

The Effect Of Baby Massage On The Sleep Quality Of Babies Aged 2-11 Months At Bantarangin Homecare Wonogiri

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ABSTRACT

The prevalence of baby sleep problems in Central Java in 2018 was 44% of babies experiencing sleep disorders such as frequently waking up at night and not getting enough sleep. Baby Massage is an appropriate non-pharmacological therapy to improve sleep quality. The aim of the research is to analyze the effect of Baby Massage on the sleep quality of babies aged 2-11 months at Bantarangin Homecare Wonogiri. Pre-experimental research method, with one group pretest-posttest design type. The research population was babies aged 2-11 months, a total of 30 babies, in total sampling. The research instrument used the standard questionnaire A Brief Infant Sleep Questionnaire (BISQ) and was processed using the Wilcoxon test. The research results showed that the sleep quality of babies aged 2-11 months before being given baby massage was the majority poor, as many as 29 respondents (96.7%) and after having baby massage, the majority was good, as many as 26 respondents (86.7%). The Wilcoxon statistical test shows a significant p-value of 0.000 < 0.05, which is less than the research limit of 0.05, so the hypothesis decision is to accept H_a. In conclusion, there is an influence of baby massage on the quality of baby sleep.

Keywords:

Baby Massage, sleep quality, BISQ

1. INTRODUCTION

Babies are a golden period to achieve optimal growth and development of babies. One of the factors that influences a baby's growth is sleep and rest. Considering the importance of sleep time for a baby's growth, his sleep needs must be truly met so that it does not have a negative effect on his growth [1]. According to data released by the World Health Organization (WHO) in 2018 and published in the Journal of Pediatrics, sleep disorders affect as many as 33% of babies[2]. In babies and children, most of the sleep problems include difficulty falling asleep, waking up at night and the child crying easily[3].

In Indonesia, quite a lot of babies experience sleep problems, namely around 44.2% of babies experience sleep disorders such as frequently waking up at night. However, more than 72% of parents consider sleep disorders in babies not a problem. The prevalence in Central Java in 2018 reached 44% of babies who experienced sleep disorders such as frequently waking up at night and not sleeping enough[4].

Sleep is a form of adaptation of babies to their environment, newborn babies usually sleep for 16 - 20 hours a day. One non-pharmacological therapy to overcome baby sleep problems is baby massage[5]. Baby massage is a type of stimulation in the form of touch that will stimulate the function and structure of cells in the brain [6]. Touch stimulation from ancestors from generation to generation (massage). Massage is widely practiced in almost all regions of the world. This art has been taught from generation to generation, although it is not clear how massage and touch can have a positive effect on the human body[7].

Inadequate sleep and poor quality sleep can result in several disorders. In adults, it can cause physiological and psychological balance disorders [8]. Meanwhile, in babies it can cause a decrease in daily activities, feeling tired, weak, more emotionally unstable, anxious, fussy, not concentrating, and feeling excessively sleepy. Sleep time is important for a baby's development, so their sleep needs must be truly met so that it does not have a negative effect on their development [9][10].

Based on the results of a preliminary study on January 4 - January 25 2024, researchers interviewed 24 mothers and found that 20 mothers (84%) experienced complaints of sleep problems in their babies, including, 13 mothers said that their children were often fussy, often woke up in the middle of the night crying, and difficulty going back to sleep, and 7 mothers said that when the baby woke up in the middle of the night because of thirst, after the baby was given breast milk or milk, the baby could not immediately go back to sleep, the baby was fussy and cried, 4 mothers (16%) had no complaints sleep on the baby.

Based on the description and problems with several previous research findings, there are still many mothers who are reluctant to massage their babies regularly, especially at the beginning of their birth, because of the erosion of traditional birth attendants and the feeling of fear of massaging their babies incorrectly, the baby's body is still weak and they don't know how to use the technique. massage correctly, the author is interested in conducting research with the title "The Effect of Baby Massage on the Sleep Quality of Babies Aged 2-11 Months at Bantarangin Homecare Wonogiri".

2. RESEARCH METHODS

The research method used is quantitative research. In this research, the researcher explains the data in the form of numbers and analyzes using statistics[11]. The characteristic of this type is that it expresses cause-and-effect relationships by involving a group of subjects. The subject group was observed before the intervention, then observed again after the intervention[12]. The research was conducted at Bantarangin Homecare Wonogiri in August 2024. The study population was all babies aged 2-11 months at Bantarangin Homecare Wonogiri who met the inclusion criteria. This research was conducted for 1 month. The method used for sampling used a total sample with data obtained from 30 babies.

The research instrument used a standard questionnaire sheet, A Brief Infant Sleep Questionnaire (BISQ), which consists of 7 questions about baby sleep quality. Data collection was carried out by filling out questionnaires (pre test and post test). Questionnaires were given to mothers of babies aged 2-11 months who received massage at Bantarangin Homecare Wonogiri according to the inclusion criteria. After completing the consent form, the baby will then be given a baby massage by the researcher using established standard operating procedures (SOP). Bivariate analysis in this study used the Wilcoxon test.

