

# Improving the Quality of Baby Sleep by Giving Massages Aged 0-6 Months at Muhammadiyah Semampir Branch Office in Surabaya

Pipit Festy Wiliarnarti<sup>a)</sup>, Yuanita Wulandari<sup>b)</sup>, Nur Aini<sup>c)</sup>

Faculty of Health Sciences, Muhammadiyah University of Surabaya, Indonesia

<sup>a)</sup>Corresponding author: pipitfestiwiliyanarti@um-surabaya.ac.id

<sup>b)</sup>yuanitawulandari@um-surabaya.ac.id

<sup>c)</sup>aininr1311@gmail.com

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## ABSTRACT

Sleep is one of the basic human needs. The need for sleep for all ages differs. Sleep disorders can occur in children with manifestations of difficulty in starting to sleep and maintaining sleep. One way to overcome baby sleep disorders is with Massage (touch). Touching the baby's skin will stimulate blood circulation and add more oxygen wave energy to the brain, improving the circulation and respiration systems. The feeling of comfort and relaxation from massage will enhance sleep quality in infants aged 0-6 months. This baby massage stimulates the nervous and respiratory systems and smooths blood circulation. Massage can stimulate hormones, affecting the body's work systems, such as sleep patterns, and can help babies with difficulty sleeping soundly. This Community Service aims to show that baby massage can improve sleep quality in infants aged 0-6 months. The method used in community service was to massage babies aged 0-6 months for two weeks. The massage was carried out continuously and continued independently by mothers at home to improve sleep quality in infants aged 0-6 months. Results obtained after massage on babies aged 0-3 months for two weeks showed that the average sleep time of babies increased by 96 minutes, while the average sleep time of babies aged 4-6 months was 115 minutes. It shows that baby massage dramatically influences the quality of baby sleep. Conclusion: This baby massage is an effort made to improve the quality of baby sleep because it is essential for their growth and development.

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## INTRODUCTION

Children are the successors of the nation's relay. Therefore, it is essential to create a healthy generation from the womb. Since birth, babies have three needs that their parents must meet, namely the fulfilment of physical-biomedical needs that are useful for brain growth of the sensory and motor systems, emotional needs of valuable affection for emotional intelligence, inter and intrapersonal, stimulation to stimulate all sensory and motor work. (Muawanah, Rifa Zaimsyah, Relida Samosir, *Physiotherapy Studies, C Medicine and Health Sciences*, 2019).. Infancy is a golden period for the growth and development of children, so it needs special attention. One factor that affects infants' growth and development is sleep and rest. (Improving Sleep Quality of Infants of Age et al., 2018)

Sleep is a top priority for babies, as this is when neurobrain repair occurs, and approximately 75% of growth hormones are produced. Babies spend an average amount of time sleeping about 60% of the time. Newborns usually sleep for about 17-18 hours/day in the first week after birth and 15 hours per day in the first month after birth. A newborn baby, until approximately 3 months of age, will spend about 15-17 hours sleeping, with a division of 8 hours for daytime and 9 hours for nighttime. Babies are said to have good quality sleep when the length of sleep is usually almost balanced between day and night; the baby can sleep peacefully, feels refreshed when waking up in the morning, and feels energetic to do other light physical activities. As the baby gets older, the hours of sleep also decrease. At 3-6 months, the number of naps decreases approximately 3 times and continues to decline. (Ahmad et al., 2023).

Given the importance of sleep for the development of infants, their sleep needs must be met not to affect their development adversely (Saidah, Lidia, Mutiara Mahakam Samarinda, *C Kebidanan Bunga Husada*, 2020).. Changes in brain function occur during every sleep process, whether at night or during a nap. Sleep is one of the needs of infants or children that is as important as other significant needs, such as eating, drinking, clothing, security, affection, and others. The baby's need for adequate sleep cannot be underestimated or placed at the bottom of the priority list because its growth and development depend on sleep. During the infant phase, the growth of nerve cells is not yet perfect, so more sleep is needed for nerve development, synapse formation, and so on. A baby's brain grows three times as much as it did at birth, or 80% of an adult's brain in its first year. This condition only happens once in a lifetime. During sleep, about 80% of brain and physical growth occurs. Therefore, quality sleep is essential for babies in the process of optimal growth because, during sleep, the regeneration activities of body cells and brain growth and development take place at their peak. Vice versa, if the baby lacks sleep, it will have a negative impact on growth and development, where the baby does not grow optimally. So, babies need adequate rest time for maximum growth and development (Muawanah et al., 2019).

