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Comparison of The Effectiveness of Lavender and Lemon Aromatherapy Toward Reducing Pain Labor During Active Phase of First Stage

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Abstract

Based on a survey conducted by the City of Mataram in December 2020, there were 15 maternity patients obtained by 9 patients who said that the pain felt like prickling, heat radiated along the waist and lower abdomen, and based on direct observation during the delivery process someone had used lavender aromatherapy to treat pain. overcome pain during childbirth in the city of Mataram so based on these data felt the need to do this research. The purpose is to analyze the relationship of food intake and characteristics pregnant women with incidence of KEK in pregnant women in the town of Mataram city 2020. The type of research used in this study was a quasi-experimental using a non-equivalent control group pretest and posttest research design with the provision that 15 maternity mothers were given lavender aromatherapy and 15 respondents were given lemon aromatherapy. The sampling technique in this study uses total sampling. There was a significant difference before and after being given lavender aromatherapy with p value 0.01 < 0.05, the same result was obtained in the lemon aromatherapy group with p value 0.01 < 0.025. From the posttest results of both groups, it can be concluded that the average decrease in lavender aromatherapy was 0.53 compared to the lemon aromatherapy group, which was 0.3, which means that there was a significant decrease in pain intensity in the lavender aromatherapy group compared to the lemon aromatherapy group. Conclusion there is a Comparison of the Effectiveness of Lavender and Lemon Aromatherapy on Reducing Pain Intensity in Active Phase I Labor.

Keywords: ***lavender aromatherapy, lemon aromatherapy, labor pain***

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Introduction

Improving maternal health is the fifth Millennium Development Goals (MDGs) to be achieved by 191 UN member states by 2015, including Indonesia. Reducing 2/3 of MMR during childbirth (1990-2015) is one of the targets to improve maternal health, in addition to access to standard health services by 2015. MMR is targeted to decrease from 390 per 100,000 live births in 1990 to 102 per 100,000 live births in 2015. 2015. Until 2015, it turned out that the

MDG 5 target could not be achieved (Susiana, 2019).

Labor is a time that pregnant women look forward to, but for some women, childbirth is sometimes filled with fear and anxiety about the pain of childbirth. Anxiety activates the sympathetic nervous system, releasing stress hormones that contribute to dysfunctional uterine contractility and prolonged labor (Tzeng, Chao, Kuo, Lin, & Chen, 2017).

Pain due to labor contractions will cause discomfort so pain management is needed to avoid negative effects on both mother and fetus. There are several methods of pain management. Pharmacological methods have side effects while non-pharmacological methods are more efficient and have minimal side effects (Izzatul and Sri, 2019).

Pain management can be done pharmacologically, namely by administering analgesic and sedative drugs. Meanwhile, non-pharmacologically through distraction, relaxation and skin stimulation, warm or cold compresses, breathing exercises in music, aromatherapy, reiki, guided imagination, hypnosis, relaxation (Nurasiah, 2012).

Many recent studies suggest that complementary therapies, especially aromatherapy with essential oils, are able to provide comfort and prevent infection. Aromatherapy in the form of lavender essential oil is one of the complementary therapies that can overcome pain and infection because it is an anti-inflammatory, analgesic and antimicrobial (Muchtaridi, 2015).

Lavender aromatherapy contains linalool, and linalyl acetate, which have an analgesic effect that can make a person calm, therefore it is not surprising that some current reports suggest aromatherapy to reduce pain, aches and stress levels in pregnancy and childbirth (Jaelani, 2009).

Methods

The type of research used in this study is a quasi-experimental research design using a non-equivalent control group pretest and posttest, where this study will use two groups (Sulistyaningsih, 2011). The first group was given lavender aromatherapy (intervention group), while the second group was given lemon aromatherapy (control group).

The study began by identifying the active phase 1 parturition mothers in the city of Mataram, then both groups were measured using a VAS Questionnaire (Visual Analog Scale) on the level of pain, then the treatment group was given aromatherapy by inhalation while the control group was given lemon aromatherapy therapy. After one hour, both the treatment and control groups were re-measured the respondent's pain level using the Behavioral Observation Sheet with the Visual Analog Scale (VAS).

The sample used in this study were 30 primigravida mothers who gave birth in Mataram City. The sampling technique used was Total Sampling. Inclusion criteria in this study include:

Inpartu patient in the first stage of opening 4, term with singleton pregnancy, cephalic presentation, 37-40 weeks gestation, planning to give birth normally in Mataram City.Bersedia menjadi subyek penelitian

1. Do not get anti-pain medication and or induction.
2. Not in a condition where there is an olfactory disorder

The exclusion criteria in this study were inpatu mothers who had allergies to the aroma or essential oils of lavender and lemon

Results and Discussion

Univariate Analysis Result

A.

