



EFFECT OF AEROBIC TRAINING ON SELECTED STRENGTH PARAMETERS AMONG PHYSICAL EDUCATION STUDENTS

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Abstract

The purpose of the study was to investigate the effect of aerobic training on selected strength parameters among physical education students. It was hypothesized that there would be significant differences on selected strength parameters due to the effect of aerobic training among physical education students. For the present study the 40 male physical education students from Alagappa University College of Physical Education, Karaikudi district, Tamilnadu were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of twenty each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic training and Group 'B' have not underwent any training. Shoulder strength was assessed by pull ups and medicine ball throw was assessed by shuttle run. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA). The level of significance was set at 0.05. The aerobic training had positive impact on shoulder strength and upper body strength among physical education students.

Keywords: Aerobic training, Motor, Shoulder strength, Upper body strength.

INTRODUCTION

Aerobic exercise means the exercise where all body parts/muscles are supplied with enough oxygen with the increased heart rate. Aerobic exercises include brisk walking, jogging, swimming, cross country, skiing, hopping, and skipping. By doing aerobics, the whole body is used and major muscle groups including legs, trunk and arms get involved. In aerobic exercise the heart rate increases substantially, but never reaches its maximum level. The heart is always able to deliver sufficient oxygen-rich blood to muscles so that they can derive energy from fat and glycogen aerobically. Aerobic exercises builds stamina for sports and it also is the most important form of exercise for health, since it increases the efficiency of heart, circulation and muscles. Aerobic exercise is the keystone of fitness by doing aerobics it increases the capillary network in the body. Aerobics is a good way to decrease our percentage of body fat and to attain the other metabolic benefits of fitness. Aerobics is also a very good way to develop musculo skeletal fitness while building strength, flexibility and coordination (Burgess et al. 2006).

METHODOLOGY

The purpose of the study was to investigate the effect of aerobic training on selected strength parameters among physical education students. It was hypothesized that there would be significant differences on selected strength parameters due to the effect of aerobic training among physical education students. For the present study the 40 male physical education students from Alagappa University College of Physical Education, Karaikudi

district, Tamilnadu were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of twenty each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic training and Group 'B' have not underwent any training. Shoulder strength was assessed by pull ups and medicine ball throw was assessed by shuttle run. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA). The level of significance was set at 0.05.

RESULTS

The findings pertaining to analysis of co-variance between experimental group and control group on selected strength parameters among physical education students for pre-post test respectively have been presented in table I to II.

TABLE I
ANCOVA BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ON SHOULDER STRENGTH OF
PHYSICAL EDUCATION STUDENTS FOR PRE, POST AND ADJUSTED TEST

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	5.95	5.74	BG	0.31	1	0.31	0.85
			WG	13.76	38	0.36	
Post Test Mean	8.12	6.07	BG	32.05	1	32.02	53.81*
			WG	22.63	38	0.59	
Adjusted Post Mean	8.11	6.08	BG	30.71	1	30.71	50.50*
			WG	22.50	37	0.60	

* Significant at 0.05 level.

df: 1/37= 4.10

Table I revealed that the obtained 'F' value of 50.50 was found to be significant at 0.05 level with df 1, 37 as the tabulated value of 4.10 required to be significant at 0.05 level. The same table indicated that

there was a significant difference in adjusted means of shoulder strength of physical education students between experimental group and control group. The graphical representation of data has been presented in figure I.

FIGURE I
COMPARISONS OF PRE – TEST MEANS POST – TEST MEANS AND ADJUSTED POST – TEST MEANS FOR
CONTROL GROUP AND EXPERIMENTAL GROUP IN RELATION
TO SHOULDER STRENGTH

