

## THE EFFECT OF BABY MASSAGE ON WEIGHT GAIN IN INFANTS AGED 1-6 MONTHS AT THE SUMARTINI MATERNITY AND CHILD HEALTH CLINIC IN 2026

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### ABSTRACT

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The 1- to 6 month age period is a phase of rapid growth for infants, making it necessary to monitor their weight changes regularly. Weight can serve as one parameter for assessing an infant's growth and overall condition. Weight gain does not always proceed optimally for every infant, so stimulation is needed to support the growth process. One form of stimulation that can be applied to infants is baby massage. Massage through touch can help create a comfortable environment while supporting physiological processes related to the infant's digestion and growth. This study aims "to determine the effect of baby massage on weight gain in infants aged 1-6 months at the Sumartini Midwife's TPMB in 2026." This is a quantitative study using a pre-experimental design that implements a one-group pretest-posttest approach. The study sample consisted of 32 infants aged 1-6 months selected through purposive sampling. Weight measurements were taken before and after baby massage sessions lasting 10-15 minutes, conducted twice a week. Data analysis was performed using the Wilcoxon Signed-Rank Test. The findings confirmed that before the baby massage, 21 infants (65.6%) were in the underweight category and 11 infants (34.4%) were in the normal category. After the baby massage, 31 infants (96.9%) were in the normal weight category and 1 infant (3.1%) was in the underweight category. The average weight increased from 5,018 grams before the intervention to 5,618 grams after the intervention, with an average increase of 600 grams. The results of the Wilcoxon test indicated a significant effect of baby massage on infants' weight gain ( $p < 0.001$ ). Therefore, it can be concluded that "baby massage has an effect on weight gain in infants aged 1-6 months at the Sumartini Midwife's TPMB in 2026."

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### INTRODUCTION

Given the rapid development that occurs during infancy, this period is crucial for a baby's growth and development. When monitoring the development and health of newborns aged one to six months, body weight is a key indicator. Inappropriate weight gain may be associated with

growth and developmental disorders and increase the risk of health problems in infants. Regular growth monitoring is necessary to detect changes in a baby's growth early on.

Underweight remains one of the key growth issues among children. WHO data from 2022 shows that approximately 6.8% of children under five worldwide are underweight. In Indonesia, the 2022 SSGI survey found that 17.1% of toddlers were underweight or severely underweight. These findings indicate that growth issues remain a concern and require monitoring from the very beginning of life. Data from the 2023 SKI survey show that among children aged 0-23 months in West Java, the proportion of those who are severely underweight was 1.3%, while 6.1% were underweight and 92.6% were in the normal weight category. Meanwhile, the prevalence of underweight based on weight-for-age indicators in Purwakarta Regency was recorded at 14.1% according to the 2022 SSGI. This situation underscores the importance of continuous monitoring of infants' weight to detect suboptimal growth.

Baby massage is a form of stimulation that can be used to support growth and development during infancy. The massage is performed through tactile stimulation, which can have a positive effect on the baby's comfort and growth. Regular massage provides physical stimulation that has the potential to support the baby's weight gain. Findings by Lailaturohmah (2024) also show an increase in weight among infants aged 1-6 months following baby massage. From a physiological perspective, the tactile stimulation provided during massage is linked to the infant's nervous system response. This stimulation may be related to the activity of the vagus nerve, which plays a role in digestion and nutrient absorption. In addition, infant massage can help create a sense of comfort and relaxation that supports the infant's well-being during the growth period.

## **RESEARCH METHODOLOGY**

Based on the above discussions, baby massage has the potential to be implemented as a form of stimulation in midwifery care. Based on these considerations, this study was conducted "to analyze the effect of baby massage on weight gain in infants aged 1-6 months at Midwife Sumartini's TPMB in 2026." This study is a quantitative study using a one-group pretest-posttest pre-experimental design. This design involves a single group that first undergoes a pretest, then receives the baby massage intervention, and is retested after the intervention is completed.

The study was conducted from January 14 to February 16, 2026, at the Sumartini Midwife Community Health Center (TPMB). The study population consisted of all infants aged 1-6 months registered at the study site. The study sample comprised 32 infants selected using purposive sampling based on the established criteria. Research data were collected primarily through measurements of body weight before and after baby massage sessions, as well as through records

of the infants' nutritional intake provided by their parents. Baby massage was performed by the researchers in accordance with standard operating procedures (SOPs), with each session lasting approximately 10-15 minutes and conducted twice a week. The data collection process included obtaining permits and informed consent, performing baby massage according to standard operating procedures (SOPs), measuring body weight before and after the intervention, completing observation forms and nutritional checklists, and processing and analyzing the data.

Before conducting bivariate analysis, data normality was tested using the Shapiro-Wilk test. Since the body weight data before and after the intervention were not normally distributed, the analysis proceeded using the Wilcoxon Signed-Rank Test.

