

Endurance Fitness of Beginner Volleyball Athlete

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Abstract

The research aims to determine the Cardiac Pulmonary Endurance Fitness of Beginner Athletes. Research using descriptive method using a survey. The research population is all beginner volleyball athletes who are members of the West Sleman association. Retrieval of research data using tests and measurements. The instruments used were multi-stage tests with a reliability level of 0.9 and a validity of 0.6. The analysis of the data used is descriptive analysis of percentages with the norm of 5 categories, namely special, good, moderate, bad and very bad categories.

The results showed that novice athlete cardio-pulmonary endurance fitness, there were 0 athletes (0%) in very bad category, 1 athlete (7.14%) in bad category, 10 athletes (71.43%) in moderate category, 3 athletes (21.43%) in good category, 0 athletes (0%) very good category and 0 athletes (0%) special category. It can be concluded that the Cardiac Pulmonary Endurance Fitness of Beginner Volleyball Athletes of the West Sleman volleyball association is moderate.

Keywords: Fitness, Athlete, Volleyball .

Introduction

Volleyball championships in the current millennial era have been carried out at various levels. Not only the classification of youth, junior and senior groups. In the era after the Covid 19 pandemic, volleyball championships at the beginner age group level have been intensively held in the regions. This is in preparation for talent scouting for volleyball in order to produce athletes who can perform optimally.

Each volleyball match is carried out at least 3 sets to 5 sets. This requires athletes to be primed and fit in facing every competition that is held. Physical condition is one component of the exercise that must be considered. Athletes with an excellent level of physical condition will be better prepared to face a match in volleyball. Cardiac pulmonary endurance fitness is one of the physical components that must be trained and prepared from novice athletes. Cardiac lung endurance fitness will affect the performance of athletes, especially with physical conditions. An athlete who has excellent cardio-pulmonary endurance fitness will have a high level of efficiency in the circulatory system and respiratory system in the body in sending oxygen throughout the body to the muscles that are working before experiencing fatigue.

West Sleman is a volleyball association in Sleman Regency, Yogyakarta. The West Sleman volleyball association has been training athletes, especially beginners. From the observations made, the coaches gave more training to technical and tactical exercises, so that exercise programs related to the physical, especially increasing heart-lung endurance, were less prominent. From observations, there is limited time for training in the sports hall, so the coaches give more homework for physical improvement, especially those related to increasing heart-pulmonary endurance. This exercise needs to be improved because it is one of the important factors in volleyball in supporting the appearance of success in a match. From the preliminary presentation, it is intended to examine the fitness level of heart-lung endurance of beginner volleyball athletes with the object of West Sleman volleyball association beginner athletes.

Expectations for the condition of cardiorespiratory endurance fitness level in beginner volleyball athletes are good, related to various constraints of the same physical condition, not all athletes have a good cardiac pulmonary endurance fitness level.

Fitness

3 According to Judith Rink et al and Brent Q Hafen et al in Sajoto Mochamad (1988: 43), physical fitness is a person's ability to complete daily tasks without experiencing significant fatigue, with considerable energy expenditure, to meet the needs of movement and enjoy free time and to meet emergency needs at any time needed.

Power Stand

According to Sukadiyanto (2005: 60) endurance based on the use of energy systems is divided into: aerobic endurance, lactic anaerobic endurance and alactic anaerobic endurance. According to Djoko Pekik (2004: 27), lung-cardiac endurance is the functional ability of the lungs-heart to supply oxygen for long-term muscle work.

Cardiac Pulmonary Endurance Measurement

There are many tests used for aerobic measurement. One of the tests in the lab is the heart EKG test. This test is more valid, but very expensive when compared to other tests. Other aerobic fitness tests, such as: (1) Field physical fitness tests, including: (a) Harvard step test. The purpose of this test is to measure the body's ability to adapt to the workload and determine the origin of the workload. The advantage of this test is that it is suitable for physical education student sportsmen, while the drawback of this test is that the rhythm of going up and down the bench is too fast and too heavy for ordinary sportsmen. (b) Cooper test. This test is used to measure a person's maximum aerobic capacity by running for 12 minutes. The drawback of this test is that a testee must have high motivation to take the test because the results of this test depend on the testee's motivation. The advantage of this test is that when running for 10 minutes a person will adjust his pace so that oxygen demand will reflect his aerobic work capacity. (c) Multi-stage fitness test, which is running back and forth to the rhythm of the tape with a 20-meter track. The run is made on or after the "bib" signal. Reversal of running after crossing the finish line or starting while still following the instructions from the tape recorder. The rhythm in this run will get faster and faster.

