

Effectiveness of the Combination of Jumping and Throwing Games: “Catch the Ball” on the Development of Gross Motor Skills in Preschool Children

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Abstract: The 2018 Basic Health Research (Riskesdas) results showed that the percentage of children with impaired gross motor development in Indonesia was 12.4% and that of fine motor development was 9.8%. The achievement of children's motor development in Central Java according to Riskesdas data in 2018, reached 98.4% [1]. Activities that can stimulate abilities are needed to improve gross motor skills, for example, by providing stimulation. The purpose of this study was to determine the effect of stimulation with a combination of jumping games and throwing catching balls on gross motor development in preschool children in kindergarten class A KBIT-TKIT As Salaam Mijen. This type of research is a Quasy-experiment with a one group pretest-posttest design. The population in this study were all children in the kindergarten A class of KBIT-TKIT As Salaam, Mijen District, Semarang City, totaling 65 people. Data collection was done by filling out the gross motor assessment observation sheet. Data analysis in this study used the Willcoxon test. The results showed that the average value of gross motor before being given a combination of jumping games and throwing the ball was 9.26 and after being given the average value was 9.68. From these results, it shows that there is an increase in the average value of 0.42. After the Willcoxon test, it can be concluded that there is an effect of a combination of jumping games and throwing catching the ball on gross motor skills with a p value = 0.000. For parents are expected to be able to better understand children's development, especially gross motor development and be able to provide stimulation to children so that there are no disruptions or delays in children's gross motor development.

Keywords: Combination of Jumping and Throwing Games Catch the Ball, Development of Gross Motor, Preschool Children

INTRODUCTION

Childhood is a time when optimal development occurs. During preschool, children are in the golden age of human development because at that time development occurs. Physical and non-physical will develop optimally. Age 0-5 years are often referred to as the “golden age” And “critical age”. In the “golden age” period children's brains experience rapid development. Moment age two years, size a child's brain is 75% of an adult's brain, and by the age of five, the brain size reaches around 90% of an adult's brain (Suhartanti et al., 2019).

In the development of preschool children, what is very important to pay attention to and develop is the child's motor development, because the motor aspect is used as a basis for individuals to achieve maturity in several other aspects of development, and is also useful for children in carrying out activities at school. Like Study And play (Yunia et al., 2017). Some researchers argue that motor and cognitive development are closely related. The

relationship between motor development and cognitive development has underpinned fundamental theories of child development. Motor and cognitive development are related through “thinking with body movement” (Veldman et al., 2019).

If there is a delay or disruption to development motor rough will impact on several other aspects. First, the child will experience cognitive disorders, this is due to development Normal cognitive development will be formed when children have the opportunity to actively explore their environment. Impact otherwise, if a child experiences gross motor development disorders, the child will have a less developed mental state, because If the child play And moves with friend and peers He will be capable adapt yourself with your surroundings. This will of course increase flavor believe self child. Training gross motor skills in children is the same as helping to balance the performance of the right and left hemispheres of the brain in children (Mahmud, 2018).

One of the factors that often occurs and will affect the overall development of children is the delay in gross motor development in children. This is a serious problem and needs to be addressed as soon as possible. Reason gross motor development delays usually happen Because lack of chance children to learn motor development, and the lack of interest child For study (Kristiana, 2018). The World Health Organization (WHO) in 2018 stated that the prevalence data for toddlers experiencing growth and development disorders was 28.7%. Indonesia ranks third with the highest prevalence in the Southeast Asia/Southeast Asia Regional (SEAR) region (Wardani et al., 2022). According to UNICEF in 2015, data was obtained on the still high incidence of growth and development disorders in toddlers, especially developmental disorders. Motor obtained (27.5%) or 3 million children experience disorders (Tama & Handayani, 2021). Based on the results of the Basic Health Research (Riskesdas) 2018, show that the percentage of children experiencing disorders in gross motor development in Indonesia by 12.4%, and motor development fine as big as 9.8%. Data this shows that child Which experience Motor development disorders are still a health problem public (Amra et al., 2023). According to the Central Java Provincial Health Office, in 2018, toddlers and preschool children who had been well stimulated and did not experience deviations were 89.21%, which means that 10.79% of toddlers in Central Java still experienced deviations and also not well stimulated (Idhayanti et al., 2023). For the achievement of development motor child in Java Middle According to 2018 Riskesdas data, it reached 98.4% (Indonesian Ministry of Health, 2018). Based on the preliminary study that has been conducted in KBIT-TKIT US Regards, after Interviews were conducted with teachers there, there were several children who were lacking in motoric aspects. After an assessment was carried out using questions on sheet KPSP, there is 3 child from 15 children Which its development doubtful And Not yet can perform gross motor skills such as maintaining balance when standing on one leg, and the child still looks hesitant when doing so movement jump.

