

SURAT KETERANGAN

Nomor: 021/UNUSA/Adm-LPPM/I/2020

Lembaga Penelitian dan Pengabdian Kepada Masyarakat (LPPM) Universitas Nahdlatul Ulama Surabaya menerangkan telah selesai melakukan pemeriksaan duplikasi dengan membandingkan artikel-artikel lain menggunakan perangkat lunak **Turnitin** pada tanggal 13 Januari 2020.

Judul : The Correlation Between The Frequency Of Baby Massage and The Sleep Duration Of Babies Aged 0-18 Months Found at RB Endang Widayat (Maternity Clinic), Located in Sidoarjo

Penulis : Fauziyatun Nisa'

No. Pemeriksaan : 2020.01.13.13

Dengan Hasil sebagai Berikut:

Tingkat Kesamaan diseluruh artikel (*Similarity Index*) yaitu 3%

Demikian surat keterangan ini dibuat untuk digunakan sebagaimana mestinya

Surabaya, 13 Januari 2020

Ketua LPPM,



Dr. Istas Pratomo, S.T., M.T.

NPP. 16081074

LPPM Universitas Nahdlatul Ulama Surabaya

Website : lppm.unusa.ac.id

Email : lppm@unusa.ac.id

Hotline : 0838.5706.3867

Paper 3

by Fauziyatun Nisa' 3

Submission date: 13-Jan-2020 11:22AM (UTC+0700)

Submission ID: 1241309307

File name: 3._Prosiding_Nisa_-_Pengaruh_frekuensi_pijat_bayi_1.pdf (6.02M)

Word count: 3976

Character count: 20524

THE CORRELATION BETWEEN THE FREQUENCY OF BABY MASSAGE AND THE SLEEP DURATION OF BABIES AGED 0-18 MONTHS FOUND AT RB ENDANG WIDAYAT (MATERNITY CLINIC), LOCATED IN SIDOARJO.

Fauziyatun Nisa¹

Universitas Nahdlatul Ulama Surabaya, Jl. Smea 57 Surabaya

Email : fauziyatun.nisa@unusa.ac.id

Abstract

The high sleep disturbance and the quality of sleep which has not been fulfilled by a baby can result in the unoptimal growth and development. Massage stimulation is very important because it can make a baby comfortable and result in a long sleep duration or tight sleep which may bring a positive effect for their growth and development. Therefore, the purpose of this study was to analyze the correlation between the frequency of baby massage and the sleep duration of babies aged 0-18 months found at RB Endang Widayat (Maternity Clinic), located in Sidoarjo. The design of study was analytic cross sectional. The population involved all mothers having children aged 0-18 months who have come to the clinic mentioned above for baby massage. Twenty samples were taken by using purposive sampling technique. The instrument used to collect the data was a checklist. Moreover, the data were analyzed by using Spearman's Rank test with the significance level $\alpha = 0.05$. The result of study showed that nearly half of the respondents (45.0%) had low frequency in giving baby massage, whereas half of them (50.0%) had short sleep duration. Furthermore, the analysis using Spearman's Rank test showed that $\rho = 0.000$ which meant that $\rho < \alpha$ so that H_0 was rejected showing that there was a correlation between the frequency of baby massage and the sleep duration of babies aged 0-18 months found at the maternity clinic. The conclusion of study was that if baby massage was done more frequently, babies would have longer sleep duration. Therefore, the health workers should suggest the mothers to apply baby massage more often to increase the health of babies for the optimal growth and development.

Keywords: baby massage, sleep duration.

INTRODUCTION

Sleep is a basic requirement for optimal growth and development for a baby. Mothers with babies aged less than two years often complain about their baby's fussiness while sleeping at night, causing them to have sleep disorder. This sleep disorder can be fatal if it occurs in babies or children such as sleep talking (somniloqui), fussiness, restlessness in sleep causing frequent body movement, waking up often, and other sleep disorders in babies (Rini S

2006). Certainly, it is something that should be noted for better growth and development. Achieving optimal growth and development is the result of the interaction of a variety of interrelated factors, namely genetic factors, environment and behavior, as well as useful stimulation.

The baby's brain grows three times that of the current state of birth or 80 % of the adult brain in the first year. This condition only occurs once in a lifetime.

