

Original Research Article Outline:**THE EFFECTIVENESS OF LAVENDER AND ROSE AROMA THERAPY ON THE LEVEL OF MOTHER'S ANXIETY IN FACING SC LABOR**Yuanita Syaiful¹⁾, Lilis Fatmawati^{2)*}, Rohadatul Aisy³⁾¹⁾ STIKES Adi Husada Surabaya, Surabaya, Indonesia²⁾ Nursing Science Study Program, Faculty of Health Sciences, Universitas Gresik, Gresik, Indonesia*Corresponding Author, E-mail : lilisfatmawati13@gmail.com**ABSTRACT**

Introduction : According to Mochtar (2011) Section Caesarea is a method of giving birth to a fetus by making an incision in the uterine wall through the front of the abdomen or vagina or also called hysterotomy to give birth to a fetus from inside the uterus. Adaptive response Positive results will be obtained if the individual can accept and manage anxiety. This study aims to determine the effectiveness of lavender and rose aroma therapy on the level of anxiety in mothers in dealing with cesarean delivery at the hospital. Surya Medika. **Method :** The research design used in this study was Quasy Experimental with a pre-post test design. The sample was selected using purposive sampling method. Samples were taken as many as 40 respondents. Divided into 2 groups of 20 respondents in the intervention by giving lavender aroma therapy and 20 respondents in the intervention by giving rose aroma therapy. The independent variables were lavender and rose scented terpai. The dependent variable is the expenditure of t. Data collection on the level of maternal anxiety. SOP (Standard Operating Procedure) Lavender Aroma Therapy, SOP (Standard Operating Procedure) Rose Aroma Therapy and questionnaire sheet. Wilcoxon test results obtained p value = 0.000 for lavender and rose aroma therapy where <0.05 which means that there is an effect on breast milk production. **Result & Analysis :** The results of the Mann Whitney U Test statistical test showed an insignificant value of $p = 0.426$ where > 0.05 which means H_1 was rejected, so there was no significant difference between giving lavender aroma therapy and rose aroma therapy to anxiety levels. **Discussion :** Giving lavender aroma therapy and giving rose aroma therapy can be used to reduce SC anxiety levels. Lavender aroma therapy was more effective on the mother's golden level in dealing with cesarean delivery, compared to rose aroma therapy.

Keywords: Lavender Aroma Therapy, Rose Aroma Therapy, Anxiety Level**INTRODUCTION**

According to Mochtar (2011) Caesarea section is a method deliver the fetus by making an incision in the uterine wall through front of the stomach or vagina or also called hysterotomy for childbirth fetus from inside the womb. Adaptive response Positive results will be

obtained if the individual can accept and manage anxiety. Anxiety can be a challenge, strong motivation to complete problems and is a means to obtain rewards tall. Adaptive strategies are usually used by someone to regulate anxiety, including working with other people, crying, sleeping, exercise, and use relaxation

techniques. Maladaptive response When Anxiety cannot be managed, individuals use coping mechanisms repeated dysfunction and discontinuity with others. Coping maladaptive has many types including aggressive behavior, speech unclear, self-isolation, eating a lot, consuming alcohol, gambling and illegal drug abuse. According to Sutejo (2018), signs and symptoms Patients with anxiety are anxious, worried, have bad feelings, fear of own thoughts and irritability, the patient feels tense, no calm, restless and easily startled, the patient said he was afraid to be alone or in crowds and lots of people, experiencing sleep pattern disturbances and accompanied by tense dreams. Based on level survey anxiety carried out on 40 mothers in May-June carried out, it was found that mothers experienced anxiety when facing SC with mild anxiety 17, moderate anxiety 9, severe anxiety 14. Kheirkhah et al (2014) which states that aromatherapy is given by inhalation especially rose oil can reduce anxiety in mothers giving birth stage I. After being given lavender aroma therapy, the respondent showed signs of increased relaxation in the form of vital signs within normal limits, feelings of anxiety are reduced, rest and sleep are fulfilled, role Becoming a mother means starting to breastfeed and take full care of her baby affection seems to be carried out more relaxed. This shows that the use of lavender aromatherapy can have an effect increases relaxation and reduces anxiety (Haniyah & Setyawati, 2018; Murtiningsih, Shintya, & Andani, 2018). Research that carried out by Kheirkhah et al (2014) who stated giving inhalation of aromatherapy, especially rose oils, can reduce anxiety in mothers in the first stage of labor. Interventions carried out in the

