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The Effect of Lemon Aromatherapy on Decreasing Perineum Pain among Postpartum Women at Noah Arofah Medika Clinic Bekasi District in 2020

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Background: *Perineal pain is pain that results from a tear that occurs in the perineum, vagina, cervix, or uterus that can occur spontaneously or as a result of manipulative action on delivery assistance. The effects of perineal pain are making the post partum women uncomfortable, having a bad effect on the mother's desire to breastfeed her baby, experiencing fear of early mobilization so that it can cause problems and complications during the puerperium such as sub-uterine involution, non-smooth discharge, infection and post-partum hemorrhage. This will increase the morbidity and mortality rates for mothers in Indonesia. One of the non-pharmacological pain management methods is using aromatherapy. Lemon aromatherapy is a type of aromatherapy that can be used to treat pain and disease. Substances contained in lemon one of which is linalool is useful for stabilizing the nervous system so that it can have a calming effect for anyone who inhales it. This study aims to determine the effect of lemon aromatherapy on reducing perineal pain among postpartum women.* ***Method:*** *. The design of this study used the Quasy Experimental Design method with the research design of The Non-equivalent Control Group Design. The sample in this study were 20 respondents. The sampling technique used is the Accidental Sampling technique.* ***Results:*** *. The results of the study using the Independent T-test showed that there was a statistically significant effect of lemon aromatherapy on reducing perineal pain among postpartum women with a p value of 0.007 (p <0.05).* ***Conclusion:*** *Lemon aromatherapy is effective in reducing the scale of perineal pain in postpartum women. Therefore, lemon aromatherapy should be applied as an alternative intervention in carrying out midwifery care that is used to reduce perineal pain.*

Keywords:
Lemon aromatherapy
Perineum Pain
Postpartum Women.

I. Introduction

The puerperium period is a period that starts a few hours after the birth of the placenta until 6 weeks after delivery when the uterus organs return to their pre-pregnancy state. During the postpartum period, women are very sensitive because they have to undergo the process of healing themselves and think about the needs of their newborn babies at the same time. This can cause problems for the mothers, which will affect the welfare of the mother and the baby will not get maximum care from the mother. Therefore, a good and effective recovery during childbirth will greatly affect the condition of the mother in facing the postpartum period (Marmi, 2012; Saleha, 2009).

After vaginal delivery, a mother often feels pain and trauma to the perineum. Perineal pain is pain that results from a tear that occurs in the perineum, vagina, cervix, or uterus that can occur spontaneously or as a result of manipulative action on delivery assistance. Perineal pain as a manifestation of suture scars felt by patients due to perineal rupture. The effect of perineal pain is that it often makes post partum women very uncomfortable (51%),

has a fear of early mobilization (40%) so that it can cause problems and complications during the puerperium such as sub-uterine involution (10%), discharge of lochea, non-fluent (13%), post-partum hemorrhage (6%) and infection (5%). It can also make it difficult for the mother to sit comfortably which has an adverse effect on the desire of the mother to breastfeed her baby (9%). Perineal pain will clearly cause and affect women's physical, psychological and social well-being so that it can lead to complications during the puerperium and increase morbidity and mortality of postpartum mothers in Indonesia (Asih, 2011; Maryunani, 2012; Mulati, 2016 in Ulsafitri and Noria, 2018 ; Prawirohardjo, 2015).

Pain management methods are divided into two, namely pharmacological and non-pharmacological. The use of pharmacological methods can cause side effects to the body and sometimes do not have the strength of the expected effect. Meanwhile, non-pharmacologically, it does not have allergic or medicinal effects. One non-pharmacological technique for reducing pain is to use aromatherapy. Lemon aromatherapy is a type of aromatherapy that can be used to treat pain and disease. Linalil acetate contained in lemon aromatherapy is an ester compound that is very useful for normalizing emotional states and unbalanced body conditions and also has efficacy as a sedative and has analgesic effect for anyone who inhales it. When lemon aromatherapy is inhaled, the substances contained in it will be transmitted to the olfactory center and limbic system. The fragrance produced by lemon aromatherapy will stimulate the thalamus to activate the release of neurotransmitters such as enchephaline which works to inhibit pain, serotonin and endhorphins which function as natural pain relievers, causing a sense of calm, relaxation and happiness (Cheragi and Valadi, 2010; Judha, 2012; Koensoemardiyah. , 2009; Wong, 2010).