One of the games that children often play and enjoy is throwing and catching a ball. The stimulation that needs to be done can be done For practice motor rough is encourage children to run, jump, stand on one leg, climb, play ball, ride a tricycle (Ministry of Health Republic of Indonesia, 2016). Throw And catching the ball can help improve gross motor skills child. Besides That, For increasebalance of the child's body, educators or parents

can use activities such as throwing balls, catching balls ball, And walk in on bridge (Yuliani et al., 2021). Games that use ball media are Throw and catch the ball, the game of throwing and catching the ball is often played by young children with the aim of training motor skills. The ball used in this game is a small or large ball. When playing throw and catch the ball, good coordination is needed between eye, hand and also child's feet. The movement of throwing and catching the ball is useful for training balance in children. Children will have an effort not to fall when throwing and catching the ball, and children will also practice so that the throws they make are right on target. In addition, children will try to be able to catch ball Which directed to him (Siregar et al., 2020).

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Jumping and throwing and catching games can be one of the games that function as learning media. This game can be an activity that stimulates the development of gross motor skills in children. Jumping movements will train balance and strength. muscles Which on foot child. Other as with movement throw and catch, this movement will practice dexterity child on part the muscles in the hands. If these movements are combined they will become a unified movement that will functioning practice muscle on foot And also the child's hands. Training large muscle movements is the same with practice in development children's gross motor skills.

METHOD

Study This use design Quasi Experiment design research , namely using an experimental research design that has the following characteristics: research sample No taken randomly, there is no comparison group to the group given treatment. With the design used is One Group PreTest–PostTest Design. This research was conducted at KBIT-TKIT As Salaam, Mijen District, Semarang City in January – February 2024. Population in study This is all child in class Kindergarten A KBIT-TKIT US Salaam, Mijen District, Semarang City, totaling 65 people. Sampling in the study This method uses a total sampling method with a sample size of 65 respondents. The sample criteria are preschool children aged 48-60 months. Univariate analysis data are the frequency distribution and percentage of gross motor development in preschool children before and after the intervention of a combination of jumping and throwing and catching games. In addition to the frequency distribution and percentage of gross motor development, in the univariate analysis Also explain about distribution ability value motor rough child preschool before and after being given a combination of jumping and throwing and catching ball games which include the minimum, maximum, mean, and standard deviation values of these values. Furthermore, bivariate analysis using test Willcoxon with mark

p- value< 0.05. The management of this study has been registered with the ethics committee with No. 0167/EA/KEPK/2024.

RESULTS

This study used 1 group without a control group. Before the combination of jumping and throwing and catching games was given, the researcher measured the respondents' gross motor skills, then the researcher provided intervention with a combination of jumping and throwing and catching games.

Table 1. Frequency and Percentage Distribution of Gross Motor Development in Preschool Children Before and After Intervention Results

Development	Pretest		Posttest	
	Frequenc y	Presentation (%)	Frequenc y	Presentation (%)
Normal	51	78.46	63	96.92
Doubtful	14	21.54	2	3.08
Abnormal	0	0	0	0
Amount	65	100	65	100

On table 1. show that before it is done intervention with combination In the game of jumping and throwing and catching the ball, there were 51 (78.46%) children in the normal category, and 14 (21.54%) children in the doubtful category. After being given intervention with a combination of jumping and throwing and catching the ball, there were 63 (96.92%) children in the normal category, and 2 (3.08%) children in the doubtful category regarding gross motor development. It can be concluded that there was an increase of 12 (18.46%) in the normal category and a decrease of 12 (18.46%) in the doubtful category. There are 2 children still in the category doubtful after done intervention. Based on the researcher's observations during the intervention, the 2 children were less focused when doing the jumping movement. In addition, they also did the jumping movement incorrectly, not following the directions that had been given.

Table 2. Distribution of Gross Motor Skills Values of Preschool Children Before and After Receiving a Combination of Jumping, Throwing, and Catching Ball Games

	N	Minimum	Maximum	Mean	Std. Deviation
Mark Pretest	65	7	10	9.26	0.906
Mark Posttest	65	8	10	9.68	0.533
Valid N (listwise)	65				

In table 2 gross motor skills in KBIT-TKIT As Salaam, Mijen in class TK A before being given a combination of games jumping and throwing and catching the ball, the average value obtained was 9.26 with a minimum value of 7, a maximum value of 10 and a standard deviation of 0.906. After being given a combination of jumping and

throwing games catch ball, obtained mark average 9.68 with a minimum value of 8, a maximum value of 10 and a standard deviation of 0.533.