hospital Surya Medika has only been given education about SC deliveries and the results are less effective. Based on data from the World Health Organization (WHO, 2013) sets the average standard for Caesarean section in a country is 5-15% per 1000 births in the world. Government hospitals approximately 11% while ordinary private hospitals account for more than 30%. Number of action numbers Caesarean operations in Indonesia have passed the WHO standard, namely 5-15%. In Indonesia itself, the incidence of caesarean section operations is also high increased in both government and private hospitals. According to data from the Indonesian Demographic and Health Survey (SDKI) shows that there is a trend of increasing caesarean section in Indonesia from 1991 to 2007, namely 1.3-6.8 percent. Cesarean delivery in cities is much higher than in rural areas namely 11 percent compared to 3.9 percent. 2013 Riskesdes results shows caesarean section operations amounting to 9.8 percent of the total 48,603 births during 2010 to 2013, with the highest proportion in DKI Jakarta (19.9%) and the lowest in Southeast Sulawesi (3.3%). By The general pattern of delivery via caesarean section is decreasing characteristics show the highest proportion in the index quantile top ownership (18.9%), living in urban areas (13.8%), employment as an employee (20.9%) and higher education/graduated from PT (25.1%) (Ministry of Health, 2013). From data from Surya Medika Hospital In March-May 2021 there were a total number of patients 131 patients performed Caesarean section operations, so The average number of patients per month is 43 patients. Factors that significantly influence antenatal anxiety are occupation

(Rubertsson, 2014; Silva., 2017), age (Rubertsson, 2014), complications in previous pregnancies, history of miscarriage, history premature birth, expected pregnancy, frequency of occurrence miscarriage, smoking and drug use, (Silva., 2017) concerns about the health of the fetus, the quality of the marital relationship, and relationships with in-laws,(,Factors Associated with Significant Anxiety and Depressive Symptoms in Pregnant Women with a History of Complications“, 2016) previous history of psychiatric disorders pregnancy(Rubertsson., 2014). Anxiety disorders also have an impact physical symptoms, such as rapid heartbeat, trembling, fatigue, dizziness, difficulty concentrating, nausea, and sleep problems. Worry This can arise due to several factors, including: Biological factors when the body experiences a health problem This causes anxiety, one of which is psychological factors role in daily life, and socio-economic factors where people who have lower middle economic status tend to frequent experience stress and also the function of social integrity becomes disrupted (Donsu, 2017). The anxiety that arises can have negative effects for successful care and treatment. Therefore, very important to control the patient's anxiety level (Dehkordi, Tayebi, Ebadi, Sahraei, & Einollahi, 2017). Nursing plan for Treating anxiety is very necessary with the goal that the patient is able provide adaptive coping to the conditions they experience now (Donsu, 2017). Aromatherapy is a therapeutic action using essential oils that are useful for improving physical condition and a person's psychology to become better. Any essential oil has a unique

pharmacological effect, Sperti antibacterial, antiviral, diuretic, vasodilator, sedative, and stimulates the adrenals. (Runiari, 2010; Ana, 2010). Supporting materials for manufacturing Aromatherapy Essential Oils, these fragrant oils are extracted from plants via steam distillation or expression (orange oil). Lavender oil has a lot of potential because it consists of several ingredients. According to research, 100 grams of lavender flowers are composed of several ingredients, such as: essential oil (1-3%), alpha-pinene (0.22%), camphene (0.06%), betamycene (5.33%), p-cymene (0.3%), limonene (1.06%), cineol (0.51%), linalool (26.12%), borneol (1.21%), terpinen-4-ol (4.64%), linalyl acetate (26.32%), geranyl acetate (2.14%), and caryophyllene (7.55%). Based on the data above, it can be concluded that the main content of lavender flowers is linalyl acetate and linalool¹⁷ (C₁₀H₁₈O). The effects of each lavender flower content were examined to find out which substances have anti-anxiety effects (anti-anxiety effects). anxiety/relaxation) using the Geller conflict test and Vogel conflict test.

Cineol, terpinen-4-ol, alpha-pinene, and betamycene did not produce significant anti-anxiety effect on Geller's test. Linalyl acetate as one of the main ingredients in lavender does not produce anti-inflammatory effects significant anxiety on both tests. Borneol and camphene provide. The anti-anxiety effect was significant in Geller's test, but not significant in Vogel's test. Linalool, which is also the main ingredient in lavender, gave significant results in both tests. Can That said, linalool is the main active ingredient that plays a role in the effects anti-anxiety (relaxation) in lavender.

