



Comparative study of vital capacity between combat sports and team sports

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Abstract

The purpose of the present study was to compare the selected vital capacity between combat sports and team sports. Total 100 male subjects (combat sports: 50 and team sports: 50), were randomly selected from Haryana universities. All the subjects, after having been informed about the objectives and protocol of the study, gave their consent and volunteered to participate in this study. The level of significance was set at 0.05. The physiological variable was vital capacity. The findings shows mean score of the vital capacity among male combat Sports persons and male team Sports persons was 271.90 and 5348.40 respectively. The calculated t-value (7.760) which is more than the tabulated t-value (7.760) at 0.01 level. So, it demonstrates that there is a significant difference between male combat Sports persons and male team Sports persons for their vital capacity. This might be due to the high level of training of payers.

Keywords: Vital capacity, combat sportspersons, team sportspersons etc.

Introduction

Vital capacity (VC) is the greatest measure of air a man can oust from the lungs after a most extreme inward breath. It is equivalent to the aggregate of inspiratory hold volume, tidal volume, and expiratory save volume. A man's fundamental limit can be estimated by a wet or standard spirometer. In mix with other physiological estimations, the fundamental limit can help make a finding of basic lung ailment. Besides, the crucial limit is utilized to decide the seriousness of respiratory muscle contribution in neuromuscular sickness, and can control treatment choices in Guillain– Barré disorder and myasthenic emergency. [Hutchinson, J (1846)] An ordinary grown-up has a crucial limit in the vicinity of 3 and 5 liters. A human's crucial limit relies upon age, sex, tallness, mass, and ethnicity. Lung volumes and lung limits allude to the volume of air related with various periods of the respiratory cycle. Lung volumes are specifically estimated, though lung limits are induced from volumes. [Hutchinson, J (1846)] This, in turn, increases the amount of energy produced by cellular respiration. Thus, an increase in vital capacity will increase energy production. This is beneficial to the performance of an athlete. During exercise, there is an increased need for oxygen by an athlete's cells and muscles. Exercises in the form of sports, aerobics or workouts, if performed regularly have a beneficial effect on the various systems of the body. Breathing and exercise have always been closely linked in athletic training and keep fit propaganda and any physical effort is quite obviously dependent on efficient pulmonary ventilation. Proper breathing techniques are essential to an athlete, because it can help him or her become more successful during athletic activity, and increases lung capacity. Increasing lung capacity can help an athlete become more energetic during sports, feel more refreshed after the sport, and it can also help him or her prevent respiratory distress. The lung function tests, like other physiological tests must be of the utmost importance for measuring the fitness of an individual from a physiological point of view Vital capacity is the maximum amount of air a person can expel from the lungs after a maximum inhalation. It is equal to the inspiratory

reserve volume plus the tidal volume plus the expiratory reserve volume. It is generally assumed that physically active persons, in sports or at work, have higher vital capacities than physically inactive persons of the same sex, age, height, and weight.

In the study where the lung function measurements were correlated with sport, age, gender, height, and weight in the various athletes. The lung capacity of swimmers was greater than that of other athletes. Hence, the present study was undertaken with a view to compare the vital capacity among different groups of team and combat sportsmen

Material and Method

In present study total sample were comprised of hundred male (50 combat Sports + 50 team Sports persons) subjects. Hundred males were selected from Haryana Universities, Study was conducted on 50 male combat sports persons and 50 male team sports persons. Both (combat and team) Sports persons were those subjects who participated in Inter university level. All subjects were selected by purposive sampling technique.

Statement of problem

“Comparative study of vital capacity between male combat sports and male team sports”

Methodology

Vital capacity was measured with the help of Spiro meter. The unit of measurement for BMD is g/cm².

Purpose

To determine vital capacity of the subjects.

Equipments

Spiro-meter, writing material, Chair.

Procedure

The tester gave instructions in advance to the subject and after that subject was asked to sit on a chair. The Spiro meter was attached with a standard mouth piece. The test

was conducted in sitting position. The mouth piece was disinfected by an antiseptic solution after use by each subject. The subject was asked to be hyperventilating prior to the test, then after the fullest possible inhalation the subject exhaled into the mouth piece slowly and steadily bonding forward, till all the air with in control was expelled. The exhaled air show on the meter. Care will be taken to prevent air from escaping either through the nose or around the edges of the mouth piece and also ensures that a second

breath was not taken by the subject during the test. In case of doubt the test can be repeated. Three trials were given. The score will be recorded in 100 ml. units.

Score

The best out of three trails were recorded as the score of the subjects in litter.

Results

Table 1: Mean, Standard Deviation and ‘t’ value for means scores of vital capacity between male combat and male team sports players

Sr. No.	Variable	Group	N	Mean Score	S.D.’s	t-value
1.	Vital Capacity	Male Combat Sports Players	50	271.90	46.03	7.760**
		Male Team Sports players	50	348.40	52.34	

* Significant at 0.01 level Tabulated Value: 1.96 at 0.05 level 2.58 at 0.01 level

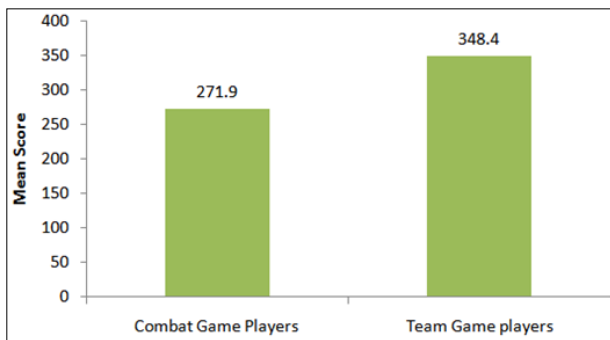


Fig 1: Mean scores of vital capacity between male combat and male team sports players

The table reveals that the t-value (7.760) for the mean scores of vital capacity of male combat and male team sports players is significant at 0.01 level of significance. It shows that male combat and male team sports players differed significantly on vital capacity. Therefore the null hypothesis that “There would be no significant difference in vital capacity of male combat sports players and team sports players” is rejected. It was further found that the mean scores of male team sports players (348.40) is more than the male combat sports players (271.90). It may therefore be concluded that the team male sports players have more vital capacity than male combat sports players.

Discussion

The findings shows mean score of the Vital Capacity among male combat Sports persons and male team Sports persons was 271.90and 348.40 respectively. There was significant difference found in Vital Capacity. It may be probably due to the reason that, male team Sports persons body functions works more efficiently due to their involvement in various training programs for the preparation of competitions. The another reason may be that male combat Sports persons do not participate in extra activities that’s why their lungs do not perform more efficiently in comparison to team Sports persons.

Conclusion

After defining the limitations of the present study describe Vital Capacity: Vital Capacity varies significantly between combat Sports persons and team Sports persons. The male team Sports persons had significantly greater Vital Capacity than male combat Sports persons. It is suggested that the present study can be conducted on large number of subjects of different states between combat Sports person and team

Sportsperson. Similar study can be conducted on Female Sports persons.

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