JKB

by George King

Submission date: 10-Feb-2025 10:05PM (UTC-0600)
Submission ID: 2585385124
File name: JKB_Nana_Maryana_Aris_Noviani_Yayu_Y.doc (1.5M)
Word count: 3092
Character count: 16824

Volume x Nomor x (20xx) x-x

JURNAL KEBIDANAN
p-ISSN: 2089-7669 ; e-ISSN: 2621-2870

Combination Of Baby Massage And Ear Shenmen To Enhance Infant Sleep Quality: Quasi-Experimental

Nana Maryana[1], Aris Noviani[2*], Yayu Yuliarti[3]
[1-3] Prodi DIII Kebidanan Universitas Muhammadiyah Sampit, Sampit, Kalimantan Tengah, 74321, Indonesia
[2] Prodi Pendidikan Profesi Bidan STIKes Mitra Husada Karanganyar, Tasikmadu, Karanganyar, 57721, Indonesia*
Jl. Ki Hajar Dewantara, Baamang, Sampit, Kalimantan Tengah, Indonesia
Jl. Brigjen Katamso Barat, Tasikmadu, Karanganyar, Jawa Tengah, Indonesia

Corresponding author: Aris Noviani
Email: arisnoviani1@gmail.com, arisnovianimhk@gmail.com

Received: written by editor; Revised: written by editor; Accepted: written by editor

ABSTRACT

One of the determinants of expansion and progression is seen from how well you sleep. According to WHO, in the world babies experience poor sleep quality more than 33%, in Indonesia more than 44%. More than 70% of parents do not consider it a problem. Non-pharmacological therapies, such as baby massage, Ear Shenmen acupressure to calm down the baby's body to ensure the infant can sleep soundly. The goal was intended to evaluate the combined efficacy of newborn massage and ear shenmen regarding the content of infants' sleep. Design quasi-experimental pre-tests with additional control groups. Baby Nad Kids And Mom's Spa: Population of Infants Aged 3-12 Months. A sample of 36 babies with non-probability sampling, divided into 3 groups. The first group is baby massage and ear shenmen, the second group is baby massage and the third group is ear shenmen. Duration of the intervention was 30 minutes, the Short Infant Sleep Questionnaire (BISQ) instrument before and after the intervention. Bivariate data with paired t-test and multivariate with post-hoc bonferroni anova test. The results of infants' sleep quality in the combined group of delta values (124.50), infant massage group (72.80), ear shenmen group (48.50) and confidence value p=(1.01 p=(p<0.05). This means that the combination of infant massage and ear shenmen is efficacious in improving the quality of sleep in babies. This combination is highly recommended to enhance the quality of one's slumber of babies.

Keywords: Baby Massage, Baby Sleep Quality, Combination, Ear Shenmen

Introduction

Sleeping in babies is not just to meet basic needs but there are many benefits that are important for the expansion and progression of infants. This is important because in the process of sleep the brain and all parts of the body will relax from activities before bedtime, but there are several other important parts of the body that work when the baby sleeps.

One of the determinants of a baby's expansion and progression is to assess the calibre of a baby's sleep. According to WHO, more than 33% experience poor sleep quality, while in Indonesia more than 44%. More than 72% of parents do not have a problem with the quality of their baby's sleep[1][2][3].

At birth, the baby's sleep pattern has been formed, even according to some experts it has been formed when the baby is still in the mother's womb, so this problem has a significant influence on the infant's condition related to expansion and progression, diet that can lead to other problems such as stunting[4], disruptive behavior (ADHD)

and low learning achievement in old age[5], [6]. The consequences of this problem can affect the baby, but it can also cause family anxiety and maternal anxiety[7], [8].

It is very important to meet the infant's slumber needs because it is essential in order to facilitate their progress and development. To treat sleep disorders, a wide variety of medications and non-medications have been developed. The drug melatonin is one example of pharmacological therapy that has attracted the interest of experts today due to its great inert-free therapeutic accuracy[9].

