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| RESEARCH ARTICLE

The Effect of Classical Music on the Duration of Sleep of Babies Aged 0-28 Days

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| ABSTRACT
Infancy is a golden period for the growth and development of children. One of the factors that affect the baby's growth and development is sleep and rest. Then it is necessary to take special care to help the baby in meeting the needs of sleep rest, namely therapy using classical music. This study aimed to determine the effect of classical music on sleep duration in babies aged 0-28 days at Multazam Hospital, Gorontalo City. This research is *a quasi-experimental design* study. The sample used was 30 respondents consisting of 15 intervention groups and 15 control groups, using *accidental sampling* techniques. Data were collected using observation sheets. The results showed that the Duration of Sleep was 30 babies (100%) before being given classical music <16 hours in the intervention group and the control group. After being given classical music in the intervention group, the Duration of Sleep ≥16 hours were 15 babies (100%) with a *p-value* of 0.000 < 0.05. Meanwhile, in the control group, the Sleep Duration of babies <16 hours was 10 babies (66.7%), and the Duration of Sleep for babies ≥16 hours was 5 babies (33.3%) with a *p-value* of 0.077 > 0.05. This study concluded that there was an influence of classical music on the Sleep Duration of babies aged 0-28 days, and there was no difference in the Duration of Sleep of babies in the control group.

| KEYWORDS

Classical Music; Sleep Duration; Baby 0-28 Days

| ARTICLE INFORMATION

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1. Introduction

Growth can be seen from weight, height, and head circumference, while development can be seen from the motor, social and emotional abilities, language skills, and cognitive abilities. Every child will go through the growth and development process according to the stage of his age, but many factors influence it. The child is the next generation of the nation that deserves attention, and every child has the right to achieve optimal development of cognition and social and emotional behavior, thus needed by the child with good qualities to achieve a good future for the nation (Hapsari, 2019).

Based on the *World Health Organization* (WHO) states that 5-25% of preschool-age children in the world experience minor brain dysfunction, including impaired fine motor development (WHO, 2010). The incidence of developmental disorders in children aged 3-17 years in the United States has increased from 2014 by 5.76% and 2016 by 6.9% (Zablotsky et al., 2017). Meanwhile, the Indonesian Ministry of Health reported that 0.4 million (16%) under-fives in Indonesia experienced developmental disorders, both fine and gross motor development, hearing loss, lack of intelligence, and speech delays.

The growth and development of children in Indonesia still need serious attention; the rate of delay in growth and development is still quite high, which is around 5-10% experiencing delays in general development, 2 in 1,000 babies have impaired motor development, 3 to 6 out of 1,000 babies also have hearing loss, and 1 in 100 children have poor intelligence and speech delays. The child population in Indonesia is around 33% of the total population, which is around 83 million, and every year the number of child populations will increase (Sugeng, 2019).

Citing data from regional reports received by the Indonesian Ministry of Health, it shows that the number of babies who died in Indonesia based on estimated Indonesian health profiles reached 19,156 children (Directorate General of Public Health, Ministry of Health RI, 2020 (data as of March 27, 2020)). Gorontalo Province is a province with a significant number of young people. Based on the SDG *Baseline* report on children in Indonesia, as many as 395,000 people, or 35 percent of the total population in the province, are children.

Infancy is a golden period for the growth and development of children, so it needs special attention. One of the factors that affect the growth and development of babies is sleep and rest. Babies aged 0-5 months will live their new life with 80-90% by sleeping (Gola, 2009). Deep sleep is very important for the growth of the baby because, during sleep, the growth of the baby's brain reaches its peak. In addition, during sleep, the baby's body produces three times more growth hormone when the baby sleeps than when the baby wakes up (Vina, 2010). Inadequate sleep and poor sleep quality can result in impaired physiology and psychological balance; it is necessary to take special care to assist the baby in meeting the needs of sleep rest, for example, by providing nursing therapy. The development of nursing therapy has now been widely used to treat patients, including therapy using music.

