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Effect of aerobic exercise on physical variable of pre adolescents

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Abstract

The purpose of the study was to find out the effect of aerobic exercise on selected physical variable of school children. It was hypothesized that there would be significant differences on selected physical variable due to the effect of aerobic exercise of pre-adolescents. For the present study the 60 secondary girls from Adarsh Vidyalaya School pandavapura, Mandya district, Karnataka were selected at random and their age ranged from 14 to 16 years. 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 thirty each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic exercise and Group 'B' has not undergone any training. The level of significance was set at 0.05. Muscular strength was assessed by Flexed Arm Hang test. The data was collected before and after sixteen weeks of training. The aerobic exercise had positive impact on muscular strength among school children.

Keywords: Aerobic exercise, school (girls) children, muscular strength

Introduction

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 (fitness professional), 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. A well-balanced aerobics class will have five components: warm-up (5–10 minutes), cardio vascular conditioning (25–30 minutes), muscular strength and conditioning (10–15 minutes), cool-down (5–8 minutes) and stretching and flexibility (5–8 minutes). Aerobics classes may allow participants to select their level of participation according to their fitness level. Many gyms offer a variety of aerobic classes. 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.

Methodology

The purpose of the study was to find out the effect of aerobic exercise on physical variable of school children. It was hypothesized that there would be significant differences on physical variable due to the effect of aerobic exercise on physical variable of school children. For the present study the 60 school girls from Adharsha Vidyalaya School Pandavapura, Karnataka 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 thirty each and named as group 'A' and Group 'B'. Group 'A' underwent aerobic exercise and Group 'B' has not undergone any training. The data was collected before and after sixteen week of training. The data was analysed by applying dependent t test. The level of significance was set at 0.05 of pre adolescents in Aerobic exercise group.

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Table 1: Variables and test

S. No.	Variables	Test
1	Muscular Strength	Flexed Arm Hang

Table 2: Results of Paired T-test between Pre-test and Muscular strength Score of pre-adolescents in control group and Aerobic group.

Groups	Time	Mean	Std.Dv.	Mean Diff.	SD Diff.	Paired t	P-value
Control group	Pre-test	19.47	5.17				
	Post-test	19.50	4.89	-0.03	2.74	-0.0566	0.9552
Aerobic exercise group	Pre-test	18.48	6.82				
	Post-test	25.50	9.39	-7.01	3.43	-11.1933	0.0001*

*Significant at 0.05 level

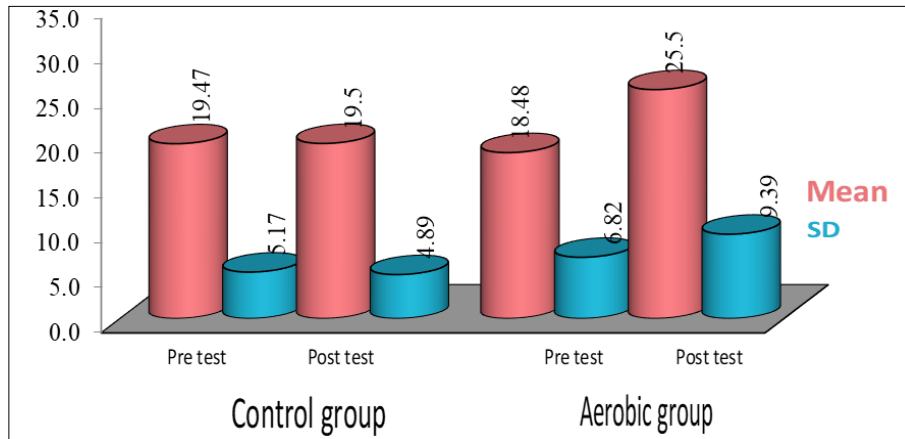


Fig 1: Comparison of two groups with pretest and posttest mean muscular strength scores

Fig 1: Results of Paired T-test between Pre-test and Muscular strength Score of pre-adolescents in Control group and Aerobic group.

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Discussion and findings

Muscular strength result between pre and post test has been found significantly higher in experimental group in comparison to control group. This is possible because of due to Aerobic exercises which may also bring spurt in Physical variables in school children. The finding of the present study have strongly indicates that Aerobic exercises of sixteen weeks have significant effect on Muscular strength of pre-adolescent. Hence the hypothesis earlier set that Aerobic exercises programme would have been significant effect on Muscular strength in light of the same the hypothesis was accepted.

Conclusion

On the basis of finding and within the limitation of the study the following conclusion was draws:

1. The Aerobic exercises had positive impact on selected Muscular strength among pre-adolescent.
2. The experimental group showed improvement on selected physical fitness variables of pre-adolescents than the control group.

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