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LAVENDER AROMATHERAPY AFFECTS THE QUALITY OF SLEEP IN TRIMESTER III PREGNANT WOMEN

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ABSTRAK : AROMATERAPI LAVENDER MEMPENGARUHI KUALITAS TIDUR PADA IBU HAMIL TRIMESTER III

Latar Belakang Berdasarkan hasil prasurvey yang dilakukan di Wilayah Kerja Puskesmas Bukit Kemuning Kabupaten Lampung Utara, didapat jumlah ibu hamil dalam 1 tahun sebannyak 811 ibu hamil pada tahun 2020, sedangkan pada bulan Januari 2021 sebanyak 65 orang ibu hamil yang melakukan kunjungan kehamilan, setelah dilakukan pengisian kuisioner kualitas tidur terhadap 10 ibu hamil TM III didapat 8 ibu mengalami kualitas tidur kurang baik, dengan skor <5, hal ini menunjukan bahwa terdapat masalah kualitas tidur pada ibu hamil.

Tujuan penlitian ini diketahui pengaruh aroma terapi lavender terhadap kualitas tidur ibu hamil trimester III.

Metode Jenis penelitian kuantitatif, rancangan penelitian *Pra Eksperimental* dengan pendekatan *one group pretest – posttest design*. Populasi dalam penelitian ini adalah ibu hamil trimester III di Wilayah Kerja Puskesmas Bukit Kemuning Kabupaten Lampung Utara sebanyak 62 ibu hamil., SST teknik sampling *purposive sampling,* analisa data univariat dan bivariat menggunakan *t-tes independen.*

Hasil Rata-rata kualitas tidur ibu hamil trimester III sebelum diberi aroma terapi lavender dengan *Mean* 16,10 nilai terendah 13 dan nilai tertinggi 18. Rata-rata kualitas tidur ibu hamil trimester III sesudah diberi aroma terapi lavender dengan *Mean* 4,63 nilai terendah 3 dan nilai tertinggi 7.

Kesimpulan terdapat pengaruh aroma terapi lavender terhadap kualitas tidur ibu hamil trimester III di Wilayah Kerja Puskesmas Bukit Kemuning Kabupaten Lampung Utara Tahun 2021.

Saran dapat memberikan gambaran kepada ibu hamil untuk menggunakna aromaterapi lavender untuk memperbaiki kualitas tidur pada masa TM III.

Kata Kunci : Aroma Terapi Lavender, Kualitas Tidur, Ibu Hamil Trimester III

ABSTRACT

Background Based on the results of the pre-survey conducted in the Working Area of the Bukit Kemuning Public Health Center, North Lampung Regency, the number of pregnant women in 1 year was 811 pregnant women in 2020, while in January 2021 there were 65 pregnant women who made pregnancy visits, after filling out sleep quality questionnaire on 10 TM III pregnant women obtained 8 mothers experiencing poor sleep quality, with a score of <5, this indicates that there are sleep quality problems in pregnant women.

The purpose of this research is to know the effect of lavender aromatherapy on the sleep quality of third trimester pregnant women.

Method Type of quantitative research, pre-experimental research design with a one group pretest – posttest design approach. The population in this study were pregnant women in their third trimester in the Working Area of the Bukit Kemuning Public Health Center, North Lampung Regency, as many as 62 pregnant women. SST purposive sampling technique, univariate and bivariate data analysis using independent t-tests.

Results: The average sleep quality of pregnant women in the third trimester before being given lavender aromatherapy with a mean of 16.10, the lowest score being 13 and the highest score being 18. The average sleep quality of third trimester pregnant women after being given lavender aromatherapy with a mean of 4.63, the lowest score being 3 and the highest score is 7.

The conclusion is that there is an effect of lavender aromatherapy on the sleep quality of third trimester pregnant women in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021.

Suggestions can provide an overview for pregnant women to use lavender aromatherapy to improve sleep quality during TM III.

Keywords : Lavender Aromatherapy, Sleep Quality, Third Trimester Pregnant Women

INTRODUCTION

Coverage of iron supplements for women Pregnancy is a long process of adaptation, especially when the mother is in her final trimester. Various worries are experienced by the mother, related to the delivery process, uncomfortable sleeping positions, fetal movement at night, fear of pain and physical danger that may arise during childbirth, worry about her safety, worry about the baby being born in an abnormal condition, dreams that reflect her concern and worry, things this can cause the mother's sleep quality to be disrupted (Laura, Misrawati and Woferst, 2015). As a result of not fulfilling the quality of sleep has an impact on hypertension or preeclampsia, intrauterine fetal growth barriers, even psychological changes (Zaky, 2015).

