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The Effect of Baby Massage on Baby Weight Gain

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A B S T R A C T

The most essential anthropometric measurement, body weight is consistently employed to assess the well-being of infants across all age categories. An infant that is in good health exhibits growth in both height and weight. Baby massage is highly beneficial for optimizing the growth and development of children, including increasing food assimilation to hasten the onset of hunger and encouraging more frequent breastfeeding to promote weight gain in infants. Used as an analytic One Group Pre-test – Post-test Design approach. This study was located at TPMB (Independent Midwife Practice Place) Dian Dwi, Bogor Regency, which was carried out in October - December 2022. Sampling was carried out by total sampling, namely all samples available at the time of the study, namely 23 babies. According to the results of the statistical test, the increase in the infant's weight prior to and following the massage differed significantly. Based on the results of interval estimation, it can be deduced that 95% of respondents consider the average body weight following a baby massage to be between 5.35 and 5.09. The findings yielded a p-value of 0.000 (count < α), which indicates that newborn massage has a significant impact on the weight of infants aged 1-12 months at α = 5%. The impact of newborn massage on infant weight gain is substantial.

Sebagai pengukuran antropometrik yang terpenting, berat badan dipakai pada setiap kesempatan memeriksa kesehatan bayi pada semua kelompok umur. Bayi yang sehat ditunjukkan dengan bertambahnya tinggi dan berat badan Pijat bayi memiliki manfaat dalam mengoptimalkan pertumbuhan dan perkembangan anak, termasuk untuk meningkatkan penyerapan makanan sehingga bayi lebih cepat lapar dan bayi akan lebih sering menyusu kepada ibunya, sehingga berat badan pada bayi meningkat Jenis penelitian yang digunakan adalah analitik dengan One Group Pre-test – Post-test Design *Penelitian ini berlokasi di TPMB (Tempat Pratek Mandiri Bidan) Dian Dwi Kabupaten Bogor, yang dilaksanakan pada bulan Oktober – Desember 2022. Pengambilan sampel dilakukan dengan cara total sampling, yaitu seluruh sampel yang ada saat penelitian yaitu sebanyak 23 bayi. Berdasarkan hasil uji statistic, peningkatan berat badan bayi sebelum dan sesudah dilakukan pemijatan ada perbedaan yang signifikan. Hasil estimasi interval dapat disimpulkan bahwa 95% diyakini bahwa rata-rata berat badan sesudah diberikan pijat bayi adalah antara 5,35-5,09. Hasil uji statistik didapatkan nilai p=000 (hitung < α) yang artinya pijat bayi memiliki dampak signifikan terhadap berat badan bayi usia 1-12 bulan pada α =5%. Terdapat pengaruh yang signifikan pijat bayi terhadap kenaikan berat badan bayi.*

Introduction

The baby's growth and development period is a golden age as well as a critical period of a person's development. The baby's growth and development are important things that parents must pay attention

to, which include body length, motor and sensory movements of the child, as well as weight (Aguayo & Menon, 2016; WHO & UNICEF, 2018).

Weight is the most essential anthropometric parameter, consistently employed to assess the well-being of infants across all age cohorts. A robust infant is distinguished by weight and height gains (de Onis & Branca, 2016; Bommer et al., 2019). According to Permenkes No. 2 of 2020 concerning child Anthropometric standards, underweight is measured through the weight index according to age (BB / U). This status indicates an indication of nutritional problems in general. Measurements at Posyandu (Integrated Health Service) every month usually use this index (Litbangkes, 2021; Rahayu et al., 2018; Assaf & Juan, 2020).

In the study conducted from 2019 to 2021 by the Health Research and Development Agency (Balitbangkes) of the Ministry of Health in Indonesia, the prevalence of underweight toddlers (underweight according to age) increased from 16.3% to 17%. while in Bogor Regency real data as of February 2022, the number of toddlers aged 0-59 months was 438,365, and the number of toddlers weighed was 365,001 (83.26%) (Darmawan, 2019). Then determine the nutritional status with underweight results of 18,863 (5.17%) (Litbangkes, 2021; World Health Organization (WHO), 2013).

