

The Effectiveness of Brain Gym on the Development of Preschool are being Hospitalized

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Article

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Abstract

Brain exercise can improve children's learning abilities because brain exercise encourages a balance of brain activity. By brain exercise, children will perform movements that are able to encourage the body's work system so that affects to the children's development. Brain gym was pioneered by Paul Dennison with the aim of overcoming learning difficulties. to determine the effectiveness of the brain gym on development of hospitalized preschool children. This research method used a quasi experimental design with pre and post test methods. The population were 32 respondents aged 66-72 months using purposive sampling method. Data analysis used paired-t test and SPSS application. the results of observations before the brain gym intervention were mostly 20 (63.3%) children preschool have less development when adjusted to their developmental age. After the brain gym intervention almost 26 (81.25%) respondents. an increase in development which includes: personal social, language skills, fine motor and gross motor skills. The results of the paired-t test showed p value = (0.000) giving brain gym therapy to the development of preschool children who were treated at Ungaran Hospital. Conclusion: Brain gym is very practical, because it can be practise anywhere, anytime by anyone, including babies. The right portion of exercise is about 10-15 minutes, 2-3 times a day.

Abstrak

Senam otak dapat meningkatkan kemampuan belajar anak karena senam otak ini mendorong keseimbangan aktivitas otak. Dengan adanya senam otak maka anak akan melakukan gerakan-gerakan yang mampu mendorong sistem kerja tubuh sehingga mempengaruhi perkembangan pada anak. *Brain gym* dipelopori oleh Paul Dennison dengan tujuan untuk mengatasi kesulitan belajar. untuk mengetahui efektifitas *brain gym* terhadap perkembangan akibat hospitalisasi pada anak usia prasekolah yang dirawat di rumah sakit. Metode penelitian ini menggunakan desain *quasi eksperimental* dengan metode *pre and post test*. Populasi dalam peneliti ini sebanyak 32 responden usia 66-72 bulan dengan penentuan sampel purposif sampel. Analisis data

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digunakan uji *paired t test* dan digunakan aplikasi SPSS. hasil observasi sebelum dilakukan intervensi brain gym sebagian besar 20 (63,3%) anak prasekolah yang menjadi responden memiliki perkembangan yang kurang jika disesuaikan dengan usia perkembangannya. setelah dilakukan intervensi brain gym hampir seluruhnya 26 (81,25%) responden. Mengalami peningkatan pada perkembangan yang meliputi: personal sosial, kemampuan bahasa, motorik halus dan motorik kasar. Hasil uji *paired-t test* didapatkan *p value*= (0,000) pemberian terapi *brain gym* terhadap perkembangan anak prasekolah yang dirawat di RSUD Ungaran. *Brain gym* sangat praktis, karena bisa dilakukan di mana saja, kapan saja oleh siapa saja termasuk bayi. Porsilatihan yang tepat sekitar 10-15 menit, sebanyak 2-3 kali dalam sehari.

Introduction

According to the Child Health Profile (2012), Indonesia's children morbidity rate was 16.12%. By the gender, the percentage of children who were sick there was no significant difference between boys and girls, 16.28% for boys and 15.95% girls. The rate of children visits to government hospitals was 3.65% and private hospitals was 3.39%. From the amount of children who were sick they have to hospitalize (hospitalization). Hospitalization and caring process can be stressful for children. Hospitalization for children is a stressful experience, both for the child and the parents. The numbers of stressors experienced by children when undergoing hospitalization has a negative impact that interferes with children's development. In line with the increasing number of children who were hospitalized recently, there is a risk of an increase in the population of children with developmental disorders. Children are a very vulnerable population, especially when they faced with stressful situations. Today, the condition of children who are hospitalized were experiencing more serious and complex problems than the incidence of hospitalization in previous years. There are challenges that children have to face, such as dealing with a separation, adjusting to an unfamiliar environment, adjusting to the many people who care for them, and often having to relate and

associate with other sick children and experienced painful therapy.

One activity that uses a lot of muscles is brain exercise or better known as the brain gym. Brain gym is a series of simple range of motion exercises to facilitate learning activities and adjustment to daily demands. Many people find it helpful to release stress, clear their minds, improve memory, and so on (Gunadi, 2009). Aprilasari, M & Yati, D, (2017) applying a brain gym to improve the cognitive development of children aged 4-6 years at the Marsudi Putro Kindergarten, Yogyakarta, it turns out that the brain gym is very effective in improving the cognitive abilities of children aged 4-6 years. The results of research conducted by Pramita, I & Diaris, N.M (2020) regarding the stimulation of Brain Gym in PAUD children that the increase in the application of the brain gym in the learning process. In addition, based on interviews with teachers, it is known that children's concentration levels increase after brain gym training. Based on the results of research on brain gymnastics and the number of preschool-aged children undergoing hospitalization.

This study aims to determine the effectiveness of the brain gym on the development of is to improve the skills of nurses with brain exercises so that it can be applied in providing nursing care



to children to reduce developmental delays.