Hence, for maximum growth and development, babies need sufficient rest. (Atmaji, 2005)

Quality of sleep affects the development of babies because with good sleep, they will grow into well-developed children. Babies who are active and grow normally usually have sufficient time to sleep. (Wong, 2000)

Sleep is an unconscious condition in which an individual can be awakened by appropriate sensory stimuli. Sleep not only gives the body a chance to rest, but it also provides an opportunity to improve the process of metabolism, namely the processing of nutrients into energy. Sleep cannot be interpreted only as a silent and meaningless activity because it has an important role in our daily lives (Hidayat, 2006).

70 % of babies have a habit to sleep "through the night" at the age of three months, 85% at 6 months and 95% at the end of the first year (Rudolph, 2002). Baby sleep pattern usually appears at the age of 3 or 4 months. At the age of 4 to 6 months, babies will be affected by the surrounding environment and will stay awake if they are angry and exhausted (Dowshen, 2001). Sleeping with good quality and quantity will promote the development of babies. Children of the same age will usually have approximately the same sleep interval. Nevertheless, we should remember that each person is a unique individual with different needs, including the need for sleep. (Anonymous, 2006)

According to the research done by Sekartini in Indonesia in 2004, among 80 children aged less than three years, 41 of them or 51.3% experienced sleep disorders. Based on research with 385 respondents in five cities, Jakarta, Bandung, Medan, Palembang and Batam, 44.2% of the children had less than 9 hours during nighttime sleep, waking up at night more than three times, and long awake at night more than an hour (Widianto 2005). Meanwhile, according to (Sari Perdiatri, 2006), the prevalence of sleep disorders in children was approximately 30% - 35%. In Beijing, China, the prevalence of sleep disorders in children aged 2-6 years was

23.5%. Sleep disorders in children are often undetected by parents and not dealt properly. Complaints that are usually expressed by parents include irregular sleep habits, less or excessive sleep, waking up at night, and sleepiness during the day. Children under three years who have troubled sleeping at night on a regular basis show symptoms of anxiety, such as changes in emotion and behavior. Some disorders may exhibit more severe disorders, such as sleep apnea syndrome and sudden infant death syndrome.

From the preliminary study conducted by the writer at RB Endang Widayat located in Sidoarjo the data describing babies receiving massage in February, March, and April showed an average of 32 babies. Based on the result of interviews with the mothers in early May 2014, of 5 babies aged 0-18 months, 4 babies had troubled sleeping or have not fulfilled good quality of sleep, shown in Table 1.1 below:

Table 1.1 Data of sleep quality of babies aged 0-18 Months

Criteria	Sleep quality of babies aged 0-18 months	
	∑ Babies	Percentage
Unfulfilled	4	80
Fulfilled	1	20

Source: Primary data of the writer, May 2014

Table 1.1. concluded that 80 % of the babies have not fulfilled the quality of sleep because of waking up more than 3 times in one night, fussiness, and crying. Thus, the problem revealed from this research was the high incidence of sleep disorders/sleep quality that has not been fulfilled by the babies.

Factors that may affect the baby's sleep are environment, physical exercise, nutrition, diseases, and massage stimulation (touch) (Turcin, 2000; Hidayat, 2006; Perry and Potter, 2006; Saputra 2009, Ria, 2012).

One of the factors that can affect a baby to sleep is the lack of massage stimulation (touch). Baby massage is a fun way that will create a feeling of comfort for

the baby. Stimulation (touch) in the form of massage is important because it will make the baby more comfortable, cause the baby to sleep longer/ tight to generate positive effects for the growth and development. The above factors can also lead to physiological and psychological balance disorders. The physiological effects include the decrease in daily activities, tiredness, weakness, poor neuromuscular coordination, the slow healing process and decreasing body immune, whereas the psychological effects include more emotionally instability, anxiety, no concentration, cognitive abilities and lower combination with his experience (Turcin, 2000; Soedjatmiko, 2006; Saputra, 2009).

The ways to help a baby sleep better are by bathing them with warm water, giving quiet activities, such as reading stories, singing lullabies or listening to a quiet music before sleeping. In addition, there is also a form of stimulation to help baby sleep tight, namely baby massage, a movement, like a game, applied to babies to stimulate growth and development and the ability of optimal baby's movement (Sutini, 2008).

