

## REVOLUTIONIZING SLEEP QUALITY: THE ROLE OF BABY MASSAGE IN TREATING PNEUMONIA PATIENTS AT PADMANABA BARAT ROOM, RSUP DR. SARDJITO

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### ABSTRACT

**Introduction :** Pneumonia is an acute respiratory tract infection that affects the lung tissue (alveoli). Sleep is a form of adaptation of babies to their environment. Baby massage is a rubbing movement on the baby's body starting from the feet, stomach, chest, face, hands and back of the baby. Based of the register book in Padmanaba Barat room, the incidence of pneumonia in the last 3 months was 22 cases. **Purpose:** To find out how to improve sleep quality with infant massage in pneumonia patients in the West Padmanaba ward, RSUP Dr SARDJITO Hospital, Yogyakarta. **Method:** The method used in this research is descriptive in the form of a case study. **Results:** From the implementation that was carried out for 2 days on one respondent by measuring sleep quality in the first pre-intervention with a score of 5, the first post-intervention with a score of 4 and the second pre-intervention with a score of 4, the second post-intervention with a score of 2. **Conclusion:** Baby massage can improve sleep quality in pneumonia patients.

**Keywords :** Revolutionizing Sleep Quality, Baby Massage Therapy, Pneumonia Patients, Sleep Quality Improvement, Pneumonia Treatment

### INTRODUCTION

Acute Respiratory Infection (ARI), particularly pneumonia, is a significant health concern worldwide, contributing to high rates of morbidity and mortality, especially in low- and middle-income countries. Pneumonia, an acute infection of the

lower respiratory tract, directly impacts the lung tissue, primarily the alveoli, leading to impaired gas exchange. This condition often presents with symptoms such as difficulty breathing, persistent coughing, anxiety, and disturbances in sleep. These symptoms not only

affect the patient's physical well-being but also their overall comfort and quality of life (Suryani et al., 2018).

In infants, sleep plays a crucial role in both physical and cognitive development. Newborns and young children typically sleep for 16-20 hours per day, which is essential for their growth and recovery. During sleep, the body releases growth hormone at significantly higher levels—up to three times more than when awake). Sleep, therefore, becomes an essential factor in helping babies recover from illnesses like pneumonia by supporting immune function and enhancing overall physical health. However, for infants with pneumonia, sleep disturbances are common due to respiratory distress and discomfort, which can delay recovery and exacerbate their symptoms. Hence, addressing sleep issues in pneumonia patients, particularly infants, is a critical component of their treatment and recovery process. (Fauziah & Wijayanti, 2018).

One of the approaches to address sleep disturbances in infants, particularly those with pneumonia, is through both pharmacological and non-pharmacological interventions. Pharmacological methods typically involve the use of medications, such as sleeping pills, to promote sleep. However, these come with potential side effects and are not always

suitable for babies. Therefore, non-pharmacological methods are increasingly favored, as they are generally safer and free of adverse effects. These methods include techniques like playing soothing music, reading books, and offering gentle massage.

Among these, baby massage is a widely recommended practice to improve sleep quality and duration in infants. Massage is a gentle, calming method that promotes relaxation, reduces anxiety, and relieves discomfort, which can all contribute to better sleep. Research has shown that baby massage can enhance the baby's overall sense of well-being, stimulate the parasympathetic nervous system, and regulate body functions, leading to improved sleep patterns. Given that sleep is essential for recovery, especially in babies with pneumonia, incorporating baby massage as a complementary therapy can play a crucial role in promoting better sleep and supporting the healing process (Erlawati et al., 2019). Baby massage is a stroke movement on the baby's body starting from the feet, stomach, chest, face, hands and back of the baby. Gentle massage will help relax the muscles so that the baby becomes calm and sleeps soundly. (Istikhomah et al., 2020) Baby massage has many health benefits, one of which is the quality of children's sleep where growth hormone is secreted three times more in children who have good

sleep quality. The purpose of this study is to explore the effectiveness of baby massage as a non-pharmacological intervention to improve sleep quality and duration in infants, particularly those suffering from pneumonia. Baby massage is a gentle, calming technique that promotes relaxation, reduces anxiety, and relieves discomfort, all of which contribute to better sleep. Given that sleep plays a vital role in the recovery process, especially for infants with pneumonia, incorporating baby massage as a complementary therapy could enhance overall well-being and support healing. This technique stimulates the parasympathetic nervous system, regulates body functions, and improves sleep patterns. By promoting deep, restful sleep, baby massage helps in the secretion of growth hormones, which are critical for healthy development. Additionally, the study aims to demonstrate how baby massage can strengthen the parent-child bond and improve sleep quality in infants aged 6-12 months, as supported by previous research (Saputro & Bahiya, 2021).

