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Article

AROMATHERAPY LEMONGRASS (CYMBOPOGON NARDUS) ON REDUCING ANXIETY OF LABOR WOMEN IN THE FIRST STAGE OF LABOR

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A B S T R A C T

In Indonesia, 28.7% of mothers who give birth experience anxiety. Anxiety can prolong labor and increase the incidence of labor with action. One of the non-pharmacological therapies used to reduce anxiety is by giving aromatherapy. The aim of the study was to determine the effect of lemongrass aromatherapy and maternal care on reducing maternal anxiety in the first stage of childbirth. This was a quasi-experimental with a non-randomized control group pretest posttest design. The research was conducted at the Independent Midwife Practice, Air Hangat Barat District. The research population was all mothers who gave birth. Sample of 16 people was divided into 2 groups of 8 people by purposive sampling. Data was collected using the Hamilton Rating Scale For Anxiety (HARS) questionnaire filled out before and after the intervention. Data analysis consisted of univariate and bivariate using computerized Paired T-Test and Shapiro-Wilk tests. The results of the study showed that the average anxiety score for each group before the intervention was given was 24.25. After being given the intervention, the average anxiety score decreased to 17.38. From the bivariate analysis, the value of p = 0.000 was obtained, meaning that there was a significant difference in decreasing the anxiety of mothers in the first stage of labour. Based on the results of the analysis above, it was concluded that there were differences in the effectiveness of lemongrass aromatherapy and mother's affection for reducing anxiety in the first stage of labor. can be applied by midwives.

I. INTRODUCTION

Labor is an exciting and stressful time at the same time. Especially for mothers who are giving birth for the first time. Mother will imagine about the very painful labor process. Labor also drains a lot of energy, and is quite tiring. This will have an impact on the psychology of the mother. (H. Mansyur et al., 2014)

Psychological problems experienced by mothers in childbirth are fear, anxiety and doubt about their ability to deal with pain. Anxiety and fear are factors that impact a woman's perception of pain and also affect labor and the birthing experience. Anxiety can occur in all deliveries, both in primigravida and multigravida deliveries. More than 12% of mothers who have given birth said they were quite anxious the first time they gave birth and around 5-20% of mothers were afraid of giving birth. (S.M Lamadah et al., 2018)

Data from the World Health Organization (WHO) in 2008 showed that 1.4 million mothers experienced anxiety during childbirth. In Indonesia, out of 373,000,000 mothers giving birth, 107,000,000 (28.7%) experience anxiety. The results of the study stated that more than 80% of birth mothers experienced anxiety. Primigravida mothers experienced moderate anxiety of 45.4% and 19.0% of multigravida mothers with moderate anxiety. This difference in the level of anxiety is related to the experience of childbirth, that is, the more you experience the birth process, the level of self-confidence increases, so that the level of anxiety tends to decrease. (S.M Lamadah et al., 2018)

The anxiety level of the mother in labor will affect the length of labor, because the feeling of anxiety experienced by the mother during labor will increase the level of ketokelamin which can stimulate the hypothalamus to release the hormone adrenaline resulting in vasoconstriction in organs and tissues, including the uterus. As a result, blood supply to the uterus is reduced so that oxygen and nutrients to the tissues and uterine muscle cells are inadequate. This will disrupt the metabolism of uterine muscle cells so that the energy they produce decreases and causes interference with uterine contractions. (Gren & Eskild, 2012)

Anxiety and fear experienced by mothers in labor can extend the duration of labor and increase the incidence of labor with action (vacuum extraction, forceps delivery, and Sectio Caesarea (SC)). Anxious birthing mothers will experience an extended delivery time of up to 12.5 times compared to birthing mothers who can overcome their anxiety. Anxiety is one of the reasons that make pregnant women prefer to give birth by SC. (S.M Lamadah et al., 2018)

Aromatherapy is a type of Complementary and Alternative Medicine (CAM) that is popularly used in the health sector today. Aromatherapy is a therapy that uses essential oils or pure oil essences to help improve or maintain health, inspire, refresh and calm the body and

mind. Aromatherapy is an ideal way to influence emotions because the sensation of smell that is produced is directly connected to the emotional and memory regulation centers in the brain. Aromatherapy is applied as a natural therapy and has a low risk compared to drugs. In addition, aromatherapy is easy to perform, cost-effective, harmless, does not require much training, and appeals to mothers. (S.M Lamadah et al., 2018)

Research conducted by Goes et al. (2015) using citronella aromatherapy inhalation for human anxiety, found no significant effect on the level of anxiety in general or perceived anxiety (trait anxiety) as measured using the STAI-Trait (Spielberger State-Trait Anxiety). Meanwhile, for momentary anxiety (state anxiety), a significant effect was found as measured using the STAI-State. (TC Goes et al, 2015)