In order to maintain good sleep pattern for babies in daily life, it is necessary for health workers to provide health education for the mothers, especially whose babies experience sleep disorders. To provide the babies with stimulation (touch) or baby massage, they can ask health workers to do it. However, it will be better if the mothers can do it by themselves at home by following the steps of baby massage written on leaflets or flipchart provided by health personnel, so that babies can obtain sleep with quantity and quality appropriate with their needs for optimal growth and development.

METHODS

The type of this research was analytic purposed to find out the correlation between frequency of baby massage and sleep duration of babies aged 0-18 months.

Based on the time, the design of the study was cross-sectional, in which the independent and dependent variables were observed at the same time. Population in

this research involved all mothers having babies aged 0-18 months providing massage for their babies at RB Endang Widayat, Sidoarjo, totaling 32 people. The samples used in this study were some of the mothers having babies aged 0-18 months receiving baby massage at RB Endang Widayat, Sidoarjo. In this research, the samples were taken using non-probability sampling in which not all subjects had the same opportunity to take parts in this research. The technique used was purposive sampling based on certain considerations made by the researcher, based on the characteristics of the population that have been previously known (Notoatmodjo, 2012).

The analysis was performed analytically to determine the correlation between the two variables (frequency of baby massage and sleep duration of babies aged 0-18 months) using tabulation. Once the data were collected and the completeness was examined, the researcher performed the analysis using Spearman Rank test when $\rho < \alpha$ (0.05), H_0 was rejected which meant that there was a correlation between frequency of baby massage and sleep duration of babies aged 0-18 months found at RB Endang Widayat, Sidoarjo.

RESULT

From the collected data, it showed that the frequency distribution of respondents by frequency of baby massage was as follows:

Table 5.2 The frequency Distribution of respondents by frequency of baby massage done at RB Endang Widayat, Sidoarjo in July 2014

frequency of baby massage	Frequency	Percentage (%)
High	3	15,0
Moderate	8	40,0
Low	9	45,0
Jumlah	20	100

Source: Primary data taken in July 2014

Based on Table 5.3 it can be seen that among 20 respondents, it was found that nearly half (45.0%) of the respondents having babies receiving baby massage with low frequency.

a. Sleep duration of babies

Table 5.3 Frequency distribution of respondents by sleep duration at RB Endang Widayat, Sidoarjo in July 2014

Sleep duration of babies	Frequency	Percentage (%)
More	5	25,0
Ideal	5	25,0
Less	10	50,0
Total	20	100

Source: Primary data taken in July 2014

Based on Table 5.4 it can be seen that among 20 respondents, it was found that half (50.0%) of respondents had babies with less sleep duration.

b. The correlation between frequency of baby massage and sleep duration of babies aged 0-18 months

Table 5.4 A cross tabulation between frequency of baby massage and sleep duration of babies aged 0-18 months at RB Endang Widayat Sidoarjo in July 2014

Frequency of baby massage	Sleep duration of babies			Total n (%)
	More n (%)	Ideal n (%)	Less n (%)	
High	2 (66,7)	1 (33,3%)	-	3 (100,0)
Moderate	3 (37,5)	4 (50,0%)	1 (12,5%)	8 (100,0)
Low	-	-	9 (100,0%)	9 (100,0)
Total	5 (25,0)	5 (25,0)	10 (50,0)	20 (100,0)

Source: Primary data taken in July 2014

Based on Table 5.5, it showed that among 2 respondents providing baby massage with high frequency, 66.7 % had more sleep duration, 4 respondents providing baby

massage with moderate frequency, 50.0 % had ideal sleep duration, while 9

Variable		ρ (Significance)	Description
Independent (free)	Dependent (bound)		
Baby massage (Frequency)	Sleep duration	0,000	Correlated

respondents providing baby massage with low frequency, 100.0 % had less sleep duration.

Table 5.5 Results of analysis using Spearman Rank test

Based on the statistic result shown in table 5.6. using Spearman rank test, it showed $\rho = 0.000$ and significance level $\alpha = 0.05$. From this result, we can conclude that $\rho < \alpha$, then H_0 was rejected which meant that there was a correlation between frequency of baby massage and sleep duration of babies aged 0-18 months at RB Endang Widayat, Sidoarjo.

