

THE EFFECT OF BABY MASSAGE ON THE QUALITY OF SLEEP OF BABIES AGED 0-12 MONTHS

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ABSTRAK : PENGARUH PIJAT BAYI TERHADAP KUALITAS TIDUR BAYI USIA 0-12 BULAN

Latar Belakang: Menurut World Health Organization (WHO) tahun 2012 yang dipublikasikan dalam jurnal Pediatrics mengungkapkan bahwa sekitar 33% bayi mengalami gangguan tidur. Menurut studi tahun 2004 oleh Sekartini dan Adi yang dilakukan di lima kota besar di Indonesia yakni , Jakarta, Bandung, Medan, Palembang, dan Batam 51,3% bayi mengalami gangguan tidur. Pijat bayi merupakan bentuk terapi sentuhan yang berfungsi sebagai salah satu metode perawatan terpenting bila dilakukan secara teratur dapat membantu mengubah gelombang otak yang membuat bayi tidur lebih nyenyak.

Tujuan: dilakukannya penelitian ini adalah untuk mengetahui pengaruh pijat bayi terhadap kualitas tidur bayi usia 0 – 12 bulan di PMtB Feby Yulistia S.Tr.Keb.,S.KM Bandar Lampung

Metode: Penelitian ini menggunakan desain Quasi-Eksperimental dengan rancangan one group pretest-posttest design. Dilaksanakan dari Januari sampai Juni di PMB Feby Yulistia,S.Tr.Keb.,S.KM Bandar Lampung. Responden pada penelitian ini adalah sebanyak 30 orang bayi usia 0-12 bulan. Analisis data dengan cara analisis univariat dan bivariat menggunakan uji Wilcoxon.

Hasil: Hasil penelitian ini menunjukkan kualitas tidur bayi usia 0-12 bulan sebelum diberikan pijat bayi rata-rata kualitas tidur bayi kurang dengan nilai 3,10, sesudah diberikan pijat bayi rata-rata kualitas tidur bayi baik dengan nilai 4,73. Hasil uji wilcoxon diperoleh nilai p-value sebesar 0,000 (<0.05) artinya terdapat perbedaan yang bermakna antara sebelum dan sesudah diberikan pijat bayi.

Kesimpulan: ada pengaruh pemberian pijat bayi terhadap kualitas tidur usia 0-12 bulan.

Saran: menambah motivasi bagi petugas kesehatan dalam memberikan edukasi tentang pijat bayi kepada masyarakat khususnya orang tua untuk meningkatkan kualitas tidur bayi

Kata Kunci : Gangguan tidur, kualitas tidur, pijat bayi.

ABSTRACT

Background: According to the World Health Organization (WHO) in 2012 published in the journal Pediatrics revealed that about 33% of babies experience sleep disorders. According to a 2004 study by Sekartini and Adi conducted in five major cities in Indonesia, namely, Jakarta, Bandung, Medan, Palembang, and Batam, 51.3% of babies experience sleep disorders. Baby massage is a form of touch therapy that serves as one of the most important treatment methods when done regularly can help change the brain waves that make babies sleep better.

Objective: this study was conducted to determine the effect of baby massage on the sleep quality of infants aged 0-12 months at PMtB Feby Yulistia S.Tr.Keb., S.KM Bandar Lampung

Method: This study used a Quasi-Experimental design with a one group pretest-posttest design. Held from January to June at PMB Feby Yulistia, S.Tr.Keb., S.KM Bandar Lampung. Respondents in this study were as many as 30 infants aged 0-12 months. Data analysis by means of univariate and bivariate analysis using the Wilcoxon test.

Results: The results of this study showed that the sleep quality of infants aged 0-12 months before being given baby massage the average infant sleep quality was less with a value of 3.10, after being given baby massage the average infant sleep quality was good with a value of 4.73. Wilcoxon test results obtained a p-value of 0.000 (<0.05) meaning that there is a significant difference between before and after baby massage.

