

The Effect Of Giving Lavender Aroma Therapy On The Pain Of Labor In The First Stage In Mothers In Labor At The Santi Meliala Inpatient Clinic In Medan

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ABSTRACT

The difference in levels of mild, moderate, severe and very severe pain requires different treatments according to the level, severe pain can cause complications during labor. Around 70% to 80% of women who give birth go through pain. One of the non-pharmacological therapies to reduce labor pain is with lavender aromatherapy. Purpose; this study was to determine the effect of giving lavender aromatherapy on labor pain in the first stage of labor in mothers giving birth at the Santi Meliala Clinic in 2024. Method; This study is a type of pre-experimental research with the design used being a pre-test post-test one group using the intervention of giving lavender aromatherapy. The population in this study were all mothers giving birth in the first stage as many as 15 people. Sampling using a purposive sampling technique, namely 15 people. The data collection instrument used the NRS observation sheet, then the data was analyzed using univariate and bivariate analysis. Bivariate analysis used a paired sample t-test comparison test with a significance level of 0.05). Results; The study showed a decrease in pain intensity in the pre-test and post-test, namely in the post-test the majority experienced moderate pain as many as 9 respondents (60%) and severe as many as 6 respondents (40%). After the intervention, the majority experienced mild pain as many as 8 respondents (53.3%) and the minority experienced moderate pain as many as 7 respondents (46.7%). The results of the paired t-test obtained a p-value = 0.000 (<0.05) which means there is a difference in the average pre-test and post-test. Conclusion; in this study, there is an effect of giving lavender aromatherapy on labor pain in the first stage of labor in mothers giving birth at the Santi Meliala Clinic in 2024. It is hoped that the clinic will implement lavender aromatherapy in reducing labor pain.

Keywords: Lavender, Labor Pain, Mother in Labor

INTRODUCTION

The natural birth process is characterized by uterine contractions felt by the mother giving birth and an opening of 1 to 10 cm. If the opening is complete, the baby is expelled. After a few minutes, the placenta also exits the uterus due to coordinated contractions in the myometrium. Normal labor is the process of expelling the results of conception or fetus that occurs in full-term pregnancy (37-42 weeks). spontaneous birth with a posterior presentation that lasts for 18

hours without complications for the fetus or mother. pain is caused by stimulation of the lower uterine segment and cervix and ischemia of the uterine muscles. normal labor pain can cause stress and can cause excessive release of hormones such as catecholamines and steroids, these hormones can cause smooth muscle and blood vessel vasoconstriction, and can result in decreased contractions, and uterine ischemia occurs which causes uterine pain impulses to increase during labor(1).

Severe labor pain can increase emotional stress in the mother giving birth, and can cause fatigue and can have an impact on abnormal uterine muscle function during labor which can lead to labor complications.(2). labor pain can make women afraid to give birth vaginally, this is one of the reasons for the increase in the incidence of caesarean operations.(3). the occurrence of a cesarean section is because the mother is no longer able to push during the normal delivery process and feels exhausted so the mother does not give birth vaginally.(4)

The cause of pain is pressure on the nerve endings between the muscle fibers of the uterine fundus corpus, ischemia of the myometrium and cervix due to uterine contractions, the stretching process of the uterine muscles, dilation of the cervix and lower segment of the uterus, stretching of the pelvic floor muscles, psychological conditions.(5)

Pain is an unpleasant sensation or emotional state that is localized to a part of the body.(6). In destructive terms it is often explained that the network is like being stabbed, hot, twisted, nauseous, feeling scared and with a sense of emotion.(7)

Pain is closely related to uterine contractions and these contractions in normal labor have pauses. The level of pain that is there, then the way to overcome it is different even though in the same stage of labor so that severe pain can affect the increase in heart rate, respiratory system, increase in blood pressure and can cause stress so that it inhibits the release of the hormone oxytocin which results in inadequate contractions and disruption of cervical dilation.(8).

