

## PROFILE OF STUDENTS OF SPORTS SCIENCE STUDY PROGRAMS IN 2023

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### Abstract

Cardiopulmonary endurance is the ability of the heart, lung and blood vessel system to function optimally while carrying out daily activities for a long time without experiencing significant fatigue. This research focused on "cardiac endurance profile of sports science study program students in 2023. This study aims to find out about the profile of cardiopulmonary endurance students of sports science study program in 2023. This type of research is a descriptive type of research. The instrument used in this research is the Cooper test. The sample in this study were 30 people using simpler random sampling technique or simpler random sampling. The data analysis technique used in this research is descriptive data analysis technique using SPSS. The results of the study conducted by cardiopulmonary endurance were very poor category 11 people (11.37%), less category 13 people (13.43%), medium category 1 person (1.3%), good category 5 people (5, 17%). In order to obtain good fitness, intensive and regular trainings should be carried out so that an exercise program will be obtained that is in accordance with the objectives of the exercise program, which are still classified as lacking and very lacking, it is necessary to increase exercise in order to achieve good fitness.

**Keywords:** cardiopulmonary endurance, student

### Introduction

To improve the quality of Indonesian people who are good in the social, spiritual, and intellectual fields, good education is needed, which is developed and enhanced throughout Indonesia. According to Asmilyadi, R. (2020) To be able to give birth to the thoughts and abilities of students in good learning, they need to be supported by good physical fitness. The physical fitness factor determines students' success in learning. A good educational one needs to be balanced with good physical development. One of these physical development efforts is carried out through sports and health physical education subjects in schools, because physical education is an integral part of education which aims to develop aspects of physical fitness, movement skills, ability to think and affective aspects by means of physical activity. Presentation of physical activity can be in the form of various forms of movement that have been systematically arranged and carried out repeatedly. This is done with the aim of creating a form of physical activity that can increase the ability to use maximum oxygen (VO<sub>2</sub> Max) by the muscles of the body. According to Lahaba, M. (2019) In doing physical exercise, it must be regular as an intensity that is in the body according to the duration and regular frequency. Exercise intensity must be

in line with increased performance or physical fitness to achieve optimal results. Physiologically, the energy needed by muscles to perform a task is formed through metabolic processes that involve the transport of oxygen (O<sub>2</sub>). The ability of a good heart and lung to transport oxygen throughout the body is needed to be able to meet the use of oxygen in the body's cells so that the process of energy metabolism can take place properly. According to Apriyanto, KD (2020) Cardiopulmonary endurance is defined as the ability of the lungs, heart and blood vessels to deliver sufficient amounts of oxygen to the cells to meet the demands of physical activity for a long time. According to Harianto, B., & Syafruddin, S. (2020) Cardiovascular endurance shows that the heart and lungs are capable of dealing with physical workloads. The heavier the physical work, the higher the cardiovascular fitness that must be possessed. Everyone should have good heart and lung function, as well as sports students. Demand to play an active role in bringing about change in responding to various things that develop in society require high mobility. For this reason, a healthy and fit body condition is an important capital to achieve this. According to Rahmasari, FV, Mutmainnah, et al (2021) to be able to get a healthy body, one of them must regularly carry out sports activities. Exercising regularly is an effective and safe alternative to improve fitness and health if done correctly. Given how important the roles and demands are in society, students are required to have sufficient provisions to solve problems that will be faced when they are involved in society. In addition, there has been a social stigma that considers that students, especially sports students, are experts in the field of sports. For this reason, it is an obligation for sports students, besides having knowledge, they also have excellent body condition.

In terms of physical activity, all students of the unimacore study program, especially students of the 2019 cohort study program, both at home and on campus, are very different, thus some students come to campus on foot, while others tend to use motorbikes so that the level of cardiopulmonary endurance in the daily life of each student is different and many of them are still below standards so the authors are interested in knowing the cardiac endurance profile of each student. Those with good cardiorespiratory endurance have higher VO<sub>2</sub>max values and can carry out activities longer than those with low VO<sub>2</sub>max values. Based on observations made by researchers in the field, it shows that the cardiorespiratory endurance of sport science study program students is still below average. Factors that affect cardio-pulmonary endurance in sport science study program students include a lack of physical activity and exercise which can increase vo<sub>2</sub>max. From the description above, the authors are interested in conducting research on the cardiopulmonary endurance profile of sport science study program students

in 2023

**Research methods**

The type of research used in this research is descriptive research. The location of this research was in the sport science study program, Faculty of Sports Science and Public Health and this research was conducted in January 2023. The population in this study were all students of sport science study programs. The sample in this study was 30 people using the simpler random technique. sampling or the number of simpler random sampling. The instrument used in data collection for this study was an aerobic test, namely running 2400 meters (cooper test). The data analysis technique used in this research is descriptive data analysis technique using SPSS