Conclusion: there is an effect of baby massage on sleep quality aged 0-12 months.

Suggestion: increase motivation for health workers in providing education about baby massage to the community, especially parents to improve the quality of baby sleep

Keywords: Sleep disorders, sleep quality, baby massage.

INTRODUCTION

The first few years of a child's life, especially from fetus to two-year-old. This period greatly determines the growth and development of children because the child's brain grows faster and requires more special attention at this time. Golden opportunities and vulnerable times are represented by this period. Children will grow healthy and develop optimally with the support of good parenting, balanced nutrition, and adequate stimulation. In order for the development of motility, speech and language skills, recognition, and independence of children according to their age, good stimulation is needed to stimulate the child's brain (Ministry of Health RI, 2016)

Factors that affect the development of babies include rest or rest periods (Sukmawati & Imanah, 2020). Your baby's body produces growth hormone while it's sleeping, so babies need enough sleep to grow and develop properly. Sleep needs are reflected not only in terms of quantity but also in terms of quality. The baby's growth and development will be maximal if you get enough sleep. One of the baby's adaptations to his environment includes sleep. However, there is also the problem of the inability of babies to sleep at night, which if ignored can lead to behavioral disorders, growth and development problems, and brain disorders (Putri & Pratiwi, 2021).

In 2012, data from the World Health Organization (WHO) published in the journal *Pediatrics* revealed that about 33% of babies experience sleep disorders. Many babies in Indonesia have difficulty sleeping. According to a 2004 study by Sekartini and Adi conducted in five major cities in Indonesia—namely Jakarta, Bandung, Medan, Palembang, and Batam—51.3% of infants experience sleep disorders, with 42% sleeping less than nine hours per day. The night woke up more than three times, and the long time woke up for more than an hour. The 385 people who responded provided information (Tang, 2018)

Inadequate sleep and poor sleep quality can disrupt the physiological and psychological balance that is important for a baby's growth and development. Physiological side effects include feeling tired and weak, having poor neuromuscular coordination, taking longer to heal, and having a weaker immune system. Meanwhile, psychological effects include more unstable emotions, anxiety, poorer cognitive abilities, and combining lower experiences (Sari et al, 2017). Babies who have trouble sleeping will experience the same problem later in life, especially during their growth period.

Pharmacological and nonpharmacological therapies have been developed in various forms. Baby massage is one of the nonpharmacological treatments to improve the quality of baby's sleep. Baby massage is a form of touch therapy that serves as one of the most important treatment methods. When done regularly, it helps change brain waves, which makes babies sleep better (Kurniasari et al, 2020). Increased infant sleep quality arises due to increased levels of serotonin secretion. Serotonin is the primary transmitter in the formation of sleep by suppressing the activities of the reticulation activating system as well as other brain activities. Melatonin plays a role in sleep because it results in longer and deeper sleep at night. Melatonin is produced when light entering the eye is reduced. (Roesli, 2016)

Based on a study conducted by Warwick Medical School and the Institute of Education at the University of Warwick on 598 infants under 6 months of age who received baby massage with nine different movements, the findings suggest that baby massage can help sleep patterns better. Baby massage will trigger a reaction on the nerve endings at the top of the skin due to gentle touch and pressure. The nerves then communicate with the brain through spinal cord tissue. This cycle results in an increased level of serotonin release. Serotonin or transmitter substances reduce reticulation-activating system activity and function. Serotonin synthesized from the amino acid tryptophan will be converted into 5-hydroxytryptophan (5HTP) then converted into N-acetyl serotonin which finally turns into melatonin. Melatonin has the advantage of prolonging and deepening nightly sleep. In addition, the secretion of melatonin during the day results in a beneficial nap for the baby and regulates his daily routine (Tang, 2018).

