

Massage_with_Lavender_Aroma therapy1.pdf

by

FILE	MESSAGE_WITH_LAVENDER_AROMATERAPY1.PDF (346.98K)		
TIME SUBMITTED	10-JUL-2020 12:23PM (UTC+0700)	WORD COUNT	2729
SUBMISSION ID	1355674432	CHARACTER COUNT	14513

1

Enferm Clin. 2020;30(S3):62–65



Enfermería Clínica

www.elsevier.es/enfermeriaclinica


Massage with lavender aromatherapy reduced sleep disturbances on infant[☆]



Arbianingsih Arbianingsih^{a,b,*}, A. Adriana Amal^a, Nur Hidayah^a, Nurul Azhari^a, Takdir Tahir^{b,c}

4

^a School of Nursing, Alauddin State Islamic University, Makassar, South Sulawesi, Indonesia

^b South Sulawesi Regional Representative Council of Indonesian National Nurses Association, Indonesia

^c School of Nursing, Universitas Hasanuddin, Makassar, South Sulawesi, Indonesia

12

Received 27 August 2019; accepted 16 December 2019

KEYWORDS

Aromatherapy;
Infant;
Lavender;
Massage therapy;
Sleep disturbances

11

Abstract

Objective: To determine the effectiveness of lavender aromatherapy's massage on reducing sleep disturbances in infants.

Method: a pre-experimental one group pre–posttest design involving thirteen infants aged 6–12 months who were selected purposively with criteria having sleep disturbances. Massage is given for 30 min in three consecutive days by using two drops of oil lavender aromatherapy mixed in 50 ml of oil-based. Data collection used a valid and reliable questionnaire, which is Sleep Disturbances Scale in Children (SDSC), one day before and after the intervention. Data were analyzed using the Wilcoxon Test.

Results: Massage using lavender aromatherapy is effective in reducing sleep disturbances in infants especially in the dimension of starting and maintaining sleep, somnolence disorders, and interruption of wakefulness sleep transition dimension ($p < 0.001$).

Conclusions: Massage with Lavender aromatherapy is recommended as an alternative intervention to reduced sleep disturbances on infants aged 6–12 months.

© 2020 Elsevier España, S.L.U. All rights reserved.

1

[☆] Peer-review under responsibility of the scientific committee of the International Conference of Indonesian National Nurses Association (ICINNA 2019). Full-text and the content of it is under responsibility of authors of the article.

* Corresponding author.

E-mail address: arbianingsih.tiro@uin-alauddin.ac.id (A. Arbianingsih).

1

<https://doi.org/10.1016/j.enfcli.2019.12.028>

1130-8621/© 2020 Elsevier España, S.L.U. All rights reserved.

Introduction

Sleep disturbance in babies is a problem that is often complained of by mothers. Epidemiological studies show that up to 50% of children experience sleep problems and 4% experience diagnosis of formal sleep disorders.¹ In Indonesia, the prevalence of sleep disorders in children under three years by 44.2%.² Parents who have babies aged 6–12 months complain that their babies lack sleep because they wake up more than three times at night, causing the baby to become restless, easily tired and fussy the next day.³

Sleep in infants has a dual role, in addition to providing an opportunity to rest the body, also to improve metabolic processes, namely the process of processing food into energy that is needed.⁴ Sleep also affects the maturation of the central nervous system, brain development and plays a role in the consolidation of memory, and during sleep, the growth hormone will also be produced.⁵ This shows that sleep disturbance will disrupt the growth and development of the baby normally.

Several interventions have been developed to improve the quality of sleep for infants and children. Massage and lavender aromatherapy have proven to be effective in improving the quality and quantity of infant and children sleep.^{3,4,6–10} However, it is not yet clear which dimensions of sleep problems are affected by a massage using lavender aromatherapy.

Based on this background, this study wanted to find out the effectiveness of infant massage with lavender aromatherapy and determine the dimensions of sleep disturbance in affected infants.

Method

This study uses a Pre-experiment method with a one-group pretest-posttest approach. Retrieval of child participants was carried out purposively with criteria for infants aged 6–12 months, having sleep disorders waking up more than three times at night, and mothers who were willing to become participants with their babies. As for infants who have a congenital disease, allergies and have a nutritional status that is less excluded from this study. The sample size was calculated according to the formula for the design of one intervention group. Standard deviation and expected differences are taken from the previous study showing significant results and have the same design study. From the formula of sample size, this research obtained minimal samples of 13 children. This research was conducted in the community in the work area of Bajeng Community Health Center in the Gowa Regency from April to May 2019.

