



Article

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

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A B S T R A C T

In Indonesia there is quite a lot of infants who have trouble in sleeping, that is 44.2%. If the infants's sleep requirement is not met, it can disrupt the growth and development of Infants. infants massage using lavender aromatherapy can contribute in improving infant's sleep needs. This study aims to determine the effect of infant massage using aromatherapy lavender to meet the needs of infants's sleep (6-12 months) at Nilam Sari Health Center in 2017.

This study was Quasi Eksperiment with Two Group design. The study was conducted in June to July 2016 in the working area of Nilam Sari Health Center in Bukittinggi. The samples were 20 infants using purposive sampling technique. Data analysis was performed using T-Test dependent.

Based on the results of the study, it was found that group I showed an average increase in infant sleep requirement between before and after massage of 2.55 hours. While the group II also showed an increase in the average of infant sleep requirement between before and after massage with lavender aromatherapy of 2.8 hours. The result of statistical test for both groups are the same, that is p value = 0.000 ($p < 0,05$). The conclusion of this study asserting that there was an association between infant massage using aromatherapy lavender to fulfill the requirement of infant sleep (6-12 month) in the work area of Nilam Sari Health Center of Bukittinggi. It is hoped that the mothers can apply infant massage at home, since infant massage is very effective in improving infant's sleep and more effectively using lavender aromatherapy.

I. INTRODUCTION

Each child experiences different developing processes, both regarding the speed and acceleration of the growth process, as well as the uniqueness of each child. Baby Period is a golden period as well as a critical period of one's development. It is said to be critical because at this time the baby is very sensitive to the environment and is said to be a golden age, because Baby's period is very short and can not be repeated again. One of the factors that influence Baby's growth is the fulfillment of sleep needs. Sleep is one of the stimuli for brain growth. Approximately 75% of growth hormone is excreted when the child is asleep. This hormone has the task of stimulating bone and tissue growth, and regulate the body's metabolism, including the brain. In addition, growth hormone also allows the body to repair and update all existing cells in the body. This cell renewal process will take place even faster when the Baby is asleep than when awake.

Based on WHO data in 2012, recorded about 33% of babies experiencing sleep problems. In Indonesia, Babies who have trouble sleeping about 44.2% Babies as often awakened at night. But more than 72% of parents consider sleeping disorders Baby pad is not a problem or just a small problem. This was revealed by a study conducted in 2004-2005 in five major cities in Indonesia (Jakarta, Bandung, Medan, Palembang and Batam). According to Sekartini research in 2004, conducted with 385 respondents in 5 major cities, data obtained 51.3% Infant sleep disturbances, 42% hours of sleep at night less than 9 hours, woke up more than 3 times night and the length of awake at night day over an hour.

Some experts have been able to prove scientifically about what has long been known to humans, namely touch therapy and massage on Babies have many benefits. Touch therapy, especially massage produces profitable and scientifically measurable physiological changes, among others, by measuring salivary cortisol levels, plasma

cortisol levels by radiomunoassay, urinary stress hormone (catecholamine) levels, and EEG (electro encephalogram, brain wave).

In general, Babies who are massaged will fall asleep more soundly, then at wake time, the concentration will be fuller. Slick and effective sleep will cause the baby to feel fit when awakened. Fitness and health of this body will greatly support the concentration and workings of the child's brain. Clinical studies show that touch of affection and massage helps Baby grow stronger and sleep better, shorten the stay of infant care in the hospital (after birth). In a study conducted by Scafidi et al showed that touch therapy performed on Premature Infants can improve sleep patterns. While the results of research conducted Dr. Tiffani Field and friends in Miami, Baby massage will have a positive impact such as increasing the baby's weight by 47% per day more and babies appear more active and alert and sleep better (Roesli, 2013). In Indonesia alone Massage Baby has also been frequently studied one of the research conducted by Mardiana L and Martini DE 2014 with the results showed 82.3% of babies who have experienced improved sleep quality and sleep needs are met.