Basically, almost any type of music can be used for music therapy. Experts recommend listening to and listening to classical music; this is because the composition is complete and harmonious. Of the many works of classical music, Wolfgang Amadeus Mozart's (1756-1791) is the most recommended. Several studies have proven that his music has the most positive effect on the development of the fetus, baby, and children. The research was conducted by Dr. Alferd Tomatis and Don Campbell. They termed it the "Mozart effect". When some researchers tested some classical music to be heard, Mozart's type of classical music was able to provide an attractive reaction.

From a preliminary study conducted by researchers on November 02 to November 03, 2020, at Multazam Hospital with interviews with five mothers who had babies, it turns out that all mothers never listen to classical music to help the baby's Sleep Duration. The baby's mother and family only hold, check the baby's diaper if the baby has defecated or urinated, and give milk when the baby wakes up. Based on the background above, after obtaining data and explanations, it shows that classical music therapy has a positive effect on sleep duration in babies. Classical music against the Duration of Infant Sleep has not been widely used. In addition, in Indonesia, there has not been much research on the effect of classical music therapy on the duration of sleep for babies, so its application has not developed widely in Indonesia. Based on these considerations, researchers are interested in researching the benefits of classical music on sleep duration in infants by researching the effect of classical music on sleep duration in babies aged 0-28 days at Multazam Hospital, Gorontalo City.

2. Research Methodology

The research design used in this study is *a queasy- experimental design*. The sample determination technique in this study used *an accidental sampling* technique with a total of 30 infant respondents, consisting of 15 intervention groups (given classical music) and 15 control groups.

3. Results of Research and Discussion

3.1 Univariate Analysis

Characteristics of respondents in the study included age and gender. More details will be described below.

Table 4.1 Distribution of Characteristics of Respondents of Intervention Groups and Control Groups

Respondents' Characteristics	Group			
	Intervention (n=15)		Control (n=15)	
	F	%	f	%
Age				
1 Day	14	93,3	1	66,6
2 Day	1	6,7	0	6,7
3 Day	0	0	1	20
4 Day	0	0	31	6,7
Total	15	100	15	100
Gender				
Male Perempuan	8	53,3	4	26,7
	7	46,7	11	73,3
Total	15	100	15	100

Source: Primary data, 2020.

Based on the table above shows that the intervention group was mostly 1 day old (93.3%) and male (53.3%). Meanwhile, in the control group, most of them were 1 day old (66.6%) and manifold
female gender (73.3%).

Table 4.2 Distribution of Infant Sleep Duration in Intervention and Control Groups

Gauges	Lam a Tidu r	Group			
		Intervention si (n=15)		Control (n=15)	
		f	%	f	%
Pre	<16 hours	15	100	15	100
	≥ 16hrs	0	0	0	0
Total		15	100	15	100
Post	<16 hours	0	0	10	66,7
	≥ 16hrs	15	100	5	33,3
Total		15	100	15	100

Source: Primary data, 2020.

Based on the table above shows that in the intervention group and control group, before being given classical music, all babies (100%) had Sleep Duration <16 hours. Meanwhile, in the intervention group, after being given classical music, all babies' (100%) duration of sleep became ≥ 16 hours. And in the control group of the Duration of Sleep of babies in the post-test, most of the <16 hours were 10 babies (66.7%) and ≥ 16 hours as many as 5 babies (33.3%).

3.2 Bivariate Analysis

The bivariate analysis aims to determine the influence of independent variables on dependent variables using statistical tests. In this study, researchers conducted a normality test before analyzing the data from the observation of the baby's sleep duration of 0-28 days in both groups to see normally distributed data or not. The test used was the *Kolmogorov-Smirnov* test with normally distributed data results. Thus, data analysis was carried out to compare the average values before and after using the *Paired Sample T-Test*.