DISCUSSION

1. Baby massage

Based on Table 5.3, it showed that among 20 respondents, nearly half (45 %) providing baby massage with low frequency was $\leq 2x$ / month. 40 % provided baby massage with moderate frequency totaling 3-4 times each month, and 15 % provided baby massage with high frequency, namely ≥ 5 times each month. Based on the fact occurring in the community, most of the parents provided massaging for their babies regularly every week or month, as seen in the research done by Louren and Novita (2007), stating that the implementation of baby massage in the community in general was 1-2 times / month for (40 %), 3-4 times / month (40 %), > 5 times / month (10 %). Massage is not only an artistic touch stimulus to the baby, but it also has become an alternative medication to improve the health of babies.

Baby massage can be started immediately after the baby is born, as the parents wish. Starting massage faster and

more routinely in doing massage will bring greater advantages for the babies (Roesli, 2005). Based on Table 5.1, it showed that by the age of the respondents, 20 % having babies aged 0-3 months, 10 % having babies aged 3-6 months, 15 % having babies aged 6-9 months, 10 % having babies aged 9-12 months, 45% having babies aged 12-18 months. In short, most of babies in this research were at the age between 12-18 months. According to the Field (1998) Harley (2003), therapeutic massage as a part of alternative treatment has just been newly invented. This massage will provide greater benefits if done regularly since childbirth until the age of 6-7 months. In addition, it can be done easily because the procedure of baby massage is easily done with few exercises. According to Utami (2005), any individual can apply the techniques and stages of massage appropriate with the age.

The reasons that affect the mothers to provide her babies with massage are to make their babies healthy, to increase appetite, easy to do, to avoid tiredness, which lead to one goal, namely to provide the health for their babies (Lulu, 2010). The result of interviews conducted by the researcher reveals that most mothers provide massage for their babies because of the fussiness resulted from unhealthy condition. Others claim that it was the scheduled time for massage. Moreover, they provide massage because the babies' activities are not normal as before. According to Ria (2012), massage can smooth the flow of oxygen to the brain via the bloodstream, so the baby becomes more concentrated when playing and doing activities in daily life. As a result, babies massaged regularly will have an impact on their activities and better body condition.

The result of interviews shows that many mothers no longer frequently and regularly provide massage for their babies appropriate with the babies' age because they think that it was not so necessary. They think that as the babies grow older, physical condition will be stronger, and consequently the baby can be more resistant in sick condition. It can affect the results of the low-frequency massage, considering

that most of the babies in this research aged between 12-18 months.

Most parents are still afraid to do this massage at home for fear of something undesirable after massage. They believed that baby massage requires special techniques which cannot be done by any person. They prefer to take their babies to health professionals, such as midwives, and traditional baby masseurs.

Natural touch on baby is actually the same with this massage. If this activity is done regularly in accordance with the correct procedures and techniques, it can be therapeutic treatment to bring benefits to the baby you love. In addition, the touch improves social development. A study done to babies who receive massage when they are four weeks old and after shows that they are more responsive during supervision at home over a period of twelve weeks. Moreover, touch and massage will speed up the bond of love between parents and a baby if they are done by parents on a regular basis. In relation with emotional development, a touch done by the parents is a basis for the development of communication, which will foster mutual love. Moreover, the baby will feel safe because he / she feels the love and protection from the parents (Roesli, 2008).

2. Sleep Duration

Based on Table 5.4, it showed that among 20 respondents, 50 % of the babies had sleep duration less than their needs. While 25 % of the babies had good sleep duration fulfilling their needs, and 25 % had sleep duration more than their needs. Given the importance of sleep for the baby's development, the need for sleep must be totally fulfilled so as not to adversely affect the development. One method to meet these needs is massage. Babies receiving massage will be able to sleep well (Roesli, 2005). Massage will support the dilation of blood vessels which increases blood circulation. Smooth blood circulation will require more O₂ in the bloodstream. The increasing O₂ needs to be sent throughout the body, including to the brain which needs more O₂ that stimulates circulation and respiration system to be

better. This process will increase the hours of sleep in babies (Nuviola, 1992).