The baby's weight is greatly influenced by its birth weight, as well as the nutritional intake provided (de Onis & Branca, 2016; Rahayu et al., 2018). To optimize the absorption of nutrient intake in babies, one way can be baby massage. As an element of touch therapy, baby massage ensures that the infant remains in constant physical contact, instills a sense of security, and reinforces the bonds of affection between the parents and the infant (Jabraeile et al., 2016).

Baby massage is highly beneficial for optimizing the growth and development of children, including increasing food assimilation to induce earlier hunger and encouraging more frequent breastfeeding to support the infant's weight gain by the mother (Astriana & Suryani, 2017; Amir et al., 2010). An elevated body mass signifies a favorable nutritional condition. A sufficient intake of essential nutrients enables the body to attain a state of optimal nutrition, thereby facilitating physical development. Sufficient nourishment can promote a harmonious growth process that enables the transportation of oxygen and nutrients, thereby enabling cells to expand and perform their typical functions (Akombi et al., 2017; Sitorus et al., 2021).

Baby massage provides very broad benefits and has a long-term impact on the nutritional status of the baby. Based on the description above, the research area still has infants with malnutrition status and many stunting incidents so this research needs to be done., This research aims to see the effect of baby massage on baby weight gain. With this study can know the effect of massage on a baby's weight gain. The difference with previous studies, in this study the duration and frequency of doing massage.

Method

This study employs the One Group Pre-test – Post-test Design as a pre-experiment. Specifically, a pretest (01) was administered to the experimental group, which was subsequently subjected to an intervention (X). An intervention group posttest (02) was administered after a period of time had passed.

Utilized research design is analytics with a pre-post group configuration. The investigation will be conducted from October to December 2022 at TPMB (Place of Independent Midwifery Practice) Dian Dwi, Bogor Regency.

The population of this study was all babies in TPMB (Place of Independent Midwifery Practice) Dian Dwi, Bogor Regency, which was held in October – December 2022. Sampling was carried out by means of total sampling, namely all samples available during the study, namely as many as 23 babies The researcher intervened to the group to be given a baby massage. The inclusion criteria in the population were infants aged 1-12 months, healthy, not on medication, and did not have allergies to massage oils, while the exclusion criteria in this study were infants who could not continue massage therapy on an ongoing basis. The treatment given is a baby massage 2 times a week and each session is 15 minutes done for 1 full month comparing baby weight before and after the baby massage is carried out in October – December 2022 at TPMB (Place of Independent Midwifery Practice) Dian Dwi Bogor Regency.

The independent variable in the study was baby massage, and the bound variable was the baby's weight gain. The research instruments used in this study were respondents' identity sheets, and observation sheets (weight gain questionnaires).

Both univariate and bivariate analyses were performed on the data. The univariate variables under consideration are the gender and age of the infant. The interpretation of the results obtained is utilized to present each variable in the form of a table. Utilize bivariate analysis to demonstrate the impact of newborn massage on pre-treatment and post-treatment weight gain in infants. The weight of participants in the intervention group was assessed on two separate occasions: during data collection, prior to the implementation of baby massage, and one month later, following the completion of baby massage. The data were analyzed utilizing SPSS version 20 (IBM Corp, USA) in conjunction with a paired t-test that had a 0.05 standard deviation. The examination compares the weight gain of the infant prior to and subsequent to the massage.

Results

Table 1. Baby Weight Distribution Before Massage (n=23) at TPMB Dian Dwi, Bogor Regency in 2022

Variabel	Mean	SD	Min-Mak	95% Cl
Baby Weight	4.86	0.84	3.5-5.9	4.49-5.22

Before massage, the mean body weight of infants is 4.86 kg, with a standard deviation of 0.84 kg (Table 1). The minimum mass is 3.5 kilograms and the maximum is 5.9 kilograms. It can be deduced from the interval estimation results that the average body weight prior to performing an infant massage is estimated to be between 4.49 and 5.22 percent of the time.