3. RESEARCH RESULT

3.1. Respondent characteristics

a. Age

Table 1 Frequency distribution of respondents by age at Bantarangin Homecare Wonogiri.

Age	Frequency(n)	Percentage (%)
2-5 Months	16	53,3
6-8 Months	5	16,7

9-11 Months	9	30,0
Total	30	100

Source: Primary Data, 2024

Based on Table 1, it shows that the majority of babies aged 2-5 months amounted to 16 babies (53.3%) while the minority aged 6-8 months amounted to 5 babies (16.7%).

b. Gender

Table 2 Frequency distribution of respondents by gender at Bantarangin Homecare Wonogiri.

Gender	Frequency(n)	Percentage (%)
Male	16	53,3
Female	14	46,7
Total	30	100

Source: Primary Data, 2024

Based on table 2, it shows that the majority of babies were male, 16 babies (53.3%) while the minority were female, 14 babies (46.7%).

c. Health Status

Table 3 Frequency distribution of respondents based on Health Status at Bantarangin Homecare Wonogiri.

Health Status	Frequency(n)	Percentage (%)
Healthy	30	100
Pain	0	0
Total	30	100

Source: Primary Data, 2024

Based on Table 3, it shows that the majority of babies aged 2-11 months are in healthy condition, namely 36 babies (100%).

d. Sleep Quality Before Baby Massage

Table 4 Results of frequency analysis of respondents based on sleep quality before baby massage at Bantarangin Homecare Wonogiri.

Pre test Sleep Quality	Frequency(n)	Percentage (%)
Good	1	3.3
Bad	29	96.7
Total	30	100

Source: Primary Data, 2024

Based on Table 4, it shows that the majority of babies' sleep quality was poor, 29 babies (96.7%) and the minority of babies with good sleep quality was 1 baby (3.3%), these results were obtained from the A Brief Infant Sleep Questionnaire (BISQ) questionnaire.

e. Sleep Quality After Baby Massage

Table 5 Results of frequency analysis of respondents based on baby sleep quality after baby massage at Bantarangin Homecare Wonogiri.

Post test Sleep Quality	Frequency(n)	Percentage (%)
Good	26	86.7
Bad	4	13.3
Total	30	100

Source: Primary Data, 2024

Based on Table 5, it shows that the majority of respondents with good sleep quality were 26 babies (86.7%) and the minority with poor sleep quality were 4 babies (13.3%), these results were obtained from the A Brief Infant Sleep Questionnaire (BISQ) questionnaire.

3. 2. Bivariate Analysis

Bivariate Analysis of the Effect of Baby Massage on the Sleep Quality of Babies Aged 2-11 Months at Bantarangin Homecare Wonogiri
 Wilcoxon test.

Table 6 Effects before and after baby massage in the experimental group.

Variable	Mean	Difference Average	SD	Min.	Max.	P-Value	N
Pre Sleep Quality	,06		,232	0	1		30
Post Sleep Quality	,89	,83	,319	0	1	,000	30

Source: Primary Data, 2024

Based on Table 6 from the results of the Wilcoxon test, the data obtained is that the calculated Z value is a large change value of -5.477, namely the absolute value of Z calculated <0.05 with a p-value of $0.000 < 0.05$ which is less than the research limit of 0.05 so that the hypothesis decision is accepted H_a . So it can be concluded that the quality of baby sleep for the pre test and post test is the influence of baby massage on the sleep quality of babies aged 2-11 months at Bantarangin Homecare Wonogiri.

4. DISCUSSION

4.1. Baby age

Based on the research results, it shows that the majority of respondents aged 2-5 months were 16 babies (53.3%). At the age of 2-5 months, it is easy for babies to regulate their drinking and sleeping schedules, while after 6 months the gentle touch technique used is different[13].

The baby phase experiences increasingly better motor development, the baby sees the world from his perspective and his muscles get stronger, he begins to actively babble, practice tilting, lying on his stomach and rolling over. Rosalina's research (2022) states that as babies get older, their sleeping hours also decrease. According to researchers' assumptions, this is what makes babies aged 2-5 months experience sleep problems because babies are starting to actively develop their motor skills[14].

4.2. Gender

The research results showed that the majority of respondents were male, 16 babies (53.3%) while the minority were female, 14 babies (46.7%). According to research by Arif Syafa'at (2015), children who experience sleep disturbances at night are usually restless, often wake up at night, fussy and delirious. Symptoms that are often seen in children are children who have difficulty closing their eyes. Women are more often affected by sleep disorders than men[15].

Women experience stress conditions caused by physical hormonal changes throughout their life cycle, for example the menstrual phase. If a woman is in a state of excessive stress, her body will produce the hormone cortisol excessively which will cause women to have difficulty sleeping and staying awake. This is different from the research results because the number of male babies at Bantarangin Homecare Wonogiri is more than female babies, namely 16 male babies and 14 female babies, so the results of the research show that male babies are in the majority.

