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Original Article

THE EFFECT OF SWANDING ON THE MOTORIC DEVELOPMENT OF BABIES

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ABSTRACT

Giving swaddles has now become a tradition among Indonesian people, especially in Central Java. Until now, the scientific benefits of swaddling have not been known, but it can actually hinder motor development because from the time the baby is born until a certain age, the baby does not get the opportunity to move freely and does not receive movement stimulation from the environment. This research aims to determine the effect of swaddling on motor development in aged babies. The first months in Cibunigeulis Village, Bungursari District, Tasikmalaya Regency. Type of comparative descriptive research with a cross sectional research design. The population of this study was 54 people 3 month old babies in Cibunigeulis Village. Sampling was carried out using a total sampling technique, so the entire population was taken as the research sample. The research instrument used observation with DDST tools. The hypothesis test used was the independent t test. significance result of 0.000 ($p < 0.05$), so Ho was rejected so that there was an effect of swaddling on motor development in 3 month old babies in Cibunigeulis Village, Bungursari District, Tasikmalaya Regency. The longer the baby is swaddled, the more suspicious his motor development is, this is shown by the t value of -6.232.

INTRODUCTION

The aspect of child development is something that needs special attention for children, because this is an aspect that explains the process of a person's formation, both physically and psychosocially. Growth and development assessment aims to determine whether a child's growth and development is in the normal or abnormal category using various assessment aspects (Novianti et al., 2023)

The baby's physical growth and achievement of growth and development abilities occur rapidly during the first year. Child development includes various aspects, namely cognitive, language, emotional, social and motoric development. Motor development, which is an important aspect that needs attention, can be seen from the fine and gross motor skills that can be seen from neonates (Oktaviani et al., 2022).

Motor development in babies is influenced by several factors, one of which is culture. A culture in Indonesian society that is still developing today is giving swaddles to babies. So far, swaddling has become a tradition in our society, especially in Java. Swaddling is usually given by our society since new babies are born, but until now the benefits of swaddling have not been scientifically proven. While still a fetus, the dominant breathing movement is in the stomach area and after birth the dominant breathing movement is still in the stomach. Over time, the dominant breathing movement will be in the chest cavity. Using a swaddle, especially one that is too tight, will make the baby uncomfortable breathing (Huang et al., 2022).

Using a swaddle can also disrupt blood circulation because the heart's work in pumping blood becomes heavier, so that the baby often feels pain around the lungs or airways. Due to pressure on the body, swaddling can also hinder motor development because the baby's hands and feet do not have the opportunity to move freely (Agussafutri et al., 2023).

A phenomenon in society, especially in villages, swaddling is often associated with the formation of a baby's hands and feet.

According to orthopedic specialists, scientifically speaking, swaddling has nothing to do with leg formation. Since in the womb, there is not enough room for the baby to stretch his legs. The shape of a baby's legs when conceived is bent and at birth, but over time their growth and development will adjust to become straight.

METHOD

This research uses a comparative descriptive design, while the research design used is cross-sectional.The population of this study were 3 month old babies in Cibunigeulis Village. The total population was 56 babies during the period January-March 2024. The research sample used the method Total Sampling with observation with DDST sheets.

The process carried out in this bivariate analysis was to identify the length of time baby swaddles were used and the development patterns of each respondent. Baby development patterns are identified using DDST.

The data analysis used to process the data in this research includes univariate analysis and bivariate analysis. The statistical test used is test Independent t-test.

RESULTS

a. Analisis Univariate

Tabel 1

Distribution of Respondent

Variable	n	%
Gender		
Female	26	46,4
Male	30	53,6
Swaddling Frequency		
1-2 time/day	22	39,3
3-4 time/day	34	60,7

The Result Univariate Analysis		
Swaddled for a Long Time		
30 days	10	17,9
45 days	4	7,1
60 days	16	28,6
75 days	10	17,9
90 days	12	21,4
105 days	4	7,1
Motoric Development		
Normally	30	53,6
Suspect	26	46,4
Total	**56**	**100**

The results of the distribution of respondent data shown in graph 1 above show that the respondents who were female were 26 babies or 46.4% of the total. The number of respondents was 56 babies, while the rest were male with a total of 30 babies or 53.6%. The results of the distribution of respondent data shown in graph 2 above can be explained that based on the frequency of swaddling, it is known that 60.7% or 34 babies as respondents were swaddled 3-4 times a day and 22 babies or 39.3% were swaddled 1-2 times a day.