Table 4.3 Analysis of the Effect of Classical Music on the Sleep Duration of Infants Aged 0-28 Days at Multazam Gorontalo Hospital, 2020

Kelo mpok	Vari label	Pre-Me an	Post t Me an	T	P EU currency
Interv ensi	Length of sleep	14. 33	17. 13	-6,089	0.000
Kontr ol	Lam a sleep	13. 87	14.60	-1,911	0.0 77

Based on table 4.3 in the intervention group shows that the length of sleep of the baby before being given classical music is <16 hours. Meanwhile, the duration of the baby's sleep after being given classical music is ≥16 hours. The results of the statistical test paired t-test sample to determine before and after classical music administration was carried out on babies aged 0-28 days, which showed an influence with a significant value of 0.000 <0.05. This means that there is an influence of classical music on the Sleep Duration of babies aged 0-28 days at Multazam Hospital in Gorontalo City.

Meanwhile, the control group showed that the baby's sleep duration at the time of the pretest and post-test was mostly <16 hours. The results of the *paired t-test* sample showed a significant value of 0.077 >0.05. This means that in the control group, there was no difference in the Sleep Duration of babies aged 0-28 days at the pre-post and post-tests at Multazam Hospital, Gorontalo City.

3.3 Duration of Infant Sleep Before and After in Intervention and Control Groups

Hashi's research showed that the duration of sleep of infants in the intervention group and the control group was <16 hours for all infants. Lack of Sleep Duration in both groups can be due to the baby's unsupportive environment, physical fatigue, and nutrition. The baby's environment that is not supported, such as crowded, the ambient temperature that is not suitable for the baby (too hot or too cold), or many mosquitoes in the baby's sleeping room, will also reduce the baby's sleep duration. Babies feel hungry; babies feel uncomfortable because of defecation or urination; then the pampers used are not immediately replaced because they are not known by the baby's parents, and are not often given breast milk, so the nutrients given are not enough

because they think that sleeping babies should not be awakened. Meanwhile, in the intervention group, after listening to classical music, the duration of sleep increased to ≥16 hours in 15 respondents, with the baby's condition appearing calmer during sleep, not easily awakened, less wakefulness frequency, and duration Sleep the baby was not fussy. There was 1 respondent who experienced a Sleep Duration of 19 hours, namely Baby FU. FU babies are often breastfed by their mothers; fu baby parents always observe whether the baby defecates or is small, then immediately replace it, and when the baby FU sleeps, the baby's parents provide peace of mind in the environment around the baby by not causing crowds in the environment Baby sleep. Meanwhile, the other 3 babies' sleep duration is 18 hours, namely EH babies, MD babies, and N babies, are also given peace of mind in the environment around the baby and are often given breast milk.

In the control group, the intervention was not given directly to the baby, but when making observations, the researcher provided health education, namely, it was expected that the mother gave breast milk as often as possible, providing calm around the baby and pay attention to the state of the baby at the time of sleep. In the sleep duration control group for the post-test, there were 10 babies <16 hours, and 5 babies experienced an increase in sleep duration, which was 16 hours, including TH babies, RD babies, PL babies, EI babies, and JA babies. TH Baby's Sleep duration before and after is 18 hours; based on observations and interviews with parents, TH babies do not wake up easily even though pampers are not immediately replaced by their parents. However, JM babies have decreased the length of sleep from 15 hours to 12 hours; this is because JM babies are the first children, so the baby's parents have no experience in caring for newborns, such as not often giving breast milk which makes the baby easily fussy and rarely holds the baby. Meanwhile, other babies experience an increase in the length of sleep because the baby's parents provide peace of mind when the baby sleeps and pay attention to the baby's state during sleep, namely when the baby starts to fuss when he wakes up, the mother immediately holds the baby, then breastfeeding is given which causes the baby to fall asleep again.

This is in line with Pahlawanti (2013), which states that factors that affect the duration of a baby's sleep include the environment because a safe and comfortable situation for a person can speed up the sleep process. Then, nutritional factors due to the fulfillment of sufficient nutritional needs can speed up the sleep process. But, if nutritional needs are lacking can affect the sleep process; sometimes, even babies find it difficult to sleep.

