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EFFECT OF AEROBIC EXERCISES ON SELECTED PHYSICAL FITNESS VARIABLES AMONG SCHOOL BOYS

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Abstract

The purpose of the study was to examine the effect of aerobic exercises on selected physical fitness variables among school boys. To achieve the purpose of the study thirty school boys were selected randomly from Government Hr. Sec. School, Sirumugaipudur, Coimbatore,, Tamilnadu state, India were selected as subjects at random and their age ranged from 15and 18 years. The subjects were divided into two groups consisting of 15 each. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwentaerobic exercise and Group 'B' underwent no training. The experimental group had undergone training for six weeks on alternate days. The variables namely speedand flexibility were calculated and the data were subjected to analysis of covariance technique. It was found that the aerobic exercisestraining group showed significant improvement on speedand flexibilityamong school boys. It was also found that the experimental group had shown significant improvement on speedand flexibility than the control group.

Keywords. Aerobic exercises, Physical fitness, School boys.

INTRODUCTION

Aerobics is a form of physical activity that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness, flexibility, muscular strength, and cardiovascular fitness. It is usually performed to music and may be practiced in a group although it can be done solo and without musical equipment. With the goal of preventing illness and promoting physical fitness practitioners perform various routines comprising a number of different dance like exercise. Aerobics is a vigorous physical activity that can provide an inexpensive and practical workout for most people. Aerobic fitness helps to promote the cardio- respiratory system from disease and it promotes physical, mental, emotional and spiritual development. Aerobic program can be started at any age and the intensity of the program can also be suited to meet the larger needs of the individual.

The aerobics was developed by Gin Miller while she was recovering from a knee injury, a trend that took the aerobics industry by storm. This extremely popular style involves ping up and down from a platform 15 to 30 centimeters (6 to 12 inches) high while performing different combinations. (Donatelle, 2005)

Aerobics exercises produce forces that will stretch, squeeze, bend, twist and vibrate the bones, muscles, joints, tendons and ligaments. Regular exposure to moderately high level of force is actually desirable because mechanical stress will produce structural changes that toughen important anatomical structures. For example, over a period of time the force exerted on the body during moderately vigorous exercise can increase the density of bone so that it resists craking and breaking. Exercise can also increase the tensile strength of tendons and ligaments so that they are less likely to be stretched or torn.

Researchers reported that the energy cost of training increased steadily as platform height was increased. The average values of energy cost of ping at the lower end of the range (4" and 6" platform heights) is approximately equivalent to the values obtained for brisk walking on horizontal ground. As the upper end (10" and 12" platform heights) the range of values reported is similar to those obtained for jogging at speed of 5 to 7 miles per hour. However, the estimates of energy cost at any one platform height vary from group to group. These differences probably reflect differing fitness level of the subjects used in the investigations, and the different choreographic routines used by each of the groups.

The overall energy cost of any routine will depend on the combination of s that is used by the choreographer. Any routine that has a large proportion of s that has a large proportion of lunges and traveling alternating lead s will have greater energy cost than a routine that consists largely of basic s and lateral s across the top of the platform. (Reebel, 1993)

To ensure safe and effective aerobic exercise programmes with training, educational organizations emerged to help guide the aerobics industry. The fundamental components of the aerobic exercise programme consists of five segments: the warm – up or pre stretch (10 min) the aerobic segment (20 – 45 min)

cool down (5-10 minutes), strength work (10-20 min) and the final stretch (5-10 min).(David, 1996)

MATERIALS AND METHODS

The purpose of the study was to examine the effect of aerobic exercises on selected physical fitness variables among school boys. To achieve the purpose of the study thirty school boys were selected randomly from Government Hr. Sec. School, Sirumugaipudur, Coimbatore,, Tamilnadu state, India were selected as subjects at random and their age ranged from 15and 18 years. The subjects were divided into two groups consisting of 15 each. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent aerobic exercise and Group 'B' underwent no training. The experimental group had undergone training for six weeks on alternate days. The variables namely speed and flexibility were calculated and the data were subjected to analysis of covariance technique.