A study conducted by Midell (2000) reported on 127 pregnant women with gestational ages of 8-12 weeks (n=37), 18-22 weeks (n=28), 25-28 weeks (n=24) and 35-38 weeks. (n = 38) stated that some women experience sleep disturbances during pregnancy, problems arising from waking up in the middle of the night, difficulty sleeping and symptoms of sleep disturbances, sleep disturbances that are common during pregnancy occur especially at the end of pregnancy.

Pregnancy is divided into three trimesters. When entering the third trimester or the gestational age is increasing, the mother feels more and more complaints, both psychological and physical, and have an impact on the quality of sleep of pregnant women. Several factors such as the increasing size of the mother's stomach, the increasingly active movement of the fetus in the womb, which makes it difficult for pregnant women to sleep at night (Aprilia, 2014).

Many factors cause poor sleep quality in pregnant women. Normal physiological changes during pregnancy such as an increase in uterine size and physical discomfort, as well as an increase in the hormone progesterone contribute to poor sleep quality in third trimester pregnant women. Increased progesterone has a relaxing effect on the muscles, including the bladder. As a result, even sleep can be disturbed by the urge to urinate at night, causing poor sleep quality. Higher pain and discomfort during labour, higher rate of preterm birth, higher likelihood of cesarean delivery and postpartum depression. Sleep disturbances, including short sleep and sleep fragmentation, have emerged as a major determinant of metabolic health, independent of body weight,

One way to reduce sleep disturbances or maintain sleep quality for pregnant women is by doing physical exercises such as yoga or pregnancy exercises. Pregnancy exercise is an exercise program for healthy mothers to prepare the mother's physical condition by maintaining the condition of the muscles and supplies that play a role in the delivery process (Brayshaw, 2011). The next non-pharmacological method is aromatherapy. Aromatherapy is a form of relaxation therapy. Aromatherapy is an ancient healing process that uses pure plant aromatherapy plant essences to promote the health and well-being of body, mind and spirit (Sharma, 2009).

Disturbed sleep quality can be treated with non-pharmacological. Aromatherapy is a healing therapy that involves the use of pure essential oils distilled from various parts of plants, flowers and trees, each of which contains different therapeutic properties (Julianto, 2016).

Various ways are done to overcome the problem of sleep quality in a person, both with pharmacological therapy and non-pharmacological therapy. Pharmacological therapy for example with the help of sleeping pills or other sedatives (Harmanto & Subroto, 2007). One of the non-pharmacological therapies that can be used to improve sleep quality is relaxation. Aromatherapy is a form of relaxation therapy.

Aromatherapy is a way of treating disease by using odors that generally come from plants and smell good, savory and delicious, which is called essential oil. Aromatherapy is a way of caring for the body and healing disease with essential oils. Some essential oils that are commonly used in aromatherapy because of their versatile properties include Langon Kleri (Salvia Scarea), Eucalyptus (Eucalyptus Globulus), Geranium (Pelargonium Graveolens), Lavender (Lavendula Vera Officinals), Lemon (Citrus Linonem), Peppermint (Mentha piperita)), of these oils, Lavender oil is the most popular essential oil (Andria, 2014).

One of the uses of lavender flower aromatherapy is by inhalation to get direct benefits to the body. This lavender aromatherapy contains linalool which functions as a sedative effect so that when a person inhales lavender aromatherapy, the aroma released stimulates the ciliary receptors of the olfactory nerve located in the olfactory epithelium to transmit the aroma to the olfactory bulb through the olfactory nerve. The bulbusolfactorius is related to the limbic system. The limbic system accepts all.

information from the auditory, visual, and olfactory systems. The limbic is the inner structure of the brain which is shaped like a ring which is located under the cerebral cortex. The most important parts of the limbic system associated with scent are the amygdala and hippocampus. The amygdala is the emotional center and the hippocampus which is

related to memory (including the aroma produced by lavender flowers) then through the hypothalamus as a regulator, the aroma is carried to a small but significant part of the brain, namely the raphe nucleus. The effect of the stimulated raphe nucleus is the release of serotonin, which is a neurotransmitter that regulates the onset of sleep (Jordan, Farley and Grace, 2018).