3.4 The Effect of Classical Music on Sleep Duration in Infants Aged 0- 28 Days at Multazam Hospital, Gorontalo City

Research proves that there is a difference in Sleep Duration in babies aged 0-28 days before and after being given classical music before being given classical music therapy <16 hours. In line with Aggraini's research (2018), it shows that before classical music is given, the duration of sleep that does not match the duration of sleep for babies is 6 babies (40%) and not long as 9 babies (40%) with an average score of 15.46. This is in line with the theory, according to Swadarma (2014), that sleep needs according to age; namely, newborns up to 2 months with a total sleep time of 16-18 hours, ages 2-4 months total sleep time of 14-16 hours, 4-6 months total the sleep time is 14-15 hours, the age is 6-9 months the total sleep time is 14 hours, the age is 9-12 months the total sleep time is 14 hours, the age is 12-18 months the total sleep time is 13-14 hours, the age is 18 months to 2 the total year of sleep time is 13-14 hours.

In babies, there are two stages of sleep to get quality sleep, namely the first phase of *non-rapid eye movement* (non-REM) sleep, where in this phase, the baby's breathing pattern and heart rate are regular without being accompanied by dreams. The non-REM phase plays an important role in the repair of body cells and the maximum production of growth hormone, which is about 75%. This will affect the growth of the baby. The second phase is called the *rapid eye movement* (REM) active sleep phase, which is characterized by the presence of very fast eyeball movements, heart rate, and breathing continuing to increase and is unstable with the frequent accompanying dreams. At this stage, the brain metabolism is at the highest level, so it affects the restoration or recovery of the baby's emotional and cognitive. The stages of REM and non-REM sleep alternate and form a sleep cycle. The proportion of REM sleep at the beginning of newborns is as much as 50% (in adults, only 20%) and continues to decrease as the baby ages so that it becomes only 20% of the overall sleep cycle (Wong & Indraningsih, 2011).

From the very beginning of sleep, the baby immediately enters the stage of active REM, in contrast to adults who generally do not enter immediately at the REM stage until after 90 minutes in the sleep cycle. The REM stage appears more frequently in the baby's sleep cycle and results in shorter sleep. In newborns, the length of sleep is usually almost balanced between night and day. Night sleep gradually begins to consolidate above the first year into one indisputable time, and nap time gradually decreases above the age of the first three years (Raf, 2004).

The duration of the baby's sleep is also influenced by several factors, namely firstly, the disease factor; the baby who is sick needs a longer sleep time than the normal state. Second, environmental factors that can hinder or support the Duration of Sleep which consists of temperature, ventilation, lighting, and room. Third, the fatigue factor because the more tired you are, the shorter the REM sleep phase which affects the Duration of Sleep. Fourth, emotional stress factors can increase levels of

norepinephrine in the blood, which will stimulate the sympathetic nervous system. Fifth, food intake factors due to the content of *L-tryptophan,* such as in cheese and milk, will make it easier for babies to sleep (Triyani, 2015). Researchers assume newborns spend more time sleeping, but the time is uncertain, and before being given classical music, babies wake up many times during sleep. The duration of sleep for each baby will be different. However, it ranges from 16-18 hours per day for newborns up to 2 months of age.

The results of this study showed that after being given classical music for 30 minutes and observed within 2 days, the baby's sleep duration increased to ≥16 hours. Based on the results of the *paired* test *t-test decision-making* sample with an error rate of 0.05 obtained a significant 0.000 < 0.05. Thus, there is an influence of classical music on changes in sleep duration in babies aged 0-28 days at Multazam Hospital, Gorontalo City. Meanwhile, in the control group that was not given classical music, a significant value was obtained, namely 0.077 > 0.05 with a Sleep Duration before <16 hours and after most respondents did not experience an increase in Sleep Duration, which was <16 hours, meaning that there was no significant difference in the length of sleep of the control group babies.