Baby massage has many benefits, not only triggering good baby sleep quality, but also triggering an increase in body scales, increased self-focus, and maximizing the immune system. A way that can bring happiness and lower anxiety, especially in babies, is massage. The baby becomes calm and restful after his muscles are relaxed with a gentle massage. Babies build a beautiful relationship with their parents through their gentle touch[10]. Clinical research has shown that gentle massage and touch help babies sleep better and become stronger [11].

Increased serotonin secretion during massage makes babies sleep better or longer. Serotonin, the main transmitter, suppresses the activity of the reticular activating system and other brain activities, which contribute to the formation of sleep. Melatonin is produced more when light enters the eye is reduced, which causes it to sleep more and be more restful at night[12][13].

One acupressure point, Ear Shenmen, can be used to treat sleep disorders [14]. Acupressure is a massage technique at a specific point in the body that helps the body repair itself naturally. However, acupoints that fall under the category of ear acupressure are ear shenmen points, also known as auricular shenmen items. The point of Ear Shenmen is referred to as the sedation point because it can strengthen the heart pathways and improve blood flow [15][16].

Efforts to maintain good baby sleep quality can be carried out jointly between health workers and parents. Additional insight to parents, especially new parents, needs to be given, starting from paying attention to the health status of the baby, cleanliness, environmental calmness and affection in the form of touch through massage.

Assessing or evaluating the combined effectiveness of baby massage and ear shenmen on infants' sleep quality is the goal of this study. The provision of appropriate and comprehensive education is anticipated to be capable of resolving issues such a interfere with the quality of baby sleep.

Methods

Methodology of quasi-experiment Pre-test-post analysis including the addition of a group in charge. The population is Babies 1-12 Months of Age at Baby Nad Kids And Mom's Spa in February - March 2024. The sampling technique is non-probability sampling consisting of 36 babies in three groups. The combined group was given baby massage and ear shenmen intervention, the baby massage control group was given baby massage intervention and the ear shenmen control group was given ear shenmen intervention. Each group was given treatment 1 time with a duration of 30 minutes, measured by the Brief Infant Sleep Questionnaire (BISQ) questionnaire instrument, standard operating procedures for baby massage and ear shenmen. Filling is done before and after the intervention.

Sleep quality measurements were carried out on day 7 after the intervention with monitoring through the baby's parents to not be given any other therapy other than the intervention. The researcher submits an application for permission to the respondent, the content of the approval in the form of the purpose of the research activity, benefits for the health sector, the researcher and of course for the respondent, maintaining the confidentiality of the respondent's data.

Univariate, bivariate data analysis is a paired t-test and multivariate test to evaluate differences between groups using the anova post hoc bonferroni test.

Results and Discussion

Table 1. Age and gender of the baby

No	Category	Respondent Group						P Value
		Combination		*Baby Massage*		*Ear Shenmen*		
		n	%	n	%	n	%	
1.	Baby's age (months)							
	1-4	2	16,7	1	8,3	3	25	0,965
	5-8	7	58,3	7	58,3	6	50	
	9-12	3	25	4	33,3	3	25	
	Total	12	100	12	100	12	100	
2.	Gender							
	Man	9	25	9	75	4	33,3	0,643
	Woman	3	75	3	25	8	67	
	Total	12	100	12	100	12	100	

The frequency distribution data of respondent characteristics showed that the age of the infant in the highest age category was 5-8 months as many as 7 respondents (58.3%) and the lowest age was 1-4 months as much as 1 (8.3%) and showed no difference in each group with a value of p=0.965.