B.

The characteristics of inpartum mothers that have been studied are distributed into the distribution table as follows:

Table 1. Frequency Distribution Based on Characteristics of Respondents

Characteristics	Eksperiment	
	Frequency (N)	Percentage (%)
Age		
<20 Years old	0	0,00
20-35 Years old	26	86.7
>35 Years old	4	13.3
Total	30	100,0
Education		
No school	0	0,00
Junior High School	6	20,0
High School	18	60,0
Degree	6	20,0
Total	30	100,0
Work		
Does not work	25	83,3
Work	5	16,7
Total	30	100,0
parity		
1 Children	10	33,3
2-4 Children	19	63,3
>5 Children	1	3,3
Total	30	100,0

The characteristics of the respondents in this study were mostly 20-35 years old with the same number in the experimental group and the control group as many as 26 (86.7%). Young age tends to be associated with psychological conditions that are still unstable, which triggers anxiety so that the pain felt becomes more severe. Age is also used as a factor in determining tolerance to pain, tolerance will increase with age and understanding of pain.

The majority of respondents education in this study was 18 (60%). Lawrence Green's theory that educational factors have a major influence on health behavior. Education is one of the important factors that encourage a person to be more concerned and motivated to improve the health status of himself and his family. Education makes a person have broad knowledge and his mindset is well developed so that awareness for positive behavior, including in terms of health, is increasing.

In this study, the majority of respondents did not work as many as 25 (83.3%). Light activity is useful to distract and reduce pain before delivery, as long as it does not do exercises that are not too hard and heavy, and cause pain.

fatigue in women because this will actually trigger more severe pain.

1. The majority of respondents in this study were multigravida as many as 19 (63.3). Previous experiences such as previous deliveries will help the mother in dealing with pain, because the mother already has coping with pain. Multiparous and primiparous mothers are likely to respond to pain differently even though they face the same condition, namely childbirth. This is because multiparous mothers have experience in previous deliveries.

Pain Intensity Before and After Giving Lavender Aromatherapy

Table 2 Pain Intensity Before and After Giving Lavender Aromatherapy

No.	Aromatherapy Lavender	Pretest		Postest	
		Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
1.	Not Pain	0	0,00	0	0,00
2.	Mild Pain	0	0,00	2	13,3
3.	Moderate Pain	1	6,7	2	13,3
4.	Severe Pain	11	73,3	11	73,3
5.	Very Severe Pain	3	20	0	0,00
	Total	15	100	15	100

From the results of the Pretest in the Aromatherapy group, the majority experienced severe pain in 11 (73.3%), very severe pain 3 (20%) and mild pain in 1 (6.7%). The posttest results showed 11

(73.3%), mild pain 2 (13.3) and none experienced severe pain. This shows that there is a decrease in pain intensity after being given lavender aromatherapy.

Table 3. Pain Intensity Before and After Giving Lemon Aromatherapy

No.	Aromatherapy Lemon	Pretest		Postest	
		Percentage (%)	Frequency (N)	Percentage (%)	Presentase (%)
1.	Not Pain	0	0,00	0	0
2.	Mild Pain	0	0.00	0	0,00
3.	Moderate Pain	0	0,00	5	33,3
4.	Severe Pain	15	100	12	66,7
5.	Very Severe Pain	0	0,00	0	0,00
	Total	15	100	15	100

From the results of the Pretest in the Lemon Aromatherapy group, 15 (100%) experienced severe pain. The posttest results showed 12 (80%) severe pain and 2 (13,3%) moderate pain. This shows that there is a decrease in pain intensity after being given lemon aromatherapy.

Results of Bivariate Analysis

The results of the normality test of pain intensity data in the active phase of the first stage of labor with the Shapiro-Wilk Test on the pretest and posttest stated that the data was not normally distributed with the pretest results in the intervention group p-value = 0.00 > 0.05 and at the posttest 0.00, while in the pretest control group the intervention group p-value = 0.00 > 0.05 and in the posttest 0.00. This shows that the bivariate test uses the Wilcoxon test.

The Effect of Giving Lavender Aromatherapy

Table 4 Lavender Effects of Giving Lavender Aromatherapy

Intervensi	Mean	N	Std Deviasi	*P value*
Pretest	4,13	15	0,52	0,01
Postest	3,60	15	0,73	

The results of the bivariate analysis showed that the lavender aromatherapy intervention group had an average pain intensity of 4.13 and the post-test results showed that the average pain intensity decreased by 3.60. In the statistical test, the p value was 0.01 <0.05, so it can be concluded that there was a significant difference before and after giving lavender aromatherapy. The results of the same study by Yona (2019) in Lampung stated that there was a decrease in the intensity of maternal pain after being given lavender aromatherapy. Yazdkhasti et al (2016) stated that aromatherapy with lavender

essential oil significantly reduced pain intensity during labor.