This research is in line with Anggraini's research (2018), stating that by being given classical music, all babies experienced an increase in sleep duration with an average value of before being given classical music, namely 15.46 and after being given classical music, namely 18.00, the difference before and after being given intervention was 2.54 with a p-value of 0.000 < 0.05, this shows that classical music is effective against the baby's Sleep Duration because when the baby has listened to classical music, the baby feels calm and this can affect the baby's Sleep Duration. Meanwhile, in the control group that was not given classical music, most of the baby's sleep duration was not long (<16 hours), which was 9 babies (40%).

In line with research, Zuhrollaily (2015) mentioned that before being given classical music given to 18 babies aged 0-11 months, 1.24 and after being given classical music, 1.71 means that babies have an increase of 0.47. This means that classical music is effective against the duration of sleep in babies because the baby feels calm, and it can affect the baby's sleep duration. This research is also supported by the research of Asmayanti (2014), which states that there is a significant difference in the duration of sleep of babies before and after being given Mozart's classical music combined with baby massage therapy with a p-value of 0.000, meaning that there is an influence of Mozart's classical music to the Duration of the baby's Sleep. In another study, Pandiangan (2020) stated that the average sleep duration of babies given classical music is 77.00 minutes, and the duration of baby sleep given a combination of classical music with baby gymnastics is 148.10, with a *p-value* of 0.007 meaning that there is an influence of classical music on the duration of baby's sleep.

Classical music that has a slow tempo or sounds longer and slower can deepen and strengthen breathing, thus allowing the mind to be calm. A deeper or slower respiratory rate is excellent, giving rise to calm, deeper control of emotions and thinking, and a better metabolism because breathing is rhythmic. Classical music, where the music is slow, also makes the heart rate slow; the slower the heartbeat, the slower range creates lower levels of stress and physical tension, calms the mind, and helps the body to heal itself. Classical music has the function of calming the mind and catharsis emotions can optimize tempo, rhythm, melody, and regular harmony, and can produce *alpha* waves and *beta* waves in the eardrum so that it provides calm that makes the brain ready to receive new inputs, relaxing and relaxing effects (Eka, 2013).

Sinaga (2013) mentioned that musical stimulation greatly affects a person's emotional response. When the elements and compositions of classical music are stable, organized, and predictable, then the subject tends to feel relaxed, have lower blood pressure, have lower excitatory levels, and can generally calm down. However, if the elements and compositions of the given music vary at any time and the subject feels a sudden change, then the excitatory level will be high due to the presence of a stimulus.

Listening to classical music implies that sound stimuli will be received by the earlobe of the reader. Then the ear begins the process of listening. The physiology of hearing is the process by which the ear receives sound waves, distinguishes frequencies, and sends information to the central nervous system. Any sound produced by the sound source or air vibration will be received by the ear. The vibrations are converted into a mechanical implies in the middle ear and converted into an electrical impulse in the deep ear, which is passed through the auditory nerve to the auditory cortex in the brain, besides receiving signals from the *thalamus* (one of the parts of the brain that functions to receive messages from the senses and is passed on to other parts of the brain). *The amygdala* also receives signals from all parts of the *limbic cortex* (emotion/behavior) as well as the *neocortex* of *the temporal lobe* (*cortex* or lining of the brain that exists only in humans), *parietal* (part of the brain middle) and *occipital* (hindbrain) mainly in the auditory association area and the visual association area (Natalia,2013).

Thalamus also executes signals to the *neocortex* (areas of the brain that function to think or process data and information that enters the brain). In the *neocortex,* signals are arranged into objects that are understood and sorted according to their meaning so that the brain recognizes each of the objects and the meaning of their presence. Then amy*gdala* runs the signal to the

hippocampus. Classical music will give a positive impression on the *hippocampus* and *amygdala* to cause a positive mood (Natalia, 2013). After giving a positive impression on the hippocampus and amygdala, the signal will go to the hypothalamus then stimulate the production of *endorphins* and *serotonin*, which is a type of natural *morphine* of the body that can make us feel more relaxed and cause the baby to feel calm and can affect the Duration of Sleep in the baby (Natalia, 2013).