Complementary therapy with lemon essential oil is used to help reduce pain supported by research conducted by Listiani and Pawestri in 2018 on the effectiveness of lemon aromatherapy to reduce menstrual pain in nursing students at the Muhammadiyah University of Semarang Semarang Wilcoxon Signed Ranks Test results obtained p value 0,000 ($p < 0.05$) with the conclusion that there is a decrease in menstrual pain before and after being given lemon aromatherapy. In addition, research conducted by Nurhayati, et al. The year 2018 concerning the effect of lemon aromatherapy on reducing the pain scale of post-laparotomy patients also concluded that there were differences in pain intensity in post-laparotomy patients before and after being given lemon aromatherapy with a p value of 0.000 which was tested with the Wilcoxon Signed Ranks Test statistical test. Another study conducted by Manurung and Era in 2018 regarding the effect of lemon aromatherapy on reducing pain in postoperative Sectio Caesarea (SC) patients at the Imelda General Hospital of Indonesian Workers with the results of the bivariate analysis of the MC Nemar test $P = 0.002$ (<0.005) which means there is an influence of lemon aromatherapy on the decrease in post sectio caesarean pain. This proves that lemon aromatherapy can reduce pain intensity.

Many studies have reported the effect of lemon aromatherapy on reducing pain, but the effect of lemon aromatherapy on reducing perineal pain has not been done. Therefore, researchers are interested in conducting research on the effect of lemon aromatherapy on reducing perineal pain in postpartum mothers at the Noah Arofah Medika Clinic, Bekasi Regency, West Java Province in 2020

II. METHODS

The research design was the Quasy Experimental with The Non-equivalent Control Group, which using a pretest for the experimental group and the control group whose results will be the basis for determining change. Both groups started with a pre test. The experimental group was given treatment while the control group was not, and after giving the treatment a re-measurement was made (post test) for both groups. The population in this study were postpartum women who experienced perineal pain

due to lacerations of the birth canal and the sample in this study were 20 respondents. The sampling technique used is the Accidental Sampling technique. The research instrument used the Numeric Rating Scale (NRS). Data analysis was performed using the Dependent T-test / Paired Sample T-test and Independent T-test.

III. RESULTS

Table 1. Frequency distribution of respondents based on perineum pain among expertiment and control group

Pain Scale	Eksperiment group				Control group			
	Pre Test		Post Test		Pre Test		Post Test	
	F	%	F	%	F	%	f	%
No pain	0	0	0	0	0	0	0	0
Mild pain	0	0	3	30	0	0	0	0
Moderate pain	6	60	7	70	6	60	7	70
Severe pain	4	40	0	0	4	40	3	30
Very severe pain	0	0	0	0	0	0	0	0
Total	10	100	10	100	10	100	10	100

Based on table 1. it can be seen that the number of the experimental group and the control group is 10 respondents. In the pre test the experimental group and the control group had the same pain scale frequency distribution; 6 respondents (60%) experienced moderate pain and 4 respondents (40%) experienced severe pain. However, in the post test the experimental group and the control group had differences. In the experimental group, the frequency of moderate pain was experienced by 7 respondents (70%) while 3 respondents (30%) experienced mild pain. Post test in the control group, 7 respondents (70%) experienced moderate pain and 3 respondents (30%) experienced severe pain.

Table 2. The mean of Perineum Pain of post-partum women in the experiment and control group

Group		N	Min	Max	Mean	Std. Deviation
Eksperiment	Pre test	10	5	8	6,20	1,033
	Post test	10	2	6	4,30	1,337
Control	Pre test	10	4	8	6,20	1,135
	Post test	10	4	7	5,90	0,994
Valid N (Listwise)		10				

Table 2 shows that the average pain scale in the pre-test data of the experimental group and the control group is the same; 6.20 with a standard deviation of 1.033 and 1.135. While the average post-test pain scale in the experimental group was 4.30 with a standard deviation of 1.337 and in the control group was 5.90 with a standard deviation of 0.994. The maximum value in the pre-test experimental group and the control group was also the same; 8. While the maximum value in the post-test experimental group was 6, and in the control group was 7. The minimum value of the pre-test experimental group and control group were 5 and 4, respectively. While the minimum post test scores in the experimental group and control group are 2 and 4, respectively.

