

Effect of Aerobic Exercises on selected Physiological Variables of College Students

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Abstract

The purpose of this study was to investigate the “effect of aerobic exercise on selected physiological variables among college students.” 30 students from govt. degree college Ganderbal were selected as subjects for the study. 15 students were selected for experimental group and from were kept in control group. The physiological variable for the study was chosen as vital capacity and was measured in litters by spiro meter. Six weeks aerobic training was imparted to the experimental. t test was used as a statistical tool to compare both the groups. The results in general support that there was significant in scores difference between both the groups.

KEYWORDS:- Aerobic Exercises, physiology.

INTRODUCTION:- Health, which is considered as the most precious asset of human being, is highly determined by the physical fitness status of the individual. For leading happy and prosperous life, being healthful is highly essential. An individual needs to be sufficiently physically fit to lead the normal life in comfortable manner, free from different ailments and can enjoy the life to the fullest. Physical exercises are essential to improve and to maintain the physical fitness of individual. Since, different physical exercise target different organs of the body, the selection of exercise should be selectively objective. Fitness can be conceived as the matching of the individual to his or her physical and social environment. Aerobic exercises are advised for health promotion and prophylaxis for many cardiovascular diseases. They refer to all exercises that involve major muscle groups and improve oxygen consumption by the body. Many methods of aerobic exercise are available like walking, jogging, running, cycling, and others. Recent meta-analytical study from western world confirms that aerobic exercise would result in clinically significant reduction in blood pressure. Aerobic exercise such as walking not only improves fitness but also improves overall quality of life and decreases all-cause mortality.

METHODOLOGY:- The aim of this study was to investigate the effect of aerobic exercises on physiological variables on college students. 30 subjects were selected for the study. All the subjects were selected from degree college Ganderbal. In order to find out the effect of aerobic exercises on physiological variables t’ test as a statistical tool was used. The level of significance was set at 0.05. Vital capacity was selected as a physiological variable for the study. 6 weeks aerobic training was given to the experimental group.

Results :-

Table No:-1

Vital Capacity between Pre and Post Tests of control Group

Experimental Group	Mean	S.D	S.E. Comb.	M.D.	D.F.	T.T.

Pre. Test	2486.66	540.98	201.30	210	28	1.04
Post Test	2696.66	561.39				

- Level of Significance=0.05
- Tabulated 't'_{0.05(28)}=2.02

Table No:- 1 reveals that there is no significant difference between means of pre-test and post- tests of control group because mean of post-test is 2696.66 which is slightly higher than mean of pre test 2486.66 and there mean difference is 210 To check significant difference between pre-test and post test of control group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation (SD) was calculated between pre-test and post-test of control is 540.98 and 561.39 and their combined standard error 201.30 therefore after applying 't' test it was found that there was no significant difference between pre-Test and post-test of control group because value of calculated 't' 1.04 which is less than tabulated 't' = 2.02 at 0.05 level of confidence, which shows that there is no significant difference between pre-test and post-test of control group.