The assumption of classical music researchers is very effective in increasing the baby's Sleep Duration >16 hours compared to the Sleep Duration of babies who are not given classical music because classical music that has a regular rhythm can reduce the increase in stimulus in the brain which causes the Amygdala to send signals to the hypothalamus to stimulate the release of endorphins so that the baby relaxes and increases the length of sleep because sleep is very necessary It is important for the baby's development and the length of sleep time in the baby will decrease as the baby ages.

4. Conclusion

Based on the results and discussion above, it can be concluded as follows.

1. Sleep Duration of infants aged 0-28 days before being given classical music <16 hours in the intervention group and control group.
2. Sleep Duration of infants aged 0-28 days after being given classical music ≥16 hours in the intervention group and 5 infants in the control group. Meanwhile, the 10 babies in the sleep duration control group did not increase by <16 hours.
3. There was an influence of classical music on sleep duration in infants aged 0-28 days with a significant value of 0.000 < 0.05 and no difference in infant sleep duration in the control group with a significant value of 0.077 > 0.05.

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References

[1] Anggraini, R. (2018). Comparison of The Length of Sleep of Given Babies with Those Not Given Classical Music in Infants Aged 0-28 Days. *JKAB: Abdurrahman Health Journal*, *7*(1), 1-11.
[2] Lift, DNS. (2009). *The Relationship Between Sleep Quality and Blood PressureIn Adolescents Aged 15-17 Years in SMA Negeri 1Tan*
[3] *Morawa (n.d)*. Terrain. Faculty of Medicine University of North Sumatra.
[4] Asmadi. (2008). *Concept and Application of Client Basic Needs*. Salemba Medika. Jakarta.
[5] Asmayanti, D.H. (2014). Effectiveness of Combination Therapy of Baby Massage and Mozart Classical Music Against Baby Sleep Sikluas in Genuk Sari Village, Semarang. *Thesis*. S1 Nursing Study Program, Sultan Agung Islamic University. Semarang.
[6] Cahyani, A. D. (2015). *Classical Music Therapy Administration Towards Weight Gain* In The Nursing Care *Of Mrs. S Babies With Low* Birth Weight (*BBLR) Premature Birth In Neonatal High Care Unit (HCU) Room*. Diploma III Program in Nursing, Kusuma Husada College of Health Sciences. Surakata.
[7] Campbell, D. (2005). *The Mozart effect.* PT Gramedia Pustaka Utama. Jakarta.
[8] Chamidah, A.N. (2018). Early Detection of Toddler Development Using the DDST II Method at the Posyandu Working Area of the Juanda Samarinda Health Center. *Journal of Endurance* 3(2), 367-374. DOI:
[9] https://doi.org/10.22216/jen.v 3i2.3149
[10] Davita. (2011). *The Effect of Music on the Human Body.* http://www.musicforlife.co.id. October 02, 2020 (11:40)
[11] Deki, P. (2015). Factors Affecting Early Childhood Growth and Development: Golden 1000 Days. *Journal of Advanced Practices in Nursing* 01(01), 1-7.
[12] Ministry of Health of the Republic of Indonesia. (2008). *National Movement Maternal and Child Health Book Monitoring Children's Growth and Development*. Jakarta: Ministry of Health of the Republic of Indonesia.
[13] Djohan. (2006). *Music therapy, theory, and applications*. Galang Press. Yogyakarta.
[14] One. 2013. Indonesian Music and Brainwave Therapy Research Center, http://www.terapimusik.2desember2013.co.id. October 26, 2020 (02.10)
[15] Eveline, & Djamaludin, N. (2010). A *Smart Guide to Caring for Babies and Toddlers.* Jakarta: Wahyu Media.Friedman, MM., Bowden, V.R., and Jones, E.G. 2010. Family *Nursing Textbooks: Research*, theory, *and practice*, *language transfer, End of Yani S. Hamid et al.*; Ed 5. EGC. Jakarta.
[16] Gola, G. (2009). Let's get up! in shape due to proper sleep. Publisher Hikmah.Jakarta.
[17] Hariati, S. (2010). Effectiveness of Music Therapy on Weight Gain and Body Temperature of Premature Infants in Makasar. *Dissertation. The* University of Indonesia.
[18] Hidayat. (2011). *Nursing Research Methods & Data Analysis Techniques First edition.* Salemba Medika. Jakarta.
[19] Ministry of National Development Planning (BAPPENAS) and United Nation Children's Fund (UNICEF). 2017. *Report*
[20] *SDG* baseline *about children in Indonesia*. Jakarta.
[21] Ministry of Health of the Republic of Indonesia. (2019). *Data and Information on Indonesia's Health* Profile *2019*. Jakarta.
[22] Ministry of Health of the Republic of Indonesia. (2009). *Guidelines for the Implementation of Stimulation, Detection and Early Intervention* of