According to Aco Tang (2018) about the effect of baby massage on the quality of baby's sleep before massage, the relatively good sleep category is most found at 60 percent, while the sleep deprivation category is the most unusual, at 6.7%. However, after six sessions of baby massage, the study found none of the babies had poor sleep quality and good sleep quality dominated (73.3 %).

Based on a presurvey conducted at PMB Feby Yulistia S.Tr.Keb., S.KM Five parents of infants interviewed by researchers obtained interview results 3/5 (60%) parents reported that their children fussed easily, often woke up at night crying, and had difficulty falling back and 2/5 (40%) parents reported that their babies never woke up fussy. Based on the background above, the author is interested in researching the "Effect of Baby

Massage on the Sleep Quality of Babies 0-12 Months at PMB Feby Yulistia, S.Tr.Keb., S.KM in 2023.

RESEARCH METHODS

This type of research is a type of quantitative research. The research design used is a Quasi-Experimental research design using a one group pretest – posttest design approach. The population in this study was infants aged 0-12 months at PMB Feby Yulistia, S.Tr.Keb., S.KM Bandar Lampung, samples used 35 babies, sampling techniques using purposive sampling. The measuring instruments in this study used observation sheets and BSQI questionnaires to assess the quality of infant sleep. Baby massage is given with a duration of 30-40 minutes for 1 time then on the second day the quality of sleep is assessed for babies aged 0-12 months after baby massage. The statistical test used is the Wilcoxon test.

RESEARCH RESULTS

Characteristics of Respondents

Table 1
Frequency Distribution of Respondent Characteristics

Characteristic	Total (n)	Percentage (%)
Age		
0-2 months	5	16,7
3-6 months	12	40,0
7-9 months	11	36,7
10-12 months	2	6,7
Gender		
Man	10	33,3
Woman	20	66,7

Based on table 1 above, it explains that of the 30 respondents, the majority of respondents aged 3-6 months there were 12 people (40.0%), while based on gender, the majority of respondents were female there were 20 people (66.7%).

Univariate Analysis

Table 2
Frequency distribution of sleep quality of infants aged 0-12 months before given baby massage at PMB Feby Yulistia

Baby Sleep Quality	n	Mean	SD	Min-Max
Before (Pretest)	30	3,07	0,785	2 - 4

Based on table 2 above, it shows that before baby massage the average baby's sleep quality was less with a value of 3.10 (SD + 0.803) and a min-max value of 2-4.

Table 3
Frequency distribution of sleep quality of infants aged 0-12 months after given baby massage at PMB Feby Yulistia

Baby Sleep Quality	n	Mean	SD	Min-Max
After (Posttest)	30	4,73	0,691	4 - 6

Based on Table 3 above, it shows that after giving baby massage, the average infant sleep quality is good with a value of 4.73 (SD + 0.691) and a min-max value of 4-6.

Bivariate Analysis

Based on table 4 above shows a positive rank value of 30 where all babies experience an increase in the quality of infant sleep from an average value of 3.07 to 4.73, a ties value of 0, meaning there is no similarity in the value of infant sleep quality between before and after. The results of the Wilcoxon test obtained a p-value of 0.000 (<0.05) meaning that there is a significant difference between before and after baby massage, so it can be concluded that there is an effect of baby massage on sleep quality aged 0-12 months at PMB Feby Yulistia, S.Tr.Keb., S.KM in 2023.

Table 4
Differences in sleep quality of babies aged 0-12 months before and after given baby massage at PMB Feby Yulistia, S.Tr.Keb., S.KM

Variables	Mean	N Negative ranks	N Positive rank	Ties	P value
Before (Pretest)	3,07				
After (Posttest)	4,73	0	30	0	0,000

DISCUSSION

Characteristics of Respondents

Based on the results of the study, it is known that the majority of respondents aged 3-6 months there are 12 people (40.0%). Because babies spend a lot of time sleeping, at the age of 3-6 months is a good time to regulate their sleep patterns considering the amount of sleep the baby will decrease regularly every month.

