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CARDIOVASCULAR ENDURANCE LEVEL OF PHYSICAL EDUCATION STUDENTS AT TANJUNGPURA UNIVERSITY

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Abstract

Restrictions on social activities to online learning processes increase the potential for low body movements or sedentary life in Physical Education Students (PES). The purpose of this study was to determine the level of physical fitness of Tanjungpura University Physical Education students in terms of cardiorespiratory endurance. This study used a survey method. The data collection technique uses tests and measurements with the Multistage Fitness Test (MFT) instrument. The sample in this study were 33 male students. The data analysis technique used descriptive percentage. The results showed that none of the students had VO₂Max at a very good level, there were 12.5% in the good category, and most of the students with a percentage of 62.5% were at a moderate level. While the remaining 18.75% and 9.37% are at the level of less and less. The conclusion of this study is that most Physical Education Students (PES) still have good physical fitness, while some students who are at a low level and very less need to be given motivation and understanding regarding the importance of fitness in sports students.

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INTRODUCTION

Human Resources (HR) is an asset for the state (Zawawi & Burstiando, 2020). Maintaining personal health will have a positive impact on oneself and the nation. To realize a complete human resources, good habits are needed. One of them is a healthy and active lifestyle that can provide opportunities for humans to improve their health levels (Harahap et al., 2020) and physical activity related with fitness (Hui et al., 2020). Although the current pandemic situation requires restrictions in all forms of social activity, health is something that must be maximized, especially for productive age groups such as students. Healthy and fit are basic needs so that humans can live normally, having good physical fitness can support humans in studying, studying, and other activities that support independence (Maulina & Husna, 2018). Many studies report decreased physical activity and increases sedentary lifestyle (Stockwell et al., 2021). Health is also related to fitness, theoretically defined as a multidimensional construct containing components of cardiorespiratory endurance, muscle strength, muscle endurance, flexibility and body composition (Britton et al., 2020). Cardiorespiratory fitness is an expression of the capacity of the pulmonary and circulatori system can be assessed through measurement of maximal oxygen consumption (VO₂Max), VO₂Max is the highest possible rate of oxygen consumption during a physically intense whole-body activity, and an important

factor for many types of physical performance (Björkman et al., 2021).

This research is specifically aimed at Physical Education students. One of the direct impacts of the coronavirus disease-19 pandemic for Physical Education students is the cessation of field practice lectures. In fact, dynamic health elements are needed to support lecture activities, which are mostly dominated by psychomotor aspects (skills).

This condition certainly has the potential to reduce active living habits in sports students. The decrease in the frequency and intensity of physical activity in students during 2020 is allegedly going to affect their fitness, for this reason it is important to do this research in order to get a specific picture of the fitness level of physical education students. The purpose of this study was to determine the level of physical fitness of Tanjungpura University Physical Education students in terms of cardiorespiratory endurance. There are several tests that can be used to determine a person's fitness status, one of which is the Multistage Fitness Test (MFT) (Arikan et al., 2015). The MFT is used to collect data regarding oxygen consumption during physical activity and can be used to measure maximal functional ability during the person's test. Through the Multistage Fitness Test (MFT) it can be known VO₂Max (maximum oxygen volume) based on a person's level of physical activity (Sinurat, 2019). VO₂Max is defined as the maximum capacity of oxygen used by

the body during physical exercise (Syahid, 2018). VO₂Max can be affected by age, gender, and physical fitness (Festiawan et al., 2020). VO₂Max can also be referred to as maximal aerobic power or maximum aerobic capacity, a high maximum aerobic capacity is needed to support the body's ability (Suhdy, 2018).

METHODS

This study uses a survey method. The data collection technique uses tests and measurements with the Multistage Fitness Test (MFT) instrument, the MFT was chosen based on the consideration of several criteria based on the statement (Lavrencak et al., 2011) namely: the test method should be accurate, can be done independently, the results (response) is fast, safe, non-invasive, easy to use, and inexpensive. The sample in this study were 33 male students. The data analysis technique uses descriptive percentages presented in tables equipped with diagrams to make it easier for readers to receive information on research results.

Participants

The sample in this study were 33 male college students who are not sick and have normal body temperature.

Sampling Procedures

Sampling technique using purposive sampling. This technique was chosen because it is suitable for the purpose of the study, the number is appropriate to the current situation, and

the homogeneity of gender is a specific consideration.

Materials and Apparatus

The materials using test form used to write down the achievement of the sample. Speaker used to make it easier for samples to listen to the rhythm. MFT audio used to mark beat rhythm and test level.