Child Growth and *Development at the Basic Health Service* Level. Ministry of Health of the Republic of Indonesia. Jakarta.
[23] Kusumawati, N. (2017). The effectiveness of Mozart's classical music therapy on the body temperature of premature babies in the perinatology room of banking hospital in 2017. *Public health journal* 2(1), 58-76.
[24] Maharani, A. (2013). Duration of Mozart's Music Therapy Administration to Anxiety Levels in Children. *Dissertation.* Graduate Program. Purwokerto.
[25] Maternity, D., Anjani, A., Evrianasari, N. (2018). *Neonatal Midwifery* Care, *Infants, Toddlers & Preschoolers*. Andi Publishers. Yogyakarta.
[26] Maryunani, A. (2010). *Pediatric Health Sciences in Obstetrics*. Trans Info Media. Jakarta.
[27] Merrit, S. (2003). Brain *Symphony: 39 Music Activities That Stimulate IQ, EQ, SQ To Awaken Creativity & Imagination*. Kaifa. Bandung.
[28] Musbikin, I. (2009). *The Power of Music to Hone Children's* Intelligence. Power Books (Ihdina). Jogjakarta.
[29] Natalina, D. (2013). *Music Therapy in Nursing*. Media Discourse Partners. Jakarta.
[30] Notoatmodjo, S. (2018). *Health Research Methodology*. Rineka Cipta. Jakarta.
[31] .———————————————(2010). Health *Research Methodology*. Rineka Cipta. Jakarta.
[32] Nunung, N. (2012). The *Sundries of Pregnancy and Child Care*. Cv Yrama Widya.
[33] Nursalam. (2017). Nursing Science Research Methodology Practical Approach Edition 4. Salemba Medika. Jakarta.
[34] Orizaelia, D. (2012). *Effect* of *Mozart Classical Music Therapy* on the *Pulse of Premature Babies in the Perinatology Room at Banyumas Regional Hospital*. General Soedirman University, Faculty of Medicine and nursing sciences.
[35] Pahlawati, (2013). The Effect of Massage on the Sleep Duration of Babies Aged 3-6 months at the Pati Healthy Family Hospital. *Thesis*. Muhammadiyah University of Semarang.
[36] Pandiangan, T. B. (2020). The Effect of The Combination of Baby Gymnastics and Classical Music on Increasing the Sleep Duration of 3-Month-Old Babies in the Independent Practice of Midwife Siti Julaeha Pekanbaru City. *Thesis*. Obstetrics DIV Study Program of the Health Polytechnic of the Ministry of Health Riau. Riau.
[37] Purwaningrum, A. (2018). Effect of Music Therapy Time on Reducing Anxiety Levels in Preoperative Section Caesarea Patients in the Berslin Room of Madiun City Hospital. *Thesis.* Nursing Study Program Stikes Bakti Husada Mulia Madiun. Madiun.
[38] Primadita. (2014). *Effect of Music Therapy on Decreasing Levels of Postoperative Orif Pain at Kemayoran Hospital.* Jakarta: YB- PS Raf. 2004. *Insomnia and Sleep Disorders.* Jakarta: Elex Media Komputindo.
[39] Sekartini, R. (2012). *Baby Smart Books*. Bibliography. Jakarta.
[40] Loyaldi. (2013). *Concepts and Practices of Nursing Research Writing Edition* 2. Graha Science. Yogyakarta.
