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THE EFFECT OF APPLICATION OF SLEEP TRAINING METHODS WITH POSITIVE ROUTINES ON THE QUALITY OF SLEEP OF INFANTS AGED 3-4 MONTHS AT THE VILLAGE HEALTH CENTRE MULYOGAGUNG - DAU MALANG DISTRICT

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Abstract

Factors affecting the growth and development of babies include sleep and rest. The quality of a baby's sleep is influenced by various factors such as the environment, nutrition, illness, and physical activity. This study aimed to investigate the impact of positive sleep training methods on the sleep quality of 3-4-month-old babies at the Mulyoagung Village Health Post. The study involved a population of 50 babies, with a sample of 36 babies. Data was collected through pre-test and post-test questionnaires, and the analysis involved univariate methods like frequency distribution and bivariate methods like Wilcoxon. The research demonstrates the changes by implementing positive sleep training for babies aged 3-4 months at the village health post in Mulyoagung. The results of the Wilcoxon test showed a significant result of 0.000 (p 0.005), indicating that the implementation of positive routine sleep training methods influenced the sleep quality of babies aged 3-4 months. It is recommended that parents use positive routine sleep training methods to enhance the bond between babies and their parents.

Keyword: *Infants Age 3-4 Months, Sleep Quality, Sleep Training with Positive Routine Method*

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1. Introduction

The infancy period spans from 0 to 12 months. It is divided into two distinct phases: the neonatal period, covering the first 28 days, and the postneonatal period, lasting from day 29 to the end of the first year [1]. This phase is pivotal for the growth and maturation of children, necessitating specialized attention [2]. Sleep and rest significantly impact the growth and development of infants. Sleep is a fundamental human necessity, vital for physical and mental well-being. During sleep, the body's organs undergo a reparative process, and the quality of an infant's sleep is determined by their capacity to rest and recuperate adequately. By the age of three months, newborns typically sleep for approximately 15-17 hours, with 8 hours allocated to daytime sleep and 9 hours to nighttime sleep. Instances where infants sleep for fewer than 9 hours at night, wake up more than 3 times, and remain awake for over 1 hour are indicative of potential sleep disorders. Manifestations of

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disrupted sleep include irritability, frequent crying, and difficulty returning to sleep.[3]

Research conducted by Sekartini across five urban centers—Jakarta, Bandung, Medan, Palembang, and Batam—surveyed 385 respondents, revealing that 51.3% of infants experienced sleep disturbances. Furthermore, 42% of infants slept for fewer than 9 hours at night, woke up more than three times, and remained awake for over an hour.[4]

Multiple factors influence the quality of infant sleep, encompassing environmental, nutritional, other health conditions, and physical activity. Inadequate and poor-quality sleep can disrupt the physiological and psychological equilibrium. Physiological ramifications include reduced daily activities, fatigue, weakness, impaired neuromuscular coordination, delayed healing, and diminished endurance. Psychological effects encompass emotional instability, anxiety, and reduced concentration.[5] One approach to enhancing the quality and quantity of infant sleep is the early application of sleep training methods. Sleep training entails guiding infants to sleep independently throughout the night and teaching them self-soothing strategies upon waking. This practice is prevalent in Western parenting [6]. Approximately 81.9% of scholarly literature and 61.9% of published works advocate that sleep training effectively addresses sleep issues in Western families, with substantial observable changes. Consequently, nearly 80% of Western families employ this methodology.[7]

2. Method

The study utilized a group pretest-posttest design, spanning a period of 10 days from April 12 to April 22, 2023. Initially, participants completed the Sdsc (Csale of sleep disorders for children) questionnaire as a pre-test, assessed using the Ordinal Rating Scale (ORS), prior to receiving the designated treatment. Subsequently, the intervention was administered according to the assigned group, following which participants completed the questionnaire again to evaluate the impact of sleep training employing established positive methods on the sleep quality of 3-4-month-old infants. Finally, post-treatment assessment was conducted using the Ordinal Rating Scale (ORS).

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3. Result and Discussion

This study includes the mother's age, occupation, education, and number of parities. The results of the descriptive review of general data in tables are as follows

Table 1. Frequency Distribution of General Data of Respondents at Mulyoagung Village Health Post

Characteristic	Indicator	n	%
Age (year-old)	21-30	35	97
	> 30	1	3
Infant Age (Months)	3	16	44
	4	20	56
Parentss Education	Primary School	5	14
	Junior High School	8	20
	High School	15	41
	University	9	25
Parity	1	29	80.6
	2	7	19.4

Based on Table 1, the study population consisted mainly of mothers aged 20-30 (97%), with the majority (41%) having completed high school. Their babies were 3 to 4 months old, and most had a parity of 1 (80.6%). All respondents resided in Mulyoagung village, Dau Malang regency.

Cross-distribution will illustrate and present the outcomes of the impact of pre- and post-implementation of positive routine sleep training on 3-4-month-old infants in Mulyoagung village, Dau

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Malang Regency. The findings will be displayed in a cross-tabulation format:

Table 2. Cross Distribution Before and After the Application of Sleep Training Using the Positive Routine Method in Infants aged 3-4 months at the Poskesdes of Mulyoagung village

No	Sleep training	Before		After	
Sleep Quality		n	%	n	%
1	Excellent	0	0	28	78
2	Sufficient	28	78	8	22
3	Poor	8	22	0	0
	Total	36	100	36	100

Table 2 indicates a noticeable change in the number of respondents before and after applying sleep training methods with positive routines. Initially, almost all 3-4 month-old babies (78%) had sufficient sleep quality, with 28 babies, while less than 8 babies (22%) did not. Following the implementation of sleep training methods with positive routines, the majority of respondents exhibited improved sleep quality, with 28 babies (78%) having good sleep quality and 8 babies (22%) having sufficient quality. The Wicoxon difference test yielded a p-value of 0.000, reinforcing the study's findings. The study's p-value is less than α (0.05), indicating a highly significant difference in value. Considering the duration of the baby's sleep before and after the treatment, it is evident that most respondents experienced more than 11 hours of sleep. Consequently, it can be concluded that there is a discernible impact of sleep training methods with positive routines on the quality of sleep among 3-4-month-old babies in Mulyoagung Village Health Post.

Sleep training, a method aimed at teaching babies to sleep independently without parental assistance [8] has been shown through research to enhance the quality of a baby's sleep and improve the mother's emotional well-being by reducing nighttime awakenings. It is also likely to influence the mood and sleep quality of both parents when the baby experiences sleep deprivation [9]. The positive routine method involves activities performed within 30 minutes before bedtime, such as engaging in activities the child enjoys, relaxation, and avoiding overstimulation.[10] These activities include taking a warm bath, consuming warm milk, brushing teeth, reading bedtime stories, discussing enjoyable events with parents, playing soft music, using aromatherapy, and more.[11] The positive routine is the most widely accepted among various sleep training methods, particularly in Indonesian culture, considering that sleep training originates from foreign cultures.[12] This method is safe for infants, enhances sleep quality, and fosters early independence, thereby preventing sleep disorders that could impact infant and child growth and development.[13]

Sleep disorders in children can significantly impede their physical and cognitive development, which indicates their overall health and ability to think as adults.[14] Sufficient sleep in infants plays a crucial role in guiding early brain development. During this period, the brain forms synapses, vital connections that enable learning, movement, and the development of various new skills.[15]

4. Conclusion

Implementing sleep training using the positive routine approach impacts the sleep quality of 3-4 month old infants.

5. Acknowledgement

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