Based on supporting data from interviews with the baby's mother, it showed that their babies sleep more quietly and not too fussy. This is in line with the opinion of Roesli (2005) that massage can increase serotonin level which will produce melatonin, which plays a role in sleep and make sleep longer and well at night. Serotonin will also increase the capacity of cells receptors to bind the glucocorticoid (adrenaline, a stress hormone). This process leads to decreased level of the hormone adrenaline (stress hormone) so that the babies treated with massage will appear more quiet and without fussiness. In short, massage done more regularly and often will make sleep more restful and deeper with all hormonal process in the body when the baby is asleep.

3. Correlation between frequency of baby massage and sleeping duration of babies aged 0-18 months

Based on the result of a cross tabulation table 5.5, two babies possessed by the respondents who did massages with high frequency had good sleep duration (66.7%). Four babies of the respondents who did the massage with moderate frequency (50.0%) had sufficient sleep duration, whereas 9 babies of the respondents who did the massage with low frequency (100.0%) had less sleep duration. In short, the higher the frequency of the regularity of the massage is done, the better the sleep duration experienced by the babies..

From table 5.6, the result of the analysis using Spearman Rank test and SPSS (Statistical Product Service) for Windows with significance level $\alpha = 0.05$ obtained the value of $\rho = 0.000$ which meant that $\rho < \alpha$, so that H_0 was rejected. It showed that there was a correlation between frequency of baby massage and sleep duration of babies aged 0-18 months.

However, there were several factors in this research that affect the baby's sleep so that the results were not as expected. Those factors include internal and external factors. External factors include

the environment. Noisy and non-conducive environment will affect the sleep duration. In this study, environmental factors are not controlled which brought effects to the sleep, whereas the internal factor is the health of newborns. According to the interviews, some of the babies were in a state of illness, such as fever, influenza. Such condition affected the sleep. The habit of drinking milk before bed will also affect the baby in sleep. Milk contains alpha protein that can increase the level of Tryptophan. Tryptophan is a precursor of the hormone melatonin and serotonin, which serve as the connecting nerves (neurotransmitters) as well as custom regulator (neurobehavioral). In addition to an effect on patterns of consciousness, perception and pain also affect sleep pattern (Widianto, 2006). In this research, most babies had a habit of drinking milk before bed. It certainly also affects the quantity of sleep.

According to (Roekistiningsih 2010) the age factor also affects the increase of quantity of sleep. As the age grows older, the quantity of sleep will decrease. This research was dominated by the babies aged 12-18 months so that age factor caused the babies to have less sleep duration.

CONCLUSION

1. Most babies of the respondents found at RB Endang Widayat, Sidoarjo received massage with low frequency.
2. Most babies of the respondents at RB Endang Widayat, Sidoarjo had sleep duration less than their needs.
3. There was a correlation between frequency of baby massage and sleep duration of babies aged 0-18 months at RB Endang Widayat, Sidoarjo .

REFERENCES

- Anonime. 2010. *Pengaruh Baby Massage terhadap Kuantitas dan Kualitas Tidur Bayi Usia 0-6 Bulan di Surabaya*.
www.digilib.unimus.ac.id. Diakses pada tanggal 16 Mei 2014.

