



The Effect of Infant Massage on The Quality of Sleep of Infants Aged 0–12 Months

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ABSTRACT

Baby massage is one of the non-pharmacological therapies given to help improve the quality of sleep-in infants by means of baby massage. Baby massage is better done by the baby's parents. Babies who are massaged for approximately 15 minutes will feel more relaxed, sleep more soundly, their development and growth will be better. This study aims to analyze the effect of giving baby massage to the sleep quality of infants aged 0-12 months at Imelda Indonesian Workers General Hospital Medan 2020. The type of research used is a pre-experimental design with the One Group Pre-Test – Post Test approach. The population in this study were all infants in the General Hospital Imelda Indonesian Workers Medan. The sampling used is non-probability sampling with the sampling technique in this study is Accidental Sampling with a total sample of 30 infants. The independent variable is infant massage, and the dependent variable is the sleep quality of infants aged 0 -12 months. The research instrument used a questionnaire. Data processing using the Wilcoxon test. The results showed that the sleep quality of infants aged 0-12 months before the massage was mostly adequate for 17 respondents (56.7%) and after the massage, most of the respondents had good sleep quality as many as 20 respondents (66, 7%). Statistical test results show p-value is $0.000 < 0.05$, so H1 is accepted. The conclusion of this study shows that H1 is accepted and H0 is rejected, which means that there is an effect of giving baby massage to the sleep quality of infants aged 0-12 months at the Imelda general hospital for Indonesian workers in Medan in 2020.

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INTRODUCTION

Infants are children aged 0 to 12 months. In general, babies are more susceptible to disease because babies do not yet have a strong immune system, so the role of parents is needed to care for babies. If the baby shows signs and symptoms of an illness, parents must make a decision to take the baby to health services to avoid the severity of the disease experienced by the baby, so some parents prefer to prevent it by doing baby massage (Bastian, Adelia, et al. 2014).

Babies are individuals who have their own needs, namely in the amount of rest (sleep). Babies really need a long amount of sleep because the growth and development of nerve cells in infancy are not yet perfect, so stimulation is needed that can help maximize the growth and development of nerve cells by meeting the baby's sleep needs (In Dewi .AP, et al, 2016).

Based on the Decree of the Minister of Health of the Republic of Indonesia No. 8 of 2014 concerning SPA health services article 1 paragraph 10 which reads that baby massage is a stroke and emphasis technique using limbs such as hands, fingers, elbows, and or stimulation and relaxation, smoothing

the blood circulation system. , launch the lymphatic circulation system (lymph) and strengthen other body systems, intended for health and fitness (Ministry of Health, 2014).

Baby massage is an art of health care and medicine that has been known since the beginning of human creation in the world and has been practiced since ancient times from generation to generation by traditional birth attendants. Baby massage is better done by the baby's parents (Prasetyono, 2017).

Baby massage is one of the non-pharmacological therapies that is given to help improve the quality of sleep in infants by means of baby massage. According to (Riksani in Rohmawati, fauziah 2018). Baby massage is one type of stimulation that will stimulate the development of the structure and function of the work of cells in the brain. Babies who are massaged for approximately 15 minutes will feel more relaxed, sleep more soundly, their development and growth will be better. (According to Matra, 2014 in

Rohmawati, Fauziah 2018), a gentle massage will help relax the muscles so that the baby will feel calmer and will sleep soundly.

Sleep is one of the baby's needs and sleep is a form of adaptation to the baby's environment. Newborns usually have 16-20 hours of sleep a day. Entering the age of 2 months, babies begin to sleep more at night than naps during the day. At the age of 3 months, babies will spend about 15-17 hours of sleep a day with a division of 8 hours to sleep during the day and 9 hours to sleep at night. As the baby gets older, the time needed for baby sleep decreases, precisely at the age of 3-6 months. The amount of sleep needed by babies aged 0-6 months ranges from 13-15 hours / day (Dewi .A.P, et, al, 2016).

