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Traditional game therapy: does it have any effect on the motor ability of children with special needs?

Terapia tradycyjnymi zabawami sportowymi: czy wpływa na zdolności motoryczne dzieci z specjalnymi potrzebami?

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Abstract

The study purpose of this study aims to determine the influence of traditional sports therapy on improving the motor skills of children with special needs. The population of this study is all students of special needs school Sukoharjo and Karanganyar Central Java Province, Indonesia, while the sample of this study is SLBN Sukoharjo and Karanganyar students of as many as 30 people. Research sampling techniques use purposive sampling.

Materials and methods. The data collection technique in this study through a special needs motory ability test consisted of a zigzag run test, softball throw, wall pass, medicine ball-putt, and a 30-meter run. Quasi method experiments with quantitative approaches were used in this study, while the study's constellation uses the design of two group pretest and posttest design. Data analysis techniques use descriptive statistics and inferential statistics. Descriptive analysis aims to describe the characteristics of this study whereas inferential analysis uses paired test analysis at a significant level $\alpha = 0.05$, overall, the data analysis is used in the SPSS program version 25.0.

Results. The results of this study can be argued that traditional sports game therapy can improve the motor skills of children with special needs. However, this study is only limited to knowing the motor skills of children with special needs in special needs school Karanganyar and Sukoharjo. It is recommended for further research by considering psychological, psychosocial, and other factors with improved physical fitness in children with special needs as a whole.

Conclusions. This research can be concluded that there is an influence of traditional game therapy on the improvement of motor skills of children with special needs in special needs school Sukoharjo and Karanganyar.

Keywords

Traditional games, motor skills, children with special needs

Streszczenie

Celem niniejszego badania jest określenie wpływu terapii tradycyjnymi sportami na poprawę zdolności motorycznych dzieci z specjalnymi potrzebami. Populacja tego badania to wszyscy uczniowie szkoły dla dzieci ze specjalnymi potrzebami w Sukoharjo i Karanganyar w prowincji Centralna Jawa, Indonezja, natomiast próbka badania to uczniowie SLBN Sukoharjo i Karanganyar w liczbie 30 osób. Techniki pobierania próbek badawczych wykorzystują dobór celowy. Materiały i metody. Technika zbierania danych w tym badaniu przez test zdolności motorycznych osób z specjalnymi potrzebami składała się z testu biegu zygzakiem, rzutu piłką miękką, gra na ścianę, pchnięcia piłką lekarską oraz biegu na 30 metrów. W badaniu wykorzystano eksperymenty kwazi-metodyczne z kwantytatywnym podejściem, natomiast konstelacja badania wykorzystuje projekt dwugrupowego pretestu i posttestu. Techniki analizy danych wykorzystują statystykę opisową i wnioskującą. Analiza opisowa ma na celu opisanie charakterystyk tego badania, natomiast analiza wnioskowania wykorzystuje sparowany test analizy na poziomie znaczącym $\alpha = 0,05$, ogólnie analizę danych przeprowadzono w programie SPSS wersji 25.0.

Wyniki. Wyniki tego badania świadczą, że terapia tradycyjnymi grami sportowymi może poprawić zdolności motoryczne dzieci z specjalnymi potrzebami. Jednakże, to badanie ogranicza się tylko do poznania zdolności motorycznych dzieci z specjalnymi potrzebami w szkole dla potrzeb specjalnych Karanganyar i Sukoharjo. Zaleca się dalsze badania z uwzględnieniem czynników psychologicznych, psychospołecznych i innych wraz z poprawą kondycji fizycznej u dzieci ze specjalnymi potrzebami jako całości.

Wnioski. Niniejsze badanie można podsumować stwierdzeniem, że istnieje wpływ terapii tradycyjnymi grami na poprawę zdolności motorycznych dzieci z specjalnymi potrzebami w szkole dla potrzeb specjalnych Sukoharjo i Karanganyar.

