



ISSN: 2456-0057
IJPNPE 2017; 2(2): 474-476
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www.journalofsports.com
Received: 01-06-2017
Accepted: 04-07-2017

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Effect of twelve weeks of dance aerobic exercises on cardio respiratory endurance of college men

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Abstract

This study was designed to investigate the effect of dance aerobic exercises on cardio respiratory endurance of college men. To achieve the purpose of the study 30 male students were selected from various departments of Annamalai University, Chidambaram. The age of the subjects ranged from 18-23 years. The subjects were randomly assigned into two equal groups (n=15). Group-I Dance Aerobic Exercises (DAE) and Group-II acted as control group (CG). The respective training was given to the experimental group for 3 days per week (Monday, Wednesday and Friday) for a period of twelve weeks. The selected parameter was cardio respiratory endurance (12 Min Run & Walk in meters). The data collected from the subjects were statistically analyzed with 't' test to find out significant improvement at 0.05 level of confidence. The results of this study showed that twelve weeks of dance aerobic exercises has significantly improved cardio respiratory endurance of college men.

Keywords: Cardio respiratory endurance, dance aerobic exercise, college men

Introduction

Aerobic exercise refers to 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. Many types of exercise are aerobic, and by definition 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. Aerobic refers to a variety of activities like walking, jogging and running for a measured time. These produce beneficial changes in the body, especially the action of the lungs, heart and blood circulation. Aerobic training is a type of exercise that improves the cardiovascular system, strengthens the heart, and improves the body's ability to deliver oxygen to the muscles. The activities suitable for aerobic training include rapid walking, running, swimming, bicycling, rowing and skiing. Aerobic exercise is any physical activity that requires the heart rate to reach at least 60% of the maximal heart rate for an extended period of time. It is the activity that can be sustained for an extended period of time without developing an oxygen deficit. Aerobic exercises are basically physical exercises that are intend to improve the oxygen system. Reilly, (2003) [14].

Dance is a unique form of movement which includes aesthetic movement that is related to perceive well-being. Carter, (1984) [4].

Dance aerobic is a kind of physical activity with low impact, moderate time and with special music that motivates participants. Dance aerobic is an exercises that combines the rhythmic steps of aerobics with graceful dance movements. Dance aerobic is a fun activity that helps in strengthening the body, and gives you energy to carry out day-to-day activities effectively and efficiently. Dance aerobic consists of a preplanned or choreographed series of dance steps and exercises tuned to music and it is considered to be an enjoyable way to condition cardio respiratory system. Cardio respiratory endurance is one of the most important benefit of dance aerobic training programme. Dance aerobic workout can be divided into three phases: warm-up, work-out and cool-down. Putman, (2007) [13].

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Methodology

This study was designed to determine the effect of dance aerobic exercises on cardiorespiratory endurance of college men. To achieve the purpose of the study, 30 college men were selected from various departments of Annamalai University, Chidambaram, Tamil Nadu. The age of the subjects ranged from 18-23 years. The subjects were

randomly assigned into two equal groups, namely, dance aerobic exercises (DAE) group (n=15) and control group. Training was given to the experimental group 3 days per week (alternate days) for a period of twelve weeks. The pre and post-test scores were statistically examined by the dependent 't' test. The level of significance was fixed at 0.05 level.

Criterion Measures

Variable	Test items	Unit of measurement
Cardiorespiratory Endurance	12 Min Run & Walk	In Meters

Training Programme

The training programme lasted for 45 minutes per session in a day, 3 days in a week for a period of 12 weeks duration. These 45 minutes included 10 minutes warm up, 25 minutes aerobic dance exercises and 10 minutes warm down. After every three weeks of training 5% of intensity of load was increased with the initial load kept as 65%.

Analysis of Cardio respiratory Endurance

The descriptive analysis shows mean, percentage of improvement and t-ratio of the collected data on cardio respiratory endurance (12 Minutes run and walk in metres) of pre and post- tests scores of dance aerobic exercises group and control group and is presented in Table 1.

