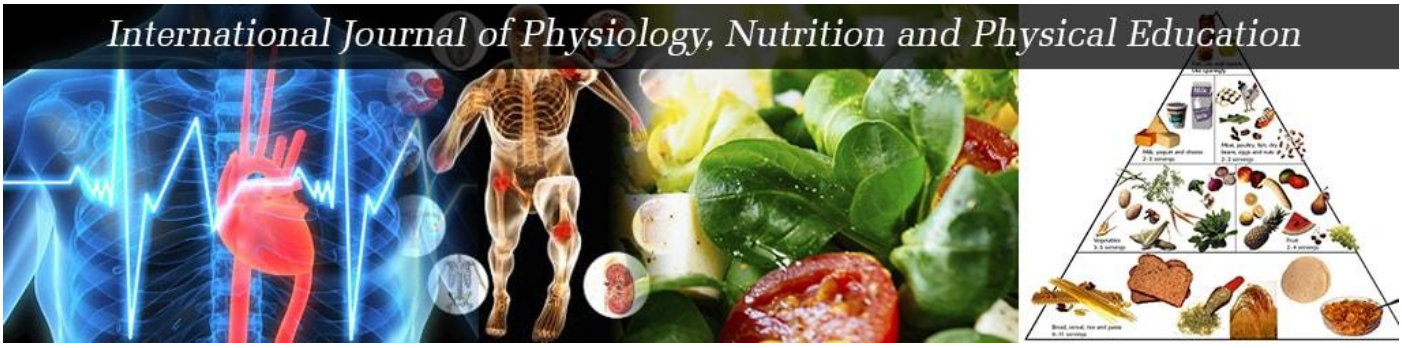

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Effect of physical fitness training on vital capacity of under 19 age group sportsmen

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Abstract
The purpose of the study is to examine the effects of physical fitness programmes that are covered in the academic program of physical education department on the lung function measured through Vital Capacity of u-19 sportsmen. Twenty u-19 sportsmen studying in Govt S.S.S. Gulahar Patiala Punjab (India) had attended the study voluntarily the mean age of these students were 17.5, height were 170.537 cm the weight were 67.755 Kg. The applied training programmed was planned for 7 weeks, 6 days a week and -45 minutes in a day, as the statistical techniques. Mean scores and standard division were take and paired t-test was applied. The significant effects of physical fitness training programmed on vital capacity (t= 4.30, p=<.05) was found in u-19 sportsmen. In the study it was found there is a significant increase in the vital capacity. According to the result, I conclude that physical fitness training programmed in physical education department is academic programmed. It is not only beneficial to increase the lung function and to improve physical fitness of U-19 sportsmen but also to improve the lung functions of players of various sports disciplines and general people.

Keywords: physical fitness, group sportsmen, vital capacity

Introduction
Vital capacity is the maximum amount of air a person can expel from the lungs after a maximum inhalation. It is equal to the sum of inspiratory reserve volume, tidal volume, and expiratory reserve volume. A person's vital capacity can be measured by a wet or regular spirometer. In combination with other physiological measurements A normal adult has a vital capacity between 3 and 5 liter. A human's vital capacity depends on age, sex, height, mass, and ethnicity. Whether an individual is associated with lifestyle diseases or not, lung function is important components of a healthy lifestyle. There are many benefits of sound lung function a better functioning of respiratory system and an improved physiological and psychological well- being. The sound lung related benefits are especially important for people associated with lifestyle disorders who are at greater risk on asthma, coronary artery diseases, arteriosclerosis, cerebral vascular disease, renal diseases, ocular disease and other health problems. Regular exercise has improved the cardio vascular system, decreased some of the risk factors leading to a cardiovascular disease, promoted fat loss, increased muscle mass, increased glucose intake by cells and enhanced well- being of the players. The importance of physical fitness programmers is linked to a higher quality of life as well as sports achievements. It is well- documented that regular physical activity in childhood and adolescence improve strength & endurance, health build, healthy bones & muscles, hips control weights, reduce anxiety and stress, increases self- esteem and may improve cardio reparatory function.

Materials and Methods
Subjects: Twenty u-19 (Age between 17 to19) sportsmen from Govt S.S.S. Gulahar Patiala from voluntary to participate in the physical fitness training programmes. Exclusion criteria were the presence of chronic medical conditions such as asthma, heart disease or any other condition that would put the subjects at risk when performing the experimental tests. The subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs during the programmes. They completed an informed consent document to participate in the study. The age, height, weight and vital capacity of all subjects were

measured by experts. All 20 acted as experimental group for physical fitness training programmes with no control groups.

Applied training programmes

A training programmed was planned for 7 weeks, 6 days a week and 1.5 hours a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises include walking, running, jogging, climbing. The exercise session should consist of the following procedure: Warm - up period will be approximately 10 min., this was combine callisthenic type stretching, exercise and progressive aerobic activity. However, cool down period was 5 min.

Parameters measurements

The lung function was measured by using Vital capacity through spirometer in liters and the spirometer was placed on such a height that all subjects could tested in standing position. The inner dial of the spirometer was set on zero mark of the beginning of the test. The subject was requested to take the breath before starting the test and after exhalation the spirometer was put in the subject's mouth, taking precaution that no air escapes through the edges of the mouth piece. The students exhaled slowly and steadily while bending forward slightly until the maximal volume of air could be exhaled without taking in second breath. The students were instructed to blow out air only through the mouth not through the nose. Each student was provided a trail before the final tests.

Statistical analysis

Statistical technique used for analyzing the collected data in the study was't' value. All the values obtained before and after performing Health related physical fitness programmed. The Student paired

't' test was used to compare parameters within groups. P value of less than 0.05 indicates a significant difference.

Results

The mean age of these students were 17.5, height were 170.537 cm. the weight were 67.755 Kg. Vital capacity was taken from the sedentary u-19 sportsmen.

Table 1: Statistical information of before and after fitness training programme with respect to vital capacity among u-19 sportsmen.

Stages	No.	Means	S.Ds	t-values
Before fitness programmes	20	2214.30	55.86	
After fitness programmes	20	2993.45	61.65	41.8821*

*Significant at 0.05 level

The data obtained before and after health- related fitness programmed with respect to vital capacity were analyzed by t statistics are presented in table. Table depicts that mean of vital capacity before fitness programme was 2214.30 & after fitness training programmed was 2993.45 the t statistics show that there was significant increase in vital capacity after physical fitness training programmed.

Conclusions

It is found that the physical fitness training programme in the physical education schedule has beneficial effects in on the improvement of lung function of u-19 male sportsmen.

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