TABLE – I
TRAINING PROGRAMME

S.No	Exercises	Repetition	Sets	Recovery
1	Basic	8	3	2-3 Mins
2	A-			
3	V-			
4	Touch			
5	Knee Up			
6	Grapevine			

RESULTS AND DISCUSSIONS

The results were presented in the following tables II to IV.

TABLE - II
DESCRIPTIVE ANALYSIS 't' RATIO OF SELECTED PHYSICAL FITNESS VARIABLES OF AEROBIC DANCE GROUP

Sl.No	Variables	Pre Test Mean	SD (±)	Post Test Mean	SD (±)	Adjusted Mean	't' Ratio
1	Speed	8.05	**0.52**	**7.50**	0.12	**8.04**	**8.10***
2	Flexibility	20.33	**0.42**	22.13	0.57	**22.08**	**5.17***

The above table documents the pre &post tests means, standard deviations and adjusted mean values of aerobic dance group on selected variables. The obtained't' ratios were 8.10and 5.17 for speed *and* flexibility respectively. The obtained't' ratios on the selected variables were found to be greater than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be significant.

TABLE - III
DESCRIPTIVE ANALYSIS OF 't' RATIO SELECTED PHYSICAL FITNESSVARIABLES OF CONTROL GROUP

Sl.No	Variables	Pre Test Mean	SD (±)	Post Test Mean	SD (±)	Adjusted Mean	't' Ratio
1	Speed	**8.10**	**0.52**	**8.06**	**0.50**	**8.07**	**1.15**
2	Flexibility	**20.13**	**0.29**	**20.10**	**0.33**	**20.09**	**0.90**

The above table documents the pre and post-tests means, standard deviations and adjusted mean values of control group on selected variables. The obtained't' ratios were 1.15 and 0.90 for speed *and* flexibility respectively. The obtained't' ratios on the selected variables were found to be lesser than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be insignificant.

DISCUSSIONS AND CONCLUSIONS

In case of physical fitness variables i.e. speed and flexibility the results between pre and post (6 weeks) test has been found significantly higher in experimental group in comparison to control group. The findings of the present study have strongly indicates that aerobic dance training of six weeks have significant effect on selected physical fitness variables i.e. speed and flexibility among school boys. Hence the hypothesis earlier set that aerobic dance training programme would have been significant effect on selected physical fitness in light of the same the hypothesis was accepted.

From the analysis of data, the following conclusions were drawn.

1. It was found that the aerobic group showed significant improvement on speed and flexibility among school boys.
2. It was also found that the experimental group shown significant improvement on speed and flexibility than the control group.

REFERENCE

1. Aellen, R., W. Hollmann and U. Boutellier, " Effects of Aerobic and Anaerobic Training on Plasma Lipoproteins", *International Journal of Sports Medcine*.14:7,1993.
2. Cooper, Kenneth H., M.S., the *New Aerobics*. New York: Bantam Books, p.30.
3. Colcombe, S.J, and K.I. Ericken " Aerobic Exercise Training increases Brain Volume in Aging Humans" – *Biological Sciences and Medical Sciences Journal*,1,Nov.2006,61:11,p1166-1170.
4. Garber, C.E., MckineeyJ.S.and Carleton, R.A., "Is Aerobic Dance and effective alternative to Walk-Jog Exercise Training?*J. Sports Med. Phys.Fitness*, 32:2 June 1992, p.136-41.
5. Gharote, M.M., Minimum muscular fitness in school children, Lonavala. *Indian Journal of Physiology and Pharmacology*, Oct: 2000, 44(4);479-84.
6. Gillett, P.A, and Elsenman, P.A., "The effect of Intensity controlled Aerobic Dance Exercise on Aerobic Capacity of middle aged, overweight Women", *Res. Nurse. Health*, 10:6, Dec, 1987, p.383-90.
7. Eckerson, J. and T. Anderson, "Physiological response to Water Aerobics", *J. Sports Med. Phys.Fitness*,32:3 Sept 1992,p.255-61.
8. Hager,R.L., Tucker L.A, and Seljaas, G.T. "Aerobic Fitness, Blood Lipids and Body Fat in Children", *Am.J.Public Health*, 85:12, Dec., 1995, p.1702-06.