



International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)

IJAMSCR | Volume 10 | Issue 4 | Oct - Dec - 2022
www.ijamscr.com

ISSN:2347-6567

Research article

Medical research

Effleurage Massage Method Using Lavender Aromatherapy Oil In An Effort To Reduce Back Pain And Anxiety Levels In Third Trimester Pregnant Women In Facing Labor

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ABSTRACT

Background: During pregnancy, women need time to adapt to the various changes that occur within them. One of the complaints that are often felt by pregnant women is back pain in the lumbar part and also anxiety

Objective: To produce a method that is able to have an influence on complaints of back pain and maternal anxiety in dealing with childbirth

Methods: This type of research is a mix method, which is a combination of descriptive and analytic research. This research design uses Research and Development (R&D). This study involved a control group and a treatment group, 16 experimental and control groups of 16 respondents. The intervention given to the experimental group was the Effleurage Massage Method using Lavender Aromatherapy Oil, while the control group was given education to pregnant women trimester III. The data were tested using the Wilcoxon test and the Mann-Whitney test.

Results: The effleurage massage method using lavender aromatherapy oil was more effective in reducing back pain and anxiety in dealing with labor compared to the control group ($p < 0.000$)

Conclusion: Based on the results of the study, it can be concluded that the effleurage massage method using lavender aromatherapy oil is feasible and its application is effective in reducing the scale of back pain and anxiety in dealing with labor in pregnant women trimester III.

Keywords: Effleurage Massage, lavender aromatherapy, back pain, anxiety

INTRODUCTION

Pregnancy is the fertilization or union of spermatozoa and ovum and is continued by nidation or implantation. Pregnancy is divided into three trimesters, where the first trimester lasts 1-12 weeks, the second trimester 13 to 27 weeks, and the third trimester 28 to 40[1]. The pregnancy they experience can cause physical and psychological changes. Psychological changes experienced such as feeling uncomfortable, feeling bad, becoming more sensitive and feeling rejection and even anxiety. The changes that occur during pregnancy cause discomfort and worry for most pregnant women[2]

Women during pregnancy need time to adapt to the various changes that occur in them. One of the complaints that are often felt by pregnant women is back pain in the lumbar part and also anxiety. According to the World Health Organization (WHO), low back pain (LBP) is a symptom of various cases related to spinal problems. Back pain in pregnancy is defined as recurrent or continuous pain for more than 1 week from the spine. The classification of LBP according to WHO (2013) is subacute 6-12 weeks, acute <6 weeks and chronic >7-12 weeks. In general, lumbar pain during pregnancy is similar to back pain below experienced by women in general who are not pregnant, the type of This pain usually increases with changes in the mother's posture when sitting, stand up, lift [3]

Most pregnant women experience back pain, starting in the first trimester until a few months after giving birth. The prevalence of back pain during pregnancy varies worldwide, which is about 20% to 90%, most studies show a 50% prevalence of back pain during pregnancy [4] studies in the United States in 2007 said that of 599 pregnant women, 67% of pregnant women experienced low back pain [5]. In the United States, Europe, and some parts of Africa the prevalence reaches 30% to 78% [6]. According to research by Apriliani Mafikasari, et al (2015) pregnant women in various regions of Indonesia reach 60-80% of people who experience back pain (back pain).) in pregnant [6]. East Java Province is estimated to be around 65% of 100% of pregnant women still experiencing back pain. While in Central Java itself, although there is no epidemiological data regarding low back pain, it is estimated that the incidence of low back pain is 40% [7].