Results of distribution of babies as respondentsAs seen in table 1 above, it can be seen that 17.9% or 10 babies were swaddled for 30 days, 4 babies or 71.1% were swaddled for 45 days, 16 babies were swaddled for 60 days with a percentage size of amounted to 28.6%, 10 babies as respondents were swaddled for 75 days or 17.9%, 12 babies were swaddled for 90 days or 21.4% and 4 babies were swaddled for 105 days or 7.1%.

Results of distribution of babies as respondentsAs seen in table 2 above, it can be explained that based on motor development, it is known that 46.4% or 26 babies are developing normally and 30 babies are developing suspiciously with a percentage of 53.6%.

b. Analisis Bivariate

Tabel 2

Cross-tabulation of Swaddling Time with Development Motor

Long swaddle	Motoric Development				Amount	
	Normally		Suspect			
	n	%	n	%	n	%
30	10	17,9			10	17,9
45	4	7,1			4	7,1
60	12	21,4	4	7,1	16	28,6
75			10	17,9	10	17,9
90			12	21,4	12	21,4
105			4	7,1	4	7,1
Amount	**26**	**46,4**	**30**	**53,6**	**56**	**100**

Based on table 2 above, it shows for a duration of 30 days of swaddling, there were 10 babies who had normal motor development and for a period of 45 days of swaddling, there were 4 babies with normal motor development. The duration of swaddling was 60 days, there were 12 babies who had normal motor development and 4 babies had suspect motor development, then at the duration of swaddling of 75 days, all babies had suspect motor development, as many as 10 babies. All babies who were swaddled for 90 days had suspect motor development, as many as 12 babies and for the 105 days of swaddling, 4 babies had suspect motor development as well.

Tabel. 3

Independent Sample T test

Variable	t_{count}	Probability (Asymp. Sig)	Criteria	Conclusion
Long time Swaddling	-6,232	0,000	P < α (0.05)	There is influence

Based on results analysis data with Using the t test, it is known that the t-count for the duration of swaddling is -6.232. By comparing tcount and ttable it is known that -6.232 < -2.056, then the hypothesis Ho is rejected and Ha accepted means that

swaddling for a long time affects the baby's motor development.

DISCUSSION

From the age of 2 months the baby's muscles start to get stronger to carry out body movement activities such as extended legs, flexed arms, grasping and as time goes on they will start to kick, reach and lift the neck, the longer the baby is swaddled the less will be able to perform developmental tasks (Puspita & Umar, 2020)

This will result in motor development not being achieved on time or the baby will experience delays in motor development (Ulfa, 2018).

According to Sunarsih (2014), factors Whichinfluencing motor development include psychosocial factors such as stimulation and customs such as norms or taboos (swaddling to prevent club feet). Judging from psychosocial factors, with a swaddle wrapped around the baby's body, parents cannot stimulate the baby to move, this will hinder motoric development.

ForGetting optimal baby growth and development is not an easy thing. Growth and development disorders can occur as a result of abnormalities in one or more of the factors above. As a result, the baby will experience delays in motor development. This deviation can occur from mild to severe which is caused by, among other things, the limitedincreased activity or mobility (Rouaz et al., 2021).

Babies must always provide movement stimulation to babies so that babies can grow and develop optimally. Baby's motor skills can be stimulated by providing games and picturescolored ones so babies can reach and grab them hold it.
Customary factors such as the belief thatThat babies are swaddled so they don't have club feet is wrong and it's a myth that many parents already believe. According to Novita (2007), swaddling is not a device to straighten the legs but is just a way to prevent babies from getting cold. Without being swaddled, the baby's legs will straighten when it's time. Newborn babies are not straight, they look like shapes. This condition is very normal and will last until the age of 3 years. Then, between 3 years and 6 years, it actually takes an X shape. After 6–7 year the legs will become straight. This is confirmed by the Indonesian Pediatrician Association (2010) which states that a baby's legs are bent in the womb but after birth they will adjust to be straight as their growth progresses, however there are also many deviations orThe deviation in the shape of the legs cannot be straight but some are slightly X or O but that is not because the baby is not swaddled.