## RESULTS AND DISCUSSION

### A. Respondent Characteristics

#### 1. Infant Weight Before *Baby Massage*

The frequency distribution of infant body weight before *baby massage* among 32 infant respondents is presented in the following table:

**Table 1. Frequency Distribution Based on Infant Weight Before *Baby Massage* at TPMB Midwife Sumartini**

| Weight Before<br><i>Baby Massage</i> | Frequency | Percentage % |
|--------------------------------------|-----------|--------------|
| Less than                            | 21        | 65.6         |
| Normal                               | 11        | 34.4         |
| Total                                | 32        | 100          |

Table 1 shows that before the baby massage sessions, out of the 32 infants in the study, 21 (65.6%) were in the underweight category and 11 (34.4%) were in the normal weight category.

#### Infant Weight After Baby Massage

**Table 2. Frequency Distribution Based on Infant Body Weight After *Baby Massage* at Midwife Sumartini's TPMB**

| Weight After<br><i>Baby Massage</i> | Frequency | Percentage % |
|-------------------------------------|-----------|--------------|
| Normal                              | 31        | 96.9         |
| Below                               | 1         | 3.1          |
| Total                               | 32        | 100          |

## Age

**Table 3. Frequency Distribution Based on Infant Age  
At Midwife Sumartini's TPMB**

| Age        | Frequency | Percentage (%) |
|------------|-----------|----------------|
| 2-5 months | 27        | 84.4           |
| 6 months   | 3         | 9.3            |
| 1 month    | 2         | 6.3            |
| Total      | 32        | 100            |

The age distribution shows that the majority of infants were in the 2-5 month age group, namely 27 infants (84.4%). A total of 3 infants (9.3%) were 6 months old, and 2 infants (6.3%) were 1 month old.

## Nutrition

**Table 4. Frequency Distribution Based on Infant Nutrition**

| Nutrition               | Frequency | Percentage % |
|-------------------------|-----------|--------------|
| Exclusive Breastfeeding | 17        | 53.1         |
| Breast Milk + Formula   | 9         | 28.1         |
| Formula                 | 6         | 18.8         |
| Total                   | 32        | 100          |

Based on feeding type, 17 infants (53.1%) were exclusively breastfed, 9 infants (28.1%) received a combination of breast milk and formula, while 6 infants (18.8%) were fed formula.

## Body Weight Before and After Baby Massage

**Table 5. Frequency Distribution of Infant Body Weight Before and After *Baby Massage***

| Variable   | N  | Minimum | Maximum | Mean  | Standard Deviation |
|------------|----|---------|---------|-------|--------------------|
| Pre-BB     | 32 | 3,200   | 7,000   | 5,018 | 1,023              |
| Post-BB    | 32 | 4,000   | 7,400   | 5,618 | 885                |
| Difference | 32 | 800     | 400     | 600   | 138                |

The measurement results showed an increase in body weight after the intervention. The average body weight increased from 5,018 grams before the baby massage to 5,618 grams after

the intervention, with an average difference of 600 grams. The minimum and maximum values before the intervention were 3,200 grams and 7,000 grams, respectively, while after the intervention they were 4,000 grams and 7,400 grams.

### Normality Test

**Table 6. Results of the Normality Test for Infant Body Weight**

| Variable                                           | P-Value* | Distribution |
|----------------------------------------------------|----------|--------------|
| Infant weight before<br><i>baby massage</i>        | 0.000    | Not normal   |
| Baby's weight after feeding<br><i>baby massage</i> | 0.000    | Not normal   |

The Shapiro-Wilk test yielded a p-value of 0.000 for measurements taken before and after the intervention. Since both values are  $<0.05$ , the data are deemed to be non-normally distributed, allowing the analysis to proceed using the Wilcoxon Signed-Rank Test.

### Hypothesis Testing

**Table 7. Results of the Wilcoxon Signed-Rank Test for Infants' Body Weight Before and After**

| Variable                                            | Mean  | Z       | Asymp. Sig. (2-tailed) |
|-----------------------------------------------------|-------|---------|------------------------|
| Body Weight Before<br>Performed a <i>baby mas</i> : | 5,018 | -4,472a | 0.000                  |
| Weight After<br><i>baby massage</i>                 | 5.618 | -4,472a | 0.000                  |

The Wilcoxon analysis yielded a Z-score of -4.472 and an Asymp. Sig. (2-tailed) of 0.000 ( $p < 0.05$ ). These findings confirm a significant difference in body weight between before and after baby massage. Therefore, “*baby massage* has an effect on weight gain in infants aged 1-6 months at the Sumartini Midwife’s TPMB.” After the intervention was administered, most of the respondents fell into the normal weight category 31 infants (96.9%) while 1 infant (3.1%) remained in the underweight category.

### **Baby Massage**

#### **The Effects of Age and Nutrition on Weight Gain**

**Table 8. The Effect of Age and Nutrition on the Increase in Infant Body Weight**

| <b>Variable<br/>Confounding</b> | <b>N</b> | <b>Mean</b> | <b>SD</b> | <b>P-value</b> |
|---------------------------------|----------|-------------|-----------|----------------|
| Age                             | 32       | 2.03        | 0.400     | 0.938          |
| Nutrition                       | 32       | 1.75        | 0.880     | 0.778          |

Based on the research findings, age had a p-value of 0.938, while nutrition had a p-value of 0.778. Both p-values were greater than 0.05, indicating that “age and nutrition do not have a significant effect on infant weight gain.”