Table 3. Wilcoxon Gross Motor Skills Test Results Before and After Giving a Combination of Jumping and Throwing and Catching Ball Games to Preschool Children

<i>Test Statistics</i>	
Nilai pretest-posttes Motorik Kasar	
Z	-4.838 ^b
Asymp. Sig. (2-tailed)	.000

In table 3. show The results of the analysis using the Willcoxon test obtained an Asymp. Sig. (2-tailed) value of 0.000. This value can be said to be below 0.05 or called Sig. $0.000 < 0.05$ then H_a is accepted. It can be concluded that there is a difference in gross motor development in preschool children before and after being given stimulation with a combination of jumping and throwing and catching games in preschool children (there is an effect).

There was an increase in the average value of gross motor skills in children by 0.42. One of the activities that improves gross motor skills in children is jumping. Jumping is an activity that will train coordination between eye, strength muscles big on foot and balance in children (Arwih, 2022). Apart from jumping, activity throw And catch ball too can help increase gross motor development in children. When throwing and catching the ball, children will learn to maintain balance so as not to fall, and there will also be coordination between hand muscle strength and balance in the feet (Siregar et al., 2020).

In general general, activity jump And Throwing and catching the ball is useful for training development motor rough on the child. The combination of both will train concentration, balance and also train the strength of large muscles in the child's legs and hands. With the stimulation using the game, the child's motor development can develop well.

DISCUSSION

In this study, the data normality test used the Kolmogorov-Smirnov test because sample Which used amount to 65. Based on results test normality on table 4.3 the results obtained were that the p value was 0.000 ($p \text{ value} \leq 0.05$), so that can concluded data in research This distribution not normal, thus can to be continued with test Willcoxon . Based on the results of the analysis using the Willcoxon test obtained mark Asymp. Sig. (2-tailed) of 0,000 . Mark the can said below 0.05 or called Sig. $0,000 < 0.05$ then H_a accepted. Can concluded that There is a difference development motor rough in children preschool before And after given

stimulation with combination game jump and throw catch ball on child preschool (there is influence).

After knowing the results of the data processing, can it is said that there is an increase in the number of children in the normal category and also a decrease in the number of children in the doubtful category. This proves that the combination of jumping and throwing and catching games can increase children's abilities, especially in activities that use large muscles. The interventions that have been carried out train children more agile And has succeed improve the development of preschool children, especially gross motor skills.

The results of this study are in line with research conducted by (Sopiyatul et al., 2023) which concluded that games involving throwing and catching balls have contributed to increasing gross motor development in children, which means that the game of throwing and catching the ball is successful in encouraging this development. In addition, there is also a study conducted by (Wiranti & Mawarti, 2018) entitled the effectiveness of the hopscotch game in developing ability motor rough early childhood. In the game of hopscotch, there is certainly an element of jumping, the results of the study are that there is an influence of the game of hopscotch to motor rough child with Sig. result (2 tailed) $0.000 < 0.05$ which means H_a accepted and H_o rejected.

Playing is a world for children. Playing can become Wrong One method child to express themselves. When playing, a feeling of joy will appear in children, children will also get many opportunities to master many things, namely knowing the rules of the game, socializing, control emotions, learn to work together, and uphold sportsmanship (Masganti, 2021). In addition, children can develop themselves, especially in the development of gross motor skills and fine motor skills. Games can be a form of stimulation for their growth and development (Hayati & Putro, 2021). Children's ability to jump, throw and catch balls are abilities that must be mastered in the development of gross motor skills in children (Ulfiana, 2018).

Overall, gross motor skills are very important for children's growth and development during growth. For that, there needs to be stimulation by parents, for example by playing. Playing is an activity that is loved by children. Of course it will be more beneficial when the game has an impact on growth. Jumping and throwing and catching balls are games that will help children in coordinating hand and leg muscles. This is a value that adds to children's gross motor skills.

CONCLUSION

The results of the study from 65 respondents showed that difference Which significant on gross motor skills before and after being given a combination of jumping and throwing and catching ball games on child preschool with obtained mark Sig. of $0.000 (<0.05)$. There was an increase in gross motor skills in preschool children with an average value before being given a combination of games. jump and throw catch ball was 9.26 and the average value after being given a combination of jumping and throwing and catching games increased to 9.68.

Conflict of Interest

The author(s) declare that they have no conflict of interest.

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