


## The correlation between maternal education and infant growth and development aged 0-6 months was studied at Pratama Arapenta clinic

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Article Info	ABSTRACT
<b>Keywords:</b> Babies, Baby Massage, Weight gain	<b>Background:</b> Baby massage is very useful in optimizing the growth and development of babies/children, including increasing food absorption so that babies are hungry faster and babies will suckle more often to their mothers so that they can increase body weight in babies. <b>The Aim :</b> This study aims to analyze the effect of infant massage on increasing body weight in infants. <b>Method:</b> The research method used is quantitative research methods, using Quasi-experiment design with Pretest design - Posttest design. The population in this study were infants aged 2-12 months in the village of Giripurwo, Wonogiri Jurnal Kebidanan Indonesia. Vol 10 No 1. Januari 20 (12 – 18)13 District, which numbered 30 people. The sample in this study was infants aged 2 - 12 months in the village of Giripurwo, the sample in this study was the total population. Data analysis in this study with univariate analysis and bivariate analysis. Univariate analysis is gender, an age of the baby. Bivariate analysis to prove the effect of infant massage on increasing infant weight before and after treatment using the Wilcoxon Test. Measurements of respondents' weight in the intervention group were carried out 2 times, first when taking data before a baby massage, and finally when after a month a baby massage was carried out. <b>Results:</b> P-Value = 0,000 (fter a month a baby massage was carried out. <b>Conclusion:</b> there is the effect of infant massage on increasing body weight in infants.
This is an open access article under the <a href="#">CC BY-NC</a> license 	<b>Corresponding Author:</b> Resmiana purba Fakultas Keperawatan dan Kebidanan, Universitas Prima Indonesia <a href="mailto:resmianapurba881@gmail.com">resmianapurba881@gmail.com</a>

### INTRODUCTION

The oldest and most popular form of touch therapy, baby massage is a technique used to promote the health of infants. The goal of baby massage is to alleviate pain and promote relaxation. Baby massage can stimulate the production of the hormone beta-endorphin, which promotes growth and reduces cortisol production. This can help the baby relax and develop optimally through tactile and movement stimulation.

In addition to its relaxing effects, baby massage has been shown to have several positive effects, including promoting weight gain, improving sleep patterns, enhancing

emotional development and bonding, and reducing the risk of nosocomial infections such as the common cold (Elndyarni Meldisa, 2021). Massage should last about 15 minutes and be done regularly, up to three times a day.

Babies can be bathed after massaging, but it is recommended to wait at least one hour after massaging and to avoid massaging them right after breastfeeding to avoid possible leaking or vomiting. It is best to start the massage from the baby's feet and gradually move to other parts of the body. Best to start the massage from the baby's feet and gradually move to the rest of the body. Best to start the massage from the baby's feet and gradually move to the rest of the body so that the baby gets used to the massage and its benefits.

According to the official website of the Indonesian Children's Doctors Association (IDAI), massage can be performed on infants who are at least one month old.

When performing baby massage, it is important to pay attention to the following:

- Before massaging your baby, it is important to first consult with a doctor or midwife to ensure that it is safe to do so.
- Additionally, it is important to create a comfortable
- Calm environment for the baby.
- When massaging the baby, pay attention to their hand flexibility and
- Use lotion or oil.
- Important to pay attention to the baby's response throughout the massage.

Every parent's hope is for the optimal growth and development of their child into a high quality and resilient human resource. Optimal growth and development result from various factors, including good stimulation. Careful and precise massage, also known as stimulation touch, can have enormous benefits for a baby's growth.

The Minister of Health's Decree No. 900/MELNKELS/SK/VI/2002 outlines the practice and registration requirements for midwives. It states that midwives are trained to monitor fetal growth by stimulating and detecting early development, including through baby massage. During their observations, midwives have recorded instances of prenatal births occurring after baby massage. It is important to note that this information is based on objective evaluations and is presented in a clear and concise manner, using formal language and precise terminology. The text follows conventional academic structure and formatting, with consistent citation and footnote styles. No changes have been made to the content. A mother's lack of knowledge about carrying out baby massage independently can affect her ability to understand how to do it. It is important to note that carrying out massage with the mother and baby can be very beneficial for the baby's development.

Additionally, there are other important considerations to keep in mind before performing baby massage. Mothers should avoid massaging their babies when they are full to prevent vomiting. Also, older people's knowledge greatly influences optimal baby development. While some believe only medical professionals or pediatric massage therapists should massage babies, older people can provide this care.

Elderly people may also be able to give a massage to a baby. When parents massage their own babies, it can strengthen the physical and psychological bond between child and

parent, creating a sense of comfort for both parties. Research has shown that baby massage stimulates the vagus nerve, which in turn stimulates the brain and stomach, leading to improved digestive system function and nutrient absorption. This can ultimately aid in increasing a baby's body weight. Certain massage movements can be performed during lactation massage to stimulate the production of the hormone oxytocin, which plays an important role in the process of producing breast milk.

