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The Influence of the Rondo Training Model on Increasing Vo2max for SSB Rajawali Students

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Abstrak

This research aims to determine the effect of the rondo training method on increasing VO2Max for SSB Rajawali students. This type of research is experimental research. With a research design "one group pre-test - post-test design". This research was carried out in December 2023 at SSB Rajawali, Telluwanua District, Palopo City. The population in this research was all SSB Rajawali students, 50 people aged 7 - 17 years. Samples were taken using a purposive sampling technique, namely according to certain criteria. So the sample in this study was 13 SSB Rajawali U-17 students. After carrying out an initial test (pre-test) of all samples, it was continued with treatment for 12 meetings, and ended with a final test (post-test). Data analysis and research hypothesis testing used the H0 testing criteria, by comparing the significance value of the results of data analysis in SPSS with a significance of α 0.05. The research results show that there is an influence of the rondo training method on increasing VO2Max with the significance value of the analysis results (0.001) being smaller than α 0.05. Thus, providing training using the rondo method has a significant influence on increasing VO2Max for SSB Rajawali students.

Keywords: Rondo training; VO2Max; SSB Rajawali

1. Introduction

Sport is an activity that uses physical elements to achieve pleasure and produce physical and spiritual health. Apart from that, sports activities for humans also aim to keep the body in good shape and fit, apart from that, sports activities in humans also form a sportsman spirit, good personality and character which ultimately forms a quality person [15].

Football is the most popular sport in the world. According to World Atlas, football is the most popular sport in the world. It is estimated that there are 4 billion fans of this foot sport [9]. According to a Nielsen Sports survey, Indonesia is the second largest country in the world for football fans after Nigeria. 77% of Indonesians are interested in football. Top ranking Nigeria is at 83% [8].

Basically, everyone has the possibility to practice according to their interests. Sport can be used as a lifestyle for anyone, it has been proven to improve a person's health and physical fitness. A person in prime physical condition can carry out daily activities optimally without getting tired quickly and has energy reserves for other activities as well [18].

We often find children and adults playing soccer with simple equipment. This shows that football is very popular with all levels of society, both among children and adults [14]. Football is a big ball game that prioritizes endurance, strength and speed. A football player must have good endurance so that he does not easily experience fatigue. This requires players to have excellent aerobic and anaerobic endurance capacity to complete training programs and during matches [3]. Training is a process that is structured systematically, programmed and

continuously so that its implementation can run smoothly so that the objectives of an exercise can be realized [2]. A soccer match is a high-motion game that lasts 2 x 45 minutes per match, so players need a lot of VO2Max. The problem that we often encounter when training to increase VO2Max is that players feel bored and tired when doing training. This is because VO2Max training takes a long time [12].

VO2Max is defined as a determinant of physical fitness which plays an important role for athletes and non-athletes. Non-athletes' needs are very functional for the well-being of the whole body, for an athlete VO2Max levels are very important. This is because athletes require high fitness to carry out sports activities. VO2Max can be increased with regular exercise so that the body responds well and the activity of the respiratory muscles and lungs works optimally. Exercise can be said to be good and useful for increasing VO2Max, namely in the form of an effective training program that can provide optimal results. Increasing VO2Max can be done through regular exercise. In training, this can be done with aerobic fitness training [10].

To increase VO2Max, researchers provide an exercise model, namely Rondo. Rondo is the term for a model of football training that comes from a foreign language, or in Indonesia it is better known as cat and mouse. Rondo has the concept of a circle occupied by a group of players and only a few players are included in the circle [16]. Rondo is a form of training with a circle scheme filled with several players and placing one or two players in the middle of the circle. The form of training is that the players standing around the circle must try to continue to control the ball by passing the ball to each other. Conversely, the player in the center of the circle must try to cut the ball. There are many variations of rondo, but the basic concept is that 6-10 people stand in a circle and 1-3 players stand in the middle and try to rob the ball, block or force players to make mistakes with the ball out of the circle [1].

From the results of observations I made at SSB Rajawali, there were several students whose cardiovascular endurance levels were still low. This can be seen from several friendly match trial results they have carried out. Cardiovascular endurance is very important in playing soccer because, when we are unable to withstand fatigue while playing, other basic skills and techniques will definitely be difficult for us to do. With this, the researchers proposed a rondo model training program to improve the cardiovascular endurance abilities of SSB Rajawali students. Researchers will also measure the VO2Max of SSB Rajawali students using the Bleep Test method to find out the level of their cardiovascular endurance abilities after receiving the Rondo training model.

