



Evaluation of Physical Fitness for Students with Mentally impaired Aged 10-12 years in Poso Regency, Sulawesi Tengah Province, Indonesia

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Abstract

The ability of mentally retarded children with children in general is different, both in terms of the recipient stimulates and concentrates on the problem or activity carried out so that in giving a response has a difference, therefore there needs to be differences in special treatment or service. This study aims to determine the level of physical fitness of mentally impaired students aged 10-12 years in Poso District, Indonesia.

The research design used was quantitative descriptive research. Sample in this study were 15 mentally impaired students aged 10-12 years. The test used to determine Physical Fitness uses the Indonesian Physical Fitness Test which consists of 1.) Running 50 meters, 2) Pull Up, 3.) Sit Up, 4.) Vertical Jump, 5) Run 600 meters. Data obtained from the test results were analyzed using descriptive analysis such as mean, standard deviation and percentage (%)

Physical Fitness Tests for Mentally Impaired male students are obtained by students who are in the very good category 0%, good 0%, moderate 50%, less 37.5%, very less 12.5%. While Mentally Impaired female students are obtained very good 0%, good 0%, moderate 28.57%, less category 57.15%, very less category 14.28%. The overall summary of the physical fitness level of the students is in the very good category 0%, good 0%, medium 40% less 46.67%, very less 13.33%. From these results it is known that Physical Fitness for students with Mentally Impaired Students aged 10-12 years old is included in the less category. So it is recommended that there be special treatment and instruments for physical fitness tests in Mentally Impaired Students.

Keywords: Evaluation; Physical Fitness; Mentally Impaired Students

Introduction

Physical activity and physical fitness are important factors that must be possessed by every person, physical fitness can support physical activities carried out daily for example in carrying out work activities and also sports activities so as not to experience excessive fatigue (Isnaini, 2017).

Physical fitness based on the Sport Development index (SDI) in general in some cities in Indonesia still shows a low category as the results of research in Wonogiri Regency, physical fitness obtained by 0.316, if the SDI norms are still in the range of 0.000 to 0.499, which means entering in the low category (Natalia, 2017). Furthermore, the research (Tarigan, 2018) which states that the public physical fitness index based on the norms of the sports development index is still low category with a physical fitness index of 0.33.

Physical fitness is not only needed by normal humans in general, but it is also very much needed by students with special needs, for example, Mentally Impaired Students, so that they can increase their independence in the living of their daily lives and can even achieve certain sports achievement. Children who have disabilities, both physically and mentally disabled, tend to move a little or have low activity, so they will have more potential for obesity and have low physical fitness (Heryati and Ratnengsih, 2017). Mentally Impaired Students need a separate service pattern that is adjusted to their intellectual abilities which are below the average.

Mentally Impaired is a disorder in the growth and development of mental intellectual (mental retardation) since the womb, infancy or children which is caused by biological organic factors and functional factors (Pranowo and Hamid 2012). Mentally impaired children experience cognitive function disorder because the IQ level of children with mental retardation is very low which causes the level of intelligence below the average that occurs during the development period, and has obstacles in adaptive assessment. *American Association On Mental Deliciency* (AAMD) in (Mumpuniarti, 2007) it said that mentally impaired classification is middle of mental retardation with an IQ ranging from 50 to 70, moderate mental retardation with IQs ranging from 30-50 and severe and very severe mental retardation with IQ ranging <30. Children with mental retardation are able to be educated with characteristics that exist in themselves, including IQ below the normal level of 50-70, poor coordination and memory and limited associations that delay in receiving stimuli will take a long time to react or respond to new situations, limitations in mastery of language, movement activities, so indirectly physical fitness level children will be affected (Gardner, W., 2017).

Various studies on physical fitness have been carried out by many previous researchers such as physical fitness in elementary school, junior high school, high school and even college students (Srikanth, 2015), (Dauenhauer, 2016) and (Klainin, 2015). Research on physical fitness was also carried out on the elderly (Bullo, 2015). Evaluation of physical fitness has also been done to athletes at both senior and junior levels (Marinho, 2016).

The many previous studies have been carried out in research on physical fitness in normal children. However, fitness research on Mentally Impaired children is still rare by using physical fitness test instruments in Indonesia, especially in Poso Indonesia, so the purpose of this study is to describe the level of physical fitness for mentally retarded students so that they can create learning programs to maintain Mentally Impaired students at the expected level.