Based on data from the WHO (World Health Organization) in 2012 which was included in the pediatrics journal, it was recorded that around 33% of infants had sleep problems. Research conducted by Hiscock (2012) in Melbourne Australia found that 32% of mothers reported that their babies had recurring sleep problems. In Indonesia, quite a lot of babies have problems sleeping, which is around 44.2% of babies who have sleep problems such as waking up frequently at night. Based on the report from Rikesdas districts/cities in North Sumatra in 2018, the number of babies born alive was 5,895 babies. Based on the results of an initial survey on July 28, 2020 conducted by researchers at the Imelda General Hospital of Indonesian Workers, it was found that there were 596 mothers who gave birth to babies from January to June.

Given the importance of sleep for growth and development for babies, their needs must be completely met so that they do not adversely affect their growth and development. One way that can be done to meet the baby's sleep needs is to massage the baby. Massage performed on babies can help improve the quality of baby sleep.

Based on the above background, the researcher is interested in conducting research on "The Effect of Infant Massage on the sleep quality of Infants Age 0-12 at Imelda Indonesian Workers General Hospital Medan in 2020"

METHOD

The type of research used in this study was pre-experimental design with the One Group Pre-Test - Post Test approach which only used the control group (comparison). Research can examine the changes that occur during the treatment given.

Pre Test	Intervensi	Post Test
O1	X	O2

One Group Pre-Post design table

O1 : Pretest (before giving baby massage)

X : Intervention (giving baby massage to improve baby's sleep quality)

O2 : Posttest (baby massage has been given)

Research Time and Place

This research was conducted from March to July 2020, the time of the study was calculated from the submission of the title to the preparation of research reports and research publications. This research was conducted at the Imelda Indonesian Workers General Hospital in Medan, because the place to be studied was close and easily accessible by researchers.

Population and Sample

The population is a collection or aggregate of objects/units of analysis where generalizations are formulated and from which samples are taken (Setiawan, Dony & Prasetyono, Hendro, (2015). The population in this study were all infants in Imelda Indonesian Workers General Hospital Medan.

The sample is a source of data collection both quantitatively and qualitatively. The sample is also part of the number and characteristics possessed by the population (Setiawan, Dony & Prasetyono, Hendro, (2015). The sampling used is non-probability sampling with the sampling technique in this study is Accidental Sampling. Accidental Sampling is a sampling technique based on coincidence, which means that anyone who coincidentally meets a researcher can be used as a sample as a data source (Setiadi, 2013). So the sample taken in this study was 30 babies.

Processing and data analysis

Data processing using a computer, which is carried out through a process with the following stages (Sugiono, 2008): 1) Editing 2) Scoring 3) Coding 4) Data Entry 5) Tabulation

Researchers conducted univariate analysis. Descriptive analysis was carried out with the aim of describing each variable studied separately by making a frequency table of each variable. And do a bivariate analysis that is looking at the relationship between the independent variable and the dependent variable by using the chi square statistical test (χ^2) <0.05 and 95% confidence level.

RESULTS AND DISCUSSION

The research data will describe the relationship between knowledge of hand washing and the incidence of diarrhea in Imelda Private Elementary School Medan. The characteristics of the respondents observed by the researchers were gender, age and class. As the table 1.

Table 1
Distribution Frequency of response base on age, sex, health status, baby massage (N=30)

Carateristic Responden	Frequency	Percentase (%)
Age		
0 – 3 Month	16	53,4
4 – 7 Month	10	33,3
8 – 12 Month	4	13,3
Sex		
Male	12	40,0
Female	18	60,0
Health status		
Healthy	23	76,7
Sick	7	23,3
Giving Baby Massage		
Once	11	36,7
Never	19	63,3

Based on table 1 shows that most of the babies aged 0-3 months, as many as 16 respondents (53.4%). Some babies aged 0-12 months are female, as many as 18 respondents (70.0%). almost all infants aged 0-12 months are in good health as many as 23 respondents (76.7%). most have never massaged the baby with a total of 19 respondents (63.3%).