This research was carried out inseparable from the results of previous studies which had been carried out as comparison and study material. The research results which were used as comparisons were inseparable from the research topic, namely regarding the rondo training model and increasing VO2Max.

Based on the results of research conducted (Syafii, 2022) [16], there is a significant influence of the el rondo training model in increasing the football passing accuracy of SSB Serdadu Sidowungu students. The 1-2 combination passing exercise also has a significant influence in improving the soccer passing accuracy of SSB Serdadu Sidowungu students. There is no significant difference in effect between the El Rondo training model and the 1-2

combination passing training in improving football passing accuracy. Both are equally influential in increasing the accuracy of football passing. The pretest results of the El Rondo group's passing accuracy had a maximum score of 113, a minimum score of 46, a mean (average) value of 86.80, and a standard deviation of 18.516. Then, the results of the passing accuracy posttest obtained a maximum score of 126, a minimum score of 91, an average value of 114.20, and Std. Dev 11,717. With these results, an increase between the pretest and posttest results was obtained by 27,4.

(Diani Kartika et al., 2023) [3] presented research that when playing soccer, players need physical and mental strength. This is because in the game you have to make skilled movements for quite a long time, understand individual, group and team playing techniques, determine your performance on the field so you experience physical and mental fatigue. The techniques used when playing the game start from running, jumping, kicking, holding the ball, controlling the ball and dribbling the ball towards the opponent's goal. Through regular 12 minute running training/cooper test, you can build strength, speed and muscle endurance so you can have the ability to quickly recover from fatigue because you have a good VO2 Max. Soccer players with a high VO2 Max have a larger volume of oxygen so that blood circulation is better, their muscles get more oxygen and they can do various activities without feeling tired. Soccer players who have a high VO2 Max will find it easier to adapt, not easily get out of breath when carrying out each activity and it will be easier to absorb the training material provided. On the other hand, soccer players who have a low VO2 Max will easily experience fatigue, have difficulty adapting, have difficulty concentrating, because they are short of breath (easy to pant). Fatigue or a decrease in the ability to breathe oxygen will have an impact on decreasing concentration in carrying out physical activities, including training or competition activities, so that the achievement of the expected training or competition goals is less than optimal.

Based on researchers' analysis (Fajar et al., 2023) [5], futsal players at SMAN 7 Bogor City must increase the intensity of the players' endurance training program so that the players' VO2Max becomes better. Carrying out physical exercise that can increase a player's VO2Max level, players are expected to be able to maintain endurance by paying attention to several factors other than exercise, such as eating nutritious food. Players must maintain a healthy lifestyle by avoiding smoking and maintaining sleep patterns. Players need adequate rest after carrying out heavy training activities.

In previous research conducted (Syafii, 2022) [16], the Rondo training model carried out had the aim of increasing passing accuracy, while the research that the author will carry out aims to increase cardiovascular endurance by calculating how much the VO2Max value is.

2. Methodology

This research includes experimental research. The experimental research method is one of the methods in quantitative research. The experimental method is aimed at examining causal relationships by manipulating one or more variables in one (or more) experimental groups, and comparing the results with a control group that did not experience manipulation.

Manipulation means systematically changing the properties (values) of the independent variable. After being manipulated, the independent variable is usually called treatment [11]. In this study, the effect seen was the effect of the rondo training model on increasing VO2Max.

One of the most important tasks of research is to find out whether there are causal relationships between phenomena, and to draw the regularities of these causal relationships. This experimental research uses a "one Group Pre-test – Post-test Design" research design. In this design, researchers give a pretest or initial test to the research object before the research begins to obtain students' initial scores. A posttest is also given at the end of the research which will be analyzed to draw research conclusions. The test measuring instrument used in conducting the pre-test and post-test is the Bleep Test instrument. The procedure for carrying out the bleep test is very simple, the participant or person must run a distance of 20 meters back and forth from end to end. The bleep test or MFT starts with a slow run that gradually gets faster and faster until the athlete is unable to keep up with the running rhythm. This research will be carried out at SSB Rajawali, Telluwanua District, Palopo City in December 2023

The population is the people who are the research subjects or the people whose characteristics are to be studied and the sample is part of the population [13]. The population in this research was all SSB Rajawali students, 50 people aged 7 - 17 years. Samples were taken using a purposive sampling technique, namely according to certain criteria. So the sample in this study was 13 SSB RAJAWALI U-17 students.