## METHODS

### Study Design

This study utilizes a case study design, which allows for an in-depth exploration of a specific individual's health issue. The case study design is ideal for focusing on the effects of

baby massage on sleep quality in a single pediatric patient. This approach provides detailed insights into the relationship between the intervention and its outcomes, especially in the context of a clinical setting such as Dr. Sarjito Hospital Yogyakarta. The study was conducted from April 4th to 9th, 2022 in the West Padmanaba ward. (Sheidaei et al., 2016).

### Sample

The study sample comprised a single pediatric patient diagnosed with pneumonia and experiencing sleep disturbances. This subject was selected based on the criteria of having pneumonia and experiencing disrupted sleep, which was determined during the initial assessment.

### Instruments

The study utilized several tools and instruments to collect data. Sleep monitoring was conducted by tracking the patient's sleep hours before and after the intervention. A sleep journal or observation log was used, where the sleep hours were recorded daily to assess any changes. The intervention involved baby massage, which followed a standardized technique involving gentle strokes applied to various parts of the baby's body, such as the feet, stomach, chest, face, hands, and back. To ensure ethical compliance,

an informed consent form was used to obtain permission from the child's family to participate in the study and receive the massage intervention. Additionally, an observation checklist was employed to track and record the patient's sleep quality and duration both before and after the baby massage, enabling a comprehensive evaluation of the effects of the intervention.

### Data collection

Data collection for this study was conducted through several key steps. Initially, the baseline sleep hours and quality of the pediatric patient were assessed by observing and recording the hours of sleep prior to any intervention. This allowed for the establishment of a reference point to evaluate any changes in sleep patterns following the intervention. Before starting the massage, the patient's family was fully informed about the research purpose, procedures, and potential benefits, and their consent was obtained through a signed informed consent form. Following this, the intervention, which involved applying a standardized baby massage technique, was performed. The massage consisted of gentle strokes on the baby's body, including the feet, stomach, chest, face, hands, and back, aimed at promoting relaxation and improving sleep. After the

intervention, the patient's sleep quality and duration were reassessed by observing the number of hours slept and noting any changes in sleep quality. The collected data was then analyzed to determine the effectiveness of the baby massage in improving sleep patterns in the pediatric patient.