Aromatherapy can also help the baby become more calm, deeper, and less restless or restless (Team Galenia MCC, 2014), because aromatherapy disperses molecules that spread scent and stimulate central nervous system useful for relaxation and treatment. Another benefit of aromatherapy is it can provide good sleep quality and reduce fatigue as well as difficulty sleeping, one of them is aromatherapy lavender (Pratyahara, 2012). The results of research conducted Kasmiatun who examine the effect of Infant massage with lavender floral therapy to meet the needs of sleeping Baby in 2014 showed 92% of Baby's sleep needs to be met. So that massage is accompanied by giving aromatherapy is a proper stimulant to make Babies sleep soundly and overcome sleep patterns disorder.

Based on the preliminary survey that has been done in the working area of Puskesmas Nilam Sari through interviews with 10 mothers who have babies 6-12 months of age, 7 babies reported experiencing sleep disturbance problems. The complaints reported by Mother vary by baby, but most of the complaints are that babies often wake up at night and find it difficult to fall asleep again and the baby wakes up too early. There are also some Mothers complain The baby tired of activities such as crawling or practicing walking so fatigue and night sleep becomes uncomfortable and often fussy when awakened. The mothers consider this sleep disorder problem (Babies can not sleep well / often wake up and cry at night) is a common thing and will disappear by itself. Based on the above background description, the researchers are interested to know the extent of the influence of infant massage with aromatherapy lavender to meet the needs of sleeping Baby (6-12 months) in the work area Puskesmas Nilam Sari City Bukittinggi 2017.

II METHODS

This study conducted using quasi experimental design with two group design conducted in the working area of Nilam Sari health center Bukittinggi in June-July 2016. This study used Quasi Eksperimen with Two Group design. The research was conducted in June to July 2016 in the working area of Nilam Sari Health Center in Bukittinggi. This study took 10 samples for group I and 10 samples for group II with a total sample of 20 infants in accordance with established inclusion

III RESULT AND DISCUSSION

Table 1 Mean Infant Fulfillment Requirement Baby (6-12 months) After Given Action Massage Infant In Work Area Puskesmas Nilam Sari City Bukittinggi Year 2017

Variabel	Mean	Min	Max	Deviation standard	N
Pre-test	10,300	9	11	0,5869	10

Based on table 1 above, the average quantity of infant sleep requirement needs to be met before the Baby Massage without lavender aromatherapy is 10,300 hours with the lowest baby sleep quantity 9.0 hours and the highest baby sleep quantity is 11.0 hours, and the standard deviation is 0.5869 . Sleep time and night sleep in children is very important. Both are very needed and have a role that can not replace each other. Children who nap with enough, usually not too fussy and sleep soundly at night. It also helps its growth, because in Infants to toddlers, sleep is a time when it grows both physically and also its brain. Baby Massage will make Baby sleep more sound and increase alertness or concentration. This is because massage can change brain waves. This alteration takes place by lowering alpha waves and increasing beta waves of tetha fibers, which can be proven by using EEG (electro encephalogram).

Scafidi and colleagues conducted a study showing that touch therapy performed on premature infants can improve sleep patterns. While the results of research conducted Dr. Tiffani Field and friends in Miami, Baby massage will have a positive impact such as increasing the baby's weight 47% per day more and Baby looks more active and alert and sleep more soundly. Furthermore, a study conducted by Minarti and Utami on the effect of Infant Massage on Sleep Quality Babies aged 3-6 months in the work area of Puskesmas II East Denpasar in 2012, said there was influence of infant massage on sleep quality Babies aged 3-6 months. From the results of the research before giving Baby massage there are 26.67% or 8 respondents with poor sleep quality, 43.33% or 13 respondents with moderate sleep quality and 30% or 9 respondents with good sleep quality. There are still many babies who do not meet the

needs of sleep well in the study before the intervention given Baby massage.

The researchers' assumptions in this study, the difference in the fulfillment of Baby's sleep requirement despite the same age, is a natural thing because the difference depends on many factors. The lack of quantity of sleep fulfillment in infants is also caused by many factors as well. For example due to Baby's environmental factors and also parenting of Baby's parents. Living environment Babies are noisy and noisy can also interfere with sleep and rest Babies, Babies become difficult to sleep soundly because disturbed. Parenting patterns of parents who may accustom their children to sleep late or children who are invited to work. As is known that the Baby's body condition is getting tired and feeling stressed will make Baby more fussy and hard to sleep.