The intervention given to children in the form of infant massage using lavender aromatherapy is by giving two drops of aromatherapy in 50 ml of base oil. This massage is given for 30 min in three consecutive days. The Massage consists of 6 stages starting from the area of the legs, abdomen, chest, hands, face, and back. Massage is carried out by the same therapist for all children with reference to standard operating procedures that have been set.

Data collection includes the characteristics of participants and the scale of children's sleep disorders. The characteristics of participants measured were age, gender,

Table 1 Characteristic of participants (n = 13).

Characteristics	f	%
Age		
6–8 month	10	76.9
9–12 month	3	23.1
Gender		
Boys	7	53.8
Girls	6	46.2
Environmental noise		
Yes	5	38.5
No	8	61.5

and environmental noise. Environmental noise was measured in five consecutive days. One of the research team members completes the question of whether the environment is noisy or not (yes = score 1; no = score 0). The decision of a noisy environment was based on a total scored ≥ 3 .

Assessment of sleep disorders in infants is carried out the day before and the day after the intervention is given. Infant sleep disorders are measured using the valid and reliable Sleep Disturbance Scale for Children (SDSC) instrument which has 26 question items divided into 6 dimensions of sleep disorders with a Likert scale (1–5). Dimensions of sleep disorders in children consist of (1) disturbance of starting and maintaining sleep, 2) breathing problems during sleep, (3) disturbance of consciousness, (4) sleep–wake transition disorders, (5) excessive somnolence disorders and (6) hyperhidrosis. The assessment of sleep disorders and their dimensions is based on the scores obtained, the lower the SDSC score the better the child's sleep quality.

This research has passed the ethical review conducted by the Ethical Committee Faculty of Medicine and Health Sciences, Alauddin State Islamic University with number A.081/KEPK/FKIK/II/2019. We also obtained administrative approval from the Government of South Sulawesi, Gowa District Health Office and Head of Bajeng's community health center.

Results

Participant characteristics

There were thirteen participants involved in this study and dominantly has a quiet environment. For more details see Table 1.

Statistical test results show massage using lavender aromatherapy given once a day for three days with a duration of 30 min effective reduced sleep disturbances in an infant ($p < 0.001$). Massage with lavender aromatherapy can reduce overall scores of sleep disturbances in infants by 24 points. For more details we can see from Table 2.

All dimensions of sleep disorder decreased based on the Wilcoxon Signed Rank Test, which means there are significant differences in sleep disturbance before and after infant massage with lavender aromatherapy in all dimensions (see Table 3). However, there are three dimensions that have the smallest p-value (0.001) which indicates that these three

Table 2 Comparison between pretest and posttest in SDSC score ($n = 13$).

SDSC score	Median	Min–Max	Δ	p^*
Pretest	77	62–96	24	<0.001
Posttest	53	45–64		

* Wilcoxon Signed Rank Test.

dimensions are the most influential on infant massage with lavender aromatherapy.

Discussion

The results of this study indicate that infant massage with lavender aromatherapy is effective in reducing sleep disturbances in infants, and all of the dimension scorings are decreased significantly after an intervention, mainly in three-dimension there are disturbances starting and maintaining sleep, somnolence disorders, and interruption of wakefulness sleep transition.

Sleep for the baby is a necessity as the body grows. A newborn baby uses most of its time to sleep. With increasing age, the time of wake up or not sleep becomes longer, especially in the morning and afternoon because the time of rest and sleep time the baby goes parallel with the pattern of feeding. The total amount of sleep a baby will decrease with the age of the baby.¹¹

Baby massage or touch therapy is one technique that combines the physical benefits of human touch with emotional benefits such as bonding or inner bonding between parents and children.¹² One of the benefits of baby massage is to improve baby's sleep patterns, babies who are massage will experience pressure, stretching and relaxation then can increase the effectiveness of resting (sleeping) babies whose muscles are stimulated by the order or massage will be comfortable and sleepy.⁹

Lavender aromatherapy provides a calming effect; the anti-septic content of lavender can increase endurance and maintain the immune system and linalool content that functions as a sedative effect. A few drops of lavender oil can help overcome insomnia, improve one's mood, and provide a relaxing effect. Lavender aromatherapy can increase blood circulation, which reduces the workload of the heart and lowers blood pressure.¹³