- Arikunto. 2006. *Prosedur Penelitian*. Jakarta: Rineka Cipta.
- Depkes RI. 2009. *Stimulasi Deteksi Intervensi Dini Tumbuh Kembang Anak*. Jakarta. Dinas Kesehatan.
- Conny, Tanjung MF, Rini Sekartini. 2006. *Masalah Tidur pada Anak*. Sari Pediatri: vol 2(3): 138-142.2.
- Field, TM, et al. 1986. *Tactile/ Kinesthetic Stimulation Effect on Preterm Neonates*. Pediatric Jurnal.
- Gichara, J. 2006. *Mengatasi Perilaku Buruk Anak*. Tangerang: PT. Kawan Pustaka.
- Ikatan Dokter Anak Indonesia. 2008. *Tumbuh Kembang Anak dan Remaja Edisi 2*. Jakarta: Sagung Seto.
- Lopez-Cifra Herminia, et al. 1999. *The role of Touch in Stress Recovery*. In Johnson & Johnson Media Communications. Hongkong: MediMedia Asia.
- Lourentina-Novita. 2007. *Pengaruh Pijat Bayi Terhadap Peningkatan nafsu Makan Bayi Usia Diatas 6 Bulan di Poliklinik Fisioterapi Handicamp International Wedi Klaten*. Karya Tulis.
- Luluk, Nur. 2010. *Faktor-Faktor yang Mempengaruhi Ibu Dalam Pelaksanaan Pijat Bayi di Dusun Papahan Kelurahan Papahan Kecamatan Tasikmadu*. Jurnal Maternal Volume 3 edisi Oktober 2010.
- Notoatmodjo, S. 2010. *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.
- Notoatmodjo, S. 2005. *Metodologi Penelitian*. Jakarta: Rineka Cipta.
- Nursalam. 2008. *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan, Pedoman Skripsi, Thesis, dan Instrumen Penelitian Keperawatan*. Jakarta: Salemba Medika.
- Nuviala, 1992. *Effect of Physical Training on Hematological Parameters in Young Swimmers*. Sangre (bare), 37:363-367.
- Potter et all. 2006. *Basic Nursing+Mosby's Nursing Skill 2.0*. Elsevien Science Health Science Division.
- Rafknowledge. 2004. *Insomnia dan Gangguan Tidur*. Jakarta: PT. Elex Media Komputindo.
- Rahayu. 2013. *Pengaruh Pemberian Pijat Bayi terhadap Penurunan Gangguan Tidur pada Bayi Usia - 24 Bulan di Posyandu RW III kec.Dukuh Pakis Surabaya*. Karya Tulis Ilmiah.
- Rudolph, AM, Robert K , et all. 2002. *Fundamental of Pediatric*. USA: Third Edition, the Me Graw Hill Componies. Inc.
- Roekistiningsih, dkk. 2010. *Pengaruh Pemijatan Terhadap Peningkatan Kuantitas Tidur Bayi Usia 4-6 Bulan di Kelurahan Sumbersari Kecamatan Lowokwaru Kota Malang*. Skripsi.
- Roesli, Utami. 2005. *Petunjuk Praktis Menyusui*. Jakarta: Trubus Agriwidya.
- Schanberg, S. And T. Field. 1986. *"Sensory Deprivation Stress and Supplemental Stimulation in the Vat Pup and Preterm Human Neonate"*, Child Development 5-8.
- Schanberg, S.,et al. 1989. *"Maternal Deprivation Stress and Growth Suppression*. In Advance in Touch. New Implication in Human Dvelopment." Pediatric Round Table. USA
- Siobhan, S. 2010. *Bayi Tidur Lelap*. Jakarta: Erlangga
- Soedjatmiko. 2006. *Pedoman Praktis Pemijatan Bayi*. Tangerang: PT. Karisma Publishing Group.
- Turner, Nayakkara. 2005. *The Smoothing Art of Baby Massage*. Landsdowne Publishing.
- Ubaya, RL. 2010. *Hubungan Pijat Bayi dengan Kualitas Tidur Bayi Usia - 12 Bulan di Desa Keto Sari kec. Singorojo kab.Kendal*. Skripsi.
- Utami, Roesli. 2008. *Pedoman Pijat Bayi*. Depok: Trubus Agriwidya
- Widianto, S. 2005. *Pentingnya Tidur Nyenyak Bagi si Kecil*. <http://www.pikiran>

[rakyat.com/htm](#). Diakses tanggal 8
Agustus 2014.

Wong, DL, Whaley. 2000. *Nursing Care of
Infant and Children 5 th*. St Louis:
Mosbys Year Book. Inc.

Paper 3

ORIGINALITY REPORT

3%

SIMILARITY INDEX

3%

INTERNET SOURCES

1%

PUBLICATIONS

1%

STUDENT PAPERS

PRIMARY SOURCES

1

es.scribd.com

Internet Source

1%

2

Submitted to iGroup

Student Paper

1%

3

perpusnwu.web.id

Internet Source

1%

Exclude quotes On

Exclude matches < 1%

Exclude bibliography Off