The Influence of Baby Spa Toward Growth and Development Rough and Smooth Motoric Babies, Age 3 – 12 Months in the Subdistrict Lapongkoda Disrict of Tempe Wajo Regency

Een Kurnaesih[1], Ariesty AR [2], Masriadi[3]

[1]Associate Professor, Department of Midwifery, Faculty of Public Health, Universitas Muslim Indonesia, Makassar, [2]Practitioners Midwifery, Wajo Regency, Indonesia, [3]Associate Professor, Department of Epidemiology, Faculty of Public Health, Universitas Muslim Indonesia, Makassar

Abstract

Background. Baby Spa can fulfill three basic needs of babies that is physical needs biological needs, emotional needs, affection needs, stimulation needs. This baby massage contains touch substances such as affection voice or talking, eyes contract, action and spa. Baby spa is also one of stimulation substances which will stimulate structure development as well as the function of working the cores in brain. This research aims to analyze the influence of baby spa toward growth and development rough and smooth motoric babies who have age 3 – 12 months in the subdistrict Lapongkoda disrict of Tempe Wajo regency. **Material and Methods.** The type of research used was an quasi experiment study design. The sampling method uses simple random sampling. The study was conducted in July – August 2019. The number of sampling was 32 people. The population and research sample are babies in the subdistrict Lapongkoda disrict of Tempe Wajo regency. The data analysis technique used in this is T-test. **Results**. The result of research indicates that there are influences of babies weight growth after doing baby spa p (0,000) <p (0.05), influences of development rough motoric after doing baby spa p (0,000) <p (0.05), influences of development smooth motoric after doing baby spa p (0,000) <p (0.05). **Conclusion.** These findings showed growth and development motoric babies, age 3 – 12 months, can be improved by providing baby spa treatment. It is recommended that the Efforts that need to be considered for health workers are developing baby spa promotion and education as well as baby massage to baby's parents so that the needs regarding increasing baby's motor growth and development can be met.

***Keywords**: Baby Spa, growth, development, motoric, age*

Introduction

Baby spa (baby massage) is a new trend in caring for babies, baby spa has long been practiced to optimize the growth and development of infants. Growth and development are a process that is continuous, which starts from the baby in the womb until adulthood. [1], [2]

Age 3-12 months is a very important age for baby's development. This age is in the most rapid growth and development stage. Developmental movements occur in the brain as a center of intelligence, then in all sensory organs such as hearing, vision, smell, taste, touch and balance organs. Science and technology are advancing, and so are the areas of baby development and growth. The tradition of how to care for babies inherited by our ancestors turned out after scientific research proved to have many benefits. One tradition that has been proven to help the development of early infancy rapidly is infant massage. [2], [3], [4]

One of the developments in infants in the earliest days is motor development, which includes gross and fine motor skills. Coarse motor is body movements that use large muscles, 90% or all parts of the body affected

Corresponding author:
Een Kurnaesih
E-mail: een.kurnaesih@umi.ac.id

by maturity itself. Fine motor is a movement that uses fine muscles or certain parts of the body, which is influenced by the opportunity to learn and practice. The incidence of general developmental delay is not known with certainty, but it is estimated that around 1-3% of children under 6 years a general developmental delay. Monitoring the status of growth and development fell to 23.1% this is because Indonesia is making progress in the program. [5], [6], [7]

Overcoming the problems of growth and developmental disorders and motor delays, baby massages can be given a child's limbs to stimulate motor development so that its development is appropriate for its age, because infant massage can stimulate muscles, bones and organ systems to function optimally. The baby spa influences the development of gross motor skills of infants aged 6-9 months in My Baby Spa. At this time, especially in the region not knowing about baby spa treatments that can help in increasing the growth and development of their babies. 8], [9]

Material and Methods

The type of research used was an quasi experiment study design. The sampling method uses simple random sampling. The study was conducted in July – August 2019. The number of sampling was 32 people (the intervention group were 16 people and the control group were also 16 people). The population and research sample are babies in the subdistrict Lapongkoda disrict of Tempe Wajo regency. The data analysis technique used in this is Paired T-test.