One of the uses of aromatherapy lavender flowers (*Lavandula angustifolia*) is by inhalation to get benefits directly into the body. This aromatherapy contains linalool which functions as a sedative effect so that when someone inhales lavender aromatherapy, the aroma that is released stimulates the olfactory nerve ciliary receptors located in the olfactory epithelium² pass the aroma to the olfactory bulb through the olfactory nerve. The olfactory bulb is associated with the limbic system.¹⁴

The limbic system receives all information from the auditory system, vision system, and olfactory system. Limbic is the inner structure of the brain that is shaped like a ring located below the cerebral cortex. The most important part of the limbic system associated with the aroma is the amygdala and hippocampus.¹⁴

Amygdala is the center of emotions and the hippocampus associated with memory (including the aromas produced by lavender flowers) and then through the hypothalamus as a regulator, the aroma will be carried into a small part of the brain but the significance is the raphe nucleus. The effect of the stimulated raphe nucleus is the release of serotonin which is a neurotransmitter that regulates the onset of sleep.^{14,15}

Lavender had been suggested as¹³ excellent natural remedy for treating insomnia and improving sleep quality. Randomized studies investigating the effectiveness of lavender odor on sleep quality show that lavender improves average sleep quality scores in fifteen healthy students, in sixty-four ischemic heart disease patients, and thirty-four middle-aged women with insomnia.¹⁶

The study of the baby massage with the technique that was given by the researcher was accompanied by the use of lavender aromatherapy, directly giving a relaxing effect to the baby. This method is also an appropriate stimulant to make babies sleep soundly. Aromatherapy will spread the molecules that spread the fragrance and stimulate the arrangement of the central nerve that is absorbed into the lungs that are transported through the bloodstream to the alveoli which are useful for relaxation and treatment. Massage the baby with lavender aromatherapy can reduce the production of the hormone adrenaline, which will further increase endurance, reduce anxiety, and prevent psychological disorders.⁴ The effects of massage techniques using lavender aromatherapy can reduce sleep disorders in infants significantly.

Table 3 Effectiveness baby massage with lavender aromatherapy reduced sleep disturbances on infant based on the dimensions ($n = 13$).

Dimensions	Pre		Post		p^*
	Med	Min–Max	Med	Min–Max	
Disturbance starting and maintaining sleep	26	21–31	15	12–18	0.001
Breathing disorders during sleep	5	3–10	5	3–7	0.008
Awareness disorders,	5	4–11	5	3–8	0.007
Somnolence disorders	14	11–15	9	6–12	0.001
Interruption of wakefulness sleep transition	20	16–27	14	11–19	0.001
Hyperhidrosis during sleep	8	2–10	5.00	2–8	0.006

* Wilcoxon Signed Rank Test.

Baby massage with lavender scent affects the fulfillment of neonatal sleep needs. Babies who were given massage with lavender sleep longer than those who were not given.^{4,10,17} This is also in accordance with the statement given by the baby's mother in this research that before given the intervention of the baby requires a long time to be able to fall asleep and usually woke up more than two times. But after the intervention, the baby can sleep faster, not fussy, and sleep well. It greatly helps the baby in improving its growth process because, during sleep, the growth hormone is more likely to be excreted.

The strength of this study is that researchers use experimental studies and also teach mothers how to do massages so that follow-up for long-term effectiveness can be carried out. Unfortunately, this study did not involve a control group because few mothers were willing to involve their babies in the study. Besides, the intervention and measurement carried out by researchers.

Conclusion

Massage with Lavender aromatherapy is effective in reducing sleep disturbances for infants aged 6–12 months. Therefore, it can be used as an intervention in overcoming sleep disorders in children.

Conflict of interest

9 There is no conflict of interest in this study.

Acknowledgments

The researchers would like to thank the participants who took part in the study. We also would like to thank the nursing department of Alauddin State Islamic University for supporting this research.

