

EFFECT OF AEROBIC TRAINING ON PHYSICAL FITNESS COMPONENTS OF KABADDI INTERUNIVERSITY PLAYERS

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Abstract

Aim: The purpose of the study was to find out the effect of aerobic training on Physical Fitness components of Kabaddi Players. **Methodology:** For the purpose of study, 40 subjects were selected from Kanpur University. Cardiovascular efficiency was calculated by applying Harvard Step Test. The test was conducted in University Campus and recorded for each and every subject. **Procedure:** Cardiovascular efficiency was calculated to measure Physical Fitness of subjects. **Statistical Tool:** The descriptive Statistical mean was calculated to measure the cardiovascular efficiency of Kabaddi Players. **Conclusion:** The result of the study revealed that there was a significant change in the Cardio-Vascular efficiency of Kabaddi players.

Keywords: Cardiovascular efficiency, aerobic training, physical fitness, exercise.

Introduction:

Sports training is a pedagogical process, based on scientific principles, aiming at preparing sportsmen for higher performances in sports competitions. In the light of the meaning and definitions of sports training, the aim of sports training is to improve rapidly the sports performance of a sportsperson particularly in sports competitions, which is mainly based on his physical, psychological, intellectual and technical capacities and capabilities. In other words, the aim of sports training in competitive sports is to prepare the sports persons for the attainment of highest possible sports performance in competition.

Aerobic training any physical activity that causes you to breathe harder and increases your heart rate than at rest in presence of oxygen is aerobic exercise. The positive effects of regular aerobic exercise on health have been demonstrated in many studies. Nevertheless, the effects of physical activity on the different body systems differ depending on duration intensity, number of sessions, type of exercise, and age. Dynamic aerobic exercise is defined as rhythmic contractions of skeletal muscle, with an intensity that would not produce an accumulation of lactate in blood, and could be maintained at least 20 minutes. Aerobic metabolism increases in proportion to the mass of muscle involved and the intensity of exercise. Blood flow also increases many folds. Cardiac output and heart rate increase three to four times with increasing oxygen uptake, whereas stroke volumes increases only to a minor extent. Repeated performance of dynamic aerobic exercise produces a training effect. The benefits are then maintained after the exercise is completed. Benefits obtained in the resting state are lower blood pressure, improved blood lipid profiles, and better heart efficiency. Generally, aerobic training promotes adaptations in the skeletal muscles, the cardiovascular system, the autonomic nervous system, and the hormonal responses. The responsiveness of an individual towards aerobic training is highly heritable and is determined genetically.

General fitness implies the ability of a person to live most effectively with his/her potential, which depend upon the physical, mental, emotional, social and spiritual components of fitness which are highly interrelated. The primary components of physical fitness identified by the president's Council on Physical Fitness and Sports were muscular strength, muscular endurance and cardio respiratory endurance. However, later on the president council also included some other motor performance components namely agility, speed, flexibility and balance in physical fitness. The goals of an exercise programme will vary from individual to individual. Athletes for e.g. usually view exercise as a means of enhancing their athletic performance. The rest of us however are more likely to be interested in exercise as a mean of improving or maintaining our general health and fitness.

Objective of the Study:

The objective of the study was to determine the effect of aerobic training on Physical fitness components of Kabaddi male Players.

METHODOLOGY:

Selection of Subjects:

The subjects were selected from Kanpur University. Forty kabaddi male subjects were selected as subjects for this study and the age group of subjects ranged between 20 – 30 years.

Selection of Variables:

After reviewing through all the scientific literature, journals, magazine and keeping feasibility criteria in mind the content of Aerobic training on Physical Fitness Components was selected for the purpose of the present study.

Criterion measures:

The subjects were divided into two groups (experimental and control group) consisting of 20 subjects each. The subjects were selected by using simple random sampling method. The experimental group was given six weeks (42 days) aerobic training and no training was given to the control group. The study was delimited to a single component of physical fitness i.e. cardiovascular endurance. The data was collected before and after the end of six weeks program by administering Harvard step test for measuring cardio vascular efficiency.

Statistical analysis of data:

Data was statistically analyzed using descriptive statistics. The descriptive statistics of the data on 40 subjects demonstrated the Physical Efficiency Index (PEI) range from 81.52 – 115.93. PEI was calculated by applying the formulae;

$$PEI = 100 \times (\text{duration of exercise in seconds}) / 2 \times (\text{Sum of recovery pulse count})$$

Immediately after completing exercise and having one minute of rest the pulse of subjects was counted as 1 – 1 ½, 2 – 2 ½ and 3 – 3 ½.

RESULT AND DISCUSSION:

Table - 1

Mean values of cardiovascular efficiency

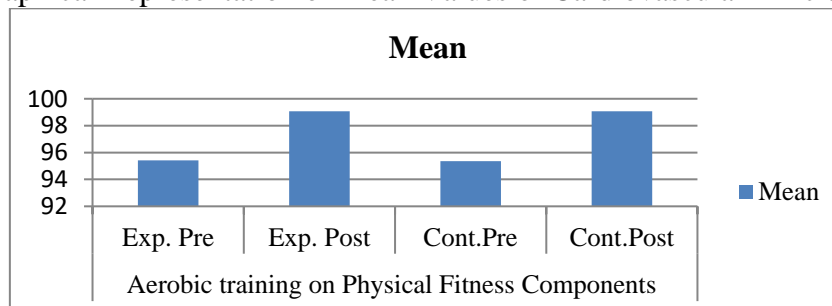
Groups	N	Mean
Experimental (Pre-test)	20	95.31
Experimental (Post-test)		99.09
Control (Pre-test)	20	95.31
Control (Post-test)		99.02

*significant at 0.05 level.

Table-1 Shows that there was no any significant change in the mean scores of Control Group Pre-Test and Post-Test. While as there is a significant difference in the mean scores obtained from the experimental group Pre-Test and Post-Test.

Figure 1

Graphical Representation of Mean Values of Cardiovascular Efficiency.



DISCUSSION

The purpose of the study was to find out the effect of aerobic training on physical fitness components among players of Kanpur University. The Experimental Group were given 42 days aerobic training in the morning session at University Campus. The study will help to reduce the undue fatigue among players and help coaches at the time of selection of players and later on introducing new exercises in aerobic training program to develop cardiovascular efficiency among desired subjects. The Cardiovascular endurance showed

significant improvement as the planned training program shows the significant effect. Hence Aerobic training program of Six weeks was adequate for cardiovascular endurance.

CONCLUSION:

On the basis of present findings of the study following conclusions were made: -

The aerobic training is directly proportional to cardiovascular endurance, as significant change was observed on application of 42 days training program on 40 subjects.

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