Table 2. Infant Massage and Its Effects on Sleep Quality: Combined Group Ear Shenmen, Baby Massage Group Control Baby Massage And Ear Shenmen Group Control Ear Shenmen

No	Group	Sleep Quality		Delta	P Value
		Mean SD±Pre	Mean SD±Post		
1.	Combination	115,17±15,27	239,7±11,41	124,5	0,001
2.	Baby Massage	162,83±44,95	234,9±13,31	72,8	0,001
3.	Ear Shenmen	193,08±23,87	241,6±8,35	48,5	0,001

The average pre-sleep quality results in the combined group were 115.17±15.27, the baby massage control group was 162.83±44.95 and the ear shenmen control group was 193.08±23.87. The average post sleep quality in the combined group was 239.7±11.41, the baby massage control group was 234.9±13.31, and the ear shenmen control group was 241.6±8.35.

Findings from the paired t-test of sleep quality in the combined collective obtained significant values in each of the three collective with a p value of 0.0001 (<0.005), in order to ascertain that there is a combined impact of baby massaging and ear shenmen on sleep quality in babies between one and twelve months old.

Table 3. Differences In Average Before And After Baby Massage: Sleep Quality Ear Shenmen Treatment In The Combined Collective, Baby Massage In The Baby Massage Control Group And Ear Shenmen In The Ear Shenmen Control Group.

Variable	Valuation	Group	Mean±SD	*P value*
Sleep quality	Preliminary Test	Combination	115,17±15,27	
		Baby massage	162,83±44,95	0,337
		Ear shenmen	193,08±23,87	
		Combined *vs Baby Massage*		0,921
		Combined *vs Ear Shenmen*		1,000
		Baby Massage vs Ear Shenmen		0,464
	Terminal Test	Combination	239,7±11,41	
		Baby massage	234,9±13,31	0,001
		Ear shenmen	241,6±8,35	
		Combined *vs Baby Massage*		0,002
		Combined *vs Ear Shenmen*		0,001
		Baby Massage vs Ear Shenmen		0,064
	Delta	Combination	124,5	
		Baby massage	72,8	0,001
		Ear shenmen	48,5	

Combined *vs Baby Massage*	0,001
Combined *vs Ear Shenmen*	0,001
Baby Massage vs Ear Shenmen	0,101

The assessment of the difference in each group (combined and 2 control groups) using the anova post hoc bonferroni statistical test by looking at the delta value of sleep quality showed a difference amidst the combined collective and the 2 control groups having a substantial value of p=0.001. The merged group with the baby massage group with a significant value of p=0.001. The combined group with the ear shenmen group demonstrated a considerable difference. of p=0.001, while the baby massage group with ear shenmen showed no difference with a noteworthy value of p=0.101.

Each group showed an average post value of >200, indicating that all groups were equally effective in raising the caliber of infants' sleep. But, the combined group with a delta value of 124.50 showed a higher increase, Consequently, it may be said that combining infant massage utilizing ear shenmen is more efficacious in enhancing the quality of infants' sleep.

After intervention with a synthesis of infant massage and ear shenmen in the combined or combined group, the administration of infants massage in the baby massage group under control and ear shenmen in the ear shenmen control group had an rise in the mean value of sleep quality.

This research is supported by research by[17], that respondents underwent an enhancement in the quality of slumber by 73%. In line with the opinion [18] which states that a gentle massage on babies can provide good motor stimulation and have a relaxing effect. Baby massage can also be defined as a gentle and gentle stimulation or stimulation over the face of the body that affects the respiratory system, blood circulation, and muscle nerves[10].

Massage is a tactile language associated with babies. By massaging it, a mother can calm and make her baby feel comfortable, and massage is also a way to communicate with her baby and build a stronger relationship between the two of them [1], [19].

Ear Shenmen, the waypoint that facilitates the flow of blood from the heart, can transmit power and play an important function in sleep. Suppression or acupressure in this area activates the nervous system and the analgesic system or pain reduction, which leads to the release of serotonin, which can lead to sleep. Serotonin, or 5-hydroxytryptamine (5-HT), performs a significant role in the brain system that regulates sleep, feelings, and emotions[2], [14] Having a task in circadian frequency, the pineal gland is activated by the secreted serotonin to secrete more of the hormone melatonin (wake-wake cycle) of a person[20].