Currently, various therapies have been developed, including pharmacological and non-pharmacological therapies. Salag's non-pharmacological therapy to overcome the sleeping problems of infants and children is baby massage. Baby massage is one type of stimulation that will stimulate the development of the structure and function of the cells in the brain (Supriatin, Nurhayani, Ruswati, Trihandayani, C Marwati, 2022). Gentle massage will help relax the muscles, so the baby becomes calm and sleeps well. A gentle touch on the baby is wonderful

means of bonding between the baby and its parents. Massaged babies for about 15 minutes will feel more relaxed, sleep better, and improve their development and growth. In addition, other solutions for babies to sleep well are adjusting the feeding schedule and changing diapers when the baby urinates and defecates (Achirda et al., 2022)

Based on WHO data in 2012 included in the journal *Pediatrics*, it was recorded that around 33% of infants experienced sleep problems (Aryani, Rositasari, Suwarni, *Nursing Studies, C Sahid Surakarta*, 2022). Meanwhile, Cincinnati Children's Hospital Medical Center researchers stated that infant sleep problems do not always disappear when they become adults. One of the causes of sleep problems is parental mistakes in putting children to bed. Healthy sleep habits should be instilled from infancy.

In Indonesia, there are quite a lot of infants who experience sleep disturbances, which is around 44.2%.

However, almost or even more than 72% of parents do not consider sleep disorders in infants as a problem, even though sleep problems can interfere with a baby's growth and development (Aryani et al., 2022).

## METHOD

To achieve the objectives outlined above, the community service activity was implemented using the lecture and discussion method, namely providing explanations and practices of what has been conveyed. Two methods were applied in this community service program: the presentation and demonstration. The presentation method introduces massage techniques to babies aged 0-6 months.

The following are the stages of implementing community service in the Nasyiatul Aisyah cadre, Samampir Branch:

### 1. Preparation Stage

Preparation is carried out from November 2023, which consists of the following:

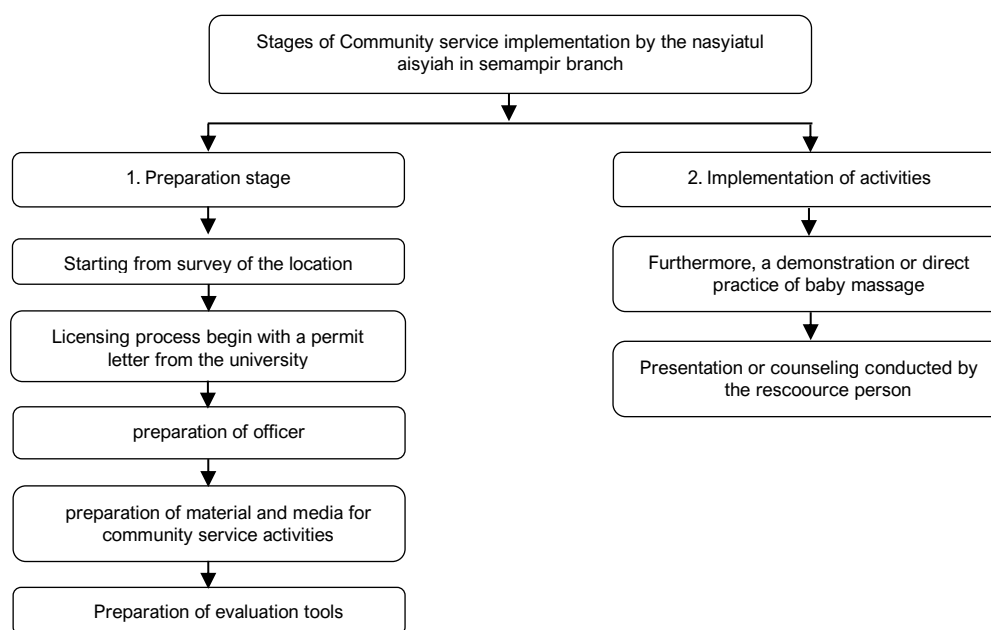
- We started with a survey of the location by visiting the location and partners to be targeted in the work area of Nasyiatul Aisyah, Semampir Branch, Surabaya City.
- The licensing process begins with a permit letter from the university addressed to the relevant organization where the service was carried out to implement the program. The university also asked for assistance in obtaining data on the community that would take part in this socialization and training program.
- Preparation of officers, namely the division of tasks and responsibilities of lecturers and students involved in this service.
- Preparation of materials and media for community service activities, namely baby oil, baby mats, modules, laptops, LCD projectors, banners, leaflets, baby dolls, scales, and microtones.
- Preparation of Evaluation Tools in the form of attendance lists and ballpoints.

### 2. Implementation of Activities

The implementation of this activity was carried out on Monday, April 22, 2024.

