



Basketball VO₂max Level Identification

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ABSTRACT

This study aims to determine the level of Maximum Oxygen Volume (VO₂Max) in Men's Basketball Athletes in Porcupine District for Preparation for West Kalimantan Provincial Sports Week (PORPROV) 2022. The method used in this research is to use a quantitative descriptive method. The form of research used is a test using the Bleep Test. The analysis used calculates calculating the percentage of the results obtained. Respondents in this study were PORPROV At athletes in the Men's Basketball Branch of the Porcupine District. From the results of the study, it was found that the maximum oxygen volume level in Men's Basketball Sports Athletes in Porcupine District showed 11 players (55%) in the Less category and nine players (45%) in enough category. From the results of the VO₂max test in Men's Basketball Athletes in Landak District, it showed that most players had a maximum oxygen volume level in the less category.

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INTRODUCTION

Basketball is a sport played by two teams, totaling five people in each team, and played in 4x10 minutes (Wicaksono, 2015). The team consists of twelve players, including the captain. Each team tries to score points. The goal of each team is to put the ball into the opponent's basket and try to prevent the opposing team from entering the ball (FIBA & Official, 2020). Basketball is a sport that requires good physical and technical abilities and can be used for a long time to achieve game goals permanan (Meisel et al., 2022). This exercise is often referred to as habitual exercise. practice, a basketball athlete requires a good training process or is done repeatedly to obtain excellent technique, tactics, and physical condition in a match (Veldema et al., 2022). A player must have basic techniques



in basketball, such as dribbling, passing, and shooting. A team that needs these basic skills will find it easier to control a match (Khairat, 2020).

Therefore requires players to get excellent physical condition in facing competition. Regular physical exercise will be able to stimulate the body so that it can maintain the body in prime condition in a match (Subarjah, 2013). The physical condition is one of the main components that athletes get maximum performance. This development is based on looking at the characteristics of the sport involved (Pujianto, 2015). In terms of physical condition, several main components must be possessed by an athlete, namely: strength, speed, agility, flexibility, explosive muscle power, and maximum oxygen capacity (VO₂max) (Hidyah, 2011).

Maximum oxygen capacity, or what is commonly called endurance or VO₂ max, is a person's ability to carry out long and continuous activities without experiencing fatigue (Ninzar, 2018). It can also be interpreted as the resilience of the heart, lungs, and blood vessels to function when carrying out an activity or activity for a long time (Albiach et al., 2021). VO₂max also means a person can produce and present oxygen flowing in the body to the fullest (Ashfaq et al., 2022). VO₂max itself is needed by everyone, from athletes and non-athletes. For non-athletes, VO₂max is needed as a component to improve one's health and well-being. Whereas for an athlete, other than as an improvement in VO₂max health, it is also one of the assessments to achieve achievements in the sport they are involved in (Buttar et al., 2019).

Some of the theories above show that VO₂ max is one of the dominant components in a sport. In particular, sports played for a long time, such as basketball, soccer, volleyball, tennis, etc. (Huldani et al., 2020). VO₂ max plays a role in increasing the endurance of the heart and lungs on an ongoing basis so that oxygen can be optimally obtained and distributed throughout the body so that the body can work for a long time (Koutlianos et al., 2013).

Basketball is a good and correct basic technique coupled with good physical condition. If someone who has a good physical condition will easily face a match in a basketball game. for that in basketball, he must have a good VO₂Max, because by having a good VO₂Max, a player will be able to survive in a match for a long time without experiencing significant fatigue.

MATERIALS AND METHODS

The method used in this research is a survey method. The data collection technique uses tests and measurements. The test itself is a form of command or task, and measurement is a process for measuring the quantity of something, which is usually measured using tests (Widya, 2021). The form of research in this research is quantitative descriptive research. Quantitative descriptive research testing, measuring, and hypotheses based on mathematical and statistical formulas (UNM, 2018). Respondents in this study were Men's Basketball Athletes in Landak Regency who will compete at the 2022 West Kalimantan Provincial Sports Week. Research Instruments In this study used, the Bleep Test. The data analysis technique in this study uses the percentage of results.

RESULTS AND DISCUSSION

The total number of respondents in this study was 20 respondents. Respondents are Men's Basketball players in Landak District. Respondents did a Bleep Test to determine maximum oxygen capacity level (VO₂ max). From the tests conducted, it was found that the data distribution is as follows:

Table 1. Bleep Test basket ball result.

Grade	Presentase	Frequency	Statue
<28	25%	5	Less Once
28,1 - 34	30%	6	Not enough
34,1 - 42	45%	9	Enough
42,1 - 52	0%	0	Good
52>	0%	0	Very well

From the results of the research conducted, it was found that almost 50% more Men's Basketball Athletes in Porcupine District had a maximum oxygen volume level condition that tended to be lacking. This can be used as a reference for training programs to increase the VO₂ max of athletes. VO₂ max is an important component in basketball basket (Dewi & Muliarta, 2016). VO₂Max in the body when carrying out activities (Abdillah et al., 2015). The better a person's VO₂ max level, the easier it will be to carry out an activity with heavy intensity (Fardiansyah et al., 2019). In addition, VO₂ max can also be defined as the maximum ability of the heart and lungs to circulate oxygen and blood throughout the body's tissues to carry out activities for a long time (Williams et al., 2017).

This is very much needed in basketball because basketball is a team sport where the game is the normal time of 4 x 10 minutes (Wicaksono, 2015). Therefore basketball athletes are required to have a good level of maximum oxygen capacity as one of the supports in carrying out a match. VO₂ max is closely related to aerobic endurance (Prayuda & Firmansyah, 2017). Meanwhile, aerobic endurance itself is very compatible when applied to basketball. This is because playing basketball it is required to have good VO₂ max. In playing basketball, it is required to be able to withstand body conditions for a long time to be able to withstand one's level of fatigue. Heart and lung endurance or endurance is the ability of the heart, lung, and blood vessel systems to function optimally when carrying out daily activities without experiencing fatigue (Rahman Arif & Ivano Avandi, 2022).

The results of research conducted by (Meshram & Meshram, 2018) showed that playing basketball can affect VO₂ max, pulse, blood pressure, and BMI, which can affect the cardiovascular system. The primary effect is increased cardiovascular and aerobic capacity. Another study by (Rahman Arif & Ivano Avandi, 2022) shows that if the exercise is carried out for a long time and has moderate intensity, it will increase the heart rate between 65-85% of the maximum. This is one of the benchmarks for increasing VO₂ max due to exercise.

Apart from the type of exercise, it is a factor in increasing or maintaining one's VO₂ max. According to (Faruk, 2021), Factors that affect a person's VO₂max level are influenced by two causes, namely internal and external. The intended internal are things

related to the physiology of our body. At the same time, external factors are outside our body, such as physical exercise, adequacy of rest, and temperature.

From this explanation, it can be seen that if the components of VO₂max can be met and maintained, the Men's Basketball Athletes in Porcupine District can have a maximum VO₂max level. So it is possible to be able to achieve maximum performance in the championships that are followed. Because if VO₂ max is well maintained, the quality of a person's movement will be good too.

CONCLUSION

From the research that was conducted on 20 Men's Basketball Athletes in Landak District regarding the level of VO₂ max using the Bleep Test method, it was found that the majority of athletes had a level of oxygen capacity that was lacking. This research needs to be followed up further by the coaches and team management to create training programs for players. This is useful so that the player's VO₂ max condition can increase..

CONFLICT OF INTEREST

There is no This artikel no conflict interest in this article.

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