

**INFLUENCE OF DIFFERENT INTENSITY AEROBIC DANCE TRAINING ON STRENGTH ENDURANCE AMONG
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Nadu, India.****Dr. George Abraham****Assistant Professor, Department of Physical Education and Sports Sciences, Annamalai University,
Tamil Nadu, India.****Abstract**

The purpose of the present study was to find out the influence of different intensity aerobic dance training on strength endurance among young boys. A total of forty five young boys students ($n = 45$) were randomly selected as subjects and their age was ranged from 14 to 18 years. The selected subjects were further assigned into three equal groups of fifteen subjects each ($n = 15$), they were named as experimental group I underwent high intensity aerobic dance training; experimental group II underwent medium intensity aerobic dance training and the third group was acted as control group. The control group does not do any specific training while the training duration. The training was extended twelve weeks and three sessions per week. Strength endurance was selected as criterion variable and it was measured by using the standard test item of sit-up test. The data were collected before and after the training duration and the collected data were analysed by using the SPSS statistical tool of analysis of covariance (ANCOVA). The Scheffe's test was applied as a post hoc test to determine the paired mean difference if any. The result of the study shows that there was a significant change on strength endurance among the selected groups of high intensity and medium intensity, high intensity and control group, medium intensity and control groups. It was further concluded that the high intensity aerobic dance training was produced better result than the medium intensity workouts.

Keywords: Strength endurance, high intensity aerobic dance, medium intensity aerobic dance.

Introduction

A sedentary lifestyle poses a threat to individuals' health because it can lead to an increase or progression in the risk of hypertension, obesity, muscle weakness, postural defects, diabetes and coronary heart disease (CHD) in middle-aged people (Mokdad et al., 2003). The prevalence of obesity is continuing to rise in developing countries (Kenchiah et al., 2002). Obesity is known to be closely associated with some major health risk factors, such as CHD and certain metabolic disorders (Rexrode et al., 1997).

Strength endurance is the specific form of strength displayed in activities which require a relatively long duration of muscle tension with minimal decrease in efficiency (www.brianmac.co.uk). In another words the strength endurance is the ability to produce force for time. The more strength we can generate, and the longer we can do it for, the faster we will ultimately travel over distance (breakingmuscle.com).

Aerobic dance may be defined as the system of exercises combining aerobics with dance steps and usually done to music (dictionary.infoplease.com). Aerobic exercise to music or dance aerobics was especially popular during the last few years of the 20th century, primarily among women. A characteristic of this kind of exercise is that all of the people who are participating in the exercise to music program realize certain movements in the same rhythm and tempo, activating different muscle groups at the same time. Aerobic dance exercises have typically been developed as an aerobic exercise to reduce body compositions as well as improve physical fitness and performance (Kimura & Hozumi, 2012).

Materials and Methods

The aim of the present study was to determine the influence of different intensity aerobic dance training on strength endurance among young boys. Forty five young boys students ($n = 45$) were randomly selected as subjects. All the subjects were students of a single school of Government Vocational Higher Secondary School, Karadka in Kerala State. The subjects were further randomly assigned into three different groups of fifteen ($n = 15$) each in strength. The age of the selected subjects were ranged between 14 and 18 years. The first group was named as high intensity aerobic dance training group and the second group was named as a medium intensity aerobic dance training group and the third group was acted as control group. They were not involved in any special training programme

while the training duration. The training was extended a total of 12 weeks duration and three sessions per week. The training programme was made with the consultation of experts and the training was conducted with the supervision of the researcher. Strength endurance was selected as the dependent variable for the present study and it was measured by using the standard test item of sit-up test. The aerobic dance training was scheduled in the evening between 4.30 to 5.30 pm. The training was included proper warming up around 10 minutes; aerobic dance training programme for 30 to 40 minutes and the session was concluded with 10 minutes cooling down programme.

Results and Discussion

Table- I

Analysis of Covariance of Different Intensity of Aerobic Dance Training groups on Strength Endurance

Group		High	Medium	Control	SOV	SS	df	Mean Squares	F-Ratio
Pre Test	Mean	18.40	18.60	18.00	B	2.80	2	1.40	0.13
	SD	2.92	3.48	3.40	W	451.20	42	10.74	
Post Test	Mean	29.06	26.20	18.46	B	901.91	2	450.95	57.55*
	SD	2.78	2.04	3.39	W	329.06	42	7.83	
Adjusted Post Test		29.02	26.03	18.69	B	844.48	2	422.24	133.31*
					W	129.86	41	3.17	

*Significant $F = (df 2, 42) (0.05) = 3.22$; $(P \leq 0.05)$ $F = (df 2, 41) (0.05) = 3.23$; $(P \leq 0.05)$

The table I shows that, the pre test mean values on strength endurance for the high intensity, medium intensity aerobic dance training groups and the control group are 18.40, 18.60 and 18.00 respectively. The obtained 'F' ratio of 0.13 for pre test is lower than the required table value 3.22 with df 2 and 42 at 0.05 level of confidence. Hence there is no significant change on strength endurance among the selected subjects. The post test mean values of high intensity, medium intensity aerobic dance training groups and the control group are 29.06, 26.20 and 18.46 respectively. The obtained 'F' ratio of 57.55 for the post test mean is greater than the required table value of 3.22. And also the adjusted post test mean values of strength endurance for the different intensity aerobic dance training groups and the control group were 29.02, 26.03 and 18.69. The obtained 'F' ratio of 133.31 for the adjusted post test

is also greater than the required table value of 3.23 with df 2 and 41 for significance at the 0.05 level of confidence. Hence, the results of the study showed that there was a significance difference exists between different intensity aerobic dance training groups and the control group on strength endurance among the selected subjects. Further to determine, which of the paired mean has a significant improvement, Scheffe's test was applied as a post hoc test.