Słowa kluczowe

tradycyjne gry sportowe, zdolności motoryczne, dzieci z specjalnymi potrzebami

Introduction

In today's modern era, many children prefer sophisticated technology compared to traditional games, this will have an impact on social interaction and character in children [1]. Traditional games are physical activities that are unique compared to other sports. Obstacles that often occur in learning traditional games are the lack of creativity of teachers in designing games or modifying traditional games to be easier, fun, and safe which does not cause students to get bored quickly, and teachers also rarely provide traditional games during learning activities, even though with traditional games one way to build student character. When playing, children feel happy, indirectly this feeling of pleasure is a medium for children to learn the development of sportsmanship, honesty, tenacity, patience, and other motor skills. And no less important is the ability to work together in a team game, which children will need when they grow up in the world of work. Special education is education for students who have difficulty participating in the learning process due to physical, emotional, mental, social, and/or potential intelligence and special talents.

Traditional games were very popular before technology entered Indonesia. Children especially at the elementary school level play using a potty tool [2 – 4]. But now, they have played with technology-based games from abroad and have started to leave traditional toys. Along with the changing times, traditional games are slowly disappearing, even though many children do not know about traditional games. The purpose of writing this article is to describe the cultivation of character values in traditional games and modern games. In this global era, it is increasingly experiencing a decline. This research is a type of literature study research by looking for theoretical references that are relevant to the cases or problems found. The theoretical references obtained using literature study research are used as the basic foundation and main tool for research practice in the field. Modern games are games that are carried out using technological tools that have been developed in the community and are played by more than two people and can even be done alone without playing with friends.

Technical education services for special types of education for students with disabilities or students with extraordinary intelligence can be carried out inclusively or in the form of special education units at the primary and secondary education levels. Therefore, children with special needs have the same opportunities, there is no difference from normal children. Achievement of potential is obtained in line with children in general. To teach children with special needs, special attention is needed for teachers and parents as teachers, protectors, and educators so that children who have these privileges feel cared for and treated the same as other normal children. On the other hand, the role of a teacher must be creative, professional, and fun by placing himself as a mentor, planner, teacher, class manager, motivator, facilitator, and evaluator in learning. This is where the important role of traditional games, when children do traditional games unconsciously children have learned how to do physical activities easily and fun through traditional games to improve their motor skills.

Motor skills are important in the process of learning physical education and sports in schools because of a support the formation of physical fitness for students. These abilities include physical abilities and intellectual abilities. Physical ability is related to stamina and body characteristics, while intellectual ability is related to mental activity [5 – 8].

Referring to this that the teacher's strategy in educating and guiding children with special needs has the same opportunities, there is no difference with normal children. The achievement of potential is obtained in line with children in general. To teach packaged traditional games to children with special needs, the need for teaching strategies as teachers, advocates, and educators so that children who have this privilege feel cared for and treated the same as other normal children. Based on this phenomenon in the form of facts, the purpose of this study is to find out whether traditional sports therapy improves the motoric ability of children with special needs. Traditional performances are indicated to improve the motor skills of children with special needs, one of which is the game of gobak sodor, throwing catch a modified ball, which is related to traditional games.

Materials and methods

The method used in this study is an experimental method with bound variables a free variable traditional game therapy against improving the motor skills of children with special needs. To facilitate the experimental research process, researchers use two pretest and posttest designs. The population of this study is all students of special needs school Sukoharjo and Karanganyar Central Java Province, Indonesia, while the sample of this study is 30 students. Research sampling techniques use purposive sampling. Data collection techniques through a modified special needs motor skills measurement test consist of:

Soft ball throw

The goal is to measure arm and shoulder coordination by throwing the softball as far as possible behind the boundary line. Each testee is allowed to throw as many as three throws, then take the value that is the distance of the throw that is farthest from the three throws.

Zig-zag run

Zig-zag Run Aims to measure the agility of movement, the implementation is the Testee standing behind the starting line, if aba-aba "yes", the testee runs as fast as possible following the direction of the arrow according to the diagram to the finish limit. The testee was allowed to do as many as three times. Failed when shifting the milestone, not by the test diagram. Then his assessment through the best travel time record of three attempts and recorded up to 1/10th of a second.

Wall pass

Its purpose is to measure eye and hand coordination, testee stands behind the boundary line while holding a basketball with both hands in front of the chest. If there is aba-aba "yes", the testee immediately throws a catch to the wall for 15 seconds, then the assessment through the number of balls that can be thrown for 15 seconds.

