



EFFECT OF AEROBIC EXERCISES ON SELECTED HEALTH RELATED PHYSICAL FITNESS VARIABLES AMONG SCHOOL GIRLS

BABY SHIJANSHA K.P.

Physical Education Teacher, Sir Syed Higher Secondary School, Karimbam, Thaliparamba, Kannur, Kerala.

Abstract

The purpose of the study was to find out the effect of aerobic exercises on selected health related physical fitness variables among school girls. It was hypothesized that there would be significant differences on selected health related physical fitness variables due to the effect of aerobic exercises among school girls. For the present study the 30 school girls from Sir Syed Higher Secondary School, Karimbam, Thaliparamba, Kannur, Kerala were selected at random and their age ranged from 14 to 16 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 fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic exercises and Group 'B' has not undergone any training. Muscular strength was assessed by flexed arm hang and muscular endurance was assessed by sit ups test. The data was collected before and after six weeks of training. The data was analyzed by applying dependent 't' test. The level of significance was set at 0.05. The aerobic exercises had positive influence on muscular strength and muscular endurance among school girls.

Keywords: Aerobic exercises, Muscular strength, Muscular endurance, School girls.

INTRODUCTION

Aerobic exercise is the exercise that involves or improves oxygen consumption by the body. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy generating process. They are several kinds of aerobic exercise which are performed at moderate levels of intensity for extended periods of time. To obtain the best results, an aerobic exercise session involves a warming up period, followed by at least 20 minutes of moderate to intense exercise, involving large muscle groups, and a cooling down period at the end. Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength and cardio – vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor, although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance like exercises. Formal aerobics classes are divided into different levels of intensity and complexity. Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer a wide variety of aerobic classes for participants. Each class is designed for a certain level of experience and taught by a certified instructor with a specialty area related to their particular class (Cooper, 1985).

METHODOLOGY

The purpose of the study was to find out the effect of aerobic exercises on selected health related physical fitness variables among school girls. It was hypothesized that there would be significant differences on selected health related physical fitness variables due to the effect of aerobic exercises among school girls. For the present study the 30 school girls from Sir Syed Higher Secondary School, Karimbam, Thaliparamba, Kannur, Kerala were selected at random and their age ranged from 14 to 16 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 fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic exercises and Group 'B' has not undergone any training. Muscular strength was assessed by flexed arm hang and muscular endurance was assessed by sit ups test. The data was collected before and after six weeks of training. The data was analyzed by applying dependent 't' test. The level of significance was set at 0.05.

RESULTS

The findings pertaining to analysis of dependent 't' test between experimental group and control group on selected health related physical fitness variables among school girls for pre-post test respectively have been presented in table I and II.

TABLE –I
SIGNIFICANCE OF MEAN GAINS & LOSSES BETWEEN PRE AND POST TEST SCORES ON SELECTED
VARIABLES OF AEROBIC EXERCISES GROUP (AEG)

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Muscular strength	28.14	32.23	4.09	0.71	0.15	25.23*
2	Muscular endurance	31.60	36.13	4.53	1.58	0.33	13.02*

* Significant at 0.05 level

Table I shows the obtained 't' ratios for pre and post test mean difference in the selected variable of muscular strength (25.23) and muscular endurance (13.02). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (1, 14) it was found to be statistically significant at 0.05 level of

confidence. It was observed that the mean gain and losses made from pre to post test were significantly improved in health related physical fitness variables namely muscular strength (4.09, $p < 0.05$) and muscular endurance (4.53, $p < 0.05$) thus the formulated hypothesis is accepted.

FIGURE- I
COMPARISONS OF PRE – TEST MEANS AND POST – TEST MEANS FOR EXPERIMENTAL GROUP IN
RELATION TO HEALTH RELATED PHYSICAL FITNESS VARIABLES