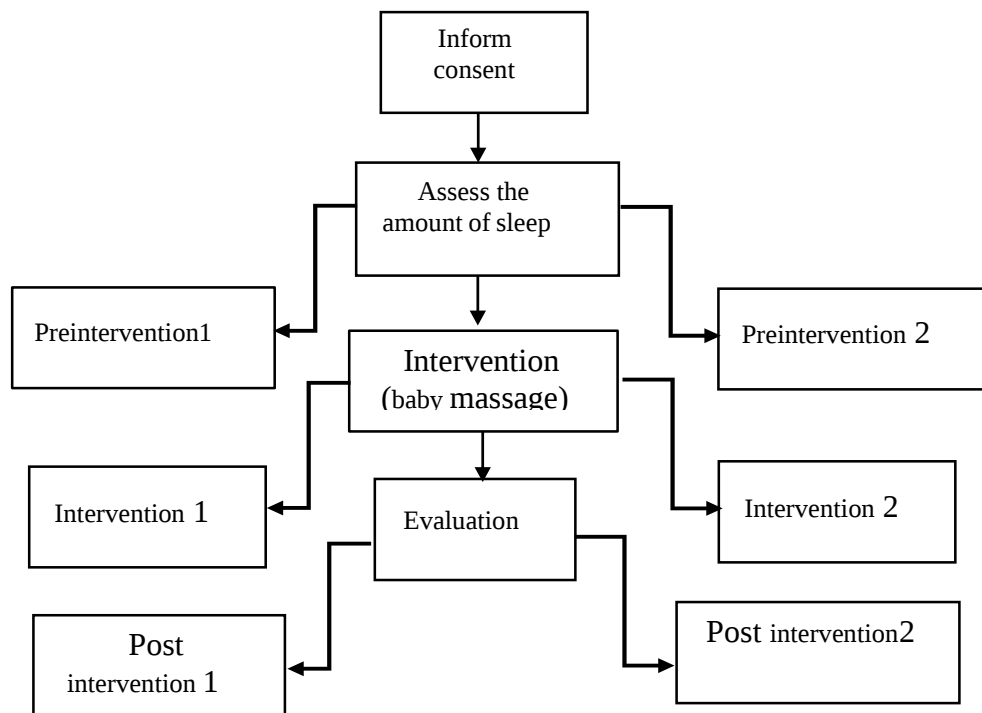
### Data Analysis

The data analysis in this study was primarily qualitative, focusing on comparing the patient's sleep duration and quality before and after the baby massage intervention. The first step involved a comparison of the sleep hours recorded before and after the intervention. A reduction in sleep disturbances and an increase in total sleep time post-intervention were considered indicators of improvement in sleep quality. Additionally, a qualitative review was conducted to assess the patient's overall response to the massage. This involved observing and noting any changes in anxiety levels, signs of comfort, or relaxation during and after the massage. These observations were then analyzed qualitatively to determine how the baby massage impacted the patient's well-being and sleep quality. The combination of both quantitative and qualitative analyses provided a comprehensive understanding of the intervention's effects on the pediatric patient's sleep

## RESULTS

Respondents in this study were An. A 9 months old male with a medical diagnosis of persistent pneumonia. Researchers will implement to improve sleep quality with baby massage techniques with the following procedures for implementing the action:

Chart 1. The procedure for implementing measures to improve sleep quality with infant massage techniques.



The researcher explained the purpose and objectives of the research to be carried out and the process of carrying out the research to the head of the room, then asked the head of the room to be able to choose a nurse as an assistant to assist the research process. Nurses who have been appointed are collected as research assistants for the socialization of research activities and requesting the cooperation of nurses during the research (Miller et al., 2008).

During the socialization, the researcher explained the aims and objectives of the study as well as the research process and matters relating to the assessment of sleep quality. After that, look for or select prospective respondents who fit the inclusion and exclusion criteria. Researchers and nurses determine prospective respondents who will be intervened first to meet the family to participate in this study, before the research begins the researcher introduces himself first to the respondent and his family, and explains the aims and objectives to be carried out (Patino & Ferreira, 2018).

The researcher explains the activities that will be carried out to the respondents regarding the procedures for carrying out the research, the benefits and impacts of this research will not harm the baby. Respondents' families were given the opportunity to ask questions and were given the opportunity to give consent or refuse to participate in this study. After the family agreed to participate in this study, the family members signed the consent form that had been prepared by the researcher, because the respondent was a 9 month old baby, the family signed. Researchers prepared the tools and materials needed in baby massage (Hayati, 2007).

Next, the researchers prepared a mat and baby oil, after that they took off the children's clothes. After that, the researcher began to massage using baby oil from the face while being invited to talk. Upfront movements are stroking the face, forehead ironing, eyebrow ironing, one smile movement, two smile movements, three smile movements and small circle movements. Heart image chest movement, chest diagonal movement. The movement of the stomach pedaling the stomach, the movement of the moon and the sun, the movement of I LOVE YOU, the movement of small bubbles. Hand movements holding the arms and wrists, squeezing movements, rolling, massaging the palms, massaging the fingers, massaging the backs of the hands, pressing movements of the whole hand. Foot movements massage the legs, squeeze, roll, massage the instep, massage the soles of the feet, massage the soles of the feet and heels, toes. Back movement back and forth, back ironing, back pedaling, back circle movement, scratching motion. The last exercise is to bend both legs towards the baby's stomach, bend the legs towards the baby's stomach and straighten them, crossing the arms and legs, crossing the right and left arms alternately. After completing all procedures, dress and evaluate.

The next evaluation was carried out the next day, when the researcher's evaluation asked how to sleep at night. whether you wake up frequently, often cry when you go to sleep or wake up, look cheerful or not using the sleep quality observation sheet. And this baby massage is done 3 times a day.

**Table 2. Pictures of sleep quality before and after baby massage.**

| No | Implementation        | Action duration  | Before          | After           |
|----|-----------------------|------------------|-----------------|-----------------|
| 1. | Intervention 1        | 30 minute        | 8 hours         | <b>10 hours</b> |
| 2. | <b>Intervention 2</b> | <b>30 minute</b> | <b>11 hours</b> | <b>14 hours</b> |

The results were obtained after 2 times doing baby massage. On the first day, An's baby massage was performed. A. Before the baby massage was carried out on Tuesday 05/04/2022, it was found that the baby's sleep duration was 8 hours. The baby massage is then performed for approximately 30 minutes. Evaluation on Wednesday 06/04/2022 found that the baby's sleep duration was 10 hours. And on the

2nd massage which was carried out on Friday 08/04/2022 before the massage was carried out, the baby's sleep duration was 11 hours. The evaluation was carried out on Saturday 09/06/2022, it was found that the baby's sleep duration was 14 hours.