Based on the results of the pre-survey conducted in the Working Area of the Bukit Kemuning Public Health Center, North Lampung Regency, the number of pregnant women in 1 year was 811 pregnant women in 2020, while in January 2021 there were 65 pregnant women who made pregnancy visits, after filling out quality questionnaires sleep for 10 TM III pregnant women, it was found that 8 mothers experienced poor sleep quality, with a score of <5, this indicates that there are sleep quality problems in pregnant women..

RESEARCH METHODS

This type of quantitative research, pre-experimental research design with a one group pretest – posttest design approach. The population in this study were pregnant women in their third trimester in the Working Area of the Bukit Kemuning Public Health Center, North Lampung Regency, as many as 62 pregnant women. SST purposive sampling technique, univariate and bivariate data analysis using independent t-tests.

RESULTS
Characteristics of Respondents

From table 1 above it can be seen the characteristics of the respondents in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021, based on, age is not at risk (20-35 years) 25 respondents (83.3%) the most parity is multipara 17 respondents (56.7%)) while the

highest gestational age was 30 34 and 35 weeks as many as 5 respondents (16.7%).

Table 1
Characteristics of TM III Pregnant Women in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021

Characteristics	Frequency	Percentage (%)
Age		
< 20 and > 35 years	5	16,7
20-35 Years	25	83.3
Parity		
Multipara	17	56,7
Primipara	13	43,3
Gestational Age		
28 Sunday	1	3,3
29 Sunday	4	13,3
30 Sunday	5	16,7
31 Sunday	2	6,7
32 Weeks	3	10.0
33 Sunday	4	13,3
34 Weeks	5	16,7
35 Sunday	5	16,7
36 Weeks	1	3,3

Univariate analysis
Pretest Sleep Quality

From table 2 above it can be seen that the average sleep quality of pregnant women in their third trimester before being given lavender aromatherapy in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021 with a Mean of 16.10, the lowest score is 13 and the highest score is 18.

Table 2
Average Sleep Quality for Trimester III Pregnant Women Before Giving Lavender Aromatherapy in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency, 2021

Variable	N	Means	SD	SE	Min-Max
Pretest Sleep Quality	30	16,10	1.373	0.251	13-18

Posttest Sleep Quality

From table 3 above, it can be seen that the average quality of sleep for pregnant women in their third trimester after being given lavender aromatherapy in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021 with a mean of 4.63, the lowest score is 3 and the highest value is 7.

Table 3

Average Quality of Sleep for Pregnant Women in the Third Trimester After Being Given Lavender Aromatherapy in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021

Variable	N	Means	SD	SE	Min-Max
Pretest Sleep Quality	30	4.63	1,066	0.195	3-7

Bivariate Analysis

Table 4

The Effect of Lavender Aromatherapy on the Sleep Quality of Trimester III Pregnant Women in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021

Variable	N	Means	SD	SE	P-Value
Pretest Sleep Quality	30	16,10	1.373	0.251	0.000
Posttest Sleep Quality	30	4.63	1,066	4.63	

From table 4 it can be seen that the average sleep quality of third trimester pregnant women before being given lavender aromatherapy in the Working Area of the Bukit Kemuning Public Health Center, North Lampung Regency in 2021 with a Mean of 16.10 and after being given lavender aromatherapy has decreased in score to Mean 4.63.

The results of the statistical test obtained a P-value = 0.000 (<0.05), which means that there is an effect of lavender aromatherapy on the sleep quality of third-trimester pregnant women in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency, in 2021.

DISCUSSION
Univariate analysis
Average Sleep Quality for Trimester III Pregnant Women Before Giving Lavender Aromatherapy in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency, 2021

The average sleep quality of pregnant women in their third trimester before being given lavender aromatherapy in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021 with a mean of 16.10, which means that respondents experienced poor sleep quality.

In line with research conducted bySari (2018)Effects of Aromatherapy Lavender Against Sleep Quality of Elderly at Cinta Kasih Guesthouse. Results research found that all elderly (100%) experienced poor sleep quality before being given lavender aromatherapy and only 40% experienced poor sleep quality after being given the scent lavender therapy.

In line with Susilo's theory (2019)The need for sleep at night is different for each person, in general, adults sleep between 7-8 hours. More than a third of adults suffer from insomnia and about 10-15 percent have chronic (long-term) insomnia.