Method

This research is a study used quasi-experimental design with pre and post test methods. This research was carried out in Ungaran General Hospital. The population in this study were all preschool children aged 66 months-72 months who were treated at the Ungaran Hospital. The sampling technique was carried out by purposive sampling method as many as 32 children.

Children development was measured using a pre-screening questionnaire on child development, which consisted of an assessment of child development in 4 development sectors, namely: gross motor, fine motor, speech/language and socialization/independence.

In this study, data collection techniques used observation techniques, namely by observing and recording systematically the symptoms that appeared on the object of research carried out after being given

brain gym therapy. The data analyze used paired-t test and used computerized assistance application SPSS program (Statistical Product Service Solution). The level of significance is 95% ($\alpha = 0.05$).

Results and Discussion

Characteristics of respondents:

Based on table 1. it is known that from 32 preschool children who became respondents there were 22 respondents (69%) in the 66 month age group and 10 respondents (33%) in the 72 month age group. From the results of observations before the brain gym intervention was carried out, most of the 20 (63.3%) preschool children who were respondents had less development if they were adjusted to their developmental age. after the brain gym intervention, almost 6 (81.25%) respondents. Experiencing an increase in development which includes: personal social, language skills, fine motor and gross motor skills. The results of the paired t test obtained p value = (0.000).

Table 1. Distribution of respondents based on the age of preschool children who were treated at Ungaran Hospital in May-June 2018

Age	F	Percentage (%)
66 month	22	69
72 month	10	31

Table 5.2 Distribution of respondents by gender and experience of being cared for by preschool children who were treated at Ungaran Hospital in May-June 2018

No	Variable	(N=32)	%	P Value
1	<u>Gender</u>			
	a. male	21	37.5%	0.000
	b. female	27	62,5%	
	Total	32	100%	
2	<u>experience of being cared</u>			
	a.once	15	46.88%	0.001
	b.never	17	53.12%	
	Total	32	100%	

Table 5.3 Early and late child development after brain gym on preschool children treated at Ungaran Hospital in May-June 2018

Before



Variable	N=32	Percentage (%)
Less	20	62
Good	12	38
After		
less	7	21
good	25	79

Table 5.4 The effect of giving therapy to the gym on the development of preschool children treated at the Ungaran Hospital in May-June 2018

Variable	Passed	Failure	Doesn't do activity	Total	P value
	(n)	(n)	(n)	(n) %	
<i>Brain intervention</i>					
before	11	21	0	32	0,000
after	26	6	0	32	

The results of the analysis showed that before the intervention of brain gym therapy there were 21 children who have failure experienced at the age level when the children was being treated at the hospital. After the intervention in the form of a brain gym there was an increase in the results of 32 children who underwent therapy there were 26 children who passed. It can be concluded that brain gym therapy is effective for improving development in preschool children who are being treated at the hospital. The indicators of brain gym movement are more on physical motor, cognitive, social emotional development in preschool age children, but with the benefits of brain gym optimizing brain performance, children will be quick to understand the learning process, especially in capturing religious and moral lessons. Brain gym or brain exercise is a simple movement of the body that can stimulate the brain to optimize and balance the right and left brain, providing benefits for both the brain and body. Brains exercises performed by child development. The motoric development of children at the age of 4 years can be seen in the motor

skills of children who are starting to progress and their movements are faster. This shows more often practicing brain exercise (Brain Gym), the children's gross motor development will be better. In a hospital environment, play and other expressive activities provide as many opportunities as possible for children to make choices to release their fear and anxiety which had experienced as a coping tool in dealing with stress (Wong, et al., 2013). Release of tension can be facilitated through many activities, and for young children who are ambulated, activities that use multiple muscles are especially beneficial. Brain exercise is a simple movement (dynamic and cross body movements) that is fun to improve children's abilities and reduce development, stress and depression, which is packaged through playing media, so that they can appreciate all forms of movement using the whole brain (Dennison, 2010). 2009). By brain exercise that is packaged with a play approach to child development because hospitalization is reduced. Brain exercise will provide relaxation to children so that children get physical and psychological comfort which is expected to provide



environmental and social comfort as well. The expected comfort is comfort in the relief taxonomic structure, namely the reduced discomfort status they have (Kolcaba & DiMarco, 2011).

Development has successive stages. This stage is passed by a child following a regular and sequential pattern, these stages cannot be reversed, for example the child is first able to make a circle before being able to make a picture of a box, stand before walking, and so on. Thus, it would be better if children who often do brain gym movements are given step by step so that the child's abilities are in accordance with their development and age (IDAI, 2015). Therefore, it is necessary for instructors who can pay attention to children during the movements performed (Decaprio, 2013).

Conclusion and Suggestions

Based on the results of research conducted on 32 children who were observed before the intervention of brain gym therapy was carried out, most of the 21 children experienced failure in development, especially in the ability of the gross motor system. After the intervention of brain gym therapy, almost 81.25% of preschool children were treated at the Ungaran Hospital passed in development screening.

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