Data normality test was conducted to determine further statistical tests. The results of the normality test using the Shapiro-Wilk test on the pre-test and post-test data of the experimental group obtained significance values of 0.191 and 0.466 while the results of the significance values in the pre-test and post-test data for the control group were 0.479 and 0.152. In addition, the homogeneity test was also carried out using the One-Way Anova test with a significance value of 0.226.

Table 3. The mean differences of pain scale in pre test dan post test in experiment and control group

Group		*Mean*	N	P-*value*
Experiment	Pre test	6,20	10	0,000
	Post test	4,30	10	
Control	Pre test	6,20	10	0,081
	Post test	5,90	10	

*Uji Dependen T-test

Table 3 shows the results of the dependent T-test, where p value = 0.000 in the experimental group and p value = 0.081 in the control group.

Table 4. The Effect of lemon aromatherapy on reducing perineal pain in postpartum women

Variable		N	*Mean*	*Std. Deviation*	*Sig. (2-tailed)*	
					Equal variances assumed	*Equal variances not assumed*
Perineal pain scale	Experiment group (given lemon aromateraphy)	10	4,30	1,337	0,007	0,008
	Control group (not given lemon aromateraphy)	10	5,90	0,994		

*Uji Independen T-test

Based on table 4. it can be seen that the average pain scale in the experimental group is 4.30 which smaller than the average pain scale in the control group 5.90 with a Sig. (2-tailed) Equal Variances Assumed was 0.007 ($p < 0.05$).

IV. DISCUSSION

Based on the results of the analysis in Table 1. The number of experimental groups and control groups respectively is 10 respondents. The number of samples used by researchers as respondents is in accordance with Sugiyono's theory (2016), which states that for simple experimental research using experimental groups and control groups, the number of sample members is between 10 and 20 respondents respectively. In the pre-test data the experimental group and the control group had the same pain scale frequency distribution ie 6 respondents (60%) had moderate pain and 4 respondents (40%) had severe pain. In the post test the experimental group experienced moderate pain frequency were 7 respondents (70%) while 3 respondents (30%) experienced mild pain. Post test in the control group, 7 respondents (70%) experienced moderate pain and 3 respondents (30%) experienced severe pain. This indicates that the perineal pain felt by the experimental group respondents before and after being given lemon aromatherapy experienced a difference.

Lemon aromatherapy is a type of aromatherapy that can be used to treat pain and disease. One of the substances contained in lemon is linalool, which is useful for stabilizing the nervous system so that it can have a calming effect on anyone who inhales it. In addition, the content of Limonene which is the main component in citrus chemical compounds can inhibit the work of prostaglandins so that it can reduce pain and Linalil acetate contained in lemon aromatherapy is useful for normalizing emotional states and has properties as a sedative and has an analgesic effect (Wong, 2010; Young, 2011).

In table 2, the average perineal pain scale results in the pre-test data of the experimental group and the control group are the same which was 6.20. While the average post-test pain scale in the

experimental group is 4.30 and in the control group was 5.90. The maximum value in the pre-test experimental group and the control group is also the same which is 8. While the maximum value in the post-test experimental group is 6 and in the control group is 7. The minimum value of the pre-test experimental group and control group is 5 and 4. While The minimum post-test scores in the experimental group and the control group are 2 and 4. This suggests that the experimental group after being given lemon aromatherapy has a smaller pain scale value than the experimental group. The results of this study are in accordance with research conducted by Ulsafitri and Noria (2018) regarding the effect of lemon aromatherapy on reducing perineal pain in 1-2 days post partum mothers at midwife clinic H Bukit Tinggi, where the results showed that there was a decrease in the average pain scale before and after being given lemon aromatherapy was from 3.82 to 2.7.

Based on the results of the data normality test using the Shapiro-Wilk test, the significance values of the pre-test and post-test data of the experimental group were 0.191 and 0.466. While the results of the pre-test and post-test control group were 0.479 and 0.152. These results indicate ($p > 0.05$) which can be concluded that the data for each group is normally distributed. While the results of the homogeneity test showed a significance value of 0.226 ($p > 0.05$), it can be concluded that the variants of the pain scale data in the experimental group and the control group were the same or homogeneous.