## DICUSSION

The results of the study on the first day of the intervention revealed the following findings: Before the baby massage intervention (pre-intervention), the infant's sleep duration was recorded at 8 hours. Following the intervention, the baby's sleep quality improved, resulting in an increase in sleep duration to 10 hours. This suggests that the baby massage had a positive effect on the baby's sleep, contributing to an improvement in sleep duration and quality within a single day of intervention.

On the second day, the pre-intervention sleep duration was recorded at 11 hours, indicating that the baby had a relatively good sleep duration even before the massage. However, after the baby massage (post-intervention), there was again a noticeable improvement, with the baby's sleep duration increasing to 14 hours. This further indicates that baby massage not only helped in improving the overall sleep quality but also contributed to an increase in the total duration of sleep.

These findings suggest that baby massage has a cumulative and progressively beneficial effect on improving both the quality and quantity of sleep, even in infants who

already had relatively good sleep patterns before the intervention. The increase in sleep duration across two consecutive days highlights the potential for baby massage to provide sustained improvements in sleep quality.

## CONCLUSION

Based on the results of the case study, the following conclusions can be drawn:

The primary objective of this research was to explore the efforts to improve sleep quality in pneumonia patients through baby massage. The case study, along with supporting literature, demonstrates that baby massage is an effective intervention for enhancing sleep quality in infants, including those suffering from pneumonia. The findings show a notable improvement in both the duration and quality of sleep following the massage intervention. Previous studies have corroborated these findings, emphasizing the positive effects of baby massage in promoting relaxation, reducing discomfort, and improving sleep patterns in infants. The improvement in sleep quality observed in this case study aligns with the existing evidence that baby

massage helps to soothe the infant, contributing to better sleep and, potentially, better recovery outcomes for pneumonia patients.

In conclusion, baby massage has proven to be a beneficial, non-pharmacological intervention for improving sleep quality in infants, including those with pneumonia, offering a simple yet effective strategy for enhancing comfort and supporting the recovery process.

## Reference

- Erlawati, A., Oktaviani, I., & Yuliawati, Y. (2019). Hubungan Pijat Bayi dengan Lama Waktu Tidur pada Bayi. *Jurnal Kesehatan Metro Sai Wawai*, 10(1), 16–20.
- Fauziah, A., & Wijayanti, H. N. (2018). Pengaruh Pijat Bayi terhadap Kenaikan Berat Badan dan Kualitas Tidur Bayi di Puskesmas Jetis Yogyakarta. *PLACENTUM Jurnal Ilmiah Kesehatan Dan Aplikasinya*, 6(2).
- Hayati, R. N. (2007). Pengaruh pengetahuan, sikap dan motivasi terhadap minat bidan mengikuti uji kompetensi di kota semarang tahun 2007. *Semarang (ID): Universitas Diponegoro*.
- Istikhomah, H., Kurniasari, D. D., & Siswiyanti, S. (2020). Pengaruh Pijat Bayi Terhadap Lama Tidur Bayi Usia 3-6 Bulan di Desa Jemawan Kecamatan Jatinom Kabupaten Klaten. *Jurnal Kebidanan Dan Kesehatan Tradisional*, 5(1), 14–22.
- Miller, K., Reeves, S., Zwarenstein, M., Beales, J. D., Kenaszchuk, C., & Conn, L. G. (2008). Nursing emotion work and interprofessional collaboration in general internal medicine wards: a qualitative study. *Journal of Advanced Nursing*, 64(4), 332–343.
- Patino, C. M., & Ferreira, J. C. (2018). Inclusion and exclusion criteria in research studies: definitions and why they matter. *Jornal Brasileiro de Pneumologia*, 44, 84.
- Saputro, H., & Bahiya, C. (2021). The effects of baby massage to sleep quality in infant age 1-7 months. *Journal for Research in Public Health*, 2(2), 88–97.
- Sheidaei, A., Abadi, A., Zayeri, F., Nahidi, F., Gazerani, N., & Mansouri, A. (2016). The effectiveness of massage therapy in the treatment of infantile colic symptoms: A randomized controlled trial. *Medical Journal of the Islamic Republic of Iran*, 30, 351.
- Suryani, S., Hadisaputro, S., & Zain, S. (2018). Faktor Risiko Lingkungan Yang Berhubungan Dengan Kejadian Pneumonia Pada Balita (Studi di Wilayah Kerja Dinas Kesehatan Kota Bengkulu). *HIGIENE: Jurnal Kesehatan Lingkungan*, 4(1), 26–31.