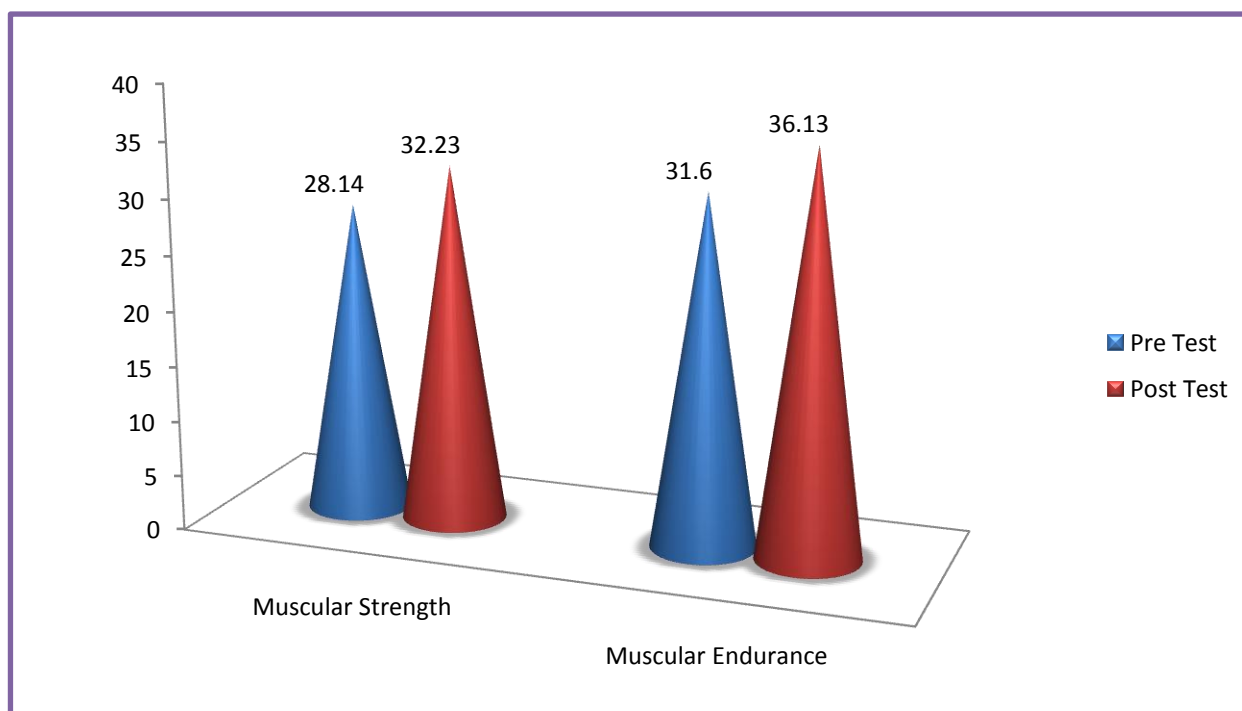


TABLE – II
SIGNIFICANCE OF MEAN GAINS & LOSSES BETWEEN PRE AND POST TEST SCORES ON SELECTED
VARIABLES OF CONTROL GROUP (CG)

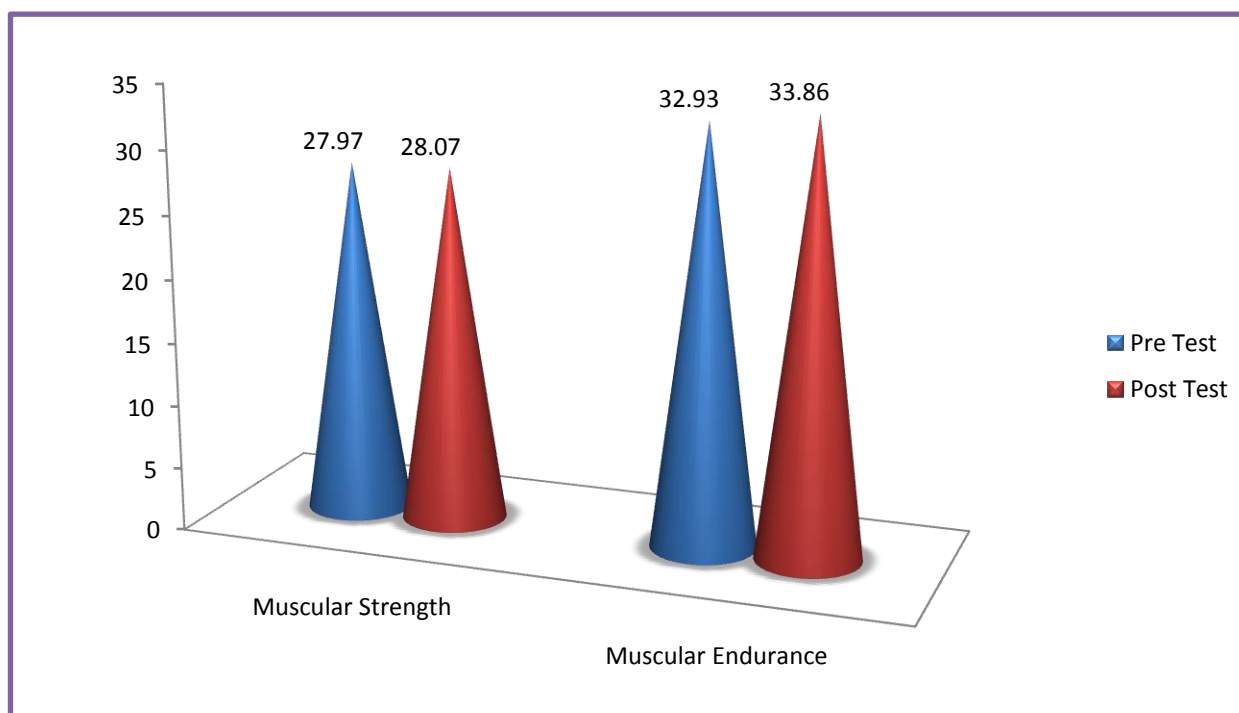
S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Muscular strength	27.97	28.07	0.10	0.63	0.20	0.41
2	Muscular endurance	32.93	33.86	0.93	1.28	0.34	0.13

* Significant at 0.05 level

Table II shows the obtained 't' ratios for pre and post test mean difference in the selected variable of muscular strength (0.41) and muscular endurance (0.13). The obtained ratios when compared with the table value of 2.14 of the degrees of freedom (1, 14) it was found to

be statistically significant at 0.05 level of confidence. It was observed that the mean gain and losses made from pre to post test were not significantly improved in health related physical fitness variables.

FIGURE II
COMPARISONS OF PRE – TEST MEANS AND POST – TEST MEANS FOR CONTROL GROUP IN RELATION
TO HEALTH RELATED PHYSICAL FITNESS VARIABLES



DISCUSSIONS ON FINDINGS

In case of health related physical fitness variables i.e. muscular strength and muscular endurance the results between pre and post test has been found significantly higher in experimental group in comparison to control group. This is possible because due to regular aerobic exercises which may also bring swift burst in health related physical fitness variables in school girls. The findings of the present study have strongly indicates that aerobic exercises of six weeks have significant effect on selected health related physical fitness variables i.e., muscular strength and muscular endurance of school girls. Hence the hypothesis earlier set that aerobic

exercises programme would have been significant effect on selected health related physical fitness variables in light of the same the hypothesis was accepted.

CONCLUSIONS

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

1. The aerobic exercises had positive influence on muscular strength and muscular endurance among school girls.
2. The experimental group showed better improvement on muscular strength and

muscular endurance among school girls than the control group.

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