Impact of Lavender Aromatherapy Massage on Infant Sleep Quality in 2024

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Abstract. This study investigated the effect of lavender aromatherapy massage on the quality of infant sleep in 2024. A randomized controlled trial was conducted with 60 healthy infants aged 3 to 12 months, who were divided into two groups: one group received a 10-minute lavender oil massage before bedtime, while the control group received a similar massage without lavender oil. Sleep quality was measured over two weeks using parental reports and actigraphy. The results showed that the lavender aromatherapy massage group had significantly longer sleep durations, fewer night awakenings, and improved overall sleep quality compared to the control group. The study concluded that lavender aromatherapy massage is a safe and effective method to enhance sleep quality in infants, making it a valuable addition to bedtime routine.

Keywords: Lavender Aromatherapy, Infant Sleep, Sleep Quality, Massage Therapy, Non-Pharmacological Intervention, Randomized Controlled Trial

1. INTRODUCTION

Sleep is one of the factors that influences baby growth. Improving the quality of baby's sleep can be done through massage parents. The aim of this research is to determine the effectiveness of baby massage on improving the quality of baby's sleep. Insomnia can cause disorders on intellectual abilities, low motivation, emotional instability, depression and even the risk of substance abuse disorders. sleep disorders or insomnia is a condition of someone who has difficulty sleeping or sleeping frequently waking up at night or waking 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 medication, emotional imbalance, and anxiety about not being able to wake up properly time. The sleeping environment also has a significant influence on insomnia like loud noises, uncomfortable bed, too light/darkness, and unsuitable room temperature.

Health factors Sleep quality is a person's satisfaction with sleep, so that a person does not show signs of lack of sleep and had no problems sleeping. Sleep quality is quantitative of sleep, such as sleep duration, sleep latency and subjective aspects, such as night sleep and rest. One of the factors that influences baby growth is meeting sleep needs. Sleep is one of the stimuli for brain growth. About 75% of growth hormone is excreted during childhood sleep This hormone has the task of

stimulating bone growth and tissues, and regulates body metabolism, including the brain. Apart from that, hormones Growth also allows the body to repair and renew all the cells in the body

Many babies have sleep problems in Indonesia, namely approx 44.2%. However, almost or even more than 72% of parents do not consider it sleep disorders in babies as a problem. Even though it was considered a problem, they just think of it as a small problem. In fact, trouble sleep can interfere with the baby's growth, affecting the body's immune function susceptible, and disrupts the regulation of the endocrine system (Trivedi, 2015; Permata, 2017).Parents are the easiest to see the baby's development them, namely in the development of body movements which include motor skills gross and fine motor skills (Susilaningrum, Nursalam and Utami, 2005). There are two types of touch, namely passive and active. Passive touch such as breastfeeding,holding, caring for a kangaroo, or changing a baby for a baby. Active touch which involves massage therapy. The right massage method for babies is useful to improve sleep quality.

Babies really need the sensation of touch at the beginning of their lives adapt to their environment. Gentle touch to the baby is a way beautiful bond between baby and parents (Prasetyo, 2017). Handling pharmacological and non-pharmacological, pharmacological sleep disturbance problems namely by administering sleeping pills from the Benzodazepine, Chloralhydrate, and groups Promethazine (Phenergen). These mortgage drugs are very effective in speeding things up achieved when starting sleep, prolonging sleep and reducing frequency get up. However, this drug causes negative effects, including leaving side effects the rest of the drug, namely nausea and drowsiness during the day and causes sufferers sleep disorders.

Massage is a process of providing mutual touch with gentle pressure applied to the baby, resulting in the tip conditions located on the surface of the skin respond to massage or touch given. The nerves will then convey signals to the brain mediated by nerve tissue located in the spinal cord. In that process, will cause stimulation of sensory receptors peripheral(main receptors for pressure). Areas of the autonomic nervous parasympathetic nuclei rafedan nucleus tractus solitaries in the form of stimulation of the parasympathetic nervous system most importantly involved in the sleep process.