According to researchersSleep disorder or insomnia is a condition in which a person has difficulty sleeping or often wakes up at night or wakes up too early. Insomnia is classified into two categories, namely insomnia with symptoms of difficulty falling asleep and insomnia characterized by frequent or easy awakening from sleep. Insomnia can be caused by anxiety, tension, pain, caffeine (coffee), drugs, emotional imbalance, and anxiety about not being able to wake up on time. The bed environment also has a significant influence on insomnia such as noise, uncomfortable bed, too light/dark, and unsuitable room temperature.

Meanwhile, in pregnant women, many factors cause poor sleep quality in pregnant women. Normal physiological changes during pregnancy such as an increase in uterine size and physical discomfort, as well as an increase in the hormone progesterone contribute to poor sleep quality in third trimester pregnant women. In this study there were 5 pregnant women who were at risk, namely 3 respondents <19 years, and 2 respondents ≥ 35 years. This can affect the pregnancy process, because in this pregnancy the mother experiences a high risk age which affects the pregnancy process.

In addition to age, history of pregnancy also affects the quality of sleep of pregnant women. Mothers who have been pregnant have experience with pregnancy, so they can ignore disturbances during TM III such as difficulty sleeping, in contrast to primiparous pregnant women who are unable to ignore fatigue.

Average Quality of Sleep for Pregnant Women in the Third Trimester After Being Given Lavender Aromatherapy in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021

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The average sleep quality of third trimester pregnant women after being given lavender aromatherapy in the Working Area of the Bukit Kemuning Public Health Center, North Lampung Regency in 2021 with a Mean of 4.63, which means that in this study the respondents experienced an improvement in sleep quality in the good category.

In line with research conducted by Yanti., Evrianasari (2020)*Back Massage*On Sleep Quality of Trimester III Pregnant Women. The results showed that the average sleep quality score of pregnant women on the measurement results using the Pittsburgh Sleep Quality Index (PSQI) questionnaire after the (posttest) back massage intervention was 5.03⬚1.349, the minimum score on sleep quality measurement results was 3 and the maximum was 8 At a 95% confidence interval it is believed that the average score for the quality of sleep of pregnant women after the back massage intervention is between 4.52 to 5.55.

In line with Sukorini's theory (2017)Approaching the time of delivery, pregnant women will find it difficult to adjust the sleeping position. This disorder can be caused by the greater the pregnancy so that the diaphragm will be pressed upward and interfere with breathing. Pregnant women are advised to sleep in a left side position or a position that is comfortable for pregnant women

Research conducted by William et al (2010; Sukorini, 2017), showed the results that pregnant women who sleep less than 5 hours each night have a risk of increasing blood pressure and resulting in hypertension. Pregnant women who have poor sleep quality can cause several complications in pregnancy.

In this study, pregnant women who experienced poor sleep quality were given lavender aromatherapy. Aromatherapy is a healing method using very concentrated essential oils which are often very fragrant and taken from plant extracts. The main elements of the oil give a very distinctive aroma or smell that is obtained from a particular plant.

Sleep quality is satisfaction someone against sleep, so someone doesn't show signs of sleep deprivation and no having trouble sleeping. Sleep quality covers the quantitative of sleep, such as sleep duration, sleep latency as well subjective aspects, such as sleep and night rest. Quality of sleep is good views of the signs and symptoms of sleep quality that is, looking fresh and fit when you wake up in the morning, the fulfillment of the need for sleep according to age development somebody. Standard sleep needs of the elderly is 6 hours/day.

In this study, respondents experienced an increase in sleep quality in the good category, which means that respondents were able to obtain quality sleep with the help of aromatherapy. Aromatherapy is used to influence a person's emotions and help relieve symptoms of illness. The essential oils used in aromatherapy are efficacious for reducing stress, promoting blood circulation, relieving pain, reducing swelling, removing toxic substances from the body, treating viral or bacterial infections, burns, high blood pressure, respiratory disorders, insomnia (difficulty sleeping), digestive disorders, and other diseases (Sarris and Byrne, 2011).

Bivariate Analysis
The Effect of Lavender Aromatherapy on the Sleep Quality of Trimester III Pregnant Women in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021

The results of the statistical test obtained a P-value = 0.000 (<0.05), which means that there is an effect of lavender aromatherapy on the sleep quality of third-trimester pregnant women in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency, in 2021.