Based on a survey approach through interviews from 10 third trimester pregnant women at Puduk Payung and Sronol health centers, mothers said they experienced back pain even from entering the second trimester of pregnancy. Mother said that she experienced more severe back pain compared to previous pregnancies in mothers with multigravida pregnancies, mothers said that they often experienced back pain which could interfere with mother's activities, back pain was experienced frequently, especially at night. Not only back pain but also anxiety is often experienced by mothers who will face childbirth. Mothers say they are anxious because they have never experienced childbirth in primigravida mothers, and there are even mothers who feel anxious because there are comorbidities that make mothers feel anxious to face childbirth. This is in line with one of the factors of maternal anxiety in the face of childbirth, namely the presence of comorbidities

Third trimester pregnant women not only experience disturbances such as back pain but also experience anxiety during childbirth, especially in primigravida mothers. Anxiety in pregnant women can occur because of the long period of waiting for the birth with full of uncertainty and also the shadow of things that are scary during the delivery process. The results of research in developed countries such as France with a percentage of 7.9% primigravida mothers experience anxiety, 11.8% experience depression, and 13.2% experience both during pregnancy [8]. The percentage of prenatal anxiety in Indonesia is reported to be 28.7% of 107,000,000 mothers experience anxiety. Another study showed 53.3% of mothers experienced anxiety about childbirth [9]

The causative factors of back pain are progesterone and relaxin which soften the connective tissue and altered body posture and increased weight in the uterus [10]. While the causes that make the mother feel anxious about childbirth are unclear and diffuse worries related to feelings of uncertainty and helplessness. This emotional state does not have a specific object, is experienced subjectively and communicated interpersonally, but this is normal for the process of change, both physically and psychologically [11]

Mothers who experience back pain and excessive anxiety have the same bad effect if not treated. Like the anxiety and worry of pregnant women if not handled seriously will have an impact and influence on the physical and psychological well-being of the mother and the fetus. The impact of anxiety on pregnancy that is not resolved will cause complications such as premature birth, low birth weight (LBW) and stunted fetal growth [12] spontaneous abortion and disturbances in the fetal heart rate when it is approaching the time of delivery and can result in the

delivery process experienced by the mother in the form of prolonged labor. or second stage extension.

Anxiety experienced by the mother does not only affect the fetus but also the mother herself, which can cause hyperemesis gravidarum, heart problems, hypertension that occurs during early pregnancy until close to the delivery process, and prolonged labor, and Postpartum bleeding occurs in the mother in the process of giving birth or after the baby is born. If problems in pregnant women can be intervened and treated properly, the morbidity rate in pregnant women can be reduced [13]

Pregnant women, as many as 80% experience anxiety disorders. If there is an error in carrying out the self-defense mechanism, it is very feared that it can affect the fetus that is being carried. The results of Kinsella's research concluded that the psychological health of a pregnant woman can affect the fetus. In addition, the results of Bastard and Tiran's study concluded that anxiety in pregnant women can affect fetal development and may have long-term effects on the child's psychological development.

The government's efforts that have been made in providing integrated care to reduce morbidity and risk in pregnancy are to carry out 6 checks where at least 2 checks to the doctor on the first visit to screen and handle pregnancy risk factors. While at the fifth visit in the third trimester screening for risk factors for delivery. Pregnant women have the right to receive counseling and education from health workers such as the pregnant women class held [14]

The class for pregnant women, which is a means to learn together about the health of pregnant women, aims to increase knowledge and skills regarding care for pregnancy, childbirth, care for newborns to the puerperium. This effort is one way to increase the knowledge of pregnant women through the process of health education. Prevention that can be done seeks comfort such as avoiding the supine position if back pain occurs at night. Maintain good posture, avoid excessive slouching, walk without rest and lift things. Minimizing emotions and worries can be done so that mothers feel comfortable and are not too anxious about what they will face.

Pharmacological treatment such as analgesic drugs should not be given carelessly because it can have a secondary physiological effect on the fetus. The alternative can also be done non-pharmacologically holistically, one of which can be done such as massage, back straightening exercises are very useful for maintaining back health and relieving pain.