Table - II

Scheffe's Test for the difference between the Adjusted Post-Test Mean of Strength Endurance

<i>Adjusted Post Test Mean</i>			<i>Mean Difference</i>	<i>CI</i>
<i>High Intensity Group</i>	<i>Medium Intensity Group</i>	<i>Control Group</i>		
29.02	26.03	-	2.99*	1.65
29.02	-	18.69	10.33*	
-	26.03	18.69	7.34*	

*Significant at 0.05 level of Confidence

Table II shows that, the adjusted post-test mean difference in strength endurance between high intensity and medium intensity, high intensity and control group, medium intensity and control groups are 2.99, 10.33 and 7.34, which are greater than the CI of 1.65. Hence the result of the study showed that there was a significant change occurred on strength endurance among the selected groups of high intensity and medium intensity, high intensity and control group, medium intensity and control groups. It was further concluded that the high intensity aerobic dance training was produced better result than the medium intensity workouts. The pre, post and adjusted post test mean values of high intensity, medium intensity and the control group on strength endurance was graphically represented in the figure 1.

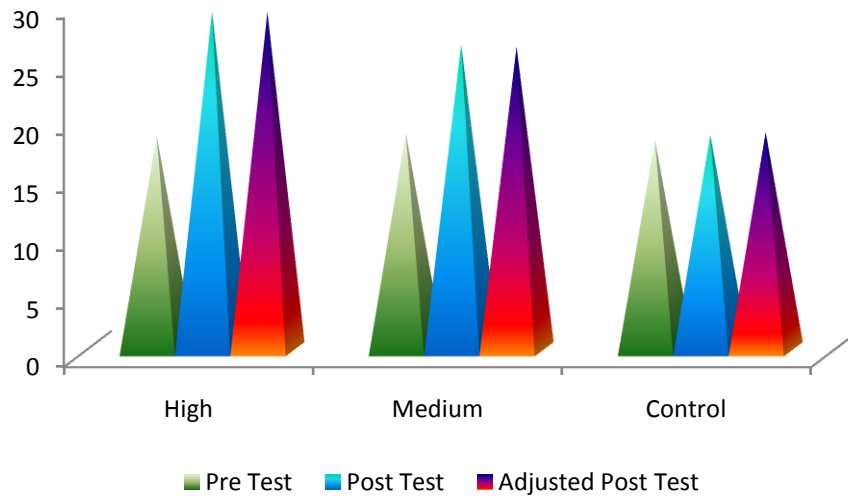


Figure 1: The pre, post and adjusted post test mean values of different intensity aerobic dance training groups on strength endurance

Razavi et al. (2012) were conducted a study of aerobic and faradic dance training programme for the non-sports women of strength 20. Two groups of women were trained different forms of dance training for the 24 sessions. The result of the study were roved that the dance training programme were improved the quality of abdominal strength of the selected subjects. Li et al. (2006) conducted a study for the workers of a high-tech company in Taiwan. The training group was practiced aerobic nature training programme for the duration of twelve weeks, and the control group was not involved in any training for the same duration. The result of the study were pointed out that the training group was produced significant improvement on abdominal strength than the control group subjects. Kemp and Pienaar (2009) evaluated a study for the girl children for the age group of 10 to 15. Aerobic related activities were considered as the training protocol for the research work. And the training was planned for the duration of 10 weeks and two sessions per week. The result of the study was pointed out that the training was improved the quality of abdominal strength of the children. Bagavinar and Kamalakkanna (2013) evaluated a study for the college men students. They were given different forms of training for the different groups of subjects, for the duration of twelve weeks. The result of the study were shown that the aerobic nature training were positively improved the quality of abdominal strength of the selected subjects. Some other studies of Vairavasundaram and Palanisamy (2014), Schiffer et a. (2008), Kwon et al. (2010), Shahana et al. (2010), *Chaiut et al. (2014)*, Donges and Duffield (2012), Karatrantou and Gerodimos (2014) were also proved the related result in their studies were conducted

in various parts of the worlds. The result of the present study says that the strength endurance of the selected subjects were changes after the training of aerobic dance in different intensities.

Conclusion

The result of the study shows that there was a significant change held on strength endurance among the selected groups of high intensity and medium intensity, high intensity and control group, medium intensity and control groups after the training. It was further concluded that the high intensity aerobic dance training was produced better result on strength endurance than the medium intensity workouts.

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