According to Permenkes RI 2014 a baby is a human aged 0 to 12 months. This is the time when the initial foundation becomes the basis of the beginning of a child's life so that it is considered a critical period or period. Babies will continue to experience growth and development both physically, psychologically, socially such as adaptation to the environment, changes in blood circulation and the start of functioning of organs.

Based on gender, the majority of respondents were female there were 20 people (66.7%). The results of the study found that female babies are more than boys because the number of female babies in PMB Feby Yulistia, S.Tr.Keb., S.KM, is more than men. Women are more often affected by sleep disorders than men.

Based on the results of Meir H. Kryger's research, women experience stress conditions caused by hormonal physical changes throughout their life cycle, such as the menstrual phase. If women are in a state of excessive stress, their bodies will produce the hormone cortisol excessively which will later cause women to have difficulty sleeping and staying awake.

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Univariate Analysis

Quality of Sleep Baby 0-12 Months Before Baby Massage

Based on the results of research that has been done, it is known that before giving baby massage, the average quality of baby's sleep is less with a value of 3.10 and a min-max value of 2-4. The results showed that the average quality of baby's sleep was lacking, this was due to the baby's sleep quality experiencing disorders characterized by the baby's parents saying the baby was often fussy, crying at night and his sleep became not sound.

This is in line with the theory of Irianti & Karlinah (2021), which states that babies experience sleep disorders if at night their sleep is less than 9 hours, awakens more than 3 times and wakes up for more than 1 hour. During sleep, the baby looks always fussy, crying and difficult to fall back asleep. According to Widiastuti's theory (2022) states that factors that affect sleep quality include: Health status or disease, exercise and fatigue, environment, emotional stress, drugs and nutrition.

The results of this study are in line with the research of Rosalina et al (2022) The results showed that the majority were in the bad category in fussy and crying babies, namely 95 people (64.2%). While the minority in the good category amounted to 53 people (35.8%). Reinforced by research conducted by Sukmawati (2020) Based on the

results of the research obtained, most of the 18 respondents (60.0%) respondents had poor sleep quality before baby massage.

In the opinion of researchers, poor sleep quality in infants can make the immune system low, children cry easily, fuss and can interfere with the baby's growth during growth. Given the importance of sleep time for the development of the baby, the need for sleep must be really met so as not to adversely affect its development.

Sleep Quality of Baby 0-12 Months After Baby Massage

Based on the results of research that has been done shows that after being given baby massage, the average quality of baby sleep is good with a value of 4.73 and a min-max value of 4-6. The results of this research are in line with the theory of Roesli (2016) which states that baby massage is touch therapy for treatment and the art of health care carried out on the surface of the skin to tissues or organs of the body which aims to produce effects on nerves, muscles and respiratory system and facilitate and facilitate blood circulation.

Baby massage is a massage that is done closer to fine strokes or tactile stimulation carried out on the surface of the skin, manipulation of tissues or organs of the body aims to produce effects on nerves, muscles, and the respiratory system and facilitate blood circulation. Baby massage is the oldest touch therapy known to man and the most popular (Walker et al., 2017)

According to Juwita's theory (2019) the benefits of baby massage include Making babies calmer, Improving the immune system, spurring the development of the brain and nervous system, improving infant concentration, improving sleep quality, increasing milk production, increasing peristalsis for digestion, stimulating vagus nerve activity for respiratory improvement, teaching babies from an early age about body parts and fostering bonds of parent and child affection (bonding).

Baby massage is more beneficial among weight gain, better sleep-wake patterns, improved neuromotor development, better attachment of emotional bonds, reduced rates of nosocomial infections and thus, reduced mortality in premature babies born (Tri Wahyuni, 2016). This research is in line with research conducted by Sari (2017) the results showed that most of the sleep quality of infants aged 3-6 months after baby massage experienced good sleep quality, which was 24 respondents (75%). Strengthened by research conducted by Rohmawati (2018). The results showed that most of the baby's sleep quality after

baby massage experienced good sleep quality, which was 21 respondent (60%). Researchers study changes in the quality of infant sleep caused by the effects of baby massage, one of which makes the baby calmer.