References

- Meltzer L, Johnson C, Crosette J, Ramos M, Mindell J. Prevalence of diagnosed sleep disorders in pediatric primary care practices. *Pediatric*. 2010;126:e1410–8.
- Sekartini R, Adi NP. Gangguan Tidur pada Anak Usia Bawah Tiga Tahun di Lima Kota di Indonesia. *Sari Pediatr*. 2016;7:188.
- Mutyah D, Anggraeni D. Pengaruh Pemberian Pijat Bayi Terhadap Kualitas dan Kuantitas Tidur Bayi Usia 6–12 Bulan di Masyarakat Pesisir Surabaya (In Indonesian). *Pros HEFA (Health Event All)*. 2017;1:8.
- Kasmiatun S. Pengaruh pijat bayi dengan terapi bunga lavender terhadap pemenuhan kebutuhan tidur neonatus di Posyandu Melati Mojoroto Kediri (In Indonesian). *J Ilmu Kesehat*. 2017;3(1.).
- Kementerian Kesehatan Indonesia. *Profil Kesehatan Indonesia 2010*. Jakarta; 2010.
- Fitria, Ernawa, Febrianti. Effects of Lavender Aromatherapy on the Quality of Naps for Preschoolers in Pontianak Lkia Child Care Center (In Indonesian). *Progr Stud Ilmu Keperawatan Fak Kedok Univ Tanjungpura Pontianak* 2014. 2014.
- Afriyanti D. Effects of baby massage using lavender aromatherapy in fulfillment of sleep need among baby age 6–12 months in the working area Nilam Sari Health Center Bukittinggi in 2017 [Internet]. *J Midwifery* 2018;3. Available from: <http://jom> [cited 15.10.19].
- Çetinkaya B, Başbakkal Z. The effectiveness of aromatherapy massage using lavender oil as a treatment for infantile colic. *Int J Nurs Pract*. 2012;18:164–9.
- Vaziri F, Sahebkar Z, Bahrami R, Pourahmad S, Azima S. Lavender oil aromatherapy on infantile colic and maternal mood: a double blind randomized clinical trial. *Tabriz Univ Med Sci* [Internet]. 2018;24:38–43. Available from: <http://journals.tbzmed.ac.ir/PHARM> [cited 15.12.19].
- Warsini, Nugraini D. The influence of baby massage on baby sleep length in Duwet Village, Wonosari District. *Klaten Reg (In Indonesian)*. 2016;4:83–9.
- Wahyuni S. *Asuhan Neonatus Bayi dan Balita Penuntun Belajar Praktik Klinik*. Jakarta: EGC; 2014.
- Pratyahara D. *The miracle touch for your baby*. Jogjakarta: Buku Kita; 2012.
- Setyawati. Pengaruh pemijatan tungkai dan kaki dengan aromatherapy lavender terhadap penurunan tekanan darah pada penderita hipertens. *Universitas Surakarta. Universitas Surakarta*; 2013.
- Buckle J. *Clinical aromatherapy essential oil in healthcare*. 3rd ed. USA: Elsevier Inc.; 2015.
- Chamine I, Oken B. Aroma effect on physiologic and cognitive function following acute stress: a mechanism investigation. *J Alt Complement Med*. 2014;22:713–21.
- Koulivand PH, Ghadiri MK, Gorji A. Lavender and the nervous system. *Evid-based Complement Altern Med*. 2013:2013.
- Aji Pamungkas B. Effects of infant massage on sleep quality for infants 0–6 months at kartasura health center (In Indonesian). *Fak Ilmu Kesehat Univ Muhammadiyah Surakarta*. 2016.

Massage_with_Lavender_Aromaterapy1.pdf

ORIGINALITY REPORT

%**9**

SIMILARITY INDEX

%**3**

INTERNET SOURCES

%**2**

PUBLICATIONS

%**6**

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to Universitas Airlangga

Student Paper

%**2**

2

Submitted to Universitas Muhammadiyah

Sidoarjo

Student Paper

%**1**

3

Submitted to South University

Student Paper

%**1**

4

e-journal.unair.ac.id

Internet Source

%**1**

5

"Sleep Disorders in Children", Springer Science and Business Media LLC, 2017

Publication

%**1**

6

aimsun.s3.amazonaws.com

Internet Source

%**1**

7

Citra Amalu, Maftuchah, Fitria Hikmatul Ulya. "Pengaruh Terapi Murrotal Al-Qur'an terhadap Kualitas Tidur Bayi Usia 3-6 Bulan", Window of Midwifery Journal, 2020

Publication

%**1**

-
- 8 Thong Felicia Melinda, Rini Sekartini. "Association between obesity and sleep disorders in primary school children: a cross-sectional study", Medical Journal of Indonesia, 2019
Publication % 1
-
- 9 Submitted to University of North Carolina, Greensboro
Student Paper <% 1
-
- 10 jom.fk.unand.ac.id
Internet Source <% 1
-
- 11 www.revistas.usp.br
Internet Source <% 1
-
- 12 fjfsdata01prod.blob.core.windows.net
Internet Source <% 1
-
- 13 Submitted to Point Loma Nazarene University
Student Paper <% 1
-

EXCLUDE QUOTES ON

EXCLUDE BIBLIOGRAPHY ON

EXCLUDE MATCHES < 5 WORDS