Medicine ball-put

The goal is to measure the strength of the arm muscles, the implementation of Testee standing behind the boundary line while holding the ball in front of the chest with a leaning body position of approximately 45 degrees. Then the ball is pushed forward as fast and as strong as possible three times, and the score is calculated through the farthest throw distance from three throws. Throwing distance is recorded up to cm

Sprint 30 meters

The goal is to reduce running speed, testee's execution technique runs as fast as possible by covering a distance of 30 meters. The testee was allowed to do it only once. His assessment through Time from the start of aba-aba was "yes" until the testee crossed the finish line. Time recorded up to 1/10th of a second

Data analysis techniques use descriptive statistics and inferential statistics. Descriptive analysis aims to describe the characteristics of this study whereas inferential analysis uses paired tests to compare the explosive power of the limb muscles and key stability at a significant level $\alpha = 0.05$, overall, the data analysis used in the SPSS program version 25.0.

Results

Characteristics of children with special needs

Characteristics of children with special needs are visually impaired speech deaf, mentally retarded, autism, and Attention Deficit Hyperactivity Disorder. The characteristics of respondents in this study were more than half of them were children with Attention Deficit Hyperactivity Disorder. It shows that the child has Attention Deficit Hyperactivity Disorder, figure 1 below explains in detail the characteristics of the child's special needs.

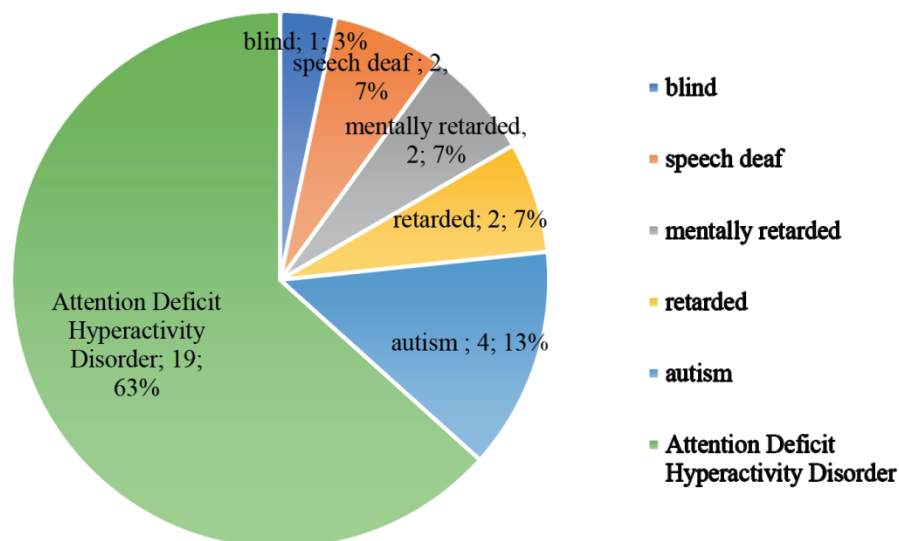


Fig. 1. Characteristics of children with special needs

Characteristics of children with special needs as a respondent that children Attention Deficit Hyperactivity Disorder more than those visually impaired speech deaf, mentally retarded, and autism. Among the 30 respondents, 63% of them were Attention Deficit Hyperactivity Disorder, and uniquely 3% of respondents were blind. For respondents dominated by Attention Deficit Hyperactivity Disorder, therefore the respondents need the role of teachers in reducing hyperactive behavior in children by providing treatment in the form of assistance, reducing unwanted behavior, and developing practice behavior that is expected by teachers one of them through traditional games to improve the motor ability of

children, while the slightest respondents were blind, because the child had vision limitations when compared to other respondents.

Descriptive analysis

The purpose of descriptive analysis of research data on motor skills of children with special needs is to review traditional requests from average grades, standard deviations, minimum values, maximum values, range of values, and the total number of acquisitions from measurement test results of each variable. A recap of the descriptive analysis of our data from each variable is shown in the following Table 1.