Baby massage combined with ear shenmen point pressure or acupressure has the same way of producing serotonin and melatonin. One of the advantages of ear shenmen point suppression is that it produces endorphin hormones through the transmission of neurotransmitters to the spinal medulla, mesensefalon, and the pituitary complex of the hypothalamus, which results in the production of endorphins that trigger muscles to relax, decrease pain, and meningitis [15][21].

By emphasizing specific parts of the body (acupoints), acupressure is a traditional method that aims to relieve and reduce pain. To improve health, acupressure is used to help harmonize life force (chi). In addition, acupressure has other functions in blood circulation, maintaining yin and yang balance, maintaining normal body functions/functions, and increasing body relaxation. In addition, the effect improves sleep quality[22].

In the third of the earlobe fossa, this study performed acupressure. The cranial and spinal nerves are divided into areas that function for motor and sensation, according to the anatomical structure of the earlobe.

The motor branch of the facial nerve (CN VII) controls the muscles of the outer ear. The sensation region is associated with The vagus nerve's auricular branch (ABVN), which performs acupressure during physiological sleep. With ear stimulation, ABVN signals are sent related to the medulla's Nucleus of the Solitary Tract (NTS) oblongata via the jugular ganglion. The NTS also functions to coordinate various reflexes, such as the carotid sinus reflex, aorta, vomiting, and cough, and is also the position where serotonin receptors are bound[13], [23].

Acupressure in the Ear Shenmen also triggers the production of endorphins, with a relaxation function. Thus, a combination of infant massage and acupressure on the Ear Shenmen points can contribute to improved how well sleep. Therefore, the amalgamation of infant massage and ear shenmen can be an adequate combination of complementary therapies in getting babies to sleep better.

Conclusion

The combination of infant massage and ear shenmen is more influential in enhancing the quality of infant sleep. The mean of each group showed an improvement above the normal limit or more than 200, which indicates that all groups were equally effective in making things better infants' sleep. The group with a delta value of 124.50 showed the largest increase.

Acknowledgements

Thank you to the parties involved and Midwife Norma Yunita, SST so that the results can be used to remind knowledge.

References

[1] T. Field, "Pediatric massage therapy research: A narrative review," *Children*, vol. 6, no. 6, pp. 1–12, 2019, doi: 10.3390/children6060078.

[2] Y. Rakhmawati *et al*., "Potential of Massage Therapy for Improved Growth and Development Among Infants Under 9 Months: A Systematic Scoping Review of Intervention Type, Technique, and Outcome," *J. Multidiscip. Healthc*., vol. 17, no. August, pp. 3931–3943, 2024, doi: 10.2147/JMDH.S475731.

[3] A. Istikhomah, "Pengaruh Pijat Bayi Terhadap Lama Tidur Bayi Usia 3-6 Bulan di Desa Jemawan Kecamatan Jatinom Kabupaten Klaten," *J. Kebidanan dan Kesehat. Tradis*., vol. 5, no. 1, pp. 14–22, 2020, doi: 10.37341/jkkt.v5i1.133.

[4] J. Lyu *et al*., "Children's sleep may depend on maternal sleep duration during pregnancy: A retrospective study," *Nat. Sci. Sleep*, vol. 12, pp. 197–207, 2020, doi: 10.2147/NSS.S239001.

[5] Z. E. Ercelik and H. B. Yılmaz, "Effectiveness of infant massage on babies growth, mother-baby attachment and mothers' self-confidence: A randomized controlled trial.," *Infant Behav. Dev*., vol. 73, p. 101897, Nov. 2023, doi: 10.1016/j.infbeh.2023.101897.

[6] W. Muharyani, "Relationship Between Sleep Hygiene and Sleep Quality in Adolescents Aged 12-15 Years," *J. Ilmu Kesehat. Masy*., vol. 10, no. 1, pp. 59–66, 2019, doi: 10.26553/jikm.2019.10.1.59-66.

