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Effect of aerobic dance on muscular endurance

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Abstract

The purpose of the study was to determine the effect of Aerobic dance training programme on Muscular endurance. Randomly selected 60 high school boys were divided into two equal groups as A and B. After taking the pre-test for Muscular endurance the training programme was given to experimental groups A where as the group B was a control group. The experimental group 'A' had undergone the training programme in Aerobic dance, thrice a week for 16 weeks. Two middle tests after 5 weeks and 10 weeks and a post test were conducted. The t-test was employed to analyse the significance of difference from the pre-test to post test on selected variable. The result reveals that there was significant improvement in Muscular endurance for the experimental group as a result of the training programme conducted for a period of four months.

Keywords: Aerobic dance, muscular endurance, post test

Introduction

People today have experienced more changes and crises than of any other generation. Advancement in modern technology has evolved our present day society to exist in a world, where the concept of hard or even moderate physical work is unfashionable. The reduction in the work load of the people have caused an alarming decline in the attitude of individuals towards physical activity. This in turn has caused a physical inability which makes people refrain from the hard tasks of life.

Aerobic dance can best be defined as continuous movement exercise, locomotor movement and dance steps performed to music. The variety and style of the movement and the musical accompaniment provide as many forms of aerobic dance programme as there are interests and tastes of people performing them. In contrast to a competitive or solitary fitness programme, aerobic dance provides an opportunity for people of widely different levels of physical ability to participate together in the same facility, with the same musical accompaniment engaging in exercises and skills which have been choreographed according to the needs of each individual. Aerobic dance, when planned appropriately for individual participants can be very effective in building cardiovascular endurance and skeletal muscles effectively. Many children and adults have found this type of dancing and exercising amusing as it is accompanied by music. The main objective of dance aerobics, like many form of aerobics is to increase the maximum amount of oxygen that the body can process in a given amount of time (Kaystoll, Sharon and Marie Beller, Jennifer, 1989) ^[1]

Muscular endurance is the ability to sustain a given level of muscle tension- that is to hold a muscle contraction for a long period of time or to contract a muscle over and over again (Miller, K. David, 1994) ^[2]. Muscular endurance is important for good posture and for the prevention of injury. It helps people to cope with the physical demands of every day life and enhances performance in sports and work. It is also important for most leisure and fitness activities.

Sit-ups test is used to measure abdominal endurance, The test performer assumes a supine position on the mat with the knees flexed, feet flat on the mat, and the heels between 12 and 18 inches from the buttocks. The hands are interlocked behind the neck. A test partner holds the feet of the test performer to keep them in contact with the mat. On the signal, "Go", the test performer (1) curls to a sitting position and touches the knees with the elbows (2) curls back to the floor to the full lying position and (3) continues to perform as many sit-ups as possible in 60 seconds. The test administrator should use the signal "Ready, Go" to begin the test and the

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word “stop” to conclude the test at the end of 60 seconds. Pausing between sit-ups is permitted. The score is the number of sit-ups correctly performed during the 60 seconds.

Objective of the study

The purpose of the study was to determine the effect of Aerobic dance training programme on Muscular Endurance of high school boys. The study may help the people to know the effect of Aerobic dance, on selected variable of health related physical fitness and probably make an impact on the public to follow Aerobic dance will help to maintain good health and fitness. Further, this study may educate parents and academicians of school education to include Aerobic dance in their co- curricular programmes.

Hypotheses

There will be significant improvement in Muscular Endurance of high school boys as a result of training programme in

Aerobic dance.

Design of the study

Randomly selected 60 subjects were divided into two equal groups as A, and B. After taking the pre-test for Muscular Endurance (Sit ups test), the training programme was given to experimental groups A where as the group B was the control group. The experimental group ‘A’ had undergone the training programme in Aerobic dance, thrice a week for 16 weeks. Two middle tests after 5 weeks and 10 weeks and a post test were conducted.

Analysis of Data and Discussion of Findings

The t-test was employed to analyse the significance of difference from the pre-test to post test on selected variables. The level of significance chosen was 0.05.

The following table of statistical descriptions reveal the effect of training programme in Aerobic dance.

Table 1: Significance of Differences between the Initial and final means of the aerobic dance and control groups on muscular endurance

Groups	Means				MD	SD	SE	‘t’ value
	Initial	First middle test	Second middle test	Final				
Aerobic dance Group (N=30)	31.5667	33.333	36.233	38.3667	6.80	1.29721	0.2368	28.712*
Control Group (N=30)	29.2333	29.20	29.066	28.9667	0.2667	0.78492	0.1433	1.861

* Significant at 0.05 level
 ‘t’ value required at 0.05 level = 2.045 (df 29)

The above table indicates that the Aerobic dance group exhibited significant improvement in muscular endurance with initial mean score (31.5667) and the final mean score (38.3667). Further, it picturizes that the obtained ‘t’ value (28.712) is much higher than the tabulated ‘t’ value (2.045) at 29 degrees of freedom. Hence the obtained ‘t’ value was found to be highly significant at 0.05 level. On the contrary, the initial mean value (29.2333) and final mean value (28.9667) of control group showed negligible difference. Further the obtained ‘t’ value (1.861) is less than the required ‘t’ value (2.045) which was insignificant at 0.05 level. The initial, 2 middle tests and final means of Aerobic dance and Control groups on muscular endurance are diagrammatically shown below.

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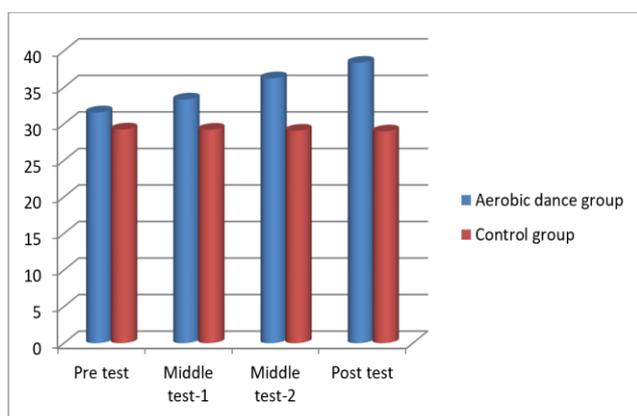


Fig 1: Graphical Representation of Mean difference of Aerobic dance and Control groups on muscular endurance

Conclusion

Based on the analysis of statistical results, it was observed that there was significant improvement in Muscular strength for the experimental group as a result of the training programmes conducted for a period of four months. There was no significant improvement shown by the control group.