Table 2 Mean Infant Fulfillment Requirement Baby (6-12 months) After Given Action Massage Infant In Work Area Puskesmas Nilam Sari City Bukittinggi Year 2017

Variable	Mean	Min	Max	Deviasion Standard	N
Post-test	12,850	12	14	0,6687	10

The results of the study in table 2 above, there is an average of the needs of the baby's sleep increased to 12,850 hours with the lowest infant sleeping quantity of 12.0 hours and the quantity of baby's sleep needs the highest 14.0 hours, and standard deviation 0.6687. From the description above can be seen that there is an increase in the average baby's sleep needs satisfaction after being given the Baby massage action that is 2.55 hours. Massage Babies who do cause blood circulation Baby will flow to all parts of the body, not least the part of his brain. One of the important substances transported by blood is oxygen. Brain function will be more optimal when the intake of oxygen sufficient brain oxygen needs. Improved

sleep quality in infants given the massage is caused by an increase in serotonin secretion levels produced at the time of massage and also massage can alter brain waves by decreasing alpha waves and increasing beta and tetha waves, which can be proven by using EEG.

In 2003, a study by Dieter tested the effectiveness of a five-day Baby Massage on weight gain and Baby's sleep patterns. The results showed that in the intervention group showed more regular sleep patterns and less sleep behavior than the control group. Furthermore, in a study conducted by Mardiana L and Martini DE 2014, showed that from 17 respondents before the massage, the average number of respondents sleep is 12.42 hours / day and after the average massage the quantity of sleep of respondents increased to 13.78 hours / day with an increase of 1.29 hours.

The researcher's assumptions on the results of this study indicate an increase in the quantity of Baby's sleep needs fulfillment between the quantity of Baby's Baby's needs fulfillment before and after the Baby Massage of 2.55 hours. According to the researchers, the increase in the quantity of infant needs sleeping one of them because Baby given massage. With massage on Baby will make baby blood circulation become smooth, baby body become more relax and more comfortable and and sleep more soundly. Increased quantity of sleep Babies who are given massage also due to an increase in serotonin neurotransmitter activity, which increases the capacity of receptor cells that bind glucocorticoid function (adrenaline, a stress hormone), this process will lead to decreased levels of adrenal hormone (stress hormone) produced at the time massage. In addition massage can also alter brain waves positively, ie by lowering alpha waves and increasing beta

and tetha waves that can be proven by EEG, where alpha waves make a person's mental state to be relaxed

Table 3 Mean Infant Requirement (6-12 months) After Giving Action Massage Baby With Aromatherapy Lavender Oil In Work Area Puskesmas Nilam Sari Kota Bukittinggi Year 2017

Variabel	Mean	Min	Max	Deviation standard	N
Pre-test	10,300	9,0	11,5	0,7528	10

Based on table 3 above, we can see the average quantity of infant requirement of infant before giving the action of Baby Massage with aromatherapy lavender that is 10,300 hours with sleep quantity Infant lowest 9,0 hour and sleep quantity Baby highest 11,5 hour, and standard deviation 0,7528 . Indeed we can not give Baby time benchmark for uniform sleep on every Baby, because every child has their own uniqueness. However, there is a certain amount that is common in Baby's sleep patterns. For Newborns 2 months total sleep a day 16-18 hours, Baby age 2-4 months total sleep time 14-16 hours a day, age 4-6 months 14-15 hours a day, baby age 6-9 months sleep 14 hours a day and Babies 9-12 months sleep time 14 hours a day. According to Berliana Theresia, Baby massage can also overcome developmental problems, detect physical disturbances, hyperactivity, sleep disorders, and insomnia. In Indonesia alone Massage Baby has also been frequently studied, Mardiana L and Martini DE 2014 with the results showed 82.3% of babies who are massaged experience improved sleep quality and sleep needs are met.