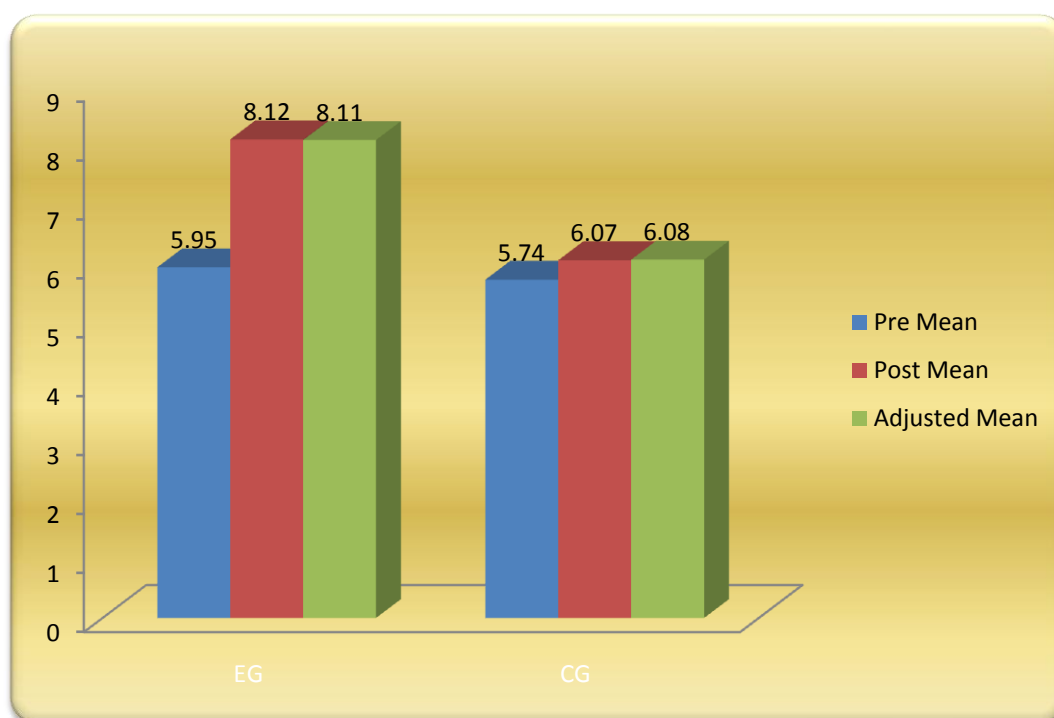


TABLE II
ANCOVA BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ON UPPER BODY STRENGTH OF PHYSICAL EDUCATION STUDENTS FOR PRE, POST AND ADJUSTED TEST

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	4.92	5.02	BG	0.06	1	0.06	1.05
			WG	2.17	38	0.05	
Post Test Mean	6.38	4.91	BG	14.54	1	14.54	252.29*
			WG	2.19	38	0.05	
Adjusted Post Mean	6.37	4.92	BG	14.65	1	14.65	311.52*
			WG	1.74	37	0.04	

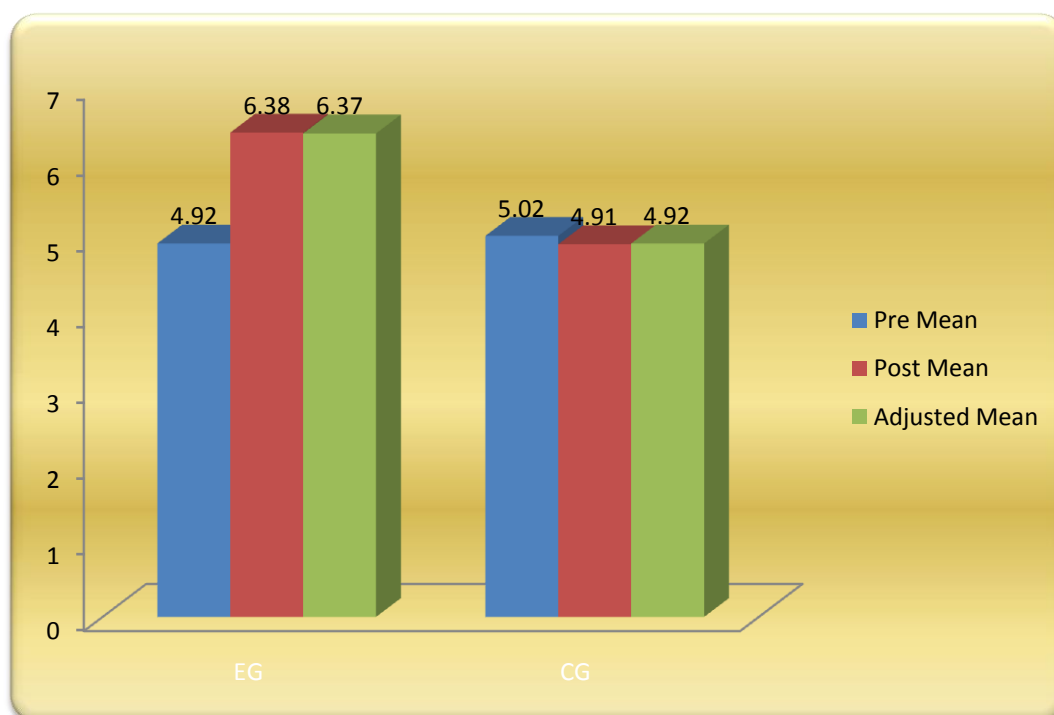
* Significant at 0.05 level.

df: 1/37= 4.10

Table II revealed that the obtained 'F' value of 311.52 was found to be significant at 0.05 level with df 1, 37 as the tabulated value of 4.10 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of

upper body strength of physical education students between experimental group and control group. The graphical representation of data has been presented in figure II.

FIGURE II
COMPARISONS OF PRE – TEST MEANS POST – TEST MEANS AND ADJUSTED POST – TEST MEANS FOR CONTROL GROUP AND EXPERIMENTAL GROUP IN RELATION TO UPPER BODY STRENGTH



CONCLUSION

On the basis of findings and within the limitations of the study the following conclusions were drawn:

1. The aerobic training had positive impact on shoulder strength and upper body strength among physical education students.

2. The experimental group showed better improvement on shoulder strength and upper body strength among physical education students than the control group.

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