Apart from lavender aromatherapy, anxiety can also be felt reduced by the aroma therapy of roses. Some chemicals are The essential oils contained in rose flowers include citral, citronellol, geraniol, linalol, nerol, eugenol, phenylethyl, alcohol, farnesol, nonil, and aldehydes (Rubkahwati, Purnobasuki, Isnaeni, and Utami, 2013). When Aroma therapy of rose essential oil is inhaled, the molecules are easy Evaporating will bring the aromatic elements contained therein such as geraniol and linalol to the tip of the nose where the cilia emerge from receptor cells. When the molecules stick to the hair In this case, an electrochemical message will be transmitted through the channel olfactory system into the limbic system. This will stimulate memory and emotional response. The hypothalamus plays a regulatory role generate messages that must be conveyed to the brain. Message received then converted into action in the form of electrochemical compounds causes feelings of calm and relaxation and can facilitate flow blood (Koensomardiyah, 2009). Therefore, this research can provide knowledge to mothers who will undergo section surgery ceasarea that for therapy reduces anxiety not only pharmacology/drugs only, but non-pharmacological therapy is possible carried out alone to reduce anxiety in addition to preoperative education and support from family, reducing anxiety can be done by inhaling rose lavender aromatherapy.

METHOD AND ANALYSIS

This research includes quantitative research using Quasi-

experimental research design with Two Group Pre-test and Non-Post-test Equivalent Control Group Design. The population of this study is pregnant women in the third trimester At Surya Medika Hospital, a caesarean section was performed for one month as many as 43 people. The sample was obtained from the calculation of the sample size formula, namely 40 respondents, divided into 2 groups: 20 respondents in the lavender aroma therapy group, 20 respondents in the rose aroma group. samples were selected based on inclusion and exclusion criteria. with purposive sampling technique. in this research the independent variables: lavender aroma therapy and rose aroma therapy, dependent variable: mother's anxiety level.

Research instrument for rose and lavender aroma therapy using SOP. Meanwhile, to measure the level of anxiety, we use (HRS-A) with an anxiety score: 0 is not anxious, 1 is mildly anxious, 2 is moderately anxious, 3 is severely anxious, 4 is very anxious. with scoring criteria: ≤ 6 not experiencing anxiety, 7-14 mild anxiety, 15-17 moderate anxiety, 27 severe anxiety.

Lavender and rose aroma therapy is given before SC surgery for 60 minutes, once a day. analyzed using the Wilcoxon Test statistical test to find out differences in dependent variables before and after treatment by level significance $p < 0.05$. Next compare the effectiveness of Aromatherapy Laevender and Mawar using the Mann-Whitney U Test p statistical test < 0.05 to determine significance.

RESULT

Table. 1 Respondent Characteristics

No.	Category	Intervention Group Lavender Aroma Therapy		Intervention Group Rose Aroma Therapy	
		N	%	N	%
1	Age				
	<20 th	2	10	1	5
	20-35 th	13	65	12	60
	>35 th	5	25	7	35
2	Education				
	Elementary School	0	0	0	0
	Junior High School	1	5	1	5
	Senior High School	15	75	17	75
	College	4	20	2	10
3	Work				
	Housewife	16	80	12	65
	Farmer	0	0	0	0
	Private	4	20	2	5
	Self employed	0	0	0	10
	Trader	0	0	2	20
	Etc	0	0	2	0
4	Income				
	<1.000.000	11	55	5	25
	<2.000.000-3.000.000	7	35	9	45
	<4.000.000	2	10	6	30
5	Pregnancy History				
	Amused	5	25	4	20
	Hypertension	2	10	2	10
	Preeclampsia	9	45	10	50
	Eclampsia	3	15	0	0
	Anemia	1	5	1	5
	Heart	0	0	0	0
	Hepatitis	0	0	0	0
	Diabetes	0	0	0	0
	Premature rupture membranaes	0	0	3	15
6	Labor				
	1	14	70	12	60
	2	4	20	3	15
	3	2	10	5	25
7	SC Information				
	Public Health Center	0	0	0	0
	Midwife	14	70	15	75
	Family	0	0	2	10
	Information media	6	30	3	15
8	SC Plan				
	CITO	10	50	5	25
	Elective	10	50	15	75
9	Type anesthesia				
	SAB	20	100	20	100

In the lavender aroma therapy group, data was obtained that the majority of

respondents were aged 20-25 years, 13 (65%), had a high school education, 15

(75%), 16 respondents (80%) worked as housewives, had an income of <1,000,000 per month, 9 respondents (45%) had a history of pregnancy with preeclampsia, a history of giving birth once (70%), 14 (70%) received information about SC from the local midwife, all respondents were anesthetized using SAB.

In the rose aroma therapy group, data was obtained that the majority of

respondents aged 20-25 years, 12 (60%), had a high school education, 17 (75%), 12 respondents (65%) worked as housewives, had an income of <2,000,000 - 3,000,000 per month, 10 respondents (50%) have a history of pregnancy with preeclampsia, history of giving birth once (60%), 15 (75%) received information about SC from the local midwife, all respondents will be anesthetized using SAB .