### **DISCUSSION**

The findings indicate changes in infants' weight following baby massage. Baby massage is a form of stimulation through touch that can provide comfort and relaxation to infants and support nervous system activity and digestive function. This stimulation can aid the absorption of nutrients, thereby supporting infants' growth and weight gain.

These findings are consistent with the results of studies conducted by Simaibang (2024) and Harahap (2024), both of which reported an increase in body weight in infants after receiving baby massage. These results support the finding that “*baby massage* can be a form of stimulation that supports infant growth.”

The results of the Wilcoxon test indicate “a significant effect of infant massage on weight gain in infants aged 1-6 months.” Physiologically, stimulation through infant massage can support the activity of the vagus nerve, which is associated with digestive function and nutrient absorption.

In contrast to the main findings of the study, the analysis of age and nutrition confirmed that neither variable was significantly correlated with weight gain among the respondents. These findings suggest that the baby massage intervention serves as a form of stimulation that supports weight gain, although the infant's growth process can still be influenced by various other factors.

### **CONCLUSIONS AND RECOMMENDATIONS**

Based on the research findings, it can be concluded that “*baby massage* has an effect on weight gain in infants aged 1-6 months at Midwife Sumartini's TPMB in 2026.” The results of

the Wilcoxon test confirm a significant difference in body weight before and after the intervention ( $p < 0.001$ ). Meanwhile, “age and nutrition did not show a significant effect on infants’ weight gain.”

For midwives, baby massage can be used as a form of stimulation to support infant growth, provided it is performed according to appropriate conditions and procedures. For parents, baby massage can be used to stimulate their infants, taking into account technique, comfort, and the infant’s condition. For future researchers, this study could be expanded by increasing the sample size, including a control group, and considering other factors that may influence infant weight gain.

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## REFERENCES

- Aisyyah, N., Nurhayati, N., Sari, Y. M., Waluyo, A., & Sangadji, I. (2023). The relationship between infant massage and infant weight in midwives’ private practices. *Journal of Health Sciences*.
- Fauziah, N. A., & Febriyanti, H. (2023). The effect of infant massage on infant body weight. *Aisyah Maternity Journal*.
- Fauziyah, N., Wulandari, R. F., & Susiloningtyas, L. (2022). Effect of massage and bathing or swimming on infant weight gain. *Global Medical & Health Communication*.
- Haryani, S., Minardo, J., & Astuti, A. P. (2024). The effect of *baby massage* on weight gain in infants. *Indonesian Journal of Midwifery (IJM)*.
- Ministry of Health of the Republic of Indonesia. (2023). *Guidelines for Stimulation Massage for Children Under Two Years of Age (BADUTA)*. Jakarta: Ministry of Health of the Republic of Indonesia.
- Khairiyah, F. Y., Sunarsih, T., & Jati, R. K. (2025). The effect of massage on weight gain in infants in the service area of the Kandis Community Health Center. *Healthy Tadulako Journal*.

- Komariyah, A., & Andrini, F. A. (2023). Stimulating infant development: A systematic review. *International Journal of Research Publication and Reviews*.
- Kurniasih, D. U., & Ramawati, D. (2024). Early detection of growth disorders in high-risk infants through weight monitoring: A systematic review. *Holistic Health Journal*.
- Lutfitasari, A., Hidayati, F., Kusumawati, E., & Damayanti, F. N. (2024). The relationship between infant massage and weight gain in infants aged 0-6 months. *ProHealth Journal*.
- Nurhayati, N., Puspita, E., Yuliani, V., & Triyani, T. (2023). Stimulation of infant growth and development during the COVID-19 pandemic in the service area of the Cilandak Timur Community Health Center. *GEMAKES: Journal of Community Service*.
- Rayhani, S., Mochtar, N. M., Djalilah, G. N., & Asmarani, R. I. (2024). Well-being of infants through touch: The effects of massage on sleep quality and weight gain in the first 0-12 months. *Golden Age: Scientific Journal of Early Childhood Development*.
- Rochmawati, R., Hayuningsih, S., & Yollanita, H. (2023). The effect of baby massage on infant weight gain. *EMBRIO: Journal of Midwifery*.
- Sari, D. K., Halimatus Saidah, Akhmad, & Lestari, H. (2023). The effect of baby massage on infant weight. *Journal for Quality in Public Health*.
- Soetjiningsih, & Ranuh, I. G. N. G. (2022). *Child Growth and Development* (2nd ed.).
- Susmita, S., & Harista, J. (2025). Literature review: Complementary therapies for stimulating the development of infants aged 0-12 months. *The Journal of General Health and Pharmaceutical Sciences Research*.
- World Health Organization. (2023). *WHO Child Growth Standards*. Geneva: World Health Organization.