Table 1. Motor skills of children with special needs

Variable		N	Min	Max	Mean	SD
Soft Ball Trow	Pretest	30	10.00	19.00	14.03	2.43
	Posttest	30	14.00	22.00	17.50	2.35
Zigzag Run	Pretest	30	6.12	9.24	8.09	0.97
	Posttest	30	5.03	8.15	7.00	0.97
Wall Pass	Pretest	30	3.00	16.00	7.10	2.93
	Posttest	30	7.00	20.00	11.10	2.93
Medicine Ball-Put	Pretest	30	18.79	39.11	28.96	3.67
	Posttest	30	21.00	41.32	31.17	3.67
Sprint 30 meters	Pretest	30	6.05	9.17	7.49	1.03
	Posttest	30	5.70	8.82	7.14	1.03

By Table 1 result analysis Descriptive of the motor skills of children with special needs independent of the Trow Soft Ball test, Zigzag Run, Wall Pass, Medicine Ball-Put, and Sprint 30 meters from 30 Sample obtained the results of the difference The average Pretest and post-test values of each variable are for Soft Ball Trow of 3.47, Zigzag Run of 1.09, Wall Pass of 4, Medicine Ball-Put of 2.21, and Sprint 30 meters of 30 meters. 0.35. Then, the normality test was

conducted. The results of the normality test are shown by the following prerequisite tests.

Normality tests

Normality tests were used as a prerequisite for hypothesis testing. The normality test using the Kolmogorov–Smirnov Z (KS-Z) test at a significance level of $\alpha = 0.05$ is shown in the following Table 2.

Table 2. Normality tests the motor ability

Variable		Kolmogorov-Smirnov	Sig.
Soft Ball Trow	Pretest	0.121	0.020
	Posttest	0.157	0.096
Zigzag Run	Pretest	0.188	0.200*
	Posttest	0.188	0.082
Wall Pass	Pretest	0.179	0.150
	Posttest	0.179	0.200*
Medicine Ball-Put	Pretest	0.328	0.200*
	Posttest	0.328	0.200*
Sprint 30 meters	Pretest	0.160	0.200*
	Posttest	0.160	0.200*

Based on the results of the normality test, the test values of Soft Ball Trow, Zigzag Run, Wall Pass, Medicine Ball-Put, and Sprint 30 meters for the Kolmogorov–Smirnov Z (KS-Z) test for the entire data group were all greater than the value of $\alpha = 0.05$. Thus, the sample in this study was a normally distributed population. After the normality test, further hypothetical testing was conducted.

Hypothesis test

The hypothesis test in this study was to analyze traditional game therapy: whether there is an influence to improve the motor skills of children with special needs consists of softball Trow, Zigzag Run, Wall Pass, Medicine Ball-Put, and Sprint 30 meters can be seen in the following Table 3. Based on analysis of the paired samples test (t-test) data for

Table 3. Results of paired analysis of motor skills of children with special needs

Variable	t _{count}	t _{table}	Sig.
Pretest-Posttest Soft Ball Trow	31.657		
Pretest-Posttest Zigzag Run	40.871		
Pretest-Posttest Wall Pass	45.594	1.699	0.000
Pretest-Posttest Medicine Ball-Put	39.450		
Pretest-Posttest Sprint 30 meters	20.761		

Soft Ball Trow, Zigzag Run, Wall Pass, Medicine Ball-Put, and Sprint 30 meters shown in table 3 above, we found values of t_{count} of 31.657; 40.871; 45.594; 39.450, 13.279, and 20.761 respectively, and a $t_{\text{table}(29(10);0.05)}$ of 1,699. Based on these results, the paired samples tests (t-test) between Soft Ball Trow, Zigzag Run, Wall Pass, Medicine Ball-Put, and Sprint 30 meters (H_0 was rejected), confirming H_1 . Thus, there was a significant traditional game therapy can improve the motor skills of children with special needs. This means that the coefficient can be generalized or can be applied to the overall population of students special needs school Sukoharjo and Karanganyar Jawa Tengah Indonesia, where a sample of 30 students was used.

Discussion

The results of this study showed that there were differences in traditional game therapy: is there an influence to improve the motor skills of children with special needs special needs school Sukoharjo and Karanganyar Central Java Indonesia. This is supported by descriptive analysis results and inferential analysis results. Thus the need for the active role of teachers in accompanying children with special needs in the learning process.