World Health Organization(WHO) (2020), as many as 200 million women giving birth experience pain, fear during labor (Melva et al., 2020). The United States gets 70% to 80% of women who give birth with pain. Various methods are used so that mothers giving birth do not always feel pain and will feel comfortable. 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 become tired and result in prolonged labor(9).

Lavender aromatherapy (*Lavandula angustifolia*) is a therapeutic action that is useful for improving physical and psychological nerves, both used to reduce pain, while psychologically

it can relax the mind, reduce tension, and anxiety and provide peace. The calming scent will stimulate the thalamus to release enkephalin similar to endorphin, a chemical that has a structure similar to opioids.(10)

Lavender is a light purple flower, has a distinctive and soft smell that can make someone relax when inhaling the aroma of lavender, lavender is widely cultivated in various parts of the world. Lavender oil aromatherapy is obtained by distilling flowers. Lavender oil is useful, very suitable for treating burnt, peeling skin, psoriasis, and also helps with insomnia. Lavender has a light floral aroma and is an aromatherapy essential known to have sedative and anti-neurodepressive effects.

Provide lavender aromatherapy by using an electric stove containing 20 ml of water, add 20 drops of lavender oil into the electric stove, then give it in the delivery room, when the opening is 6-10, give lavender aromatherapy, for 60 minutes.(11).

Data in North Sumatra Province in 2020 showed that 54% of primigravida mothers experienced severe pain, 46% experienced moderate to mild pain. It can be concluded that the labor pain experienced by primigravida mothers is mostly moderate to severe pain. While the length of time in labor states that 85%-90% of labor takes place with pain, and 10-15% of labor takes place without pain.(12).

The results of medical record observations conducted by researchers at the Santi Meliala Inpatient Clinic, Jln Starban No. 34. Polonia Medan in June - July 2024. There were 15 mothers giving birth, 15 mothers who also gave birth vaginally, said they felt excessive pain that felt like being stabbed, heat spreading along the waist and lower abdomen.

Data was obtained on mothers giving birth at the Santi Meliala Inpatient Clinic, Jln Starban No. 34. Polonia Medan in 2024, as many as 15 mothers giving birth experienced pain during the opening process of the first active phase. From the data of the mothers giving birth, the researcher concluded that primigravida and multigravida mothers experiencing pain from the lower abdomen, spreading to the lumbar area, back, thighs. During contractions and decreasing at contraction intervals. As the opening and thinning of the cervix progresses, each mother giving birth will experience increasing pain during the opening of the first active phase.

Based on the background above, the researcher concluded that there were problems found, and the researcher took the research title The Effect of Lavender Aromatherapy on Labor Pain in the Active Phase of 1 in Women Giving Birth at the Santi Meliala Inpatient Clinic, Jln. Starban No. 34. Polonia Medan in 2024.

METHOD

The design used is Quasi Research. This research is a type of pre-experimental research with the design used being pre-test post-test one group.(13). This design is a plan for how research is carried out. In this design, before being given treatment, the sample is given a pre-test (initial test) first, and at the end of the study the sample is given a post-test (final test).

The population in this study was all 15 mothers in the first stage of labor at the Santi Meliala Inpatient Clinic, Jl. Starban No. 34, Polonia Medan from July-August 2024.

Population is the entire research subject. The population in this study was all mothers giving birth in the first stage who visited the Romauli Silalahi Maternity Clinic as many as 30 Respondents in June 2024.

In this study, the sample will be 15 mothers who gave birth normally at the Santi Meliala Inpatient Clinic, Jl. Starban No. 34 Polonia Medan in 2024, namely the effect of lavender aromatherapy on labor pain in the first stage of labor in mothers, using the purposive sampling method.

The research instrument used primary data using Numeric Rating Scal pain scale observations. The data was then analyzed using univariate and bivariate analysis using a comparison test before and after the paired t-test intervention with a value of $\alpha = 0.05$.(14).