Research by Sari and Widyangrum (2018) shows that aromatherapy of citronella oil (Cymbopogon citratus) has an effect on preventing post partum blues in primiparous mothers. Measurements were made using the EPDS (Edinburgh Postnatal Depression Scale) measurement sheet with a mean pretest value of 9.63 and a mean posttest value of 8.67. (D.S Sari & N.R Widyaningrum, 2018)

II. METHODS

This was experimental research with quasi-experimental designs. This research was conducted at private midwives practice in Air Hangat district. The population in this study were 53 childbirth mothers giving birth. The sample of this study were taken using fereder formula. 8 childbirthing mother become samples of each group, intervention and contol. The sampling technique used in this study was the purposive sampling. The instruments used for data collection in this study were data collection sheets, the HARS questionnaire and lemongrass aromatherapy. The HARS questionnaire was filled in by the respondent. The HARS questionnaire consists of 14 specific statements to assess how the respondent feels "right now" or temporary anxiety. Data analysis included univariate analysis and bivariate analysis using Paired T-Test.

III. RESULT

Table 1 The Average Anxiety Score of the First Stage Mother Before Giving Aromatherapy to the Intervention Group

Variable	N	Mean	SD	Minimum-Maximum
Anxiety Score	8	24,25	4,950	17-32

based on table 1, the average level of anxiety is 24.25 with a standard deviation of 4.950. The lowest anxiety level is 17 and the highest anxiety level is 32

Table 2 The Average Anxiety Score of the First Stage Mother After Giving Aromatherapy to the Intervention Group

Variable	N	Mean	SD	Minimum-Maximum
Anxiety Score	8	17,38	3,462	11-21

The average level of anxiety is 17.38 with a standard deviation of 3.462. The lowest anxiety level is 11 and the highest anxiety level is 21

Table 3 The Average Anxiety Score of the First Stage Mother Before Giving Aromatherapy to the Control Group

Variable	N	Mean	SD	Minimum-Maximum
Anxiety Score	8	22,38	3,889	17-28

The average level of anxiety is 22.38 with a standard deviation of 3.889. The lowest anxiety level is 17 and the highest anxiety level is 28.

Table 4 The Average Anxiety Score of the First Stage Mother After Giving Aromatherapy to the Control Group

Variabel	N	Mean	SD	Minimum-Maximum
Anxiety Score	8	19,75	3,370	14-24

The average level of anxiety is 19.75 with a standard deviation of 3.370. The lowest anxiety level is 14 and the highest anxiety level is 24.

Table 5 Differences in Average Anxiety Scores for First Stage Mothers Before and After Giving Aromatherapy to the Experimental Group

Experimental Group	N	Mean±s.d.	Mean (IK95%)	P
Pretest	8	24,25 ± 4,950	6,875	0,000
Posttest	8	17,38 ± 3,462	(5,177-8,573)	

The average anxiety level before the intervention was given was 24.25, while the anxiety level after the intervention was given was 17.38 with the difference in the average anxiety level before and after the intervention was 6.875 (5.177-8.573). From the statistical test results, it was found that the p-value was 0.000, meaning that there was a significant difference in the level of anxiety before and after the intervention in the experimental group.

Table 6 Differences in Average Anxiety Scores for Mothers in the First Stage in the Control Group

Control Group	N	Mean±s.d.	Mean (IK95%)	P
Pretest	8	22,38 ± 3,889	2,625	0,002
Posttest	8	19,75 ± 3,370	(1,289-3,961)	

The average pre-test anxiety level was 22.38, while the post-test anxiety level was 19.75 with the difference between the pre-test and post-test anxiety levels being 2.625 (1.289-3.961). From the statistical test results, it was found that the p-value was 0.002, meaning that there was a significant difference in the level of anxiety in the control group.

Table 7. The Effect of Lemongrass Aromatherapy on Reducing Anxiety Scores for Mothers in the First Stage of Birth

Group	N	Mean±s.b.	Mean (IK95%)	p
Intervention	8	17,38 ± 3,462	2,375	0,001
Control	8	19,75 ± 3,370	1,288 – 6,039	

the average anxiety level in the experimental group was 17.38 with a standard deviation of 3.462 while in the control group the average anxiety level was 19.75 with a standard deviation of 3.370. The average difference in anxiety levels between the experimental and control groups was 2.375 (1.288 – 6.039). From the statistical test results, it was obtained that the p-value was 0.001, meaning that there was an effect of lemongrass aromatherapy on the anxiety level of mothers in labor between the experimental group and the control group.