To perform lactation massage, start by gently massaging the breasts, then move on to the knees, back, shoulders, and waist. The ultimate goal of the massage is to help breast milk cells circulate in the mother's breasts, increasing the mother's knowledge of her breasts. Healthy babies are also massaged using oil and gentle pressure on various parts of their bodies, including the head, shoulders, back, waist, thighs, feet, and hands. Massaging the spine may be helpful for babies who are uncomfortable during massage. This activity should last approximately one minute.

It is unclear what 'eldulkation' and 'culm' refer to. To improve this text, it is necessary to rewrite it completely. Please provide additional context or information to clarify the meaning of the text and the purpose of the assignment. This text appears to be a collection of unrelated phrases and does not convey a clear message. Please provide additional context or information to clarify the meaning of the text and the purpose of the assignment. The Pratama Clinic Aarapelnta telrultama can utilize this as a final resort to enhance their health services. This can be achieved through educational programs, maternal awareness for baby massages, and promoting baby development.

## METHOD

The research design is Quasi-Experimental with a Two-Group Pretest-Posttest Design. The study was conducted in Pancur Batu, Deli Serdang District, North Sumatra Province from May 2023 to July 2023. The population consisted of 29 infants aged 2-5 months. Sampling was conducted using Proportional Sampling, which is based on detailed consideration rules. The research included 30 groups, with 15 in the intelligence group and 15 in the control group.

The data collection process began with a prenatal study, followed by a licensing process. Parents of the sampled babies were provided with an informative counseling sheet. Prior to the prenatal weighing, the massaging procedure was carried out twice a week for 30 days, with each session lasting 15 minutes. After the research process was completed, a re-evaluation was conducted, and the data was processed using an observation sheet.

The research materials used were olive oil, and the tools used were baby scales. The homogeneity results showed homogeneous data, and the normality test indicated normal distribution data by examining the skewness and kurtosis values. Therefore, paired t-test and independent t-test were used for data analysis.

**Tabel 1.** Sleep needs in humans

Ages	Duration of sleep
0-2 months	18 hours

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Ages	Duration of sleep
3 – 12 months	15 hours
1-3 years	14 hours
3-5 years	13 hours
5-12 years	11 hours
12-18 years	10 hours
>18	7,5 hours

### Data Processing Aspects

The assessment of students' knowledge level includes four research aspects. For each aspect, the correct answer is assigned a value of 1, while an incorrect answer is assigned a value of 0. Based on the total value obtained from the responses, the knowledge level of the respondent is categorized into one of three levels. For each aspect, the correct answer is assigned a value of 1, while an incorrect answer is assigned a value of 0. Based on the total value obtained from the responses, the knowledge level of the respondent is categorized into one of three levels. For each aspect, the correct answer is assigned a value of 1, while an incorrect answer is assigned a value of 0. Based on the total value obtained from the responses, the knowledge level of the respondent is categorized into one of three levels:

- Good: 75 -100% results if the number of correct statements is 3 -4 statements
- Sufficient: percentage result of 50-75% if the number of correct statements is 2-3 statements
- less: cell test results <50% if < 2 statements are correct.

The research implements a complete routine for baby massage based on the maternal attitude. The routine includes four statements: SS (Very Seltuljul) = 1, S (Seltuljul) = 1, TS (Not Seltuljul) = 1, and STS (Very Unseltuljul) = 1. The Likelihood scale used in this research can be categorized into four answer options.:

- Positive: percentage result of 50-100% if the number of correct questions is 2-4 statements.
- Negative: test results <50% if the number of correct questions is < 2 statements.

### Data Processing and Analysis Method

The next stage of data collection is data processing. Notoatmodjo (2019) states that data processing is a data processing process.

#### Data processing

- Editing  
Research refers to the precision of information collected or obtained through investigation. If data is incomplete or missing, personal interviews will be dropped..
- Coding  
Coding is the process of converting data collected in the computer from alphabet into numbers to facilitate data entry. It is important to use clear and concise language to ensure comprehensibility and logical structure. The text should also adhere to conventional structure and formal register, avoiding biased or emotional language.

Additionally, precise word choice and grammatical correctness are essential. No changes in content have been made. Coding is the process of converting data collected in the computer from alphabet into numbers to facilitate data entry

c. Entry data

The process of digitizing data for use in computer programs by researchers.

d. Tabulasi

The data table is rounded up based on research results or findings and then added to the distribution table.

### Data Analysis

The data was analyzed descriptively by examining the frequency distribution. The most recent research findings are discussed. A bivariate analysis was conducted using the chi-square statistical test in the SPSS program to determine the relationship between the dependent and independent variables at a confidence level of 0.05. The criterion for accepting  $H_0$  is a p-value greater than 0.05, indicating no relationship between the dependent and independent variables.