[7] C. A. Kyung, L. K. Hye, C. C. Mi, and C. J. Yi, "Factors Affecting the Quality of Sleep in Young Adults," *J. Korean Acad. Community Heal. Nurs*., vol. 32, no. 4, pp. 497–505, 2021, doi: 10.12799/JKACHN.2021.32.4.497.

[8] M. Danilov, A. Issany, P. Mercado, A. Haghdel, J. K. Muzayad, and X. Wen, "Sleep quality and health among pregnant smokers.," *J. Clin. sleep Med. JCSM Off. Publ. Am. Acad. Sleep Med*., vol. 18, no. 5, pp. 1343–1353, May 2022, doi: 10.5664/jcsm.9868.

[9] A. K. Mangat and et al. Oei, "A review of non-pharmacological treatments for pain management in newborn infants," *Children*, vol. 5, no. 10, pp. 1–12, 2018, doi: 10.3390/children5010130.

[10] N. C. Gultom, "Pengaruh Baby Massage Terhadap Kualitas Tidur Bayi Usia SIA 3-6 Bulan di Wilayah Kerja UPTD Puskesmas Longat Kecamatan Panyabungan Barat Kabupaten Mandailing Natal," pp. 1–89, 2020, [Online]. Available: https://repository.unar.ac.id/jspui/handle/123456789/2898

[11] N. N. A. Widiani and M. P. Chania, "Efektivitas Baby Massage Terhadap Kualitas Tidur Bayi Usia 3-6 Bulan Di Wilayah Kerja Puskesmas Ii Sukawati Tahun 2021 the Effectiveness of Baby Massage on Sleep Quality of 3-6 Months Old Babies in Puskesmas Ii Sukawati Work Area 2021," *J. Kesehat. Masy*., vol. 9, no. 4 pp. 29–33, 2022, doi: http://dx.doi.org/10.31602/ann.v9i1.6348.

[12] R. Prananingrum, D. P. D. Kusudaryati, and I. Utari, *Panduan Pijat Bayi*, no. 0. 2016.

[13] et al Joseph F. Hagan, *Bright futures: Guidelines for health supervision of infants, children, and adolescents*. Elk Grove Village, IL: American Academy of Pediatrics, 2017. doi: https://doi.org/10.1542/9781610020237.

[14] K. Stahler van Amerongen and et al Kuhn, "Ear Acupuncture Points in Neonates From Drug-Dependent Mothers: A Prospective Study," *Front. Pediatr*., vol. 9, no. June, pp. 1–9, 2021, doi: 10.3389/fped.2021.668248.

[15] C.-C. Tseng, A. Tseng, J.-G. Lin, and H.-H. Chang, "The Effect of Acupuncture at Ear Shenmen on Heart Rate Variability: A Subject-Assessor-Blinded, Randomized, Sham-Controlled Crossover Study," *J Chin Med*, vol. 26, no. 2, p. 2602003, 2015, doi: 10.3966/241139642015122602003.

[16] Y. Wu and et al Zou, "Auricular acupressure helps improve sleep quality for severe insomnia in maintenance hemodialysis patients: a pilot study.," *J. Altern. Complement. Med*., vol. 20, no. 5,

