

Physical Fitness Level and Body Mass Index For Futsal

Extracurriculars

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ABSTRAK

This research was conducted with the aim of knowing the level of physical fitness and body mass index of the extracurricular futsal extracurricular participants at Raudhatul Qur'an Payaraman Islamic Boarding School. This research is descriptive quantitative, with a survey research method. The population is MTS level futsal extracurricular participants totaling 30 people. The total sampling technique is used for sampling so that the sample is 30 people, the research instrument uses the Physical Fitness Test and Body Mass Index measurement. The physical fitness level of one person in this study was classified as good (3.33%), 19 students (63.33%) sufficient classification, 10 students (33.33%) poor classification. Based on body mass index, 15 students (50%) were included in the thin category, 15 students (50%) were in the normal category. Based on this research, it was found that the general level of physical fitness was in the moderate category and the body mass index was in the normal category. To have the ability to play futsal properly, good physical condition and ideal body mass index are required. It is hoped that this research can be considered by futsal coaches to improve physical fitness and as a concern for maintaining student body mass index so as to prevent nutritional deficiencies or excess nutrition in students.

Keywords: *Physical Fitness, Body Mass Index, Futsal*

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INTRODUCTION

The futsal sport requires high sprint intensity, with a short recovery time between fights with maximum intensity as Daniel said (Hawindri, 2016). Futsal is a game that is played with fast and dynamic movements and uses a small field (Lhaksana, 2011). There is almost no room for error, so players must work together to pass and feed the ball properly, realizing from the start that playing futsal requires good physical fitness and flexibility of movement.

A person's ability to do what they do every day without feeling too tired, still have the energy to do other things or have fun in their free time is the definition of physical fitness (Prasetio et al., 2018). According to Wiarto (Arifandy et al., 2021) physical fitness is the capacity of a person's body to adapt to the opportunities that are actually given to him without causing severe fatigue. The definition of physical fitness is the capacity of an individual to complete their daily work without feeling tired (Darmawan, 2017). Physical fitness is important because it makes the body feel better and makes people happier (Destriana et al., 2022). Meanwhile, as stated (Yusfi et al., 2021), physical fitness is needed so that human activities can be carried out properly. Physical fitness can be understood as an individual's capacity to engage in various physical activities optimally without feeling tired, according to some of the theories above. As stated by Mutohir and Gusril (Pasaribu, 2020) physical fitness has two aspects, namely those related to performance such as strength, agility, movement speed, coordination and balance, and those related to health such as cardio-pulmonary endurance, aerobic endurance, strength and endurance. muscle tone, muscular endurance, body structure and flexibility.

Foods that are considered must be considered so that the body is maintained in good condition. A balanced diet must be applied in daily life. This balanced diet means consuming foods that are high in vitamins, minerals, carbohydrates and protein (Nathaniel et al., 2018). If food intake is consumed and energy expenditure is not balanced, it can result in an increase in the amount of fat causing BMI or commonly known as obesity as Krisnawati said (Bayu et al., 2021). According to (Budi et al., 2020), the development of body mass index has become an important topic of study because it can be determined whether a person is thin, normal, or fat with his body mass index. The value of a person's body mass index is determined by measuring weight (kg) divided by height (m²) which has no effect on gender (Septikasari, 2018).

Since the outbreak of the Covid-19 virus globally, extracurricular activities at schools have been limited or even banned, including the futsal extracurricular at the Raudhatul Qur'an Islamic Boarding School. Therefore, futsal activities are rarely carried out, and when students take part in extracurricular futsal exercises, they get tired quickly. In addition, students who take part in futsal extracurricular activities often consume instant or fast food, causing distractions that can impact their Body Mass Index (BMI).

Research findings by [Sepriadi et al. \(2017\)](#) who analyzed differences in levels of physical fitness based on a person's nutritional status, the other research [Darmawan, M., Destriana, D., & Bayu, W. I. \(2022\)](#) data collection technique in this study was to use the survey method with data collection in the form of the harvard step test. The number of samples in this study varied, independent sample tests were used to analyze the data. A person's nutritional status can be determined by calculating the value of his body mass index, while physical fitness by using a 2400 meter run. Based on the findings, it showed that the level of physical fitness of groups with normal and abnormal nutritional status was significantly different.