RESULTS

Characteristics Category

Table1. Distribution of Respondent Characteristics

No.	Variables	Frequency	%
1	Age		
	22 years	2	13.3
	23 years	2	13.3
	24 years old	1	6.7
	26 years old	3	20.0
	28 years old	2	13.3
	29 years	1	6.7
	31 years old	2	13.3
	33 years old	2	13.3
2.	Parity		
	Primigravida	4	26.7

	Multigravida	11	73.3
3.	Education		
	JUNIOR HIGH SCHOOL	2	13
	SENIOR HIGH SCHOOL	13	87
4.	Work		
	Work	2	13
	Doesn't work	13	87
Total		15	100

Source: Primary Data

Based on the results of table 1, it can be seen that from 15 respondents, mothers who gave birth based on age, the majority of mothers were in the 20-30 years age category (73%), based on parity, the majority were multigravida parity (87%), based on education, the majority of mothers had a high school education (87%) and based on occupation, the majority of mothers were unemployed (87%).

Table 2. Pain Before and After Lavender Aromatherapy

No.	Pain before intervention	f	%	Pain after intervention	f	%
1.	Moderate pain	9	60	Mild pain	8	53.3
2.	Severe pain	6	40	Moderate pain	7	46.7
	Total	15	100	Total	15	100

Source: Primary Data

Based on the results of table 2, it can be seen that from 15 respondents of mothers giving birth before the intervention, the majority experienced moderate pain as many as 9 respondents (60%) and severe as many as 6 respondents (40%). Based on respondents of mothers giving birth after the intervention, the majority experienced mild pain as many as 8 respondents (53.3%) and the minority experienced moderate pain as many as 7 respondents (46.7%).

Table 3. Distribution of Respondents' Pain Before Being Given Lavender Aromatherapy

Respondents	Pain before intervention	Pain after intervention	Pain Category
1	5	2	Decrease
2	7	3	Decrease
3	5	3	Decrease
4	7	4	Decrease
5	6	3	Decrease
6	7	4	Decrease
7	5	3	Decrease
8	9	5	Decrease
9	6	3	Decrease
10	6	4	Decrease
11	4	1	Decrease
12	8	5	Decrease
13	6	4	Decrease
14	8	5	Decrease
15	6	4	Decrease
Average	6.27	3.53	Decrease

Source: Primary Data

Based on the results of table 3, it can be seen that from 15 respondents of mothers giving birth before the intervention, the lowest to highest pain intensity was 5-8. Based on respondents of mothers giving birth after the intervention, the highest pain intensity decreased to 1-5.

Bivariate Analysis

To find out the effectivenesslavender aromatherapy for first stage labor pain at the Santi Meliala Inpatient Clinic can be seen in the table below:

Table 4. Normality Test Results Before and After Lavender Aromatherapy Administration

	Shapiro Wilk		
	Statistics	df	Sig.
Pre	0.953	15	,569

Post 0.905 15 ,113

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on table 4.4. above, it is known that the significant value of the pre-test normality test is 0.569 (>0.05), so it can be stated that the pre-test data is normally distributed. The results of the post-test normality test obtained a sig. value of 0.113 (>0.05), so it can be stated that the post-test data is normally distributed.

Next, a paired t-test was conducted with the following results:

Table 5. Paired T-Test Statistical Test Results

Variables		Intervention			Sig.
		Mean	Difference	SD	
Lavender aromatherapy	Pre	4.26	2.73	1.49	0,000
	Post	3.53		1.13	

Based on table 5. above, it shows that the results of the paired-t test obtained a p-value of 0.000 (<0.05), which means that there is a significant difference in the average values of the pre-test and post-test, so it can be concluded that there is an influence of the provision of lavender aromatherapy on labor pain in the first stage of labor in mothers giving birth at the Santi Meliala Inpatient Pratama Clinic.

DISCUSSION

The Effect of GivingLavender Aromatherapy for First Stage Labor Pain in Women Giving Birth

This study aims to evaluate the effect of lavender aromatherapy on labor pain in the first stage of labor in mothers in the Santi Meliala Inpatient Clinic. Based on the results of the normality test using Shapiro-Wilk, the data before and after the intervention showed a normal distribution with significance values of 0.569 and 0.113, respectively. This indicates that the data obtained meets the normality assumptions required for further statistical analysis.