In line with the research conducted by Lala Budi, et al 2018 in Yogyakarta, it was found. Statistically, there is an effect of massage effleurage on reducing back pain for pregnant women in the third trimester. After being given an effleurage massage, the average back pain scale for pregnant women is 2.06 with a standard deviation of 1.39. The results of this study indicate that the average back pain scale in third trimester pregnant women after being given effleurage massage therapy is lower if compared to before being given massage effleurage. The results of research from Lutfiah 2016 in Mojokerto with the title of effleurage Massage with a Warm Comparison on back pain of pregnant women where the results of effleurage massage are more influential in reducing back pain in third trimester pregnant women compared to warm compresses.

Anxiety can be treated with pharmacology such as Psychopharmaceutical [15], while psychotherapy approaches can be done with behavioral and cognitive therapy and even non-pharmacological one of which uses aromatherapy where

aromatherapy can affect the limbic system in the brain which is the center of emotion, mood or mood, and memory to produce neurohormones. endorphins and encephalins, which act as pain relievers and serotonin, which have the effect of relieving tension or stress and anxiety facing childbirth. Lavender oil is one of aromatherapy which is known to have a calming effect and is even safe to use without being dissolved [15]. This is in line with the results of a study conducted by Setiati, et al 2019 in Ciamis where it was found that there were 1.52 effectiveness in reducing the anxiety of third trimester pregnant women compared to mothers who were not given aromatherapy.

Based on this background, seeing that pregnant women's pain rates are still high in back pain and also anxiety in facing childbirth, the researchers will do a combination where aromatherapy which is usually done by evaporation I will change and thoroughly into massage oil that will be used when doing massages for pregnant women with complaints of back pain and anxiety.

METHOD

This research was conducted in several health centers in Semarang City. This type of research is a mix method, which is a combination of descriptive and analytical research. This research design uses Research and Development (R&D). This study involved a control group and a treatment group, 16 experimental and control groups of 16 respondents. The intervention given to the experimental group was the Effleurage Massage Method using Lavender Aromatherapy Oil, while the control group was given education to pregnant women in the third trimester. The data were tested using the Wilcoxon test and the Mann-Whitney test.

Intervention

The intervention was given to the experimental group in the form of effleurage massage using lavender aromatherapy oil for one week and the control group was only given educational care for pregnant women in dealing with their complaints. The data were sampled using the Wilcoxon test and the Mann Whitney test.

Ethical Clearance

This study received ethical approval from commite of ethic KEPK Poltekkes Kemenkes Semarang with No. 073/EA/KEPK/2022

RESULTS

Homogeneity and Normality test results Back Pain and Anxiety. The results of the homogeneity test on the back pain variable before treatment have a p-value > 0.05 which means the data variance is homogeneous, while after the treatment has a p-value <0.05 which means the data is not homogeneous, the anxiety variable before treatment has a p-value > 0.05 which means the data variance is homogeneous, while after the treatment has a p-value > 0.05 so the data means homogeneous. The results of the normality test on back pain and anxiety variables showed that not all data were normally distributed with p-value <0.05, which was normally distributed only in pre and post back pain in the intervention and control groups. While the others showed that the data was not normally distributed, so the next test used the non-parametric Wilcoxon and Mann Whitney test as an alternative test.[Table 1]

Table 1: Homogeneity and Normality Test for Back Pain and Anxiety

Variabel	Groups	*Shapiro-wilk	**Lavene test (P Value)
Back pain	Intervensi	0.049	0.488
	Pretest	0.026	
	Intervensi	0.038	0.000
	Posttest	0.003	
anxiety	Intervensi	0.660	0.710
	Pretest	0.078	
	Intervensi	0.200	0.000
	Posttest	0.080	

*Shapiro-wilk **Lavene test (P Value)

Results The effectiveness of back pain in the intervention and control groups. The results of statistical tests using the Wilcoxon back pain variable in the pretest between the experimental group and the control group showed a p-value <0.05, i.e. both the experimental group and the control group had the same p-value of 0.00. This shows that the administration of the effleurage massage method using lavender aromatherapy oil in the experimental group is effective in reducing back pain in pregnant women, as well as the control group is also effective in reducing back pain.