Based on the observations that have been carried out, it shows that there are many participants in futsal activities who pay little attention to physical fitness and the type of food they consume. The urgency of this research is to measure physical fitness and body mass index together with futsal extracurricular participants. Knowing the Physical Fitness Level and the Body Mass Index value of MTS level futsal extracurricular participants at the Raudhatul Qur'an Payaraman Islamic Boarding School is the goal of this study.

METHOD

The research process was carried out using a quantitative descriptive research type. According to [Putra \(2015\)](#) defines quantitative descriptive as seeing, analyzing, and numerically describing the research object as it is and concluded based on phenomena that arise during the research process. While the research method uses a survey. Descriptive research according to Arikunto ([Setiawan, 2021](#)) is research that is carried out with the sole purpose. Fitness and Body Mass Index are two variables in this study. In this study, the operational definition of the variable is a person's physical fitness is their ability to carry out their daily activities without feeling too tired. Body Mass Index is an anthropometric method that measures a person's nutritional status. To determine nutritional status, direct

measurement of a person's weight and height is used, then it is calculated by dividing a person's height by their weight.

Population and Sampling

The population used in this study were participants in the futsal extracurricular at the Raudhatul Qur'an Payaraman Islamic Boarding School, MTs Level, with a total of 30 students. Sugiyono (Wibisino, 2017) said that the sample has some characteristics of the population. The total sampling technique was used in this study for sampling, which means that the number of samples is the same as the population as stated by Sugiyono (Mustika & Nurwidaningsih, 2018). So the sample is all MTs futsal extracurricular participants at Raudhatul Qur'an Payaraman Islamic Boarding School, totaling 30 students aged between 13 to 15 years.

Location and Time of Research

The research process was carried out at the Raudhatul Qur'an Payaraman Islamic Boarding School with the full address at Jl. Lanang Kuaso LK III Payaraman Barat, Ogan Ilir. This research was conducted directly from 09 to 29 April 2022 at 08.00 until finished.

Research Instrument

Instruments are needed because research must be based on the idea of taking measurements. According to Darmadi (Arifin & Asfani, 2014) defines an instrument as a research tool for measuring data or making measurements. This study used research instruments in the form of the Indonesian Physical Fitness Test (TKJI) and also the Body Mass Index (BMI).

This physical fitness study used various test components to collect data. The test component used uses a standardized test for the MTS level with an average age of 13 to 15 years. According to Nurhasan and Cholil (Wibisino, 2017). Components of the physical fitness test for children aged 13 to 15 years include sprinting for 30 m, lifting the body for 60 seconds, lying down for 60 seconds, jumping straight up, and running for 1000 m. Measurement of height and weight was measured to determine the body mass index.

Table 1. TKJI Value

Running 50 meters	Hang up the body	Sit down	Jump straight	Run 1000 meters	Score
S.d - 6.7"	16 – to the top	38 – to the top	66 – to the top	S.d – 3'04"	5
6.8" - 7,6"	11 – 15	28 – 37	53 – 65	3'05" – 3'53"	4
7.7" – 8.7"	6 – 10	19 – 27	42 – 52	3'54" – 4'46"	3
8.8" – 10.3"	2 – 5	8 – 18	31 – 41	4'47" – 6'04"	2
10.4" -S.d	0 – 1	0 – 7	0 – 30	6'05" – to the top	1

Source: Nurhasan (Wibisino 2017)

Table 2. Body Mass Index category

IMT	Nutritional status
<17,0	Thin, Under Weigh
17,0-18,5	Thin, Lightly Under Weigh
18,5-25,0	Normaly
25,0-27,0	Fat, light weight overweight
>27,0	Fat, overweight levels of weight

Source: Centers for Disease Control and Prevention (Arisyandi et al. 2021)

Data collection technique

The strategy for collecting data was by measuring physical fitness using the Indonesian Physical Fitness Test (TKJI) and also measuring the weight and height of students participating in extracurricular futsal to determine the value of body mass index.

Data analysis technique

Descriptive data analysis was used in this research. Meanwhile, to find out the results of the calculation of the Indonesian Physical Fitness Level Test using descriptive statistical analysis. Subsequent calculations will be assisted by using the SPSS version 25 application on the computer. Determining a person's nutritional status by calculating the value of Body Mass Index can be done using the following formula (Arisyandi et al., 2021):

$$IMT = \frac{Weigth}{Heighth}$$

After getting the next results are calculated based on the BMI category.