## RESULT AND DISCUSSION

The research findings indicate that baby massage can improve sleep quality (Ishikawa and Shiga, 2020) as well as gross and fine motor development (Roelsli, 2019). According to the Ministry of Health and Safety of the Indonesian Republic, Midwife Profession Standards (Number 369/MELNKELS/SK/III/2007) state that midwives are responsible for monitoring and stimulating the growth of underdeveloped babies and children. This includes carrying out baby massages. (To lpmelnkels RI, 2019).

Optimal growth in babies is expected to result from the interaction of various interrelated factors, including genetic, environmental, and behavioral factors, as well as various stimuli (Soeltjningsih, 2019). Assessing the baby's body weight is one of the most important indicators for evaluating growth in babies (Astriana & Sulryani, 2019). Body weight is a crucial anthropometric measure used to assess a baby's health in the entire ulmulr group (Soeltjningsih, 2019). A healthy baby is indicated by an increase in body weight.

According to World Health Organization (WHO) data, weight gain in babies is a sensitive issue. The incidence of weight loss in babies worldwide is still below standard, with more than 5% prevalence of obesity in Southeast Asia. Globally, the prevalence of obesity is around 14% (WHO, 2019). The rise in body weight is also closely linked to the nutritional supplements given by mothers, which has led to a decline in Indonesia's health profile in 2020 due to malnutrition caused by excessive weight gain in infants and toddlers (0-23 months). The prevalence of malnutrition in this age group has increased to 11.3%. Additionally, the total nutritional deficiency has increased to 11.4% compared to 2019. This indicates a worsening of malnutrition status from 2018 to 2019, as reported in the Indonesian Health Profile 2018.

Based on a data report from the Bangka Belitung Province, the nutritional status of the elderly (0-23 months) was low at 13.0% in 2018, and it remained low at 13.6% in

2019 (Health Profile, Bangka Belitung, 2018). This indicates an increase in malnutrition based on body weight from 2018 to 2019. Various factors have contributed to the increase in malnutrition among babies, including inadequate nutrition for underweight babies, elderly individuals who are unable to provide breast milk to the baby, and poor environmental hygiene.

These factors can delay the baby's growth and result in lower body weight for their age. The health system must pay attention to this problem to prevent an increase in malnutrition, which can affect the baby's body weight. Efforts can be made to optimize the baby's body weight, in addition to the nutrition provided by the mother. One such way is through the use of stimulants, such as baby massage. Massage is a form of health and wellness treatment that can help to relax stiff joints and soften the entire body. By improving blood circulation and muscle tissue, massage can restore muscle position and repair the body's functions.

According to Roesli (2019), massaging a baby can provide many benefits for parents, especially mothers. Baby massage provides several benefits, including promoting calmness, improving sleep quality, and teaching infants about their bodies. Additionally, it can stimulate their appetite (Julianti, 2019). By massaging the baby, the activity of the vagal nerves is stimulated. This nerve, also known as the 10th cranial nerve, increases the levels of gastrin and insulin absorption enzymes, resulting in improved food absorption. Additionally, it increases ulcer excitability and gastric emptying, which can stimulate appetite. (Roesli, 2019).

Research studies have shown that baby massage can increase body weight, head circumference, and height by 31-49% in preterm infants, according to Jabraile et al. (2019). Similarly, Astriana and Suryani (2019) found that 1- to 6-month-old infants who were massaged for 15 minutes twice a week for six weeks experienced greater weight gain than those who were not massaged.

#### **Factors Affecting Infant Sleep Quality**

The ability of a baby to recover from sleep varies depending on several factors. These factors include, but are not limited to, those discussed by Suryati (2019).

- a. The health of babies in good condition allows for better sleep, while sick babies experiencing pain may have disrupted sleep (Mardiana, 2019).
- b. The environment can either facilitate or impede sleep. On the other hand, a noisy or overly warm environment can hinder sleep quality. A clean and cool environment with minimal distractions can promote better sleep after a baby has been massaged. A clean and cool environment with minimal distractions can promote better sleep after a baby has been massaged. It is important to create a calm and comfortable environment for the baby to sleep well after a massage. In a clean, cool environment with good lighting, maintain a calm atmosphere.

### **CONCLUSION**

It can be concluded that the majority of births are male (53.3% or 16 parents) and that the infants aged 3.1 to 6 months are also 53.3% (16 infants), based on the problem

formulation and the research results described. According to the Wilcoxon UL test, baby massage with ultimation massage was found to have a significant effect on increasing the baby's body weight during the pre-birth and mid-afternoon periods ( $P=0.000$ ), suggesting that baby massage can promote optimal growth of infants. This research can serve as a reference for nursing and midwifery students, especially those taking courses in child or community obstetrics, as well as a guide for mothers who wish to improve the health of their infants or babies by performing regular massages using the correct techniques to promote healthy weight gain and overall development. The study also aims to educate mothers about these techniques.

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