Data collection is a strategic step in research because the main aim of research is to obtain data that meets established standards to answer the problem formulation presented in the research [17]. Data collection techniques are used to measure VO2Max using the Bleep Test.

Data analysis techniques are techniques related to processing data and information obtained during the research process to obtain research results [4]. In this research, the data that has been obtained will be analyzed using the SPSS application to get good results.

3. Result and Discussion

The research results showed that the influence of the rondo training model had an effect on increasing VO2Max for SSB Rajawali students. These results can be seen from the t test results, the significance value obtained is 0.001, < α 0.05. Also based on the results of the descriptive analysis, the mean score for Student's Pre-test VO2Max = 32.431 and Student's Post-test VO2Max = 37.508. This means that there is an increase in the student's VO2Max value after receiving the rondo training model.

3.1. Result

Research has been carried out to obtain data on VO2Max results for SSB Rajawali students in the pre-test (initial test) and post-test (final test). The data obtained was then analyzed using the t-test statistical test. The research results will be presented in the form of descriptive data and t-test calculations.

In this study, there is one research hypothesis, namely: Providing the Rondo training model has an influence on increasing VO2Max for SSB Rajawali students. Below are

presented the results of hypothesis testing on the research hypothesis proposed above. The hypothesis test used is using the H0 testing criteria, by comparing the significance value from the results of data analysis in SPSS with a significance of α 0.05. Whether the value is smaller or the maximum is equal to the significance value α of 0.05, it rejects H0. The results of hypothesis testing are presented in the following table:

Table 1. T-test results

Paired Samples Test

		Paired Differences					t	df	Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			One-Sided p	Two-Sided p
Pair 1	Pre-test VO2Max - Post-test VO2Max	-5.0769	.9876	.2739	-5.6737	-4.4802	-18.536	12	<,001	<,001

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test VO2Max	32.431	13	2.0862	.5786
	Post-test VO2Max	37.508	13	1.9418	.5386

Based on the output table of t test results, a significance value = 0.001 is obtained, which means α is 0.05 smaller. Thus, Ho is rejected and Ha is accepted. Based on the results of descriptive analysis, the mean score for Student's Pre-test VO2Max = 32.431 and Student's Post-test VO2Max = 37.508. This means that there is an increase in the student's VO2Max value after receiving the rondo training model. Thus, it can be concluded that providing the rondo training model has a significant effect on increasing VO2Max for SSB Rajawali students.

3.2. Discussion

In an effort to increase VO2Max, SSB Rajawali students are given training using the rondo training model method. In carrying out the exercise, data is taken first which is called the pre-test. This pre-test aims to see how big the VO2Max of SSB Rajawali students is. From the pre-test data, the VO2Max results were obtained with an average of 32.431 and after being given rondo model training, SSB Rajawali students' VO2Max increased with an average of 37.508. This means that the rondo training model can increase SSB Rajawali Students' VO2Max.

Based on these results, it can be concluded that there is an influence of the rondo training model on increasing the VO2Max of SSB Rajawali students, this is because the rondo training model provided consists of 6 (six) exercise variations, among these exercises are: 1) Variation Rondo Training (3+3 VS 3), 2) Rondo Variations (4 VS 2 (Two Zones)), 3) Rondo Variations (6 VS 4), 4) Rondo Variations (4 VS 4 + 3N), 5) Rondo Variations (5) VS 5 + 2 Gk/Wall), 6) Rondo Variation Training (3 VS 3 + GK-Scoring Under Pressure), each model of training variation is carried out in 2 meetings so there are 12 Training Meetings held. This rondo training model is also included in High-Intensity Interval Training (HIIT) training (Gilang Oceano, 2020). Where the High-Intensity Interval Training (HIIT) training method can be applied to get good VO2 Max quality [16]. So each exercise requires high intensity

using a duration of 20 minutes, so that this exercise has an effect on increasing the VO2Max of SSB Rajawali students.

4. Conclusion

Based on the research results, the following conclusions can be drawn: The rondo training model has an influence on increasing VO2Max for SSB Rajawali students, as evidenced by the significance value of the analysis results (0.001) which is smaller than α 0.05.

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