pp. 356–363, May 2014, doi: 10.1089/acm.2013.0319.
[17] E. Sukmawati and N. D. N. Imanah, "Efektivitas Pijat Bayi Terhadap Peningkatan Kualitas Tidur Bayi The Effectiviness Baby Massage To The Baby's Sleeping Quality," *J. Kesehat. Al-Irsyad*, vol. 13, no. 1, pp. 11–18, 2020, [Online]. Available: https://e-jurnal.universitasalirsyad.ac.id/index.php/jka/article/view/49%0Ahttps://sinta.kemdikbud.go.id/journals/profile/6741
[18] C. Angelhoff *et al.*, "Effect of skin-to-skin contact on parents' sleep quality, mood, parent-infant interaction and cortisol concentrations in neonatal care units: Study protocol of a randomised controlled trial," *BMJ Open*, vol. 8, no. 7, pp. 1–8, 2018, doi: 10.1136/bmjopen-2018-021606.
[19] K. Murg, W. Raith, and B. Urlesberger, "Use of Acupuncture in an Infant with Restlessness and Agitation," *Medicines*, vol. 5, no. 2, p. 55, 2018, doi: 10.3390/medicines5020055.
[20] Eddy Triyono, *Modul praktikum baby massage*. 2017.
[21] E. Dogan, H. D. Kaya, and S. Gunaydin, "The effect of massage on the bilirubin level in term infants receiving phototherapy.," *Explore (NY).*, vol. 19, no. 2, pp. 209–213, 2023, doi: 10.1016/j.explore.2022.05.001.
[22] et al Mohebi, "Social Support and Self - Care Behavior Study," no. January, pp. 1–6, 2018, doi: 10.4103/jehp.jehp.
[23] dkk Cahyanto, E. B., *Asuhan Kebidanan Komplementer Berbasis Bukti*. CV Al qalam Media Lestari., 2020.

JKB

ORIGINALITY REPORT

14%	11%	10%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	ejournal.poltekkes-smg.ac.id Internet Source	2%
2	Submitted to Konsorsium Perguruan Tinggi Swasta Indonesia Student Paper	2%
3	Aris Noviani, Siskana Dewi Rosita. "Efektivitas kualitas tidur bayi dengan baby massage umur 3-11 bulan", Journal of Public Health Innovation, 2024 Publication	1%
4	ejournal.stikku.ac.id Internet Source	1%
5	Submitted to Politeknik Kesehatan Kemenkes Semarang Student Paper	1%
6	Submitted to University of Northumbria at Newcastle Student Paper	1%
7	prin.or.id Internet Source	1%
8	Duc Minh Phan, My Yen Lam, Minh Nguyet Trang. "Regular caffeine consumption & subjective sleep quality: A systematic review", The Journal of Aging Research & Lifestyle, 2025 Publication	1%
9	www.azerbaijanmedicaljournal.net Internet Source	1%

10	j-innovative.org Internet Source	<1%
11	Charlotte C. Yates, Anita J. Mitchell, Leah M. Lowe, Amy Lee, Richard W. Hall. "Safety of Noninvasive Electrical Stimulation of Acupuncture Points During a Routine Neonatal Heel Stick", Medical Acupuncture, 2013 Publication	<1%
12	kepakaran.apps.undip.ac.id Internet Source	<1%
13	Jiang Liu, Shirong Fang, Yuxia Wang, Lunan Gao, Tingting Xin, Yuxiu Liu. "The effectiveness of massage interventions on procedural pain in neonates: A systematic review and meta-analysis", Medicine, 2022 Publication	<1%
14	www.sciencegate.app Internet Source	<1%
15	Eva Sofiana Putri, Linda Meliati, Sudarmi Sudarmi, Intan Gumilang Pratiwi. "The Effect of the Combination of Baby Massage With Boreh Rice Kencur Bima Against Baby Sleep Quality", Jurnal Kesehatan Prima, 2022 Publication	<1%
16	Farid Talango, Betty Kusdhiarningsih. "Pengaruh Edukasi Konseling Berbasis Teori Health Belief Model Terhadap Pengetahuan Pencegahan Komplikasi Hipertensi di Semarang", Jurnal Keperawatan Sumba (JKS), 2024 Publication	<1%
17	Submitted to Napier University Student Paper	<1%

18	Yanti Herawati, Desi Trisiani. "Effect Massage On Baby Weight", Jurnal Kebidanan Malahayati, 2023 Publication	<1%
19	jurnal.ensiklopediaku.org Internet Source	<1%
20	mdpi-res.com Internet Source	<1%
21	unsri.portalgaruda.org Internet Source	<1%
22	Vonda Jump Norman, Lori A. Roggman. "Effects of infant massage on infant attachment security in a randomized controlled trial", Infant Behavior and Development, 2025 Publication	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		