The implementation activities that were carried out were as follows:

- Furthermore, a demonstration or direct practice of baby massage was carried out on babies aged 0-6 months.
- Presentation or counseling conducted by the resource person about baby massage and the effects of baby massage in overcoming sleep disorders in babies.



**FIGURE 1** Flowchart of the stages of implementing community service at the Samampir Branch Nasyiatul Aisyah cadre. **Source:** Author, 2024



FIGURE 2. Implementation of service activities

## RESULTS AND DISCUSSION

The training and community education method involves the community and students during implementation. The implementation was carried out on Monday, April 22, 2024, at 10.00 WIB to increase the role of Nursing lecturers at the UMSurabaya Faculty of Health Sciences in providing knowledge and improving sleep quality for babies aged 0-6 months.

The results of community service targeting women who have babies aged 0-6 months in the work area of Nasyyatul Aisyiyah Semampir Branch, Surabaya City, were carried out for two weeks with partners from Nasyyatul Aisyiyah Semampir Branch Cadres, namely after carrying out baby massage with initial counselling activities aimed at increasing information and knowledge of the community, especially mothers, about the importance of baby massage and then continuing to teach and practice baby massage to mother participants so that they can do baby massage at home to get quality sleep. The following are the results of the activity:

TABLE 1. Frequency distribution of gender in babies aged 0-6 months

No.	Gender	Frequency	%
1	Male	5	41,67
2	Women	7	58,33
		12	100

Based on the table above, it is known that the respondents of infants in the work area of Nasyyatul Aisyiyah Semampir Branch, Surabaya City, who are male are as many as babies (41.67%) and female are as many as seven babies (58.33%).

**TABLE 2.** Frequency distribution of age in infants

No.	Age (Month)	Frequency	%
1	0-3	6	50
2	4-6	6	50
		12	100

Based on the table above, it is known that the respondents of infants in the work area of Nasyiatul Aisyiyah Semampir Branch, Surabaya City, who are 0-3 months old are six babies (50%), and those aged 4-6 months are six babies (50%).

**TABLE 3.** Frequency distribution of average baby weight and length of time before and after baby massage.

No.	Variable Group	Mean	
1	Baby Weight	Before	After
	0-3 months	18300	18500
	4-6 months	18700	19025
2	Length of Sleep Time		
	0-3 months	Less Good	Very good
	4-6 months	Less Good	Very good

Table 3 shows that before the massage, the average weight of babies aged 0-3 months, which was initially 18300 grams, increased to 18500, and the weight of 4-6 months, which was initially 18700, became 19025. The length of sleep before massage in babies aged 0-3 months was 924 minutes, and after massage, it increased to 1020 minutes, and in babies aged 4-5 months, which was initially only 744 minutes, it increased to 840 minutes.

Based on the table above, the sample used in this service is babies aged 0-6 months. In this age range, babies have many sleep problems. It is because many young parents need to understand the needs of babies aged 0-6 months.

The study's results showed that the length of sleep in babies aged 0-6 months was perfect. These results are in line with those of (Utami et al., 2019) regarding the differences in baby massage on sleep patterns and weight gain in babies aged 3-5 months in the Sukabumi City Health Office work area, which stated that the quality of sleep before baby massage increased by 1.80 hours.

The results of this study are also in line with research (Utami et al., 2019), which stated that the average increase in sleep time in the treatment group was 80.7 minutes, while the average baby sleep time in the control group decreased by 53.9 minutes. Sleep is a critical process for humans because recovery helps return a person's condition to its original state so that the previously tired body will be refreshed. Specific physiology is obtained while a person is sleeping, which restores the body processes that occur when the person wakes up. If the quality of sleep is good, it means that the body's physiology, in this case, brain cells, recovers as before when waking up (Nurseha et al., 2022).

Good sleep quality is indicated by the number of hours the baby sleeps; the baby can fall asleep easily at night, is fit when waking up, and is not fussy. Poor sleep quality is not only indicated by the number of hours of sleep that are less than the needs according to age but also by disturbances during sleep, including frequent waking up at night and waking up for more than 30 minutes each time you wake up.

## CONCLUSIONS

Baby massage is the most familiar touch therapy to humans and one form of early stimulus that is very important for preventing sleep disorders and improving sleep quality in children. This community service program aims to educate the community about baby massage techniques and the effects of massage in

overcoming sleep disorders in babies aged 0-6 months. Massage methods are, by standards, the closeness between mother and baby and help stimulate the baby's growth and development. This community service activity went well and smoothly as scheduled. During the counselling, many participants asked questions and were very enthusiastic about seeing and practising massage techniques on babies.

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