IV. DISCUSSION

Anxiety can arise from a person's reaction to pain. This increases sympathetic nerve activity and catecholamine secretion. Excessive release of catecholamine hormone levels in the blood circulation can cause smooth muscle tension and vasoconstriction of blood vessels so that uterine contractions weaken, oxygen supply to the fetus is reduced (Indrayani et al., 2016). Fear and anxiety can cause the mother to be unable to interpret what the midwife or doctor says or events during childbirth in a negative or pessimistic way. Avoiding or reducing maternal psychological stress can encourage the psychological process of childbirth (Simkin 2007).

Based on the results of the study, it was found that the value of $p = 0.001$ ($p < 0.05$), with an average difference in anxiety scores between the experimental and control groups was 17.38 with a standard deviation of 3.462 while in the control group the average anxiety level was 19.75 with standard deviation of 3.370. The average difference in anxiety levels between the experimental and control groups was 2.375 (1.288 – 6.039). From the statistical test results, it

was obtained that the p-value was 0.001, meaning that there was an effect of lemongrass aromatherapy on the anxiety level of mothers in labor between the experimental group and the control group.

The results of this study are in accordance with research conducted by Syukrini 2016 in Tangerang where there is a difference in the average anxiety score between the group given lavender aromatherapy and the mother care group with a value of p = 0.000. Anxiety scores were measured using HARS and the result was a decrease in anxiety in the group that received lavender aromatherapy. (Syukrini, 2016)

Almost the same as the research conducted by Namazi et al. in Iran in 2014 where the value of p <0.001 was obtained, which means that there was a difference in the average anxiety score between the aromatherapy group and the maternal care group. In his research, the experimental group and the mother's care group were at the same level of anxiety and after being given the intervention the anxiety score in the aromatherapy group was lower than the mother's care group. (Namazi, 2014)

There are many sources of essential oils that can be used as aromatherapy, one of which is lemongrass. In Indonesia, lemongrass is easy to get because the soil conditions are suitable for the growth of lemongrass plants. Fragrant citronella that is distilled will produce an essential oil which is better known as Citronella oil. The content in lemongrass essential oil can be used for fragrant compounds or fragrances. In the world of complementary therapy, this fragrant compound can be used for relaxation therapy, one of which is aromatherapy. As a non-pharmacological therapy, aromatherapy has no harmful side effects, is easy to do, and the materials and tools are easy to find. Aromatherapy can be used to treat anxiety, including for pregnant women. (Sari, 2018)

In this study, the lemongrass aromatherapy used was citronella essential oil obtained from Ladea Essential essential oil manufacturer which contained 15 ml of Lemongrass essential oil. As much as 6 drops of lemongrass essential oil is mixed with 20-30 ml of water and then evaporated using a diffuser which is placed 20 cm from the respondent. Aromatherapy vaporization is carried out for 20-30 minutes.

According to Videbeck, in general, when someone experiences anxiety, it will cause various physical and psychological impacts. The central nervous response to labor pain which increases the release of the hormone adrenaline can be inhibited by aromatherapy molecules that enter the central nervous system and converted into messages to release neurochemical compounds that can reduce and prevent anxiety in birthing mothers. (Videbeck, 2013)

Anxiety in labor is influenced by pain, physical condition, history of pregnancy examination, parity, knowledge, social support and education. In this study, researchers carried out matching variables on parity and cervical dilatation so that the number of parity and cervical dilatation was in the aromatherapy group and the maternal care group. (Mansur, 2014)

According to the assumptions of researchers, lemongrass aromatherapy given to mothers in the first stage of labor as a relaxant can reduce the mother's anxiety level because the lemongrass essential oil molecules are able to interact directly with the central nervous system through smell so that it is effective in reducing anxiety. A comfortable and conducive environment, the presence of midwives and birth attendants as a form of maternal affection is a supporting factor in reducing maternal anxiety.

In contrast to the mother care group which only received maternal care, mothers did not receive relaxation techniques and focused more on interaction, communication and physical care. Mothers who are in a state of anxiety are less able to focus their thoughts if they are not guided or guided by others, so that if the mother is at the level of severe pain, then the level of communication and interaction of the mother will decrease and pain will increase anxiety and vice versa. Therefore lemongrass aromatherapy can be an alternative for health workers in overcoming the anxiety of mothers in the first stage of labor as a non-pharmacological therapy that is given together with maternal care so that mothers in labor get satisfaction during the delivery process.

V. CONCLUSION

Based on the results of the analysis above, it was concluded that there were differences in the effectiveness of lemongrass aromatherapy and mother's affection for reducing anxiety in the first stage of labor. can be applied by midwives

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