

# **The Effectiveness of Baby Massage on Weight Gain in 6-Month-Old Babies in Ciawang Village, Lewisari District, Tasikmalaya Regency**

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**Abstract:** The golden age is a critical period in growth and development, occurring at the age of 0-12 months. This period is very fast and cannot be repeated. In infancy – toddlers, weight can be used as an indicator of growth rate and nutrition in children. Data in Ciawang Village shows that out of 98 babies aged 6 months, 63 babies did not experience weight gain. One of the efforts to increase weight in babies is to do baby massages. This study aims to analyze the effectiveness of baby massage on weight gain in 6-month-old babies in Ciawang Village, Lewisari District, Tasikmalaya Regency. This type of analytical survey research uses the Quasi-Experimental one-group pre-test-post-test design approach. The variables used include the free variable, namely baby massage, and the bound variable of baby weight gain. The population is 6-month-old babies in Ciawang Village, as many as 19 people. Data was obtained by observation, and then analyzed using the paired test. The average weight of a 6-month-old baby before the baby massage was 6092.11 grams. After doing a baby massage, the average is 6339.47 grams. The average weight gain of babies was 247.37 grams. The results of the bivariate test obtained a Pvalue value of 0.001. Baby massage effectiveness on weight gain in 6-month-old babies. Advice for midwives to be able to carry out midwifery interventions to increase the baby's weight through the provision of massage techniques.

**Keywords:** Weight, Baby Massage

## **INTRODUCTION**

Infants aged 0-12 months are crucial periods in growth and development. This period goes very fast and cannot be repeated. Babies need good nutritional intake and stimulation to achieve optimal growth. Babies who do not get enough nutritional intake can experience stunted growth, which has the potential to cause long-term health problems, such as stunting or impaired cognitive development (World Health Organization (WHO), 2020). One of the important indicators of baby age is weight gain. The baby's weight will increase in the first 6 months; at the age of 6-12, the weight will increase in the range of 85-140 grams per week. Weight can determine the physical growth and nutritional status of a baby, unless the baby has abnormalities such as dehydration, ascites, edema, or the presence of tumors. Weight can also be used in the calculation of drug and food doses (Damanik NS, Simanjuntak P, 2022). Although exclusive breastfeeding and complementary foods are the main steps to ensure that babies get enough nutrition, not all babies manage to gain weight well. Various factors, such as stress in babies, irregular

sleep patterns, and environmental conditions, can also affect weight gain (Danielsson, A.; Hedov, G.; Garmy, 2022).

Based on the results of the Indonesia Nutrition Status Survey (SSGI), published by the Indonesian Ministry of Health (2022), it was stated that babies who experienced weight loss (Wasting) in Indonesia in 2022 reached 7.7%, this is an increase compared to 2021, which is 7.1%. In West Java Province, the proportion of babies who experience weight loss is 6%. Data obtained from the Tasikmalaya Regency Health Office (2022), the prevalence of stunting is 24.4%, the prevalence of wasting is 16.2% and underweight is 11.6%. Based on the results of weighing toddlers carried out at the Leuwisari Health Center in 2022, there were 178 cases of wasting and 85 instances of underweight. Of the number of babies who experienced wasting, 109 people were aged 6 months to 12 months. Data in Ciawang Village from 98 babies aged 6 months, 63 babies do not experience weight gain (Leuwisari Health Center, 2022).

Many parents and caregivers are looking for methods to increase their baby's weight growth, especially in developing countries where nutrition and health issues are common. Therefore, interventions that can help increase the baby's weight are essential. In this context, baby massage has emerged as a method that may help increase weight by stimulating blood circulation, improving metabolism, and providing comfort to babies (Field, 2014). Baby massage can be an effective solution to increase the baby's weight. Research conducted by Field, T., Diego, M., & Hernandez-Reif (2013), shows that infant massage can stimulate the nervous system, increase the production of growth-related hormones, and strengthen the emotional bond between parents and babies. A study showed that babies who received regular massages showed significant weight gain compared to babies who were not massaged (Fernando, T., & De Silva, 2016). Therefore, introducing baby massage techniques as part of daily care can be an effective approach to supporting the health and development of babies.

## **METHOD**

This type of analytical survey research uses the Quasi-Experimental one-group pre-test-post-test design approach. The independent variables in this study were baby massage and weight gain-bound variables. The population is all 6-month-old babies in Ciawang Village, Leuwisari District, Tasikmalaya Regency, for the period of June 2023 as many as 19 people. The sampling technique used a total sampling of 19 people. The instruments used are in the form of Observation Sheets and Scales to assess weight gain, and SOP (Standard Operating Procedure) Baby Massage to evaluate the implementation of baby massage. The data collection technique is carried out through several stages, namely:

### **1. PREPARATORY STAGE**

In the preparation stage, the researcher first asked for permission from the relevant agencies and

looked for data on the number of 6-month-old babies at the Leuwisari Health Center.

## 2. IMPLEMENTATION STAGE

Convey the purpose and objectives of the research, as well as provide informed consent to the respondents. Then, make a home visit to the respondent (caregiver). Weigh the baby before the intervention. Next, do a baby massage for 15 minutes in accordance with the SOP that has been prepared while asking the mother to pay attention to the steps. Then, train the mother in doing baby massage so that the mother can do it to the baby the next day. The mother reported to the researcher every time she was doing a baby massage. After 10 days of massage, the weight was weighed again by the researcher.