**Results and Discussion**

**Table 1. Characteristics of Respondents by Gender**

Gender	Frequency (N)	Percentage (%)
Man	21	70
Woman	9	30
Amount	30	100.0

Based on table 1 above, the sex distribution of the highest percentage of respondents was male, namely 21 people (70%). While the smallest percentage is women, namely 9 people (30%).

**Table 2. Distribution of cardiopulmonary endurance**

Pulmonary endurance	Frequency (N)	Percentage (%)
Very less	11	11.37
Not enough	13	13.43
Currently	1	1.3
Good	5	5.17
Very well	-	-
Very kind and well trained	-	-
Amount	30	100.0

Based on table 2 above, the distribution of cardiopulmonary endurance in the category of very poor is 11 people (11.37%), the category is lacking 13 people (13.43%), the moderate category is 1 person (1.3%), the good category is 5 people (5.17%).

Cardiopulmonary endurance is the body's ability to cope with fatigue from working for a long

time without experiencing excessive fatigue. A person's fitness can be said to be good if he has cardiopulmonary endurance. Cardio-pulmonary endurance can be increased by exercising, one of which is fitness training, regular physical exercise will lead to an increase in oxygen consumption which is getting better, so that cardiac endurance will increase.

Based on the results of the research on the level of cardiopulmonary endurance of sports science students, the age of the respondents ranged from 20 to 29 years, with different levels of cardiopulmonary endurance. %), less category 13 people (13.43%), moderate category 1 person (1.3%), good category 5 people (5.17%). This condition proves that the majority of students have poor cardiopulmonary endurance, the factor of lack of activity and regular physical exercise greatly affects the ability of cardiopulmonary endurance. According to Nurhayati, T (2021) The effect of regular exercise with a frequency of 3-5 times a week, an intensity of 75-85% of the maximum pulse, for 60 minutes apart from increasing the metabolic processes above, can also cause thickening of the heart muscle caused by this exercise due to sympathetic tone decreased and increased parasympathetic tone which affects heart rate. Another factor that causes the physical condition of IKOR students to be unfavorable is healthy living habits. Some students still lack healthy living habits such as irregular sleep, irregular eating patterns, high-intensity smoking habits and soon. According to Prianto, DA, et al (2022) The factor of healthy living habits is indeed one of the factors that can affect a person's level of physical fitness. As a Sports (Penjas) teacher the researcher has tried and continues to provide education and guidance on healthy living habits through Physical Education learning at school to students so that they can apply it in their daily life, for example not sleeping late or later than 10 pm, eat nutritious food 4 healthy 5 perfect, and drink lots of water. The same thing was stated by Aprilianto, MV, & Fahrizqi, EB (2020), To get good physical fitness, it takes, among other things, food and nutrition, sleep and rest, physical exercise and sports, healthy living habits and a healthy environment. (Moeloek, 1984). With awareness of maintaining the health of each body, of course, another part is to maintain physical fitness as a player or athlete. Healthy food will be easily digested by the body.

Anatomical and physiological functions of the body will work more easily. Because healthy food will provide a good supply of energy. With this good energy, you will eat the amount of body energy needed by the body so that the smallest parts of the body such as muscles and tissues will always be ready. Because every cell, tissue and muscle is a constituent of every member of the body. The shift in lifestyle from working actively to rarely working or being passive is one of the reasons for a decrease in one's fitness level. This state of inactivity causes various health problems. This problem

is very dangerous for human life. The emergence of various kinds of diseases is the most obvious impact of an unhealthy lifestyle.

### **Conclusion**

From the results carried out on 30 sports science students, the results were obtained: 11 people (11.37%) very poor cardiopulmonary endurance, 13 people (13.43%) poor category, moderate category 1 person (1.3%), good category 5 people (5.17%).

In order to obtain good fitness, intensive and regular trainings should be carried out so that an exercise program will be obtained that is in accordance with the objectives of the exercise program, which are still classified as lacking and very lacking, it is necessary to increase exercise in order to achieve good fitness.

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