Procedures

Fisrt.: Prepare the field for the test. Second, divide the sample in pairs. Third, explain how to do the test and put a mark on the score. Fourth, collecting and tabulating the data. Fifth, interpretation of data through tables and diagram.

Design or Data Analysis

This study uses a survey method. The data collection technique uses tests and measurements with the Multistage Fitness Test (MFT) instrument, the MFT was chosen based on the consideration of several criteria based on the statement (Lavrencak et al., 2011) namely: the test method should be accurate, can be done independently, the results (response) is fast, safe, non-invasive, easy to use, and inexpensive. The sample in this study were 33 male students. The data analysis technique uses descriptive percentages presented in tables equipped with diagrams to make it easier for readers to receive information on research results.

RESULT

Data collection was carried out at the Sport Science campus, FKIP Tanjungpura University. The test was carried out in the morning with the standard health protocol for the prevention of COVID-19. At the time of the study the number of complete samples was 33 students, based on measurements using a thermogun, all samples were in good health with a body temperature range of 36.0 0C - 36.8 0C. The research results are presented in the tables and diagrams below; from tables into text and give lengthy and unnecessary explanations of the Tables and Figures.

Tables & Figures

The research data are presented in the tables and diagrams below:

Table 1. Distribution of VO2Max scores for Physical Education Students

Scores	Percent	F	Category
<28	9,375	3	Very Less
28,1 s/d 34	18,75	6	Less
34,1 s/d 42	62,5	20	Enough
42,1 s/d 52	12,5	4	Good
52,1 >	0	0	Very Good

The table above provides information about the acquisition of VO2Max scores for Physical Education students at Tanjungpura University. Based on the data presented, it can be seen that none of the students had VO2Max at a very good level, there were 4 students who were in the good category, and most of the students with a total of 20

students were at the moderate level, while the remaining 6 students and 3 students were in the middle level. less and less level. The data above provides a landscape of physical fitness conditions for Physical Education students at Tanjungpura University during the implementation of online learning (in the network).

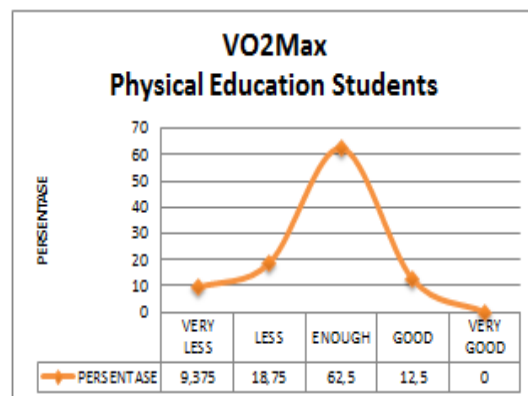


Fig 1. Graphic of PES VO2Max Level

The diagram above provides information about the acquisition of VO2Max scores for Physical Education students at Tanjungpura University. Based on the data presented, it can be seen that none of the students had a VO2Max at a very good level, 12.5% were in the good category, and most of the students with a percentage of 62.5% were at a moderate level. While the remaining 18.75% and 9.37% are at the level of less and less. The data above provides a landscape of physical fitness conditions for Physical Education students at Tanjungpura University during the implementation of online learning (in the network).

DISCUSSION

In general, most of the students still have good fitness, but some students who have lower VO2max need attention. There are several factors that are thought to affect the results of student physical fitness, including the cessation of

practical lecture activities for two semesters, lack of awareness of maintaining fitness conditions, and low body movement or known as sedentary life. The three causal factors stated above refer to one conclusion, namely physical activity. Physical activity is one of the determinants of physical fitness (Maulina & Husna, 2018). According to (Wang et al., 2013) to improve the physical performance of adolescents cannot be instant, we need an appropriate approach and sufficient time. Results based on research of (Kusuma, 2019) provide suggest to Tabata Training is suitable for increasing VO2Max in the moderate category of fitness group. The statement is relevant to the results shown in this study, that most physical education students at Tanjungpura University fall into the moderate category of fitness. Cardiorespiratory as the ability of the respiratory system to supply oxygen during active working muscles (Krivokapic, D. et al., 2014). To support physical performance, it is recommended to consume mineral water instead of energy drinks because other ingredients found in energy drinks have not been shown to have significant impact on performance (Peveler et al., 2017). it is highly recommended to return to sports that can support distance such as tennis, badminton, swimming, and golf (Löllgen et al., 2020)

CONCLUSION

Most of the Physical Education students still have good physical fitness,

while some students who are at a low and very low level need to be given motivation and understanding regarding the importance of fitness in sports students. Students need for health promotion for physical education students so that they can keep themselves fit in their productive age (Hibbert et al., 2021)

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