Table 2
Statistic Description of baby sleep quality before-after baby massage (N=30).

Sleep Quality		Frekuensi	Persentase (%)
Before	Good	5	16,7
	Enough	17	56,7
	Not enough	8	26,6
After	Good	20	66,7
	Enough	7	23,3
	Not enough	3	10,0

Based on table 2, it shows that the sleep quality of infants aged 0-12 months before baby massage is mostly adequate for 17 respondents (56.7%). After baby massage, most of the respondents the quality of baby sleep became good as many as 20 respondents (66.7%).

Based on table 3 cross tabulation shows that most of the quality of baby sleep 0 -12 months before and after baby massage, as many as 13 respondents (43.3%).

Table 3
The effect of giving baby massage to the quality of baby sleep (N=30)

Sleep quality before baby massage	Sleep quality before baby massage						Jumlah	
	Good		Enough		Not enough		f	%
	f	%	f	%	f	%		
Good	2	6,7	3	10,0	5	16,7	10	33,3
Enough	0	0,0	1	3,33	6	20,0	7	23,3
Not enough	0	0,0	3	10,0	10	33,3	13	43,3

Uji Wilcoxon Signed Rank P value < α (0,05)

Table 4
The effect of giving baby massage to the quality of baby sleep

Paired Samples Test

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre Test - Post Test	-7.36667	2.98829	.54558	-8.48251	-6.25082	-13.502	29	.000

Table 5. Wilcoxon Signed Ranks Test

	N	Mean Rank	Sum of Ranks
POST TEST - PRE-TEST	Negative Ranks	1 ^a	1.00
	Positive Ranks	29 ^b	164.00
	Ties	0 ^c	
	Total	30	

a. POST TEST < PRE-TEST

b. POST TEST > PRE-TEST

c. POST TEST = PRE-TEST

Test Statistics^a

	POST TEST - PRE-TEST
Z	-4.776 ^b
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Based on the table 5 and according to the Wilcoxon Signed Rank statistical test with the help of SPSS 22 at an error level of 5%, calculations were carried out to determine whether there was an influence between the variables, namely the independent variable and the dependent variable. The result of the calculation of p value is 0.000 < (0.05). The results show that H1 is accepted and H0 is rejected, which means that there is an effect of giving baby massage to the sleep quality of infants aged 0-12 months at the Imelda general hospital for Indonesian workers in Medan in 2020.

DICUSSION

Baby Sleep Quality Before Baby Massage

Based on table 4.5, it shows that the sleep quality of infants aged 0-12 months before baby massage is mostly adequate for 17 respondents (56.7%). The questionnaire to measure the sleep quality of infants aged 0-12 months before the baby massage was carried out contained 15 questions.

According to researchers, a baby who sleeps 9 hours is classified as a baby who does not experience sleep disturbances and the quality of infant sleep is adequate, and if the baby sleeps 9 hours, it can be said that the baby has a sleep

disorder. According to Wahyuni in Dewi.Utami. et al, (2014). The quality of a baby's sleep not only affects physical development but is also seen in the baby's attitude the next day. If the baby sleeps enough time without waking up often, then the baby will look fitter and less fussy and will not need naps that exceed their needs according to their developmental period.

Based on table 4.7 Based on table 4.3 shows that almost all infants aged 0-12 months are in good health as many as 23 respondents (76.7%). According to researchers, baby massage is categorized as adequate sleep quality, namely sleeping at least 9 -11 hours at night, as well as babies who are given additional food, the baby's nutritional needs will be met so that the baby will sleep soundly and in a healthy physical condition or not. sick, because babies with unhealthy conditions will make the baby's condition worse if baby massage is done.

According to Candra in Dewi.U. et al, (2014). Baby sleep quality is a certain quality or physiological state that is obtained during a person's sleep, in order to restore body processes that occur when the person wakes up from sleep. The quality of a baby's sleep is determined by the presence of disturbances during sleep, a baby is said to have a sleep disorder if the baby wakes up more than 3 times at night for more than 1 hour.