Methodology

This study uses a qualitative descriptive research design. This research was conducted in exceptional elementary schools in Poso Regency, Central Sulawesi Province, Indonesia, while the time of the study was conducted in October 2017.

This study uses a sample of 15 students consisting of 8 male students and 7 female students with a age range of 10-12 years. The sampling technique in this study was purposive sampling¹⁴

The tools used in this study are stopwatch, timer, meter, test form, star flag, chest number. The preparation stage is done by conditioning the students so that they are ready to do the test by doing a number of games that can trigger students' enthusiasm to do the test. Besides that, they will then be given direction to students, warm up and provide opportunities for students to try and make a test move before the actual test is done.

The test was carried out using the Indonesian Physical Fitness Test (TKJI). As for the types of tests are Run 30 meters, lift the body for 30 seconds (Pull Up), lie down for 30 seconds (Sit Up), jump upright (Vertical Jump), run 600 meters^{15,16}. The test is a series of tests carried out thoroughly and uninterrupted. The Indonesian physical fitness test is standard and the test is not done in a random order. Analysis of the data used in this study is a statistical calculation that uses descriptive analysis such as mean, standard deviation and percentage.

Result And Discussion

The description of the percentage of physical fitness for mentally retarded students in (table 2) shows that physical fitness of male students in the moderate category is 4 people or 50% of the total sample, the physical fitness level in the moderate category is 3 students or 37.5% from the number of samples, the level of physical fitness in the very less category was 1 person or 12.5% of the total sample.

In Poso Regency Moderate category of physical fitness of female students is 2 people or 28.57% of the total sample, physical fitness level in the less category is 4 people or 57.15% of the total sample, physical fitness level in the very less category is 1 person or 14, 28% of the total sample.

Physical fitness of Mentally Impairedstudents of elementary school in Poso, Indonesia in a sample of 15 people showed that moderate category of physical fitness level was 6 people or 40% of the total sample, the level of physical fitness of less categorized students was 7 people or 46.67 % of the number of samples, the level of physical fitness of students who are very less categorized as many as 2 people or 13.33% of the number of samples, so it can be concluded that the level of physical fitness in Poso, Indonesian Mentally Impairedstudents is generally less.

Table 1. Description of Data of Research Results at Each Test Item

Item test	Male			Female		
	N	Mean	Deviation Standard	N	Mean	Deviation Standard
Run 30 Meter	8	6.515	293.441	7	6.785	414.629
Pull Up	8	12.375	3.502	7	8.714	1.799
Sit Up	8	13	3.023	7	8.714	3.147
Vertical Jump	8	21.25	3.845	7	18.857	2.340
Run 600 Meter	8	2.7025	0.641	7	3.532	0.569

Table 2. Descriptions of Percentages on Male and Female Students of Physical Fitness Levels

Classification	Male		Female	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Very good	0	0	0	0 %
Good	0	0	0	0%
Medium	4	50%	2	28,57%
Less	3	37,5%	4	57.15%
Poor	1	12,5%	1	14.28%
Total	8	100%	7	100%

Table 3. Summary of Classifications of Fitness Levels for Students with Overall Obstacles

Classification	Female	
	Frequency	Percentage (%)
Very good	0	0 %
Good	0	0%
Medium	6	40%
Less	7	46,67%
Poor	2	13,33%
Total	15	100%

The results of the research and analysis of the percentage of physical fitness level in mentally retarded students in Extraordinary Primary Schools in Poso Regency included in the less category. This is in line with research (Santi, 2012) in the Extraordinary Middle School of Salatiga City, saying that the results of physical fitness evaluation for mentally retarded students are in the less category (Patti, 2017). It was shown that the results of the evaluation of fitness for idiopathic arthritis remonants were low compared to healthy children taken as a control group. Results (Hartman, 2015) show statistically significant differences (with medium to large size measures) between children with ID and usually develop children at all ages, supporting children who usually develop, and shows that inequalities have remained stable throughout all ages or decreased with increasing of their ages.