The results of statistical tests using the Mann Whitney back pain variable in the pretest between the experimental group and the control group were not significantly different, it was seen that the p-value was 0.047 (p-value > 0.005), while the post-

test in the experimental group and the control group was significantly different, as seen from the p-value 0.00, meaning that there was a Reduction of back pain after being given the intervention of the effleurage massage method using lavender aromatherapy oil in the experimental group and providing education to pregnant women in the control group. In the experimental group the decrease in back pain scale was better than the control group, this was evidenced by the decrease in the average value in the experimental group to 4.43 while in the control group to 6.68.

The results of statistical tests using Mannwhitney on the effectiveness of the delta (Δ) prepost test were significantly different, it was seen that the p-value was 0.00 (p-value < 0.05), meaning that the effleurage massage method using lavender

aromatherapy oil was more effective than providing education to pregnant women against the control group. this is evidenced by the decrease in the mean delta (Δ) in the experimental group

more, namely -3.125 while in the control group -1.125 [Table 2]

Table 2: The effectiveness of back pain in the intervention and control groups

back pain measurement	group				p value**
	Eksperimen		control		
	Mean ±SD	Min -Max	Mean ±SD	Min- Max	
Pre test	7.56±1.030	6.00-9.00	7.81±0,98	6.00-9.00	0.477
Post test	4.43±1.093	3.00-600	6.68±0.70	5.00-8.00	0.000
*p value	0.00		0.001		
difference	-3.125±0.957		-1.125±0.619		0.00

**wilcoxon **mannwhitney*

The results of the anxiety effectiveness test in the intervention and control groups. The results of statistical tests using Wilcoxon variable anxiety in the pretest between the experimental group and the control group showed a p-value <0.05 , both the experimental group and the control group had the same p-value of 0.00. This shows that giving the effleurage massage method using lavender aromatherapy oil in the experimental group is effective in reducing anxiety about childbirth in pregnant women. Likewise, the control group was also effective in reducing anxiety in dealing with childbirth. The results of statistical tests using the Mann Whitney variable anxiety in the pretest between the experimental group and the control group were not significantly different, it was seen that the p-value was 0.761 (p-value > 0.005), while the post-test in the experimental group and the control group was significantly different, as seen from the p-value of 0.00, meaning there was

a decrease. anxiety scale after being given the intervention of the effleurage massage method using lavender aromatherapy oil in the experimental group and providing education to pregnant women in the control group. In the experimental group the decrease in anxiety scores is better than the control group, this is evidenced by the decrease in the average value in the experimental group to 21.12 while in the control group to 29.25

The results of statistical tests using MannWhitney on the effectiveness of the delta (Δ) prepost test were significantly different, it was seen that the p-value was 0.00 (p-value <0.05), meaning that the effleurage massage method using lavender aromatherapy oil was more effective than providing education to pregnant women against the group. control. this is evidenced by the decrease in mean delta (Δ) in the experimental group more, namely -11.56 while in the control group -3.00.

Table 3: Anxiety effectiveness test in the intervention and control groups

Anxiety measurement	group				
	Eksperimen			Control	P value**
	Mean ±SD	Min –Max	Mean ±SD	Min- Max	
Pre test	32.68±3.280	27.00-38.00	32.25±3.316	26.00-36.00	0.761
Post test	21.12±1.962	18.00-25.00	29.25±3.568	20.00-34.00	0.000
*P value	0.00		0.001		
difference	-11.56±3.758		-3.00±1.897		0.00