In line with the results of Laura's research (2015) The Effectiveness of Lavender Aromatherapy on the Sleep Quality of Postpartum Mothers. Based on the results of statistical tests in the experimental group, it was found that there was a difference between sleep quality scores before and after being given lavender aromatherapy, while in the control group there was no difference between sleep quality scores before and without lavender aromatherapy. In this study, it can be concluded that lavender aromatherapy is effective on the sleep quality of postpartum mothers. lavender with Pvalue = 0.000 (p<0.05).

In line with the opinion expressed by Lanywati (2013) Handling the problem of sleep disorders pharmacologically and non-pharmacologically, pharmacologically, namely by administering sleeping pills from the Benzodazepine, Chloralhydrate, and Promethazine (Phenergen) groups. These hypothetical medications are very effective in accelerating sleep onset, prolonging sleep and reducing the frequency of awakenings. However, this drug has negative effects, including leaving residual effects of the drug, namely nausea and drowsiness during the day and causing people with sleep disorders to become addicted to drugs so that good quality sleep will not be achieved.

In this study, the average sleep quality of pregnant women in their third trimester before being given lavender aromatherapy in the Working Area of the Bukit Kemuning Public Health Center, North Lampung Regency in 2021 with a mean of 16.10 8

with a poor sleep quality category and after being given lavender aromatherapy experienced a decrease in score to mean 4.63, which means that the sleep quality score for pregnant women has decreased <5 so that the mother's sleep quality is in the good category.

In this study the lowest score was 13 and the highest score was 18, this could be influenced by the pregnancy process during TM III,Difficulty sleeping or insomnia is a disorder in the form of restless sleep, lack of sleep or not being able to sleep at all. Sleep difficulties are generally experienced more in early pregnancy. Then this sleeplessness complaint will reappear at the end of pregnancy. In addition to being caused by physiological changes in the reproductive system, difficulty sleeping during pregnancy can also be caused by psychological problems such as excessive worry and anxiety. Even though it seems trivial, continuous sleep disturbances will disrupt the physical and psychological well-being of pregnant women (Indiaarti, 2012; Yantina., Evrianasari, 2020).

After giving the intervention, the sleep quality score in TM III pregnant women experienced changes withthe lowest score is 3 and the highest score is 7In line with opinionJordan, Farley and Grace, 2018)withAroma therapy This lavender flower contains linalool which has a sedative effect so that when someone inhales lavender flower aromatherapy then aroma released stimulates the receptor olfactory nerve cilia in the epithelium *olfactory*to pass on the scent to the bulbusolfactorius via the nerves *olfactory*. Bulbusolfactorius related to the limbic system. The limbic system receives all the information of the auditory system, system vision, and the olfactory system. The limbic is the inner structure of the ring-shaped brain that lies beneath the cerebral cortex. The most important parts of the limbic system associated with scent are the amygdala and hippocampus.

Characteristics of respondents in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021. Based on the gestational age, the highest were 30, 34 and 35 weeks, with 5 respondents (16.7%). Pregnancy can lead to improved sleep quality after being given lavender oil aromatherapy. At 30 weeks of gestation, the mother is still able to feel relaxed, and the fetus has not yet entered PAP.

Using aromatherapy by inhalation (inhaled) is a method fastest to get the benefits of aromatherapy into the body. Smell is a chemical reaction, receptors in the brain can respond to the chemicals in aromatherapy. When a person inhales aromatherapy, the odor molecules produced travel to the ciliary receptors of the olfactory nerves inside the olfactory epithelium through the nose, then the olfactory epithelium sends axons through the olfactory nerves to the olfactory bulb. The olfactory bulb is associated with brain structures such as the piriform cortex, amygdala, entorhinal cortex, striatum and hippocampus. (Buckle, 2015).

*Amygdala*is the emotional center and the hippocampus which is related to memory (including the aroma produced by lavender flowers) then through the hypothalamus as a regulator, the aroma is carried to a small but significant part of the brain, namely the raphe nucleus. The effect of the stimulated raphe nucleus is the release of serotonin, which is a neurotransmitter that regulates the onset of sleep.

CONCLUSION

There is an effect of lavender aromatherapy on the sleep quality of third trimester pregnant women in the Working Area of the Bukit Kemuning Health Center, North Lampung Regency in 2021.

SUGGESTION

Can provide an overview to the public by using the socialization method regarding the benefits and procedures for using lavender aromatherapy, namely by applying it to the collars of pregnant women's clothes and it is hoped that this can be developed in the world of midwifery as a new therapy for pregnant women who have difficulty sleeping.

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