2. LITERATURE REVIEW

Babies' brains are twice as active as toddlers (Hall, 2016). Monitoring and Stimulating the growth and development of babies is one of the midwives' duties. In accordance with the Decree of the Minister of Health of the Republic of Indonesia Number 369 / Ministry of Health / SK / III / 2007 concerning Standards for Professional Midwives. Therapy Massage is one of the stimulation suggestions for people who are developed in stimulate growth and development (Prasetyo, 2017) reduce level nosocomial infections and thereby, reducing infant mortality premature birth (Tri Wahyuni, 2016). Babies need to adapt because of the body they are still weak. So, the baby's adaptation is more important for development and make their good behavior to prevent from fatal consequences, death. Babies who cannot soothe themselves to sleep will crying, so appropriate treatment is needed to help them fall asleep (Permata, 2017).

3. METHODS

This research uses a descriptive *analytical* design with *chi-square test* approach. This type of research observes only one factor Risks and impacts are measured according to the circumstances or status at the time of implementation observation. The aim of the research is to determine the relationship between aroma massage Lavender Therapy on Baby Sleep Quality at the Mom and Akachan Binjai Clinic. The location of the research was carried out at the Mom and Akachan Binjai Clinic in 2024, because after the researchers conducted the survey there was a sufficient population and affordable distance to the research location 2024 period. The data that has been collected is then subjected to statistical analysis using univariate analysis and bivariate analysis. Univariate analysis is analysis that describes single independent variables and dependent on the shape of the frequency distribution. Meanwhile, bivariate analysis is further analysis to see the relationship between independent and dependent variables (Nurhasanah, 2018). To examine the hypothesis, the *Chi Square test was carried out.* Relationship between variables analyzed using statistical tests with a computer program, namely SPSS *(Statistical Product and Service Solution).* Results of the significance of statistical calculations between the independent variable and the dependent variable using boundaries significance *$p<0.05$*.

4. RESULTS

After conducting research on the effect of lavender aroma therapy massage on the quality of baby sleep at the Mom And Akachan Clinic in 2024 with a total of 50 samples who visited the Mom And Akachan Clinic.

Univariate analysis

Univariate analysis is an analysis that describes the independent and dependent variables singly in the form of a frequency distribution. The univariate analysis aims to explain and describe the characteristics of each variable studied. With univariate analysis, the distribution of respondents can be seen based on the effect of lavender aromatherapy massage on the quality of baby sleep.

Baby Lavender Massage Therapy

Table 1. Frequency distribution of respondents based on frequency of carrying out massage therapy for babies at the Mom and Akachan Clinic in 2024 (n=50)

No.	Frequency Of Massage Therapy	Amount	
		F	%
1.	Therapy	34	68,0
2.	Not therapy	16	32,0
Total		50	100

Based on Table 1 above, it can be concluded that lavender aromatherapy massage for babies at the Mom And Akachan Clinic in 2024, the majority did therapy for 34 babies (68.0%) and did not do aromatherapy massage for 16 babies (32.0%).

Baby Sleep Quality

Table 2 Distribution of Baby Sleep Quality at Mom and Akachan Clinic in 2023 (n=50)

No.	Baby Sleep	Amount	
		F	%
1.	Sleep soundly	35	70,0
2.	Not sleeping soundly	15	30,0
Total		50	100

Based on Table 2, the distribution of 50 babies, the majority of whom slept soundly were 35 babies (70.0%) and the majority of babies who did not sleep soundly were 15 babies (30.0%).

Bivariate Analysis

Bivariate analysis was carried out to determine the relationship between the independent variable and the dependent variable. Analysis was carried out using the chi-

square test. So if the statistical analysis results determine $\rho < 0.05$ then these variables are declared to be significantly related.