Results

The data used in this study amounted to 32 people with ages 3-12 years in babies in the subdistrict Lapongkoda Disrict of Tempe Wajo regency with variable body weight, rough and smooth motoric. The results of these measurements can be seen in the following table

Table 1. Baby's Weight Before and After Baby Spa

Age (Months-Years)	Baby's Weight					
	Intervention (Baby Spa)			Control (Stimulation)		
	Pretest	Posttest	Percent	Pretest	Posttest	Percent
3	5000	6200	24	6700	6300	-5
4	6200	7000	12	6500	7100	9
5	6100	7000	14	7700	7900	2
5	6500	7300	12	6800	7200	5
6	7900	8500	7	8400	8000	-4
6	7300	7900	8	8100	8500	4
7	6600	7300	10	7200	7700	6
7	7400	8000	8	8900	8500	-4
8	7000	6800	-2	8800	8600	-2
8	8100	9000	11	8100	8100	0
9	9200	10500	14	8200	8500	3
9	9500	10800	13	9200	9000	-2
10	8600	10750	25	8700	9200	5
10	9200	10700	16	9700	9000	-7
11	10100	11000	8	9700	10000	3
12	9900	10700	8	10100	10400	2

Table 1 shows that 8.0% to 25.0% experienced weight gain, and -2% of infants lost weight (intervention group). Infants who gained weight with a total increase of 2.0 to 12.0%, and -2% to -7% experienced weight loss (control group).

Table 2. Growth, Rough and Smooth Motoric Development Before and After Baby Spa

Age (Months-Years)	Rough Motoric						Smooth Motoric					
	Intervention (Baby Spa			Control (Stimulation)			Intervention (Baby spa)			Control (Stimulation)		
	Pre Test	Post Test	Per Cent	Pre Test	Post test	Per cent	Pre Test	Post Test	Per cent	Pre test	Post test	Per Cent
3	1	2	25	1	1	0	2	2	0	1	1	0
4	2	3	25	2	2	0	1	2	50	1	1	0
5	2	3	25	2	2	0	1	2	50	1	2	1
5	3	4	25	2	2	0	1	2	50	1	2	1
6	3	4	25	1	1	0	2	3	25	1	1	0
6	3	4	25	1	1	0	3	4	25	2	2	0
7	3	4	25	1	1	0	4	4	0	1	1	0
7	2	3	25	2	3	25	2	2	0	2	2	0
8	3	4	25	2	3	25	3	4	25	3	3	0
8	3	3	0	3	4	25	3	4	25	4	4	0
9	3	3	0	1	2	25	1	2	50	3	3	0
9	2	3	25	2	2	0	1	2	50	3	3	0
10	2	3	25	2	3	25	1	2	50	1	1	0
10	2	3	25	1	1	0	1	2	50	2	2	0
11	2	3	25	3	3	0	1	2	50	2	2	0

Table 2 shows that there were 14 baby showing rough motoric improvement with a value of 25% and there were 2 infants who did not show gross motoric improvement, including 4 infants who showed gross motoric improvement (25%) and 12 infants who did not show rough motoric improvement (control group). 13 babies (1% -0.5%) who showed improvement in smooth motoric, 3 baby who did not show any change (intervention group), 2 baby (1%) who showed smooth motor and 14 baby who did not show Increased fine motor skills.

Table 3. Test Results Pretest- Posttest of Growth and Development of Baby

Variable		N	Mean	SD	SE	p value
Baby's Weight	Pretest	16	7787.5	1521.35	380.37	0.000
	Posttest	16	8715.63	1750.4	437.6	
Rough Motoric	Pretest	16	2.25	0.619	0.154	0.000
	Posttest	16	3.25	0.577	0.144	
Smooth Motoric	Pretest	16	2.37	0.957	0.239	0.000
	Posttest	16	3.19	0.981	0.245	

Table 3 shows that changes in infant weight gain, rough and smooth motorized pretest-posttest p (0,000) <p (0.05) which means that there is an effect of giving a baby spa on baby motoric growth and development.

Discussion

The results of research conducted in the subdistrict Lapongkoda disrict of Tempe Wajo regency, showed that the average baby given baby spa treatment or baby massage experienced an increase in body weight, and experienced an increase in the development of rough motoric and smooth motoric infants. Babies will learn new things through massage that requires a variety of touches given, the aroma of massage oil, to the communication with which the mother enters with him. Massage conducted during this research will stimulate the baby to produce substances in the brain that are very good for its development in the form of myelin. These substances function to regulate nerve impulses associated with the motor and sensory abilities of the baby for the better. [10], [11]

The results showed that in the intervention group that was given a baby spa, good weight growth (93.75%), babies who were given a baby spa in the form of massage and swimming babies experienced weight gain between (8.0%) to (25.0%) increase, whereas babies with underweight baby (6.25%). This is supported by the theory that baby massage is beneficial in increasing baby's growth, which is to increase body weight, where massage in infants can stimulate the baby's body to produce certain hormones or enzymes that ultimately form enzymes that will empty the stomach so that triggers hunger in infants, the more babies take breast milk the faster they gain weight.