Bivariate Analysis

The Effect of Baby Massage on Sleep Quality Age 0-12 Months at PMB Feby Yulistia, S.Tr.Keb., S.KM.

Based on the results of research that has been conducted shows that there is an increase in sleep quality with an average value of 1.66. Wilcoxon test results obtained a p-value of 0.000 (<0.05) meaning that there is a significant difference between before and after baby massage.

The results of the study showed that baby massage was able to improve the quality of baby's sleep. Where the baby shows changes in sleep duration, the length of waking up at night, the baby is not fussy at night, the baby has no difficulty starting sleep again. The results are known that the age of babies who experience many changes in the quality of sleep after being given baby massage is the age of 7-12 months, this is because emotions are stable, easier to communicate, calmer and the age of 7 babies at that age have been given complementary feeding so that the need for adequate feeding makes the baby full so that they can sleep peacefully. While in infants aged 0-6 months slightly experience changes in sleep quality, this is because there are babies who still have not faded the umbilical cord, babies have not been able to adapt to the new environment.

According to Roesli (2016) Baby Massage is touch therapy for treatment and the art of health care carried out on the surface of the skin on tissues or organs of the body which aims to produce effects on nerves, muscles and respiratory system and facilitate and facilitate blood circulation. According to Aco Tang (2018) about the effect of baby massage on the quality of baby's sleep before massage, the relatively good sleep category is the most found, which is 60 percent, while the sleep deprivation category is the most unusual, at 6.7%. However, after six sessions of baby massage, the study found none of the babies had poor sleep quality and good sleep quality dominated (73.3%).

In line with Sukmawati's research (2020), in this study, the population is 30 baby mothers using total population sampling techniques. The results of this study are: There is an effectiveness of baby massage to improve the quality of baby's sleep, as evidenced by respondents who experience improved sleep quality, most (73.33%) respondents have good sleep quality.

Reinforced by research conducted by Rohmawati (2018), the results showed that the quality of sleep of infants aged 3-12 months before being given baby massage was almost half enough, namely as many as 16 respondents (45.7%) after baby massage, most of the respondents were good as many as 21 respondents (60%) Wilcoxon's statistical test results showed that the significance value of pvalue was $0.000 < (0.005)$, so it was concluded that there was an influence of baby massage on the quality of sleep of babies aged 3-12 months in Ponkesdes village Grogol, Diwek Jombang.

The research review in this study is that babies who are given baby massage will feel comfort, fine rubbing or tactile stimulation carried out on the surface of the skin can manipulate tissues or organs of the body to produce effects on nerves, muscles, and respiratory systems and facilitate blood circulation so that it can affect the quality of baby's sleep.

CONCLUSION

The characteristics of respondents are the majority of respondents aged 3-6 months there are 12 people (40.0%), while based on gender the majority of respondents are female there are 20 people (66.7%). The sleep quality of infants aged 0-12 months before being given baby massage the average infant sleep quality is less with a value of 3.10. The sleep quality of infants aged 0-12 months after being given baby massage the average infant sleep quality is good with a value of 4.73. There is an effect of baby massage on sleep quality aged 0-12 months at PMB Feby Yulistia, S.Tr.Keb., S.KM in 2023 with a p-value of $0.000 (<0.05)$.

SUGGESTION

For the research site, the results of this research can be a motivation and as additional material to develop promotion and education about baby massage to the community, especially parents to improve the quality of baby sleep.

For parents of infants, the results of this study can be a motivation and as additional material

to develop promotion and education about baby massage to the community, especially parents to improve the quality of baby sleep.

For future studies, with the limitations of research related to the use of BSQI questionnaires, it is hoped that further researchers can use BSQI to assess sleep quality in accordance with technical instructions so that the results of the study are more perfect.

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