Table 2. Distribution of Baby Weight After Massage (n=23) at TPMB Dian Dwi, Bogor Regency in 2022

Variabel Penelitian	Mean	SD	Min-Mak	95% Cl
Baby Weight	5.72	0.85	4.3-6.9	5.35-6.08

An SD of 0.85 indicates that the mean body weight of infants following massage is 5.72 kg, as shown in Table 2. With a minimum weight of 4.3 kg and a maximum weight of 6.9 kg. It can be deduced

from the interval estimation results that 95% of respondents consider the average body weight following a baby massage to be between 5.35 and 5.09.

Table 3. The Effect of Baby Massage on Weight Gain in TPMB Dian Dwi, Bogor Regency in 2022

Baby Weight	Mean	SD	SE	ρ Value	N
Before Massage	4.86	0.84	0.17	0.000	23
After Massage	5.72	0.85	0.18		

As shown in Table 3, the mean body weight of an infant prior to receiving a massage is 4.86 kg, with a standard deviation of 0.84. Subsequent to receiving a massage, the body weight increases by 0.66 kg to 5.43 kg. The statistical analysis yielded a p-value of 0.000, suggesting that newborn massage does indeed contribute to the increase in infant weight at TPMB. Dian Dwi, Regency of Bogor, 2022.

Discussion

On the basis of the analysis results, it was determined that the mean body weight of the participants was 5.72 kg following the massage, compared to 4.86 kg prior to the treatment. The comparison of the mean body weight prior to and subsequent to the massage reveals a reduction of 0.66 kilograms.

A statistical analysis revealed that there was a statistically significant disparity between the weight gain of the infant prior to and subsequent to the massage. On the basis of the interval estimation results presented in Table 3, it is possible to conclude that the average body weight following an infant massage is estimated to be between 5.35 and 5.09 percent, 95% of the time. The statistical test yielded a value of $p = 000$ (count $< \alpha$), which indicates that at $\alpha = 5\%$, it is possible to conclude that newborn massage has a significant impact on the weight of infants between the ages of one and twelve months.

There are several factors that can affect weight gain in babies, including maternal knowledge about nutrition, health status, and infant psychology, as well as personal factors, economic statutes and food culture have a considerable responsibility for the health status of babies (R&D, 2021). In particular, this study proves that giving a baby massage can help optimize the growth of the baby by increasing the baby's weight.

This is in accordance with what was stated by Roesli (Hutasuhut, 2019) who said that one of the benefits of baby massage is to increase the weight of the baby and cause positive biochemical and physical effects. In addition, the benefits of baby massage are the strength and flexibility of the mind, body and emotions can be increased so that quality sleep is obtained in the baby (Lestari et al., 2021; OMS & UNICEF, 2020).

This is supported by the results of research by Ulfa et al. (2019) showing that there is an effect of infant massage stimulation on increasing the body weight of babies with a history of BBLR in the work area of the Cermee health center, Bondowoso Regency with a total of 15 babies.

According to the findings of the investigation carried out by Fitriyanti et al. (2019) the average initial body weight (pre-test) was 5180.88 and the average second body weight (post-test) was 5535.29. The statistical analysis of the T-test results ($p = 0.000 < 0.05$) indicates that there is no significant effect of newborn massage on the weight gain of infants. Touch will stimulate blood circulation and increase

energy, massage is useful not only for babies but also for adults though, with massage can stimulate the increase in food input so that it can increase baby weight (Fauziyah & Wijayanti, 2018; Astriana & Suryani, 2017).

The effect of massaging, with or without the use of oils, on the growth of premature neonates is still unknown, according to the findings of additional research. Research indicates that oil can serve as a source of heat and nutrition for preterm neonates; however, the precise impact of oil on their growth remains uncertain. Recent research indicates that the optimal complement to neonate massage is oil. By applying oil during massage, friction is eliminated, long rubbing with a suitable and continuous pressure is possible, and the oil softens the skin and eliminates or entirely reduces dryness (Jabraeile et al., 2016).

Conclusions

The results that can be concluded from this study are that there is a significant effect of baby massage on weight gain. There need to be additional complementary obstetric services for newborns in the form of baby massage to increase the weight of the baby.

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