## 3. FINAL STAGE

Collect data from the observation of baby weight weighing, then data analysis is carried out.

Data analysis in this study uses the Paired T-test to determine the effect of baby massage on weight gain in 6-month-old babies.

# RESULTS

## 1. Weight of a 6-month-old baby before a baby massage

**Table 1.** Weight of a 6-month-old baby before a baby massage

	Min	Maks	Average	Standard. Dev
Weight before (grams)	5920	6400	6092.11	145.089

Source : 2023 Research Results

Based on the data in Table 1, it can be seen that the baby's weight before being given the infant massage intervention was obtained as low as 5920 grams and as high as 6400 grams, with an average of 6092 grams.

## 2. Baby weight after baby massage

**Table 2.** Baby weight after baby massage

	Min	Maks	Average	Standard. Dev
Weight after (grams)	6160	6650	6339.47	155.509

Source : 2023 Research Results

Based on the data in Table 2, it can be seen that the baby's body weight after being given the infant massage intervention is the lowest is, 6160 grams, and the highest is 6650 grams, with an average of 6339 grams.

**Table 3.** Baby weight gain after baby massage

	Min	Maks	Average	Standard. Dev
Weight gain (grams)	220	290	247.37	19.391

Source: Results of 2023 Research Data Processing

Based on the data in Table 3, it can be seen that the baby's weight gain after being given infant massage intervention is the lowest is, 220 grams, and the highest is 290 grams, with an average of 247 grams.

**Table 4.** Effectiveness of baby massage on weight gain in babies 6 months old

<b>Weight</b>	<b>Mean</b>	<b>Gap</b>	<b>P value</b>
BB before	6092.11	247,36	0,000
BB after	6339.47		

Source : Results of 2022 Research Data Processing

Based on the data in Table 4, it can be seen that the average weight of the baby before the intervention was 6092.11 grams, and after the intervention, it was 6339.47 grams, so there was an increase in the average weight of 247.36 grams. The results of the paired test obtained a p-value of 0.001, meaning that baby massage is effective against weight gain in 6-month-old babies in Ciawang Village, Leuwisari District, Tasikmalaya Regency, in 2023.

## DISCUSSION

The results of the study showed that the average weight of a 6-month-old baby before the baby massage intervention was 6092 grams. After the baby massage intervention for 10 days, the average weight of the baby was 6339 grams. Based on these results, it can be seen that there is an increase in baby weight before and after baby massage, with an average increase of 247.36 grams. The results of the paired test obtained a tilapia p-value of 0.001, meaning that baby massage is effective against weight gain in babies. Weight gain can be seen directly from the results of weighing after baby massage for 15 minutes per day within 10 days. Weight is said to increase when the increase is around > 200 grams (Carolyn BT, Suprihatin S, 2020).

Infant weight gain can be influenced by various factors, including maternal knowledge about nutrition, health status, infant psychology, socio-economic status, and food culture. The socio-economic status and food culture have a considerable role in the health status of babies. However, the existence of baby massage can make the health status of babies more optimal, especially in terms of the growth of babies (Ministry of Health of the Republic of Indonesia, 2015).

Indrayani, T., Marlyina, M., and Siauta, (2020), stated that with baby massage, it makes babies feel comfortable and safe because of touch and body contact. Babies can feel touch and feel at an early age, because the skin is the organ of the body that functions as the widest receptor. Massage in babies can stimulate motor, help the sleep process and reduce anxiety and complaints. Baby massage can also make body temperature more stable

and be able to increase the hormones gastrin and insulin, which play a role in food absorption, so that babies gain weight faster (Harahap, 2019). Massage in babies can also improve the mechanism of food absorption by the nerves so that the baby's appetite will increase, and this can directly increase the baby's weight.

Based on a systematic review conducted by Rebecca Mrljak, and Ann Arnsteg Danielsson (2022), baby massage has a positive effect on pain relief, jaundice, and weight gain. Massage is carried out on the entire body of the baby, starting from the soles of the feet to the head, and can be applied to all children. Massage activities in babies will increase the activity of the neurotransmitter serotonin, which can increase the capacity of receptor cells that function to increase glucocorticoids (adrenaline, a stress hormone). This process can lower the level of the hormone adrenaline so that it will increase the baby's immune system. A good massage can change brain waves, which can make babies sleep soundly and increase alertness or concentration (Syaukani, 2015).

Baby massage is one of the interventions that can be done independently. Nurses or health workers can provide health education to mothers about baby massage through caregivers, where nurses massage babies directly in front of mothers. Massage in babies is also a form of stimulus and can increase the inner bond between mother and child, stimulating the development and growth of babies to be more optimal (Kurniati Puji Lestari, Firdha Rahma Nurbadlina, Wagiyo, 2021).

Baby Massage has quite a lot of benefits for babies, including providing relaxation and comfort to babies, increasing the inner bond between mother and baby, regular baby sleep patterns, and growing baby weight. Based on the results of interviews with the baby's mother, said that the mother knew about baby massage but did not know how to do the massage and was still worried when doing her own massage at home.

## **CONCLUSION**

The results of this study can conclude that baby massage is effective against weight gain in 6-month-old babies. The baby massage performed by the researcher did not cause any side effects in the baby. Advice for health workers to be able to teach parents how to do baby massage and can continue to motivate mothers to do it independently at home. This research can also be an additional reference for future research related to baby massage.

## CONFLICT OF INTEREST

The author stated that in this study there is no conflict of interest.

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