In addition to massage Babies increased the fulfillment of sleep needs Babies can also use aromatherapy oils. Aromatherapy itself is an alternative therapy using essential oils that are designed to

provide physical and mental benefits, one of which can help Baby to sleep more soundly. In America, France, Britain and other developed countries, aromatherapy has become part of medical therapists. Aromatherapy can help to make Baby calmer, sleep more sound, and not fussy or anxious. One of the soft essential oils that are often used for Babies is lavender (*Lavandula angustifolia*)

Diego et al's publication of the effects of aromatherapy on human mood, explains the full application of EEG in measuring its effects. So far the results show that lavender oil causes a decrease in CNS (central nervous system) after inhalation, the same as sedation in people who make sedation. A study conducted by Minarti and Utami on the effect of Infant Massage on Sleep Quality Babies aged 3-6 months in the work area of Puskesmas II East Denpasar in 2012 which states there influence Infant massage on sleep quality Babies aged 3-6 months in the study. From the data of the research before giving Baby massage there are 26,67% or 8 respondents with poor sleep quality, 43,33% or 13 respondents with medium sleep quality and 30% or 9 respondents with good sleep quality. There are still many babies who do not meet the needs of sleep well in the study before the intervention given Baby massage. While research conducted Utami AF et al about the influence of giving aromatherapy lavender to the quality of nap child in day care LKIA Pontianak 2014, concluded the influence of giving aromatherapy lavender.

The average score of child's nap quality before given lavender aromatherapy is 20.87 and the mean score of child's nap quality after given lavender aromatherapy is 29.47.

The researcher's assumption on this research based on the above table shows the average quantity of sleep Baby is still less for baby

age 6-12 months. Differences in the fulfillment of the Baby's sleep requirement despite the same age, is a natural thing because the difference depends on many factors. The lack of fulfillment of sleep needs in this baby is also caused by many factors. For example due to Baby's environmental factors and also parenting of the baby's parents. A noisy and noisy baby environment can also interfere with rest and sleep. Babies, Babies become difficult to sleep soundly because of disruption. Parenting patterns of parents who may accustom their children to sleep late or children who are invited to work. As is known that the Baby's body condition is tired and feel stress will make the baby more fussy and hard to sleep.

Table 4 Mean Infant Infant Satisfaction Requirement (6-12 months) After Giving Action Massage Baby With Aromatherapy Lavender Oil In Work Area Puskesmas Nilam Sari Kota Bukittinggi Year 2017

Variabel	Mean	Min	Max	Deviation standard	N
Post-test	13,100	11,5	14,5	0,8433	10

The results of the study listed in table 4 above, obtained the average infant needs sleep increased to 13,100 hours with the lowest baby sleep fulfillment quantity of 11.5 hours and the quantity of infant sleep needs the highest 14.5 hours, and standard deviation 0.8433. From the description above can be seen that there is an increase in the average fulfillment of Baby's sleep needs after given the action of massage Baby that is equal to 2.8 hours.

Actually, baby massage can start immediately after the baby is born, according to the wishes of the parents. With a faster start of massage, Babies will benefit more. Especially if the massage can be done every day from birth. Research conducted by Tiffany Field, director of the Touch Research Institute at the University of Miami School of Medicine in Florida, showed that infants who received more active and vigilant

massage, besides massaging massage neurologists in infants who were massaged faster matured than babies who were not massaged. By doing the Baby massage, the baby's blood circulation will flow to all parts of the body, not least the part of his brain. Dr. Henry D. Walter on brain waves indicates that the aromatic ingredients used in aromatherapy treatments will stimulate the autonomic nervous system that controls the involuntary movements of the respiratory system and blood pressure. This stimulation is useful to prevent the occurrence of fatigue, stress and calm anxiety in children.

This lavender effect has also been proven in a study conducted by Kasmiatun (2014) which showed an increase in the fulfillment of neonate sleep requirement from before and after being given infant massage with lavender floral therapy. Where before the intervention got 4 respondents (31%) fulfilled their sleep needs and 9 respondents (69%) did not meet their sleep needs. After getting the intervention, 12 respondents (92%) fulfilled their sleep requirement and 1 respondent (8%) did not fulfill their sleep requirement with the increase of infant needs fulfillment between before and after baby massage with aromatherapy of lavender interest of 61%. Although the adequacy of neonatal sleep and infants aged 6-12 months is somewhat different, but aromatherapy lavender proved to make a person comfortable and sleep more soundly.