Facts show that wearing a swaddle has absolutely nothing to do with the formation of a baby's feet. All newborn babies' legs are crooked because there is not enough room in the stomach for the baby to straighten his legs, so when the baby is born his legs are still crooked, especially in countries that get enough sunlight, like Indonesia, there are no legs. X or O, there are people suffering from X or O legs due to disease in the parathyroid glands (de Melo et al., 2022)

Apart from giving swaddling, it turns out that motor development is also influenced bynutrition. This matterproven from research. Many studies explain the influence of nutrition on gross motor development. Levitsky and Strupp in their research on mice revealed that malnutrition causes functional isolationism 'self-isolation', namely maintaining not expending a lot of energy (conserve energy) by reducing social interaction, activity, exploratory behavior, attention and motivation. The application of this theory to humans is that - in a state of lack of energy and protein (KEP), children become inactive, apathetic, passive, and unable to concentrate. As a result, children are only able to explore the physical environment around them for a short time compared to children who are well-nourished, who are

able to do it for a longer time. The results of the research show that nutritional status influences children's intelligence and gross motor development. Adequate nutrition can increase intelligence and gross motor development in children, while insufficient nutrition can slow down intelligence and gross motor development in children Another factor that influences baby's motor development is also stated by research by Kholifah (2014) which shows that fine and gross motor development is influenced by breastfeeding. The immunoglobulin content in breast milk can provide protection against disease, so that babies do not get sick easily and can develop and move optimally. If the nutrition from breast milk is lacking then the baby's muscle maturity will be disrupted and this will affect development.motor development (Puspita & Umar, 2020)

Sunarsih (2012) defines swaddling as a cloth wrap given to a baby, while swaddling (swaddling) is the practice of wrapping a baby in cloth. Swaddling can make the baby calmer, warmer and less likely to move. Usually babies are swaddled for 6 weeks, after that swaddling is not necessary so that the baby can freely play with his hands.

Until now, the benefits of swaddling have not been scientifically proven, in fact swaddling will limit the baby's movements, his hands and feet will not have much opportunity to move freely, which will hinder his motor development (Toma et al., 2021).

The baby finds it difficult to moveBecause the legs and arms are tied in a swaddle, by swaddling the baby will also receive less movement stimulants from the environment, so brain development is slow. Growth and development according to Fitri (2014) includes two things that are different but interrelated. Growth is a change in the number, size or dimensions at the cell, organ or individual level, which can be measured by weight. Meanwhile, development is increasing internal abilities (skills).structure andmore complex body functions in a regular pattern as a result of the maturation process (Wulandari, 2024). Gross motor skills are body movements that use large muscles or most or all of the body parts which are influenced by the child's own maturity. Encourage children to run, jump, stand on one leg, climb, play ball, ride a tricycle. Motor development is the development and movement controlphysical through the coordinated activities of nerve centers, nerves and muscles (Huang et al., 2022). Based on the understanding above, it ca
n be concluded that the motor development of children aged over 3 months is a physical ability possessed by children aged over 3 months in accordance with the maturity of the child's age where the child is able to balance and coordinate between body parts using large muscles in the body to produce body movement.

The Indonesian Pediatrician Association (2010) stated that from several motor development studies they observed, there were five principles of gross motor development. There are five principles of gross motor development, namely gross motor development depends on muscle and nerve maturity; continuous development; motor development has a predictable pattern; primitive reflexes will disappear and be replaced by conscious movements; The child's gross motor development is assessed from the child's gross motor skills (Wasiah & Artamevia, 2021)

Factors that influence motor development according to Kholifah (2014)namely genetic factors,environmental factors, psychosocial factors such as stimulation, and family factors and customs such as norms, taboos (swaddling to prevent club feet) (Rintiani et al., 2022) .

A baby is a child born with a gestational age of 37 weeks to 42 weeks,

with a birth weight of 2500 grams to 4000 grams.grams. Infancy is also called a vital period, because the baby's physical and mental condition becomes a solid foundation for further development and growth. This period saw a very rapid growth process. Healthy newborn babies will quickly learn to adapt to their environment and carry out certain developmental tasks. The task of carrying out activities must be practiced every time so that the baby is able to adapt socially (Puspita & Umar, 2020).

After birth, it is not long before the young baby will show typical behavior, the baby quickly shows responsiveness to various objects and people around him. Babies also display various nuances of feelings in response to external stimuli (Oktaviani et al., 2022).

CONCLUSIONS AND RECOMMENDATION

There is an effect of the duration of swaddling on the baby's motor development. The longer a baby is swaddled, the more abnormal his motor development becomes. It is hoped that the public, when it comes to swaddling babies, is allowed to swaddle babies, with the aim of providing a feeling of warmth, not to limit the baby's movement

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