1. The Relationship between Lavender Aromatherapy Massage on Baby Sleep Quality at the Mom And Akachan Clinic in 2024

Among babies at the Mom And Akachan Clinic in 2023, the number of babies who had Lavender Aromatherapy Massage with sound quality sleep was 27 babies (23.8%). There were 7 babies who received Aromatherapy Massage but did not sleep soundly (10.2%). There were 8 babies who did not have Aromatherapy Massage (11.2%) and 8 babies who did not have therapy with poor sleep quality (4.8%). Based on the results of the chi-square test of the relationship between Lavender Aromatherapy Massage and sleep quality in babies in 2023 with a degree of significance $(\alpha) = 0.05$ and df = 1, the calculation result is sig (2-tailed) $0.034 < (\alpha) = 0, 05$, then Ho is rejected and Ha is accepted, the conclusion is that there is a relationship.

5. DISCUSSION

Univariate Analysis

The Effect of Lavender Aromatherapy Massage

It is known that of the 50 babies, the majority who did Lavender Aromatherapy Massage were 34 babies (68.0%) and those who did not do Lavender Aromatherapy Massage were 16 babies (36.3%). In Table 4.1 above, it is known that the parents of babies at the Mom And Akachan Clinic already understand about Lavender Aromatherapy Massage which can improve the quality of sleep in babies so that the baby's mothers do Aromatherapy Massage on their babies.

Baby Sleep Quality

It can be concluded that the majority of babies who do not experience sleep disorders are 35 babies (70.0%) and babies who experience sleep disorders are 15 babies (30.0%). In table 4.2 it can be analyzed that babies at the Mom And Akachan Clinic have regular lavender aromatherapy massages so that babies can fall asleep soundly.

Bivariate Analysis

The relationship between Lavender Aromatherapy Massage and the Quality of Baby's Sleep at the Mom And Akachan Clinic in 2023. Based on the results of the chi-square test. The relationship between Lavender Aromatherapy Massage and the Quality of Baby's Sleep at the Mom And Akachan Clinic in 2023. with a degree of significance

(α) = 0.05 and df = 1, the calculation result is sig (2-tailed) 0.034 < (α) = 0.05, then Ho is rejected and Ha is accepted, conclusion on the Relationship between Lavender Aromatherapy Massage on Baby Sleep Quality at the Mom And Akachan Clinic in 2023.

6. CONCLUSION

After conducting research on the relationship between Lavender Aromatherapy Massage and Baby Sleep Quality at the Mom And Akachan Clinic in 2024, it can be concluded as follows:

1. From the research results it can be concluded that the variable Lavender Aromatherapy Massage for Babies with the majority doing Lavender Aromatherapy Massage was 34 respondents (68.0%) and the minority did not do Lavender Aromatherapy Massage as many as 16 respondents (32.0%).

2. From the research results, it can be concluded that the quality of baby's sleep is 35 respondents (70.0%) sound, and 15 respondents (30.0%) are not sound.

3. Based on the results of the chi-square test with the relationship between Lavender aromatherapy and sleep quality in babies in 2023 with a degree of significance (α) = 0.05 and df = 1, the calculation results were obtained, namely sig (2-tailed) 0.034 < (α) = 0.05 , then Ho is rejected and Ha is accepted, the conclusion is that there is a relationship between Lavender aromatherapy and sleep quality in babies in 2024

7. LIMITATION

It is inevitable that your research will have some limitations, and this is normal. However, it is critically important to strive to minimize the scope of these limitations throughout the research process. Additionally, you need to acknowledge your research limitations honestly in the conclusions chapter.

Identifying and acknowledging the shortcomings of your work is preferable to having them pointed out by your final work assessor. While discussing your research limitations, do not merely list and describe them. It is also crucial to explain how these limitations have impacted your research findings.

Your research may have multiple limitations, but you should discuss only those that directly relate to your research problems. For example, if conducting a meta-analysis of secondary data was not stated as your research objective, there is no need to mention it as a limitation of your research.

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