Researcher assumptions, the results of this study in line with research conducted by researchers above, that Baby massage can indeed improve the baby's sleep. In this study, there was an increase in the average quantity of infant sleep requirement between before and after the Baby Massage with lavender aromatherapy of 2.8 hours. According to the researchers the increase in the quantity of the fulfillment of sleep needs in the Baby, one of them because Baby is given Baby massage. Then the fulfillment of sleep needs even become more effective again when Baby is given Baby massage accompanied by lavender aromatherapy.

Massage Babies will make blood circulation Baby becomes smooth, Baby body becomes more relaxed and more comfortable and and sleep more soundly. Increased quantity of sleep Babies who are given massage also caused by an increase in serotonin neurotransmitter activity, which increases the capacity of receptor cells that bind glucocorticoid (adrenaline, a stress hormone), this process will lead to decreased levels of adrenal hormone (stress hormone) produced at the time massage. In addition massage can also alter brain waves positively, ie by lowering alpha waves and increasing beta and tetha waves that can be proven by EEG, where alpha waves make a person's mental state to be relaxed.

While giving aromatherapy lavender also makes babies become more relaxed, not stress, and reduce anxiety Babies, so when the baby slept more soundly and long and rarely fussy if woke up at night. This is because lavender aromatherapy has a sedative effect, hypnotic and anti-neurodepressive and lavender contains linalool acetate that can relax the nervous system and muscle tension so as to reduce stress on the baby and make Babies more relaxed.

Table 5 Influence of Infant Massage to Fulfill Baby Needs Infant (6-12 months) Before and After Given Action In Work Area Puskesmas Nilam Sari Kota Bukittinggi Year 2017

Variable	Mean	SD	SE	P Value	N
Pre-test	10,300	0,5869	0,1856	0,000	10
Post-test	12,850	0,6687	0,2115		10

The result of the test of Infant Massage Influence on Infant Sleep Nutrition (6-12 months) in Working Area of Puskesmas Nilam sari Kota Bukittinggi Year 2017, known based on result of analysis with T-Test Dependent (Paired Sample T-Test), obtained P = 0,000 (p <0,05) as shown in table 5, it can be concluded that there is Influence of Infant Massage to the fulfillment of Infant Sleep requirement (6-12

months) in Work Area Puskesmas Nilam Sari Kota Bukittinggi Year 2017.

Touch and massage Babies after birth can provide assurance of sustained body contact that can maintain a safe feeling in the Baby. Today, experts have been able to prove scientifically what human beings have long known, touch therapy and infant massage that has many benefits. Touch therapy, especially massage, produces profitable and scientifically measurable physiological changes, among others, by measuring salivary cortisol levels, plasma cortisol levels by radioimmunoassa, urinary stress hormone (Catecholamine) levels, and EEG (electro encephalogram, brain wave) .

In a study conducted by Abdurrahman (2015), concluded the effect of this Baby Massage on the quantity of sleeping Baby with p value = 0.025 where p <0.05, this is evidenced by the quality of sleep Babies in the intervention group after the massage done Baby has 70% good quality and 30% have bad sleep quality. Previous Baby's Sleep Quality in the intervention group before Baby massage was 20% had good sleep quality and 80% had poor sleep quality. This indicates an increase in the Baby's quantity of sleep between before and after Infant Massage in the intervention group by 50%.

Researcher assumption, there is Influence of Baby massage to fulfill requirement of sleeping Baby age 6-12 month in working area of Puskesmas Nilam Sari Kota Bukittinggi Year 2017. Where the result of this research is in line with theory and supporting research conducted by researcher above. In this study, there was also an increase in the average quantity of infant's sleep needs between the quantity of infant's sleep requirement before and after the Baby Massage was 2.55 hours with p = 0,000 and p <0,05. According to the

researchers, an increase in the quantity of baby's sleep needs, because the massage is done on the baby.