The results of the Paired T-Test statistical test showed that there was a significant difference in the level of pain before and after the administration of lavender aromatherapy with a

significance value of 0.000. The average level of pain before the intervention was 4.26 with a standard deviation of 1.49, while after the intervention the average level of pain decreased to 3.53 with a standard deviation of 1.13. The difference in the average level of pain of 2.73 indicates that lavender aromatherapy is effective in reducing pain in the first stage of labor.

The results of this study are in line with research conducted by Sri Utari et al. (2022) which also found that lavender aromatherapy is effective in reducing labor pain in the first stage of labor in mothers in labor. Sri Utari's study used a quasi-experimental design with one group pre-test post-test and involved 28 respondents. The results of their study showed that giving lavender aromatherapy can reduce pain from a value of 7.535 (severe pain) to 5.321 (moderate pain) in primiparous mothers in the first stage of active phase(15).

Another study that is in line with that conducted by Susilarini showed that there is an effect of giving lavender aromatherapy on labor pain in mothers giving birth, $p\text{-value} = 0.00$. with the title of the effect of giving lavender aromatherapy on labor pain in the first stage of labor in mothers giving birth, the results showed that there is an effect of giving lavender aromatherapy on labor pain in the first stage of the active phase.(16).

Research by Sri Utari et al. (2022), Turlina and Fadhila, and Mirzae F shows that giving lavender aromatherapy is effective in reducing pain in the first stage of labor in mothers giving birth.(15). Sri Utari et al. found that labor pain was reduced from severe pain (value 7.535) to moderate pain (value 5.321) after administering lavender aromatherapy.(16). Mirzae F also found a significant effect of lavender aromatherapy in reducing labor pain ($p = 0.001$), as well as improving anxiety status and increasing serotonin secretion. Overall, lavender aromatherapy has been proven effective in reducing pain and improving the psychological condition of mothers in labor(17).

Labor pain is a physical sensation experienced by pregnant women during labor, mainly caused by uterine contractions, cervical dilation, and pressure on the pelvic structures as the baby moves through the birth canal. Several factors that influence labor pain include the position of the baby's head, the size of the baby, the mother's pain threshold, the use of pain relief techniques, the mother's age and parity, anxiety and stress levels, and social support. The position and size of the baby can increase pressure on the cervix and pelvic floor, while different pain thresholds in each woman affect the perception of pain.(18).

Lavender aromatherapy has been extensively studied and shown to have positive effects in reducing pain. Here are some theories that support the use of lavender aromatherapy for pain relief. Lavender contains compounds such as linalool and linalyl acetate that have a calming

effect on the nervous system. When inhaled, this compound can stimulate the limbic system in the brain, which plays a role in regulating emotions and responses to pain.. Aroma(19).

Lavender aromatherapy is also known to reduce anxiety, which often worsens the perception of pain. By lowering anxiety levels, lavender helps reduce the intensity of pain felt. (20).

Researchers assume that lavender aromatherapy has a relaxing effect that can reduce pain perception in mothers in labor. This assumption is based on the theory that aromatherapy can affect the central nervous system through olfactory stimulation, which in turn can reduce stress and pain. This study shows that giving lavender aromatherapy is effective in reducing labor pain in mothers in labor. These results are consistent with previous studies and are supported by the Gate Control theory, which explains the mechanism of pain modulation at the spinal cord level. Thus, lavender aromatherapy can be considered an effective method for reducing labor pain.

CONCLUSION

The results of the research conducted with the title The effect of lavender aromatherapy on first-stage labor pain in mothers giving birth at the Santi Meliala Inpatient Clinic, then it can be concluded that There is an effect of giving lavender aromatherapy on labor pain in the first stage of labor in mothers giving birth at the Santi Meliala Inpatient Clinic.

SUGGESTION

It is hoped that the Clinic can provide more information by carrying out outreach activities to increase the knowledge of mothers in labor about labor pain and how to overcome it.

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