Traditional sports are developed from an area that is an original game so that it becomes a particular regional tradition because it is a traditional sport that is unique (unique) and is an inseparable part of the community and regional culture. Traditional sports are closely related to local people's livelihoods. Folk games (which later became a traditional sport) are owned by any ethnic group in Indonesia, even every Indonesian tribe tends to have more than one type of game. The traditional type of game used in this study is gobak sodor; long dragon snake; cranky; egrang, congklak, rubber jump rope, hide and seek; cublak suweng; and many more traditional games that are fun but with the eroding age of this game is rarely played by children and even almost children are more fond of traditional games through smartphones. But in this study, researchers tried to present traditional games to children with special needs through sports education learning [1].

The game in this study is the game of gobak sodor that is, in

each group there will be those who guard their respective fortresses each group must consist of a minimum of two people. By hompimpa then see who wins; long dragon snake that is in the past this game was very popular among children. Usually, they will gather on the field, and it will be even more exciting if played crowded, How to play is easy, first determine two people who are the guards, and the rest walk past the guard; Cranky can be played by women and men, can be played only two people or a maximum of five people. Because it has to wait for their turn to play this if too many play it, players will get bored because they wait too long, egrang that is, the two long sticks whose middle is given a barrier. How to play it is by climbing up the footing on egrang, congklak, jumping rubber rope, hide and seek is a game to find opponents who hide means Just make one person as a guard, then the other player must hide. After the guard counts to 10, he will look for the other players hiding., cublak suweng is one of the traditional Indonesian games originating from Central Java. This game requires players of more than two people. In addition, the tool needed is a pebble or any object that can be fully grasped by the hand How to play it is simple, namely one player bends and faces down who serves as a trapper, while the remaining player puts his hand openly on the back of the best player.

This is in line with Yansa who state that a good teacher is a teacher who can develop the talents and interests of children well, besides that, a good teacher is also able to make students feel comfortable while in the school environment [9]. The role of the teacher makes it easy for all students to be able to develop their potential optimally [9–12]. The teacher's role is as a teacher and mentor [13–16]. The teacher's role as a teacher is to provide good service to students. While the role of the teacher as a supervisor is to provide guidance and assistance to students to achieve self-understanding and direction in the process of adjusting to the school, family, and community environment.

By the statement above, the teacher is one of the important figures and plays a role in a class, the teacher is a figure who plays a major role in education, so that students can find talents and hone them diligently, creatively, innovatively, and productively [17], [18].

Looking at the results of the study, the need to approach the study of educational and teaching research results, one of which is through learning sports education in reducing hyperactive behavior. As a comparison of the results of research conducted globally [19]. One of the strategies to reduce hyperactivity behavior of children is through sports activities [20], recommends reducing hyperactive behavior of children of them through athletic exercise accompanied by a coach, as well as recommended by McKean [21], one alternative to treating children who have hyperactive behavior, one of which is through circuit training resistance, and [22] that in his research was put forward to increase confidence and reduce hyperactive behavior of children one of them is through interaction social through education of children with special needs. However, in the learning process, there are obstacles faced by teachers and students. In learning activities, there can be obstacles or obstacles caused by factors originating from students and factors from the school environment [23–26]. Factors originating from students are internal factors which include student attitudes towards learning, student motivation to learn, student concentration levels, students' ability to receive and process learning materials, students' ability to store learning content, students' ability to explore stored learning content, ability to perform learning outcomes, the level of student confidence, intelligence,

student study habits, and student aspirations [27–29]. Factors from the school environment are external factors, which include the ability of teachers to teach, learning infrastructure, assessment policies, students' social environment in schools, and school curriculum. Thus, in the learning process of physical education, one of the traditional games can improve children's motor skills [1, 30].

Conclusions

The results of this study can be concluded that there are differences in traditional game therapy that can improve the motor skills of children with special needs school Sukoharjo and Karanganyar Central Java Indonesia. But in this study, it is necessary to further identify the characteristics of learners, the psychological state of learners, the physical fitness that supports the learning of physical education in schools, and those related to the attachment of motor skills of children with special needs.

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