Baby Sleep Quality After Baby Massage

Based on table 4.6, it shows that after the baby massage, most of the respondents the quality of the baby's sleep became good as many as 20 respondents (66.7%). The questionnaire to measure the quality of the baby's sleep consisted of 15 questions. According to researchers, sleep plays an important role in increasing the baby's immune system, if the baby sleeps 9 hours it will affect optimal growth and development and the quality of the baby's sleep is fulfilled so that the baby is not easily awakened at night.

According to Sekartini (2012), the quality of infant sleep affects not only physical development, but also emotional development. Babies who get enough sleep without waking up are fitter and less fussy the next day.

Based on table 4.1 shows that most of the babies aged 0-3 months, as many as 16 respondents (53.4%). Based on table 4.7 the cross tabulation shows that most of the baby's sleep quality is 0 -12 months before and after baby massage, as many as 13 respondents (43.3%).

According to researchers, babies aged 0-12 months are easier to regulate their sleep schedule, so babies have good sleep quality. Therefore, the need for sleep in infants according to their age needs attention from the family so that babies can achieve optimal growth and development.

According to Dewi .A.P, et, al, (2016). Newborns usually have 16-20 hours of sleep a day. Entering the age of 2 months, babies begin to sleep more at night than naps during the day. At the age of 3 months, babies will spend about 15-17 hours of sleep a day with a division of 8 hours to sleep during the day and 9 hours to sleep at night. As the baby gets older, the time needed for baby sleep decreases, precisely at the age of 3-6 months. The amount of sleep needed by babies aged 0-6 months ranges from 13-15 hours / day. Stage III sleep: sleep that is quite deep, relaxed, and muscle tone begins to decrease

The effect of giving baby massage to the sleep quality of babies aged 0 – 12 months

Based on table 4.5, it shows that the sleep quality of infants aged 0-12 months before baby massage is mostly adequate for 17 respondents (56.7%). Based on table 4.6, it

shows that after the baby massage, most of the respondents the quality of the baby's sleep became good as many as 20 respondents (66.7%).

And based on the analysis conducted by researchers using the Wilcoxon test with the help of the SPSS 22 program at an error level of 5%, calculations were carried out to determine whether there was an influence between the variables, namely the independent variable and the dependent variable. The result of the calculation of p value is $0.000 < (0.05)$. The results show that H1 is accepted and H0 is rejected, which means that there is an effect of giving baby massage to the sleep quality of infants aged 0-12 months at the Imelda general hospital for Indonesian workers in Medan in 2020.

According to researchers Given the importance of sleep for growth and development for infants, their needs must be completely met so that they do not adversely affect their growth and development. One way that can be done to meet the baby's sleep needs is to massage the baby. Massage performed on babies can help improve the quality of baby sleep. Baby massage is one of the non-pharmacological therapies that is given to help improve the quality of sleep-in infants by means of baby massage. According to (Riksani in Rohmawati, fauziah 2018). Babies who are massaged for approximately 15 minutes will feel more relaxed, sleep more soundly, their development and growth are also getting better.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of research on the effect of giving baby massage to the quality of baby sleep at the Imelda general hospital for Indonesian workers in Medan in 2020.

1. Sleep quality for infants aged 0-12 months before massage was performed, most of the baby's sleep quality was sufficient as many as 17 respondents (56.7%) at the Imelda general hospital for Indonesian workers in Medan in 2020.
2. Sleep quality of infants aged 0-12 months after baby massage was mostly good for 20 respondents (66.7%).
3. The results of the statistical test using the Wilcoxon test, the results obtained from the calculation of the p value are $0.000 < (0.05)$. The results show that H1 is accepted and H0 is rejected, which means that there is an effect of giving baby massage to the sleep quality of infants aged 0-12 months at the Imelda general hospital for Indonesian workers in Medan in 2020.

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Conflict of Interest Statement

The authors declare that there is no potential conflict of interest in connection with the writing and publication of this article

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