



Short Communication

A Comparative study of Cardiovascular Fitness between Sportsperson and Non Sportsperson

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Abstract

The paper high lights how sportsperson non sportsperson a plays a substantial role in developing cardiovascular fitness, in general endurance is an integral part of our body , on one hand, serving as a barometer of human progress, endurance have been drawn the attention of whole society across the entire world and cardiovascular ability of sportswomen and non sportswomen plays predominant role for shaping the of sportsperson, present study reveals that there is significant positive effect of cardiovascular on sports person non sportsperson practitioners comparing to their counterpart, the calculated 't' value of emotional adjustment and health adjustment are greater than table value and significant at 0.05 level.

Keywords: Sportsperson, endurance, cardiovascular, body, practitioners.

Introduction

Sport is not purely a physiological phenomenon but a complex interplay of the mind and body. It is now becoming more and more competitive and has also become a career with an emphasis on monetary gains and the desire to win at any cost. Therefore, it is important to find solutions to the changing sports scene of today. A sports person needs four basic qualities: Speed, Skill, Strength and Stamina. To achieve these in professional sports, the daily life of a sports person calls for discipline in training, a balanced diet, a balanced lifestyle and an inner focus and determination^{1,2}.

One of the most rapidly growing fields of specialization in physical education is that of exercise physiology, exercise physiology is the study of the effects of exercise on the body, specifically; exercise physiology is concerned with body's responses adaptation to exercise at the system as well as the sub cellular level. These modifications can be short-term, that is, lasting only for the duration of the activity, long term present as long as long as the activity is continued on regular basis. Knowledge of exercises physiology is essential to the physical educationist, it is critical that the physical educationist understand the effects of exercise on the individuals body to plan programs to achieve the desired outcomes and to monitor the effects of such programs on the individual. The field of exercises physiology provides the physical educationist with a wealth of information to guide the player's endeavors^{3,4}.

Cardiovascular function is important in supplying the muscles with fuel and oxygen, the more efficient the cardiovascular function, the longer a person will be able to sustain work. It represents the ability of circulatory, respiratory, and other

system of the body to put forth and extended and persistent effort. Cardio vascular function is regarded.

Physical fitness is central to all objectives of physical education. It is an essential for reconstruction and enjoyment of life. The movement like "Fitness for all and sports for all" are formed the basis of community building that is directive for fitness awareness among the people. Everyone agrees that physical fitness is a basic necessity without which one cannot perform or carry out assigned task comfortably. There have been innumerable physical fitness test batteries developed abroad especially, in the United States. In India too there have been two national attempts to develop such batteries,

Physical fitness includes speed, flexibility, rhythm, power, strength, coordination, muscular endurance, cardiovascular endurance, agility etcetera. These characters are all equated with the healthy functioning of the body. Another important part of physical fitness in the athletic powers. The various aspects of physical fitness and the skill are interrelated^{5,6}.

Sports Training: Sport training is a planned and controlled process in which, achieving a goal, change in complete motor performance, ability to act and behavior are made through measures of content, methods and organization^{7,8}.

Hardayal Singh stated that the sports training is a pedagogical process, based on scientific principals, aiming at preparing sportsman for higher performance in sports competition.

The object of any program of physical fitness is to maximize an individual's health, strength, endurance, and skill relative to age, sex, body build, and physiology. These ends can only be realized through conscientious regulation of exercise, rest, diet, and periodic medical and dental examinations. Exercise should

be regular and vigorous, but begun slowly and only gradually increased in strenuousness. Popular exercise methods include jogging, cycling, and the use of body-building machines. It is more important that periods of sleep be regular and restful than that they extend any fixed number of hours. A properly balanced diet in proteins, carbohydrates, vitamins, and minerals is essential⁹⁻¹⁰.

Problem: To study the cardiovascular fitness between sports and non sportsperson.

Hypothesis: Participation of sports activities leads to develop higher level of cardiovascular fitness abilities than their counterpart.

Objectives of study: To assess the influence of sports participation on cardiovascular fitness abilities among the sportsperson and non sportsperson.

Methodology

The present paper made an attempt "To assess the influence of sports participation on cardiovascular fitness between sportsperson and non sportsperson" is in framework of empirical research. The particulars of the samples, tools, collections of the data and statistical techniques are given as under.

Sample: The toll samples consists of 200 sportsmen and non sportsperson samples selection made randomly and the age level ranging from 20 to 25.

Sample Design: Showing distribution of sample

Variables	Sex
Sportsperson	50
Non sportsperson	50
Total	100

Tools: Harvard bench step test was used to collect the pulse rate of sportswomen and non sportsperson

Statistical tool: To assess the cardiovascular ability of sportswomen and non sportswomen 't' test was applied.

Results and Discussion

The main objective of the study is to measure the Cardio-vascular endurance among the sportswoman and non-sportswoman because participation and physical activities and sports brings significant changes in the cardiovascular and fitness among the participants. To measure the general capacity of the body and especially heart and circulatory system to adopt and recover from hard work is depends upon cardiovascular endurance. Various studies proved that regular practice and training of the sports develops cardiovascular fitness of the sportsperson. Hence, researcher here made an attempt to assess

the significant influence of participation in sports and non-participation on cardiovascular fitness.