RESULT AND DISCOUS

Reseach Result

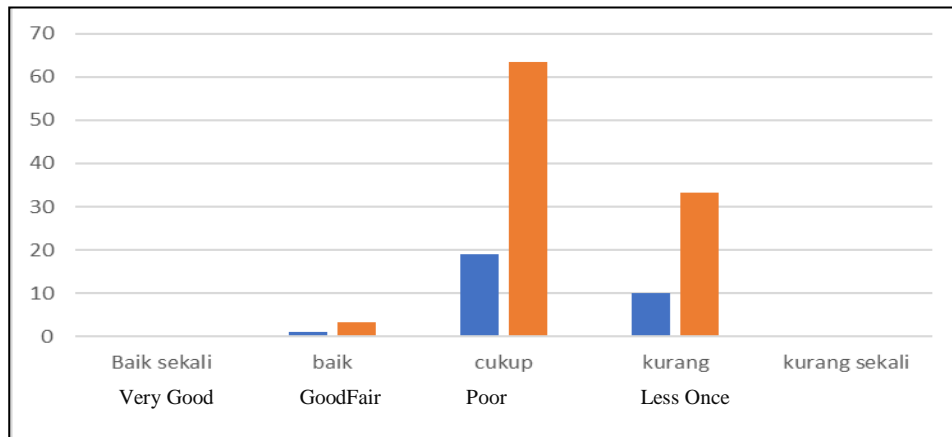


Figure 1. Frequency of Physical Fitness Level Test Result (%)

The graph above illustrates the overall results of the Physical Fitness Test conducted by the research sample. There were 30 students as a sample in the observation, none of the students were in the very good category. One student (3.33%) got a good score, 19 students (63.33%) got a fair score, 10 students (33.33%) got a bad score, the result is a physical fitness test for extracurricular futsal extracurricular participants at Raudhatul Qur'an Islamic Boarding School Payaraman at the MTS level is considered sufficient, with an average score of 14.7.

Tabel 3. Body Mass Index by Category

IMT	Percentage	Category	Total
<17,0-18,4	50	Thin	15
18,5-25,0	50	Normaly	15
25,1->27,0	0	Fat	0
	100	Total	30

The table above is the result of calculating the Body Mass Index of the research sample. A total of 30 students were the sample of the study, 15 students (50%) were thin, 15 students (50%) were in the normal category and none of the students were obese.

Discussion

The results of the analysis show that the level of physical fitness in the sample is generally sufficient. The level of physical fitness of students is quite adequate during the Covid-19 pandemic. Routine training is very necessary for futsal extracurricular students to maintain and improve their physical fitness. Of the 30 students participating in the futsal

extracurricular activity, 15 people were considered thin according to their BMI (50%), and 15 people had normal BMI (50%). These results indicate that some students who take part in extracurricular activities do not have sufficient nutritional intake needed by the body.

Futsal players who have a good level of physical fitness will influence the athlete's performance. Because in general the physical condition with a good level of physical fitness will have an impact on the athlete's technique and psychology. As the results of a study conducted by [Nursena & Hamdani \(2019\)](#) used TKJI on Loceret Middle School students, and the results generally yielded an adequate classification. The research conducted ([Ibrahim and Kafrawi 2021](#)) shows that physical fitness is in the moderate category. Furthermore, research ([Hartati et al. 2020](#)) physical fitness affects students' cumulative achievement. This study used 15 people as samples and survey techniques. The results of the research conducted ([Prasetio et al. 2018](#)) found that as many as 68% of students at SMP No 29 North Bengkulu had low BMI scores, 18% were in the normal category, as many as 14% were in the fat category. Based on the level of physical fitness of students, 39% is low, 42% is moderate, and 19% is satisfactory, so it is classified as low.

Physical fitness is a very important part that must be owned by someone, especially an active athlete. Futsal athletes are one of them who must have a good level of physical condition. The balance between physical fitness and technique will affect the game. Therefore, in playing futsal, good physical fitness and a normal body mass index are needed in order to improve one's ability to play futsal. This is necessary to create the best playing ability, prevent fatigue which can hinder one's futsal performance, a normal body mass index is needed to facilitate basic futsal movements such as dribbling, heading, and running with the ball.

CONCLUSION

Based on the findings and the analysis process that has been carried out, it can be concluded that the physical fitness of the MTS level futsal extracurricular participants at Raudhatul Qur'an Payaraman Islamic Boarding School with a sample size of 30 people is sufficient with an average result of 14.7, physical fitness in futsal extracurricular participants This is included in the sufficient category. Judging from the body mass index, it is included in the sufficient category.

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