously. This pain is more common in high parity and in breastfeeding women. The reason for more severe pain in women with high parity is a concomitant decrease in uterine muscle tone, causing intermittent relaxation. It is different in primiparous women whose muscle tone is still strong and the uterus remains contracting without intermittent relaxation (PPNI, 2016).

In this present study, effleurage massage with aromatherapy was more effective than deep inhalation with aromatherapy, because massage with aromatherapy more quickly reduce the pain felt by postpartum mothers. Effleurage massage is given directly to the point of pain in the mother's abdomen.

### **CONCLUSION**

The results of this study could be concluded that effleurage massage with lavender aromatherapy was more effective in reducing postpartum pain in multigravid mothers.

### **SUGGESTION**

The results of this study are expected to provide information and knowledge about effleurage massage techniques, deep inhalation and lavender aromatherapy as well as being one of the services that will be applied by health workers in reducing postpartum pain.

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