**Wilcoxon **Mannwhitney*

DISCUSSION

The back pain variable in the pretest between the experimental group and the control group showed a p-value <0.05 , i.e. both in the experimental group and the control group the p-value was the same 0.00. This indicates that the effleurage massage method using lavender aromatherapy oil in the experimental group is effective in reducing back pain. in pregnant women. Likewise, the control group was also effective in reducing back pain. It can also be seen from the results of the Mann Whitney test that the back pain variable in the pretest between the experimental group and the control group was not significantly different, it could be seen that the p-value was 0.047 (p-value > 0.005), while the post-test in the experimental group and the control group was significantly different, as seen from the p-

value. 0.00 means that there is a decrease in back pain after being given the intervention of the effleurage massage method using aromatherapy oil lavender in the experimental group and providing education to pregnant women in the control group. The results of statistical tests using Wilcoxon variable anxiety in the pretest between the experimental group and the control group showed a p-value <0.05 , i.e. both the experimental group and the control group had the same p-value of 0.00. This shows that giving the effleurage massage method using lavender aromatherapy oil in the experimental group is effective in reducing anxiety about childbirth in pregnant women. Likewise, the control group was also effective in reducing anxiety in dealing with childbirth. It can also be seen from the results of the Mann Whitney test that the anxiety variable in the pretest between the experimental group and the control group

was not significantly different, it could be seen that the p-value was 0.761 (p-value > 0.005), while the post-test in the experimental group and the control group was significantly different, as seen from the p-value 0.00, which means there was a decrease in the anxiety scale after being given the intervention of the effleurage massage method using lavender aromatherapy oil in the experimental group and providing education to pregnant women in the control group.

During pregnancy, the mother will feel many changes, both physical and psychological, this makes the mother have to adapt to various things that happen to her. Things that are often felt in third trimester pregnant women are back pain and anxiety both during pregnancy and also in the face of childbirth. Back pain is defined if back pain occurs repeatedly for 1 week more than [3].

Pregnant women in the third trimester not only feel back pain but also feel an increased level of anxiety to face childbirth. Anxiety in pregnant women can occur because of the long period of waiting for birth with full of uncertainty and also shadows about scary things during the delivery process. Mothers who experience back pain and excessive anxiety have the same bad effect if not treated. Like the anxiety and worry of pregnant women if not handled seriously will have an impact and influence on the physical and psychological well-being of the mother and the fetus. The impact of anxiety on pregnancy that is not resolved will cause complications such as premature birth, low birth weight (LBW) and stunted fetal growth[12].

Therefore, mothers can be given both education and holistic treatment, one of which is a massage method combined with lavender aromatherapy where lavender aromatherapy is proven to make mothers feel relaxed in line with previous research conducted by Winda 2019 where it is stated that lavender aromatherapy can indeed make mothers feel relaxed. more

relaxed [15]. In line with research conducted by Azizah, et al 2020 where in the results there are The decrease in pain scale on inhalation of lavender is due to the aromatherapy content of lavender containing active substances in the form of linalool and linalyl which can function as analgesics, and can increase endorphins as a result of hypothalamic stimulation by lavender aromatherapy which can produce a sense of calm, happiness and relaxation. Likewise with the massage method given to the mother in the back area, there was a decrease in the scale of pain and anxiety in the experimental group, this is because the effleurage massage technique has the benefits of providing a sense of comfort, causing relaxation, and stimulating the production of endorphins that relieve pain scientifically. This research is supported by the theory of Gate Control Theory where by performing effleurage massage techniques can inhibit uterine contraction pain because the A Delta fibers will close the gate so that the Cerebral Cortex does not receive pain messages that have been blocked by this massage counter-stimulation so that the perception of pain can change. Andarmoyo said that tactile stimulation and positive feelings develop when an attentive and empathic form of touch is carried out, can strengthen the effect of effleurage massage to control pain [7].

CONCLUSION

Based on the results of the study, it can be concluded that the effleurage massage method using lavender aromatherapy oil is feasible and its application is effective in reducing back pain and anxiety scales in dealing with labor in third trimester pregnant women.

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