Several studies have shown that lavender essential oil can provide relaxation (carminative), sedative benefits, reduce anxiety levels, and can improve one's mood (Dewi, 2013).

Research conducted on humans regarding the effects of lavender aromatherapy for relaxation, anxiety, mood, and alertness on EEG (Electro Encephalo Gram) activity showed a decrease in anxiety, improved mood, and an increase in the strength of alpha and beta waves on the EEG which indicated an increase in relaxation. The results also showed that there was a significant increase in the strength of alpha waves in the frontal area, which indicated an increase in sleepiness. (Yamada, et al, 2005).

The Effect of Giving Lemon Aromatherapy

Table 5. Effects of Giving Lemon Aromatherapy

Intervensi	Mean	N	Std Deviasi	*P value*
Pretest	4,00	15	0,00	0,025
Postest	3,70	15	4,88	

Bivariate analysis on the pretest showed that in the lamon aromatherapy group the average pain intensity was 4.00 and the post-test results showed that the average pain intensity decreased by 3.70. In the statistical test, the p value of 0.025 <0.05, it can be concluded that there is a significant difference before and after giving lemon aromatherapy. Another study that supports this research is Rosyidah's (2015) research on the effect of neroli (Citrus Aurantium) inhalation aromatherapy on labor pain in the active phase I, which states that there is an effect of Citrus Aurantium aromatherapy on labor pain in the active phase I.

Lemon aromatherapy is an effective non-pharmacological method to reduce labor pain. Lemon aromatherapy is an essential oil produced from the extraction of lemon peel (Citrus Lemon) which is often used in aromatherapy and is safe for pregnancy and childbirth (Medforth et al., 2013). According to Young (2011) lemon aromatherapy oil is easy to obtain and contains limonene 66-80%, geranil acetate, nerol, linalyl acetate, -pinene 0.4-15%, -pinene 1-4%, terpinene 6-14% and myrcen. Limonene is the main component

in citrus chemical compounds that can inhibit the work of prostaglandins so that they can reduce pain (Cheragi 2010). The content of limonene controls cyclooxygenase I and II, prevents prostaglandin activity and reduces pain (Namazi et al., 2014). The ester compounds in lemon are very useful for normalizing emotional states and unbalanced body conditions, and also have efficacy as a sedative and tonic, especially in the nervous system (Tarsikah, et al., 2012).

Inhaled lemon aromatherapy will be transmitted to the olfactory center located at the base of the brain. The fragrance produced by lemon aromatherapy will stimulate the thalamus to activate the release or release of neurotransmitters such as enchephaline, serotonin and endorphins which function as natural pain relievers, enchephalines are neuromodulators that function to inhibit physiological pain (Tarsikah et al., 2012; Potts, 2009; Butje 2009).

Comparison of Lavender and Lemon Aromatherapy on reducing labor pain intensity

The results of the bivariate analysis showed that there was a significant difference before and after giving lavender aromatherapy with a p value of 0.01 <0.05. The average pretest pain intensity was 4.13 and the pain intensity decreased by 3.60 on the post-test results. In the Lemon Aromatherapy group, there was a significant difference before and after giving lemon aromatherapy with a p value of 0.025 < 0.05. The average pretest pain intensity was 4.00 and the pain intensity decreased by 3.70 on the post-test results.

From the posttest results of the two groups, it can be concluded that the average decrease in the administration of lavender aromatherapy was 0.53 higher than that of the lemon aromatherapy group, which was 0.3, which means that there was a significant decrease in pain intensity in the lavender

aromatherapy group compared to the lemon aromatherapy group.

Conclusion

The pretest results show that in the lavender aromatherapy intervention group the average pain intensity is 4.13 and the post-test results show that the average pain intensity has decreased, which is 3.60. In the statistical test, the p value was 0.01 <0.05, so it can be concluded that there was a significant difference before and after giving lavender aromatherapy.

The pretest results show that in the lamon aromatherapy intervention group the average pain intensity is 4.00 and the post-test results show that the average pain intensity has decreased, which is 3.70. In the statistical test, the p value of 0.025 <0.05, it can be concluded that there is a significant difference before and after giving lemon aromatherapy.

From the posttest results, it can be concluded that the average lavender aromatherapy treatment was 3.60 lower than the lemon aromatherapy group, which was 3.70, which means that there was a significant decrease in pain intensity in the lavender aromatherapy group compared to the lemon aromatherapy group.

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