Cardiac pulmonary endurance fitness is the ability of the heart and lungs to take in oxygen and distribute it adequately to carry out various activities. Good cardio-pulmonary endurance fitness is very important for a volleyball player at various levels from beginners, junior youth and seniors, because volleyball athletes must have basic fitness to carry out exercises that include physical, technical, tactical and mental exercises that are not light. Good cardio-pulmonary endurance fitness is obtained by getting used to special training disciplines. Athletes who have good cardiovascular endurance will not easily experience fatigue during training and matches. Cardiac pulmonary endurance fitness for athletes needs to be evaluated by conducting a cardiac pulmonary endurance fitness measurement test.

Research methods

This research is shaped descriptive-quantitative using surveys. Collecting data using tests and measurements. Data were analyzed using descriptive statistical techniques per percentage. The research variable is fitness, heart-lung endurance in beginner volleyball athletes. The research population for men's volleyball athletes in West Sleman was 14 athletes. This study uses a multistage running instrument.

Results and Discussion

This research was conducted at the West Sleman volleyball association. The research was carried out in January 2023. The research subjects were all athletes of the West Sleman volleyball association in the male beginner category, totaling 14 athletes. The following are the results of the Cardiac Pulmonary Endurance Fitness Test for Beginner Volleyball Athletes of the West Sleman volleyball association.

Table 1: Cardiac Pulmonary Endurance Fitness Research Data.

No.	Athlete	Levels	Shuttles	VO ₂ Max (ml/kg/min)
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1.	ABR	9	8	45.90
2.	GLG	7	8	39.20
3.	PSY	7	7	38.85
4.	SVA	7	9	39.55
5.	VIN	8	11	43.30
6.	HSE	9	7	45.60
7.	ADP	11	1	50.60
8.	DMS	8	6	41.80
9.	RGA	8	1	40.30
10.	DVD	8	11	43.30
11.	RZA	7	10	39.90
12.	PNJ	7	5	38.15
13.	HST	8	11	43.30
14.	ACLs	8	11	43.30

Table 2. Frequency Distribution of Cardiac Pulmonary Endurance Fitness.

No	Interval Class	Category	Frequency	Percentage
1	> 55.9	Special	0	0%
2	51.0 - 55.9	Very good	0	0%
3	45.2 - 50.9	Good	3	21.43%
4	38.4 - 45.1	Currently	10	71.43%
5	35.0 - 38.3	Bad	1	7.14%
6	< 35.0	Very bad	0	0%
Amount			14	100.0%

From the table it can be explained that Cardiac Pulmonary Endurance Fitness Beginner Volleyball Athletes West Sleman volleyball association, there are 0 athletes (0%) in very bad category, 1 athlete (7.14%) in bad category, 10 athletes (71.43%) in moderate category, 3 athletes (21.43%) good category, 0 athletes (0%) very good category and 0 athletes (0%) special category. The highest frequency was in the medium category, so it was concluded that the fitness of the heart - pulmonary

endurance of beginner volleyball athletes in the West Sleman volleyball association was moderate. From The information above can be presented in the form of a histogram as follows:

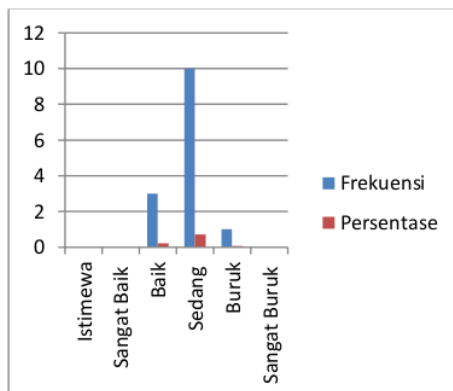


Figure 1. Athlete Cardiac Pulmonary Endurance Fitness Histogram.

Cardiorespiratory fitness is referred to as an important component of a person's physical fitness. Cardiac endurance is defined as the ability of the heart and lungs to absorb and distribute oxygen to the lungs muscles that work in the human body as needed. Aerobic fitness is influenced by the exercise habits of athletes and will form good aerobic fitness.

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Conclusion

Based on the results of analysis, research testing and discussion, a conclusion was drawn: overall the Cardiac Pulmonary Endurance Fitness of Beginner Volleyball Athletes of the West Sleman volleyball association was moderate.

Suggestion

There are several suggestions that need to be conveyed in relation to the results of this study, including:

1. Research development with complex research subjects.
2. Conduct advanced research activities on physical fitness.

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