Table 2. Differences in Anxiety Levels between Providing Lavender Aroma Therapy and Providing Rose Aroma Therapy to Mothers in the Face of SC

No.	Anxiety Levels	Intervention Group Lavender Aroma Therapy				Intervention Group Rose Aroma Therapy			
		Pre test		Post test		Pre test		Post test	
		N	%	N	%	N	%	N	%
1	No	0	0	17	85	0	0	15	75
2	Light	4	20	2	10	4	20	3	15
3	Currently	3	15	1	5	7	35	2	10
4	Heavy	13	65	0	0	9	45	0	0
Total		20	100	20	100	20	100	20	100
<i>Wilcoxon signed Rank Test</i>		P= 0.000				P= 0.000			
<i>Mean Rank</i>		19.48				21.52			
<i>Sum of Rank</i>		389.50				430.50			
<i>Mann Whitney U Test</i>		P=0.426							

Based on Table 2 it shows that almost all respondents after giving lavender aroma therapy were 17 respondents (85%) whose level of anxiety was in the not anxious category. Meanwhile, after giving rose aroma therapy, 15 people (75%) had a level of anxiety in the not anxious category. Based on the data, the mean rank after giving lavender aroma therapy was 19.48, while for rose aroma therapy the mean rank was 21.52, which means there was a difference in anxiety levels between the lavender aroma therapy and rose aroma therapy groups. The results of the Mann-Whitney U Test statistical test showed a sign value (2-tailed) $p = 0.426$, which is greater than 0.05, so it can be concluded that H_0 is rejected. H_1 is

rejected, which means there is no significant difference between the lavender aroma therapy group and the rose aroma therapy group on anxiety levels. Based on the Anxiety Level values before and after giving Rose aroma therapy, most of the anxiety levels decreased so it can be concluded that there is an effect of giving Rose aroma therapy on reducing the mother's anxiety level in facing SC delivery.

DISCUSSION

Based on Table 2, it shows that almost all respondents after giving lavender aroma therapy were 17 respondents (85%) whose level of anxiety was in the not anxious

category. Meanwhile, after giving rose aroma therapy, 15 people (75%) had a level of anxiety in the not anxious category. Based on the data, the mean rank after giving lavender aroma therapy was 19.48, while for rose aroma therapy the mean rank was 21.52, which means there was a difference in anxiety levels between the lavender aroma therapy and rose aroma therapy groups. The results of the Mann-Whitney U Test statistical test showed a sign value (2-tailed) $p = 0.426$, which is greater than 0.05, so it can be concluded that H_0 is rejected. H_1 is rejected, which means there is no significant difference between the lavender aroma therapy group and the rose aroma therapy group. on anxiety levels. Lavender aromatherapy works by affecting not only the physical but also the emotional level. The content of lavender oil which consists of linalool, linalylacetate and 1,8 — cincole can reduce, relax and spontaneously relax the tension of someone who experiences muscle spasms. Aromatherapy oil entering the nasal cavity through direct inhalation will work faster, because the essential oil molecules are volatile, by the hypothalamus the aroma is processed and converted by the body into an action by releasing neurochemical substances in the form of endorphins and serotonin, so that it has a direct effect on the organs. smell and perceived by the brain to provide reactions that create physiological changes in the body, mind, spirit and produce a calming effect on the body (Balkam, 2014). The benefits of rose aromatherapy can foster feelings of calm (relaxation) in the body, mind and spirit and can keep away feelings of anxiety and restlessness (Jaelani, 2009). According to researchers, lavender aroma therapy is the same as

rose aroma therapy in that it can reduce anxiety levels in mothers when giving birth, but giving lavender therapy is more effective than rose aroma therapy. According to Wasis Pujiati's (2018) assumptions, the test results used to determine the differences in lavender and rose aromatherapy treatments were the Mann-Whitney test. This test is used to determine the comparison between two unpaired groups. Mann-Whitney test analysis obtained a p value of 0.114 ($p > 0.005$) where H_0 was accepted, so it can be concluded that there is no difference between giving lavender and rose aromatherapy in reducing menstrual pain. According to the researchers' assumptions, the difference in results is most likely influenced by the frequency of maternal anxiety, this is because pain during childbirth can cause anxiety, therefore before the birth process mothers can relax/inhale using lavender aromatherapy and rose aromatherapy, then the mother will feel calm as she approaches delivery.

CONCLUSION

Lavender aroma therapy and rose aroma therapy both have the same effect on the mother's anxiety level when facing Sectio Caesarea. However, lavender aroma therapy is more effective in reducing anxiety levels than rose aroma therapy. It is hoped that from this research, respondents will be able to apply it independently as an effort to reduce anxiety by inhaling aromatherapy using a diffuser.

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