Table 1: Descriptive Statistical Analysis on cardio respiratory endurance of experimental and control groups

Groups	Pre-test Mean	Post-test Mean	MD	%Change	t-ratio
Dance Aerobic Exercises Group(DAEG)	1526.33	1749.66	223.33	14.63	20.74*
Control Group(CG)	1525.66	1525.80	0.14	0.009	1.00

*Significant at 0.05 level of confidence, table value for df of 1 and 14 is 2.14

Table 1 reveals that there was significant differences between pre-test and post-test data on cardio respiratory endurance of dance aerobic group and control group because obtained t-ratio of 20.74 is greater than the required table value of 2.14 at 0.05 level of significance for the df of 1 and 14. But the control group t-ratio of 1.00 was lesser than the required table value of 2.14 at 0.05 level of significance for df of 14. So, it was found to be insignificant.

The result of the study also produced 14.63% of change in cardio respiratory endurance due to dance aerobic exercises and 0.009% of changes in control group.

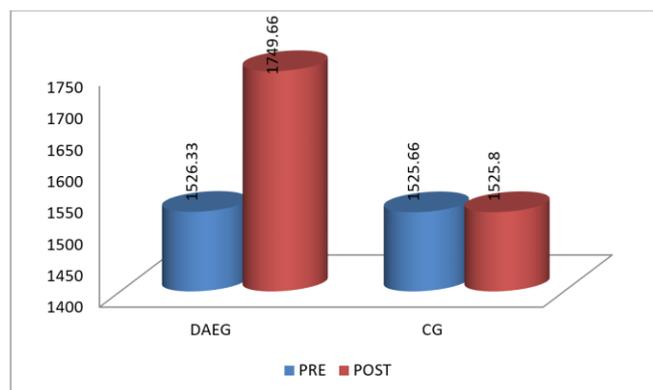


Fig 1: Diagram showing the mean values of pre-test and post-test on cardio respiratory endurance of Dance Aerobic Exercises Group (DAEG) and Control Group (CG)

Discussion and Findings

The results of the study reveal that the experimental group namely dance aerobic exercises group had shown significant enhancement in cardio respiratory endurance among college men. But there was no significant difference in the cardiorespiratory endurance of control group between pre-test and post-test. The results indicate that the improvement in cardio respiratory endurance performance is due to the impact of dance aerobic training programme. The results agree with the studies done by Kulothungan (2016) [9] who conducted a

study on effect of aerobic cross training and aerobic training on cardiovascular endurance. In this study both training groups had increased the level of cardio respiratory endurance significantly. However the increase was higher for aerobic training group than aerobic cross training groups. Kumar S, (2016) [10] assessed the effect of zumba & aerobic exercises on physical fitness variables of college girls. The finding of the study showed that after the twelve weeks training programme there was significant improvement in the cardiovascular endurance of college girls. Dar, (2016) [6] examined the study on the effect of aerobic training on physical fitness components of cricket players. The results of the study revealed that there was a significant change in the cardiovascular efficiency of cricket players. Nikolai *et al.*, (2009) [12] evaluated the cardiovascular and metabolic responses to water aerobic exercise and to determine if water aerobic exercise meets the American College of Sports Medicine guidelines for improving and maintaining cardio respiratory fitness. The results indicated that water aerobics is a feasible alternative to land-based exercise for middle-aged and older adults that fulfils the guidelines for improving and maintaining cardio respiratory fitness. Boileau & Talbot (1999) [3] conducted a study to examine the effect of moderate aerobic exercise training on cardio respiratory fitness. The results indicated that cardio respiratory fitness as measured by peak VO₂ Max modestly improves in the elderly with a moderate intensity, relatively long-term aerobic exercise program.

Conclusion

It was concluded that 12 weeks of dance aerobic exercises significantly improved the cardio respiratory endurance of college men.

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