Massage Babies will make blood circulation Baby becomes smooth, Baby body becomes more relaxed and more comfortable and and sleep more soundly. Increased quantity of sleep Babies who are given massage also caused by an increase in serotonin neurotransmitter activity, which increases the capacity of receptor cells that bind glucocorticoid (adrenaline, a stress hormone), this process will lead to decreased levels of adrenal hormone (stress hormone) produced at the time massage. In addition massage can also alter brain waves positively, ie by lowering alpha waves and increasing beta and tetha waves that can be proven by EEG, where alpha waves make a person's mental state to be relaxed. So it becomes one of the causes of the increase in the quantity of infant needs sleep, although the quantity of sleep Baby is not an absolute increase only because of the factors that do massage Babies only

Table 6 Influence of Infant Massage With Lavender Oil Aromatherapy To Fulfill Baby Needs Baby (6-12 months) Before and After Given Action In Work Area Puskesmas Nilam Sari Kota Bukittinggi Year 2017

Variabel	Mean	SD	SE	P Value	N
Pre-test	10,300	0,7528	0,2380	0,000	10
Post-test	13,100	0,8433	0,2667		10

The results of the test of influence of Baby massage with aromatherapy lavender to fulfill requirement of Infant sleep (6-12 month) in working area of Nilam Sari Health Center of Bukittinggi City Year 2017, known based on result of analysis with T-Test Dependent (Paired Sample T-Test) $P = 0.000$ ($p < 0,05$) as shown in table 6, hence can be concluded that there is influence of Baby massage with aromatherapy lavender to

fulfill requirement of baby bed (6-12 month) in working area of Nilam Sari Health Center of Bukittinggi City Year 2017.

Touch and massage on Babies after birth can provide assurance of sustained body contact that can maintain a safe feeling in the Baby. Today, experts have been able to prove scientifically what human beings have long known, namely touch therapy and massage on babies that have many benefits. Touch therapy, especially massage, produces profitable and scientifically measurable physiological changes, among others, by measuring salivary cortisol levels, plasma cortisol levels by radioimmunoassa, urinary stress hormone (Catecholamine) levels, and EEG (electro encephalogram, brain wave) .

According Primadiati (2002) lavender is one type of aromaterpi that has a relaxation effect that can be used to improve poor sleep quality both in adults and children. This is also reinforced by Dewi (2011) who mentioned that lavender aromatherapy has sedative effect, hypnotic, and anti-neurodepressive because lavender contains linalool acetate which is able to relax the nervous system and muscle tension. Lavender oil is one of the famous aromatherapy has a soothing effect. According to research conducted on mice, lavender oil has a good sedation effect and can decrease motor activity reaches 78%, so it is often used for stress management. A few drops of lavender oil can help cope with insomnia, improve one's mood, and provide a relaxing effect.

Research conducted Kasmiatun (2014), showed an increase in the fulfillment needs of neonate sleep than before given a Baby massage with lavender floral therapy with after massage Baby with lavender floral therapy. Where before the intervention got 4 respondents 31% fulfilled their sleep needs and 9 respondents 69% unmet needs sleep.

After getting the intervention, 12 respondents (92%) fulfilled their sleeping needs and 1 respondent (8%) did not fulfill their sleep requirement with the increase of infant requirement. Infant between before and after baby massage with lavender aromatherapy of 61% and $p = 0.001$ and p value <0.05 . This suggests that there is an influence of infant massage with the aroma of lavender floral therapy on meeting the needs of neonate sleep in the study. Although the adequacy of neonate sleep and infants aged 6-12 months is somewhat different, but aromatherapy lavender proved to make someone comfortable and sleep more soundly.