4.3. Health Status

Based on table 3, the research results show that the health status of the majority of respondents aged 2-11 months is in healthy condition, with 30 babies (100%). According to the theory that says that when the baby's body is healthy, the baby can sleep soundly, but when the baby's body is unhealthy or sick, the baby cannot sleep soundly[16]. Through Baby Massage, giving a baby a gentle touch will cause the nerve endings on the surface of the skin to react to touch, this stimulation can release endorphin hormones which have an impact on reducing pain levels[17].

According to researchers' assumptions, this makes the baby feel calmer and the frequency of crying decreases, so massage also improves the quality and quantity of the baby's sleep.

4.4. Sleep Quality

Based on the research results, before baby massage was carried out, the majority had poor sleep quality, 29 babies (96.7%) and 1 baby with good sleep quality (3.3%).

The results of this study show that the majority of babies have poor sleep quality, this is proven based on the results of the A Brief Infant Sleep Questionnaire (BISQ) questionnaire which was filled in by parents/guardians with a percentage of 29 babies (96.7%). This causes the quality of the baby's sleep to be poor,

namely due to physical activity carried out by the baby during the 24 hours and environmental conditions that are not supportive (hot temperatures). And the baby wants to urinate, defecate, and asks to drink milk so that the baby wakes up which results in poor sleep quality[18]. Poor quality baby sleep not only affects physical development, but also attitude the next day. Babies who sleep without waking frequently will be fitter and less fussy[19].

After the baby massage was carried out, the results showed that the majority had good sleep quality, 26 babies (86.7%) and 4 babies with poor sleep quality (13.3%), this was proven by the results of the A Brief Infant Sleep Questionnaire. (BISQ) which is filled in by the parent/guardian.

The quality of sleep of babies aged 2-11 months after baby massage is supported by the high results on the questionnaire in question number 1, which is a positive statement, namely "Does the baby sleep >9 hours at night" with an average score of 2 on question number one. This statement shows that sleep quality is getting better. According to Altika, S., & Ni'amah, S (2020) good quality sleep means this is physiological, for example brain cells recover to normal when they wake up. A baby who has enough will be fresher and less fussy[20].

In this research, based on analysis using the Wilcoxon statistical test with the help of the SPSS program, calculations were carried out to determine whether there was an influence of variables, namely the independent variable and the dependent variable. The results from table 6 above show a p-value of 0.000, where the p-value is <0.05, so H₀ is rejected and H_a is accepted, which means baby massage is effective in improving the quality of baby's sleep.

Improving the quality of sleep is due to an increase in the levels of serotonin secretion produced during massage, serotonin is the main transmitter substance which also releases melatonin which plays a role in sleep and makes you sleep longer and deeper at night, because more melatonin is produced in the dark when there is less light entering the eyes[21].

Based on the data above, baby massage is one way to improve the quality of baby sleep. This can be used or applied especially for mothers, because the results of baby massage can improve the quality of the baby's sleep. This is because giving baby massage techniques done well and correctly will provide benefits in the form of a relaxed condition and increased comfort so that respondents can easily fall asleep and their sleep needs are met. Baby Massage also helps minimize stress hormones that interfere with sleep needs.

5. CONCLUSION

1. The research results show that the majority of respondents are 2-5 months old, namely 16 babies, and the majority of respondents are male, namely 16 babies, with a health status of 100% healthy.
2. The quality of the baby's sleep before the baby massage at Bantarangin Homecare Wonogiri was mostly poor, as many as 29 babies (96.7%).
3. The quality of the baby's sleep after baby massage at Bantarangin Homecare Wonogiri was mostly good for 26 babies (86.7%).
4. There is an influence of baby massage on the quality of baby's sleep at Bantarangin Homecare Wonogiri, it can be seen from the calculated absolute value of $Z < 0.05$ with a p-value of $0.000 < 0.05$ which is less than the research limit of 0.05 so the hypothesis decision is to accept H_a.

6. SUGGESTION

1. For Researchers
After carrying out this research, it is hoped that the results of this research can provide information and knowledge, especially to mothers who have babies and can apply these health sciences, especially about baby massage.
2. For educational institutions
Can be used as a service reference for villages and students regarding the effect of baby massage on the sleep quality of babies aged 2-11 months and can include material about non-pharmacological therapy, one of which is baby massage, into the midwifery education curriculum, as an independent action for midwives that can be used in service practice midwifery.
3. Village Nurse or Midwife
It is hoped that nurses or midwives who take part in baby massage training can apply and teach mothers how to carry out baby massage, one of which aims to improve sleep quality and can be an example of independent intervention by medical personnel carrying out independently in practices/clinics.
4. Divide the next safety pin
For future researchers, they can further develop the effect of baby massage on the quality of baby's sleep, and future researchers can use the baby's weight variable. This research can be used as a basis for further research so that researchers in the field of midwifery can develop it further.
5. For Respondents

It is hoped that parents of babies know the benefits of baby massage and understand the steps in carrying out baby massage and can do baby massage at home regularly in the morning and evening before bed, with a frequency of 2x in 2 weeks for 10-15 minutes.

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