The 47% of premature babies who received massage therapy actually experienced better weight gain when compared to premature babies who were not massaged at all. After a massage the blood circulation in the baby's body turns out to be smooth. Babies who have received baby spa treatment show more active rough and smooth motorized skills than before. Babies who initially show signs of immature rough motoric skills, after a baby spa treatment performed for a month showed perfect rough motoric skills. Baby spa treatments also respond to smooth motoric skills without the help of parents. [12]

The results of this study are in line with research by Susila I (2017) that the action of baby spa in the intervention group experienced a significant weight gain compared to the control group. This is caused by giving massage to the baby at least once a day can stimulate the vagus nerve which will stimulate intestinal peristalsis, so that it will accelerate emptying of the stomach, thereby stimulating the baby's appetite and the baby will quickly feel hungry. [13]

This statement is in accordance with the results of research conducted by Umi Kulsum (2014) that babies who are routinely massaged will have an increase in body weight of 4.11% compared to babies who have not been massaged. Ardiana. D (2013) explains that babies who are stimulated through touch or massage will experience vagus nerve tone (10th brain nerve) massage can stimulate increased levels of the enzyme absorption of gastrin and insulin which can increase body weight. [14], [15], [16]

Statistical results of the Paired T-test of the intervention group showed p (0,000) <p (0.05) so that it could be concluded that there was a significant effect on the gross motor babies of infants in spas. Massage can produce biochemical effects consisting of increased levels of serotonin which can produce physical effects in infants that produce an optimal increase that requires increased motor ability. Kusumastuti et al (2016) concluded that infants (3-6 months) who received a spa baby had better gross motor development compared to infants who did not get a massage. This is consistent with the results of research conducted by Budy, et al (2015). Indicates the development of the baby after the baby spa shows that the respondents increase the increase in rough motoric. Based on the facts of the study, descriptively it was seen that the baby spa gave priority to the development of special infants in rough motoric skills. [17], [18], [19], [20]

Research conducted by Wati (2017) shows that there is an effect of infant massage on rough motoric development in infants aged 3-4 months with a result of p (0.001) <p (0.05) in the baby's ability to crawl, lift his head and hold for more than one minute by raising head 45^{o}-90^{o}, the baby's ability from supine sleeping position then the head is raised to a sitting position, and the ability to roll or tilt toward the stomach. The

rough motoric development shown by the baby after being given a baby spa treatment is that the baby is more perfect raising his head, sitting faster, crawling and then sitting as he was in the original position, as well as when given a toy, the baby responds quickly when invited to play, the toy is released then searched and gives it to people the old. [21], [22]

Likewise in smooth motoric skills, babies tend to show friendly nature to researchers by smiling, looking at researchers as if they want to be invited to play, besides that some babies are also good at moving toys from one hand to another, babies are more focused looking at one the object in front of it.

The results of the Paired T-test of the intervention group showed that p (0,000) <p (0.05) showed that there was a significant effect on the smooth motoric of the baby after the baby spa was performed, indicating a good smooth motoric. The results of the Paired T-test of the control group showed p (0.164) <p (0.05) so that it can be concluded that there was no significant effect on the baby's smooth motoric.

Massage conducted regularly also affects the baby's smooth motoric movements, where massage can produce biochemical effects in the form of increased levels of serotin which can produce physical effects in infants in the form of optimal growth so that motor skills increase. This is in line with research by Kristianingsih A, Baniyah S et al (2017) which shows that babies who get baby massage have better motor development than babies who don't get baby massage. Spa babies on fine motor development in infants aged 3-6 months have a significant effect. The results of smooth motoric development in the intervention group experienced an increase in the number of infants that matched development at the time of the post test. [23]

Conclusion

These findings showed growth and development motoric babies, age 3 – 12 months, can be improved by providing baby spa treatment. It is recommended that the Efforts that need to be considered for health workers are developing baby spa promotion and education as well as baby massage to baby's parents so that the needs regarding increasing baby's motor growth and development can be met.

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Ethical Considerations: Ethical clearance was obtained from Institute of Health Science "Maluku Husada", Ambon, Indonesia; with number" RK.11/ KEPK/STIK/V/2019. Just before the interview, written (or thumb impression) consent was obtained from each participant in Institute of Health Science Ambon guidelines.

Conflicts of Interest: The authors alone are responsible for the views expressed in this article and they do not necessarily represent the views, decisions, or policies of the institutions with which they are affiliated.

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