The results of the dependent T-test / Paired Sample T-test showed that the p value in the experimental group was 0,000, which means that the p value = 0,000 <0.05, which indicates that statistically there is a difference in the average pain scale before and after being given lemon aromatherapy. Whereas in the control group the results obtained were $p = 0.081 > 0.05$, which means that statistically there is no difference in the average pain scale in the group that was not given lemon aromatherapy. So it can be concluded that statistically in the experimental group there was a decrease in the perineal pain scale after being given lemon aromatherapy, while in the control group there was no significant decrease in the perineal pain scale. In accordance with research conducted by Susi et al. (2018) regarding the effect of lemon aromatherapy on reducing menstrual pain in female students at Respati University Yogyakarta who experienced a decrease in the pain scale before and after giving lemon aromatherapy with a p value of 0.000 ($p < 0.05$) which means there is a difference in the scale of menstrual pain before and after. giving lemon aromatherapy.

This research is also in line with the research conducted by Purwandari et al. (2014) entitled the effectiveness of lemon aromatherapy on reducing pain scale in post-laparotomy patients at the Awal Bros Hospital and Syafira Hospital Pekanbaru, that the average post-laparotomy pain intensity after inhaling the lemon aroma in the experimental group was 2.6 with a standard deviation. 0,737 and 4,47 in control group without inhaling the aroma of lemon with a standard deviation of 0.915. Through the statistical test, the p value (0.000) $< \alpha$ (0.05) was obtained, it can be concluded that there is a significant difference between the average pain scale before and after inhaling lemon aromatherapy.

The results of the Independent T-test showed that the experimental group given lemon aromatherapy had an average pain of 4.30 with a standard deviation of 1.337 and the control group that was not given lemon aromatherapy had an average pain of 5.90 with a standard deviation of 0.994. This means that there is a decrease in the perineal pain scale in the experimental group as evidenced by the statistical results that the average pain scale in the experimental group is smaller than the average perineal pain in the control group.

In addition, because this research data is homogeneous, in the Independent T-test the results of the test are Sig. (2-tailed) Equal Variances Assumed is 0.007. From these results it is known that the value of $p = 0.007$ ($p < 0.05$) which can be concluded that there is a statistically significant effect on the administration of lemon aromatherapy to the reduction of perineal pain among post-partum women at the Noah Arofah Medika Clinic in Bekasi district in 2020. As stated by Koensoemardiyah (2009), that when lemon aromatherapy is inhaled, the substances contained in it will be transmitted

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to the olfactory center located at the base of the brain then deliver it to the limbic system which will then be sent to the hypothalamus, then the fragrance produced by lemon aromatherapy will stimulate the thalamus to activate release or the release of enchephaline which functions to inhibit pain, serotonin and endhorphins which act as natural pain relievers, causing a sense of calm, relaxation and happiness.

According to researchers, inhalation of lemon aromatherapy is one method to overcome pain in a non-pharmacological manner that has proven to be effective. This is supported by previous research conducted by Etika and Happy (2019) with the title differences in Guided Imagery therapy and lemon aromatherapy on pain in post Sectio Caesarean (SC) women which found that lemon aromatherapy is more effective in reducing post-SC pain compared to Guided Imagery therapy. Other research that supports is research conducted by Rahmayati, et al. (2018) entitled the effect of lemon aromatherapy on reducing the pain scale of postoperative laparotomy patients with results of p (0.000) <α (0.05) which can be concluded that there is a difference in the average pain scale before and after being given lemon aromatherapy in postoperative patients Laparatomy surgery.

V. CONCLUSSION

In the Dependent T-test / Paired Sample T-test, the results show themean of pain differences in the experimental group was significant with p value of 0.001 (p <0.05). It can be concluded that statistically there is differences in the average pain pre-test and post-test in the experimental group.

In the Dependent T-test / Paired Sample T-test, the results show the un significant differences of pain with p value of 0.081 (p> 0.05) and it can be concluded that there is no difference in of mean of perineal pain scale in the control group.

In the Independent T-test, p value 0.007 (p <0.05) showed that there was a statistically significant effect of the administration of lemon aromatherapy on the reduction of perineal pain among post-partum women at Noah Arofah Medika Clinic Bekasi District in 2020, or in another sense it can be concluded that lemon aromatherapy is effective in reducing the perineal pain scale among post-partum women.

VI. SUGGESTION

The results of this study indicate that giving lemon aromatherapy for postpartum women is effective in reducing the scale of perineal pain, so it is hoped that it can be applied as an alternative intervention in carrying out midwifery care, especially for postpartum women. Is could be an effort to reduce perineal pain and is expected to become information for all those who need to support skills. Finally, it could increase knowledge about the benefits of lemon aromatherapy.

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