Table-1
Showing the Mean, SD, and 't' values of the resting pulse rate of the Sports women and Non-Sports women

Harvard steps test, Resting pulse rate Per Minute	Sports women	Non-Sports women
Mean	58.70	84.85
SD	5.80	7.005
't' Value	12.15	

*Significant at 0.05 level

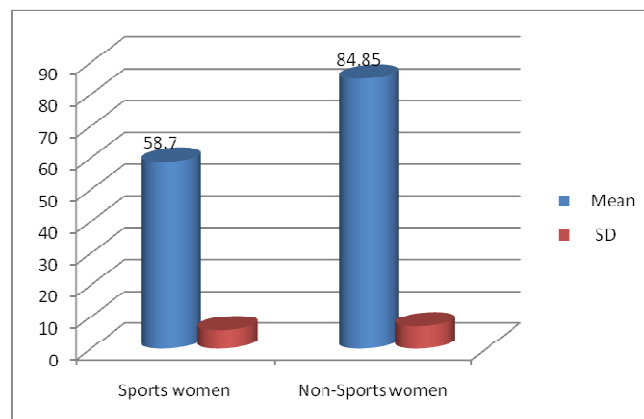


Figure-01
Showing the Mean, SD, and 't' values of the resting pulse rate of the Sports women and Non-Sports women

The formulated hypothesis is that there is significant difference in endurance abilities among the participants on the rational that involvement in Physical activities and sports to develops Cardio-vascular and fitness, among participants and also develop general fitness, capacity among sports women. Hence, collected data was applied to the statistical techniques to find out the influence of the participation, the Mean, SD, score of sports women is 58.70 Sd is 5.80 and Non- Sports women Mean 84.85 and SD is 7.005 respectively. And calculated 't' value is 12.15 it is greater than the table value, hence for formulated hypothesis accepted and null hypothesis is rejected. It can conclude that it is due to regular participation in Sports and training.

Table-2
Showing the Mean, SD, and 't' values of Sports women and Non-Sports women at conducting the Harvard step test for one minute

Harvard Step test, Ability per minute	Sports women	Non-Sports women
Mean	63.5000	37.500
SD	6.5646	4.76252
't' value		15.50

*Significant at 0.05 level

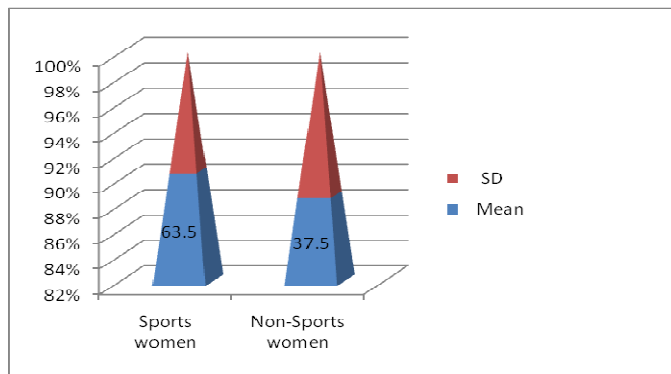


Figure-2

showing the Mean, SD, and 't' values of Sports women and Non-Sports women at conducting the Harvard step test for one minute

The table reveals that mean, Sd, and 't' value of the sportswomen while recording pulse rate after the performance of 1 ½ minute's, and collected data was applied to the statistical techniques to find out the influence of the participation, the Mean, SD, score of Sports women is 63.5000 Sd is 6.56546 and Non- Sports women mean, 37.4500 and SD is 4.76252 and calculated 't' value is 15.50, it is greater than the table value. Hence formulated hypothesis accepted and null hypothesis is rejected, it was concluded that it is due to regular participation in sports and training. (Sportswomen performed more steps than the Non-sports women)

Table-3

Showing the Mean, SD, and 't' values of pulse rate recorded after 1 minutes of Sports women and Non-Sports women

After 1 minute pulse rate	Sports women	Non-Sports women
Mean	88.20	112.10
SD	5.845	9.634
't' value	10.53	

* Significant at 0.05 levels

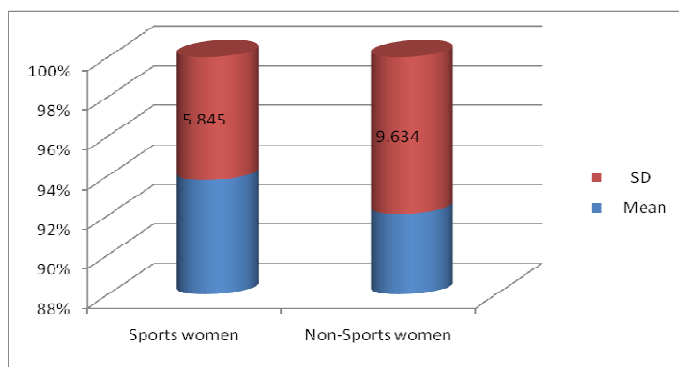


Figure-3

Showing the Mean, SD, and 't' values of pulse rate recorded after 1 minute of Sports women and Non-Sports women

The Hypothesis is formulated that there is significant difference in Endurance abilities among 20 Sports women and 20 Non-Sports women on rational that the participation in Physical activities and Sports to develop Cardio-vascular and fitness, among participants and also develop general fitness, capacity among sports women, hence collected data was applied to the statistical techniques to find out the influence of the participation, the Mean, Sd, score of Sports women is 88.20 Sd is 5.845 and Non- Sports women Mean, 112.10 and Sd is 9.634 and calculator 't' value is 10.53 it is greater than table value, hence formulated hypothesis accepted and null hypothesis is rejected, It is due to regular participation in Sports and training.

Conclusion

The study reveals that participation of sports activities effects physical, motor and cardiovascular fitness, because continues involament in physical activities cultivates various organ efficiency, the rational of the research hypothesis is accepted

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