Researcher assumption, there is influence of Baby massage with aromatherapy lavender to fulfill requirement of sleep Baby 6-12 months old in working area of Puskesmas Nilam Sari City Bukittinggi Year 2017. Where the result of this research is in line with theory and supporting research conducted by some researcher above, that massage Baby and lavender aromatherapy can indeed improve and improve sleep patterns. In this study there was also an increase in the average quantity of infant needs sleep between the quantity of infant needs sleep before and after the Baby massage with aromatherapy lavender of 2.8 hours with a value of $p = 0.000$ and p value <0.05 . According to the researchers, the increase in the quantity of the fulfillment of the needs of sleep in the Baby, one of them because Babies are given massage. Then the fulfillment of sleep needs even become more effective when Baby is given Baby massage accompanied by lavender aromatherapy. Massage Babies will make blood circulation Baby becomes smooth, Baby body becomes more relaxed and more comfortable and and sleep more sound and aromatherapy lavender also make

Baby become more relaxed, not stress, and reduce infant's anxiety, so that when baby sleep more soundly and old and also rarely fussy if waking up at night. Both interventions are equally make Baby's body more relaxed, accelerate blood circulation in Baby's body and reduce stress on the Baby. So this is what causes the baby becomes no longer fussy and restless at the time of sleep, the fulfillment of Baby's sleep needs become fulfilled. Although Baby's quantity of sleep increases not only absolute because of the factors that do massage factor Baby with aromatherapy lavender.

IV CONCLUSION

Based on study that has been done the researcher get the conclusion that there is an association of Baby massage with aromatherapy lavender to fulfill requirement of sleep Infant age 6-12 month in work area of pusilmas Nilam Sari city of Bukittinggi year 2017 (value $p = 0,000$). Suggestions that can be given by the researcher is that mother can do baby massage at home routinely because it was proved as one effective way to increase baby's needs in sleeping. But even better if the Baby massage is using lavender aromatherapy, because it is proven to be more effective to improve the fulfillment of Baby's sleep needs than just with Baby massage it self.

REFERENCES

- Abdurrahman SM, Hiola R, Mursyidah A. Pengaruh Pijat Bayi Terhadap Kualitas Tidur Bayi Di Desa Tabumela Kecamatan Tilango Kabupaten Gorontalo. *Jurnal Keperawatan*. 2015: 5-18.
- Afshar MK, Moghadam ZB, Taghizadeh Z, Bekhradi R, Montazeri A, Mokhtari P. Lavender Fragrance Essential Oil and the Quality of Sleep in Postpartum Women. *Iran Red Crescent Med J*. 2015;17(4):e25880.
- Agusta, Andria. 2000. *Aromaterapi, Cara Sehat Dengan Wewangian Alami*. Jakarta: Penebar Swadaya.
- Aini, Nur dan Kholish N. 2013. *Solusi Lengkap Calon Ibu*. Yogyakarta: Real Book.
- Alimul H, Aziz. 2007. *Metode Penelitian Kebidanan & Teknik Analisis Data*. Surabaya: Salemba Medika.
- Beider, S. dan Moyer, C.A. 2007. Randomized Controlled Trials of Pediatric Massage. *Journal of Pediatric Research: Review*, 4(1): 23-34.
- Dewi, Iga Prima. (2011). *Aromaterapi Lavender Sebagai Media Relaksasi*. Bali : Bagian Farmasi Fakultas Kedokteran Universitas Udayana. Diunduh tanggal 18 Agustus 2016.
- Dewi, Siska. 2012. *Pijat & Asupan Gizi Tepat Untuk melejitkan Tumbuh Kembang Anak*. Yogyakarta: Pustaka Baru Press.
- Dieter, J. dkk. 2003. Stable Preterm Infants Gain More Weight and Sleep Less after Five Days of Massage Therapy. *Journal Of Pediatric Psychology*. 28(6): 03-11.
- Dinkes Kota Bukittinggi. 2014. *Profil Dinas Kesehatan Kota Bukittinggi*.
- Ford, Gina. 2008. *Merawat Dan Membesarkan Bayi 3 Tahun Pertama*. Jogjakarta : Garailmu.
- Hari S, Wilhelmus. 2012. *Statistika & Aplikasi Untuk Penelitian Ilmu Kesehatan*. Jakarta : Trans Info Media.
- Hartati T. 2010. *Panduan Ibu Hamil Melahirkan & Merawat Bayi*. Jakarta : UBA Press.
- Hermawanto, Hery. 2010. *Biostatistika Dasar, Dasar-dasar Statistika Kesehatan*. Jakarta: Trans Info Media.
- Imelda, Rina. 2012. *Panduan Kehamilan & Perawatan Bayi Dari A-Z*. Surabaya: Victory.
- Indiarti, M.T. 2015. *Panduan Terbaik A-Z Kehamilan, Persalinan, dan Perawata Bayi Update dan Terlengkap*. Yogyakarta: Indoliterasi.
- Kasmiatun Sri. *Pengaruh Pijat Bayi Dengan Terapi Lavender Terhadap Pemenuhan Kebutuhan Tidur Neonatus Di Posyandu Melati Mojokerto Kediri*. *Jurnal Ilmu Kesehatan*. Vol. 3, No. 1, November 2014: 41-47.