Children aged 10-12 years are generally active so that the level of physical fitness becomes high. But children with intellectual disabilities have difficulty adapting to having low physical activity so that their physical fitness level is lower compared to children their age (Hayakawa, and Kobayashi, 2013) says that physical activity in individuals with intellectual disabilities not only improves mental and physical health but also produces effects on social skills such as the capacity to control themselves on their own behavior, as well as receiving instruction from others and the ability to interact, cooperatively. From the results of this study it can be said that physical activity not only improves health but becomes a tool for them to socialize with other children or other people.

Mentally retarded children have IQs below average, making it difficult to adapt to the environment. they do not actively move like children in general the same age. In general, children with special needs do physical activity during physical education at school. To improve and maintain the physical fitness level of mentally retarded children requires special services in learning motion skills compared to normal children in their age. Modification of the form of exercise for the activity of the movement of mentally retarded children needs to adjust the motion pattern of children with mental retardation (Horvat, 2017).

Physical conditions have an important role in daily life in carrying out physical activities, and live socializing with the environment and can affect the quality of life including mentally retarded children. Through physical activity can help students improve cognition and motivation during learning, physical activity and good physical fitness can also help students achieve good movement skills so students can live like most people in general. (Gawlik, 2017) and (Dandash, 2015. Physical fitness will be in harmony with physical health so that it can affect the development of functional skills, thus helping students to live independently and improve the quality of life related to health (Rintala, 2016) and (Gu and Solmon, 2016). Physical fitness is closely related to one's ability to carry out physical activities that require aerobic capacity, long-term endurance, strength or flexibility, physical activity in mentally retarded children is a means of socializing with the environment (De Miguel-Etayo, P. *et al.*, 2014).

The survey results on the level of physical fitness of mentally disabled students showed that the level of physical fitness of mentally retarded children in primary schools in Poso district was in the less category. This has a negative impact on the lives of mentally retarded children. Physical fitness does not only help mentally retarded children to live independently, but also helps their cognitive development (Torrijos *et al.*, (2014) found that there was a positive relationship between fitness and cognition, namely the better the level of fitness, the better cognitive performance. This is supported by research (Berwid, 2017) which states that the level of fitness affects student achievement. In addition, children who have good physical fitness to avoid fatigue insomnia, increase metabolism, intelligence, and health (Marlina, 2017). So it is necessary to prioritize the improvement of physical fitness of elementary school students so that they can take lessons well.

Improving physical fitness of children with special needs needs to be increased in doing physical activities and sports, therefore it takes an important role for adaptive physical education teachers in schools to increase physical activity and develop social relations in mentally disabled children and students in general (Ferreira, 2017)adaptive physical education teachers have a role important in improving the basic motion and mental health of retarded children through physical activity of students with modification games that are easy to do and generate excitement for students to improve physical fitness (Sumaryanti, 2013). Adaptive physical education teachers can design learning models according to the growth and development of children mental retardation in extraordinary elementary schools (Mansur, 2017). One method that can be used to improve physical fitness of students with special needs is to develop a simple educational media game for Rainbow Flag to develop the game during the process of learning physical fitness material (De Miguel *et al.*, 2014). Physical fitness training programs have the effect of improving physical fitness but physical activity programs must involve the role of the principal

and teacher (Tucker, 2017 and (Al Khatib, 2018). Community-based fitness programs for children and adolescents with disabilities explore the option to offer such programs 2-3 times per week (Fragala, 2005). The fitness program and improvement in the quality of life of children must be supported by nutrition and motivation to keep doing physical activities on the field (Bukhala, 2017). Lifestyle, both diet and physical activity greatly affects the health of children with special needs (Nugroho and Sijabat, 2017).

Evaluating the physical fitness level of exceptional school students in Poso, Indonesia is expected to have implications for the improvement of learning methods that are more based on improving the physical fitness of students so that students can be fitter, healthier, independent and even excel in certain sports. The results of this study are expected to be applied as the basis for making learning programs carried out in elementary schools extraordinary so as to overcome the low level of physical fitness of mentally retarded students in Poso, the results of research are also preliminary research to conduct further research whether or not to develop appropriate learning methods to improve physical fitness of mentally retarded children.

Conclusion

The results of data analysis showed that the level of Physical Fitness for Mentally Impaired students aged 10-12 years in Poso District was in the less category. Students' physical fitness needs to be improved through interesting adaptive physical learning so students are interested in exercising. There needs to be a development of a Physical Fitness test kit specifically for Mentally Impaired students adjusted to the characteristics and growth of Mentally Impaired students.

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