Figure 1

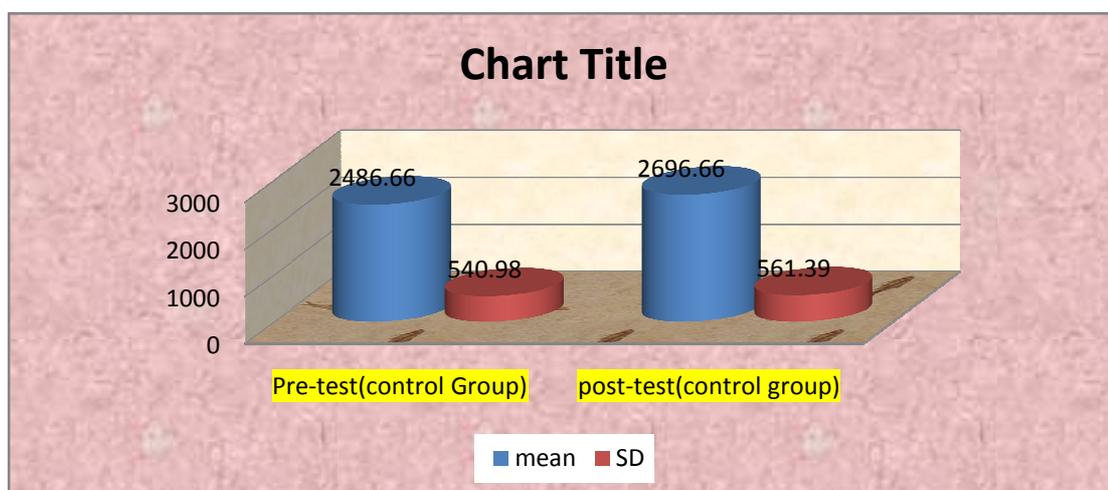


Figure1 Graphical Representation of Pre and Post Test of Control Group

Table No:-2

Vital Capacity between Pre and Post Test of Experimental group

Experimental Group	Mean	S.D	S.E. Comb.	M.D.	D.F.	T.T.
Pre. Test	2780	312.13				

Post Test	3030	271.10	106.74	250	28	2.34
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- Level of Significance=0.05
- Tabulated 't'_{0.05(28)}=2.02

Table No:- 2 reveals that there is a significant difference between means of pre and post tests of experimental group, because mean of pre test is 2780 is less than mean of post test 3030 and there mean difference is 250 To check significant difference between pre and post test of experimental group the data was again analyzed by applying 't' test. Before applying 't' test, standard deviation was calculated between pre test where S.D. =312.13 and after post test S.D. = 271.10 and their combined standard error = 106.74 therefore after applying 't' test it was found that there was a significant difference between pre and post tests of experimental group because value of calculated 't' = 2.34 which is higher than tabulated 't' = 2.02 at 0.05 level of confidence, which shows that there is good improvement in experimental group after six weeks aerobic training .

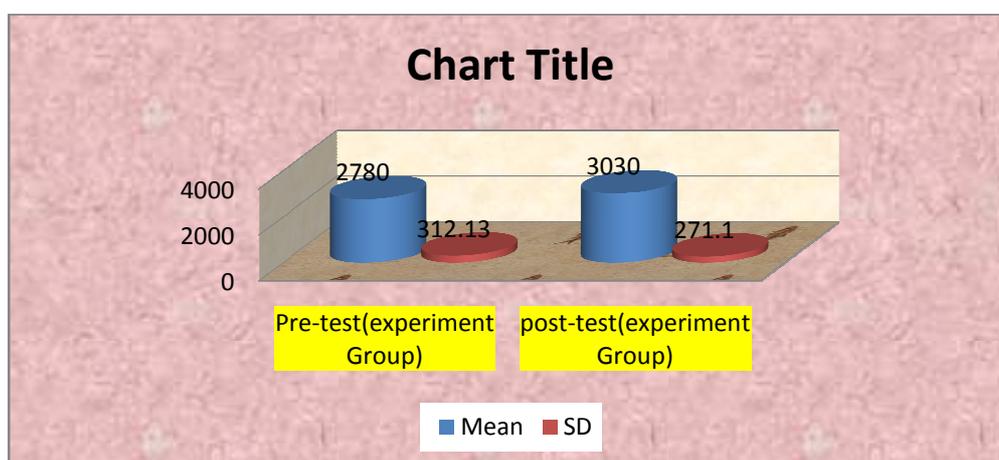


Figure Graphical Representation of Mean Difference between Pre and Post Test of Experimental Group.

Findings of the research:-It has been observed from the analysis of data that significant difference was found in vital capacity after aerobic training Regular participation in aerobic exercise often results in a decrease in resting heart rate. Similar study conducted by M. Muralikrishna and P.V. Shelvam in 2014 on Effect of different intensities of aerobic training on vital capacity of middle aged obese men; The results showed that High intensity aerobic training positively influences the cardiopulmonary (vital capacity). R. Muthu Eleckuvan also conducted a study on “Effectiveness of Fartlek Training on Maximum Oxygen Consumption and Resting Pulse Rate”. He found that the twelve weeks of fartlek training programme significantly improved maximum oxygen consumption and resting pulse rate. These studies are supporting to the result of this study in the relation of aerobic training.

On the basis of the findings it was concluded that the six weeks aerobic training is responsible for the improvement of selected physiological variables like, Vital Capacity (VC). The findings of the current research are compatible with the results of Hickson *et al.* (1977); Burke *et al.* (1994); Talanian *et al.* (2007). The changes in aerobic capacity correspond with changes in stroke volume, cardiac output and expanded a-VO₂ difference (Mc Ardle *et al.* 2001).

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