- Kelly, Paula. 2010. *Buku Saku Asuhan neonatus & Bayi*. Jakarta: EGC.
- Mardiana L, Martini DE. *Pengaruh Pijat Bayi Terhadap Kualitas Tidur Bayi Usia 3-6 Bulan Di Desa Munungrejo Kecamatan Ngimbang Kabupaten Lamongan*. Surya. Vol.02, No.XVIII, Juni 2014: 109-115.
- Marmi dan Rahardjo K. 2012. *Asuhan Neonatus, Bayi, Balita, dan Anak Prasekolah*. Yogyakarta : Pustaka Pelajar.
- Muchtaridi dan Moelyono. 2015. *Aroma Terapi; Tinjauan Aspek Kimia Medisinal*. Yogyakarta : Graha Ilmu.
- Nanny Lia Dewi, Vivian. 2012. *Asuhan Neonatus Bayi dan Anak Balita*. Jakarta : Salemba medika.
- Pratyahara, Dayu. 2012. *Miracle Touch For Your Baby*. Jogjakarta: Javalitera.
- Primadiati, Rachmi. 2002. *Aromaterapi Perawatan Alami Untuk Sehat Dan Cantik*. Jakarta: Gramedia Pustaka Utama.
- Priyatno, Duwi. 2012. *Belajar Cepat Oleh Data Statistik dengan SPSS*. Yogyakarta: ANDI.
- Proverawati A, Ismawati C. 2010. *Berat Badan Lahir Rendah (BBLR)*. Yogyakarta: Nuha Medika.
- Rayyane, Puja. 2013. *Buku Pintar Kehamilan & Perawatan Bayi/Anak Usia Emas*. Yogyakarta : Kaldron.
- Riksani, Ria. 2012. *Cara Mudah & Aman Pijat Bayi*. Jakarta : Dunia Sehat.
- Roesli, Utami. 2013. *Pedoman Pijat Bayi*. Jakarta: Trubus Agriwidya.
- Roesli, Utami. 2007. *Pedoman Pijat Bayi Prematur & Usia Bayi 0-3 Bulan*. Jakarta: Trubus Agriwidya.
- Sadeh Avi. A Brief Screening Questionnaire for Infant Sleep Problems: Validation and Finding for an Internet Sample. *Pediatrics*. 2014;113;e570.
- Saepudin, Malik. 2011. *Metodologi Penelitian Kesehatan Masyarakat*. Jakarta : Trans Info Media.
- Sekartini R, Adi NP. *Gangguan Tidur pada Anak Usia Bawah Tiga Tahun di Lima Kota di Indonesia*. Sari Pediatri, Vol. 7, No. 4. Maret 2006: 188-193.
- Tauman R, Levine A, Avni H, Nehama H, Greenfeld M and Sivan Y. Coexistence of Sleep and Feeding Disturbances in Young Children. *Pediatrics*. 2011;127;e615.
- TriExs. 2012. *Ultimate Guide For Your Lovely Baby*. Jakarta: TriExs Media.
- Tim Galenia MCC. 2014. *Home Baby Spa*. Jakarta: Penerbit plus.

Walker, Peter. 2011. *Panduan Lengkap Pijat Bayi Untuk Merangsang Tumbuh Kembang & Terapi Kesehatan*. Jakarta: PuspaSwara.

Zahler, Kathy A. 2008. *100 Kunci Sukses Mengasuh bayi*. Jakarta : Prestasi Pustakarya.