[41] Sinaga. (2013). Classical Music as an Alternative to Overcoming Sleep Disorders in Insomniacs. *Journal of Community Service* 19(72).
[42] Soedjatmiko. (2006). Baby Massage, how important? http//www.republika.com.httm. October 24, 2020 (23:45)
[43] Sulistyorini. (2014). *Effectiveness* of *Classical Music Therapy (Mozart) Against the Timing of Successful* Early *Breastfeeding Initiation and Duration of Infant Feeding. Masters's thesis*, Undip Postgraduate Program.
[44] Standley, J.M. (2000). *The effect* of *contingent music to increase non-nutritive sucking of premature infants*. Pediatr Nurs.
[45] Sugeng, H.M. (2019). An Overview of Children's Growth and Development in the Golden Period aged 0-24 Months in posyandu jatinangor district. *Journal of Health Systems* 4(2), 96-101.
[46] Sumarto, W. (2014). The Effect of Music Therapy on Open Reduction Preoperative Anxiety. *Thesis.* The University of Indonesia. Depok.
[47] Utomo. (2013). *Music Therapy as One of The Non-Pharmacological Drugs.* Let's Learn. Bandung.
[48] Van, D, H, M et al.(2016). *Do Hospitalized Premature Infants Benefit from Music Interventions? A Systematic Review of Randomized Controlled Trials. PLoS ONE* 11(9): e0161848. Doi: 10.1371/journal.pone.0161 848.
[49] Vina. (2010). *Sleep Quality Is Critical to Child Growth.* https://vinadanvani.wordpress.c om/2008/03/18/sleep-quality- very-important-for-growth-child/. 05 October 2020 (11:50)
[50] *WHO.* (2010). *World Health Statistics.* France. World Health Organization.
[51] Wahyuni, A. (2008). CHAPTER II Review Pustaka. http://diglib.unimus.ac.i d/files/disk1/III/jtptunimus-gdl-liariadian-5513-3- 3.pig-a. Pdf. October 24, 2020 (23:40)
[52] Widiyanti, M. (2008). The Relationship between Baby Massage and Sleep Patterns of Infants Aged 3–6 Months in Private Practice Midwife Mrs. Nurmusriah Kediri City. *Journal of Health*, 6(2): 79–83.
[53] Wong, F., & Indraningsih, E. (2011). *Smart Punktur.* Jakarta: Penebar Plus.
[54] Yulianeu, A., and Rahmayati, M. (2017). Expert system for determining complementary foods for breast milk in infants aged 6 months to 12 months using the forward method Chaining. *JUTEKIN* (*Journal of Informatics Engineering)*, *3*(2).
[55] Yuniarti, S. (2015). *Neonatal Growth* and Development Care of *Infants-Toddlers and Pre-School Children.* Aditama Refika. Bandung.
[56] Zablotsky, B., Black, I.L., Blumberg, J.S. (2017). *Estimated Prevalence of Children with Diagnosed Developmental Disabilities in the United States, 2014–2016.* Centers for Disease Control and Prevention: United States.
[57] Zero To Three. (2012). *Behavior & Development*. National Center for Infants, Toddlers & Families. Washington DC.
[58] Zuhrollaily, Z. (2015). Effectiveness of Classical Music on the Sleep Duration of Infants Aged 0-11 Months in Bpm Midwife "L" Kebun Stump Village, Gondang Mojokerto District. *Scientific Papers of the D3 Midwifery* program. Mojoker