STAR
Research Journal

Available online at www.starresearchjournal.com (Star International Journal)
PHYSICAL EDUCATION
UGC Journal No: 63023

IMPACT OF AEROBIC DANCE TRAINING ON VO_2 MAX AND ANAEROBIC POWER OF COLLEGE LEVEL OVER WEIGHT MEN

V. MALLIKARJUNA REDDY[1] & Dr.E.AMUDHAN[2]

[1]*Ph D., Research Scholar, SRMV Maruthi College of Physical Education, Coimbatore, Tamilnadu, India.*
[2]*Assistant Professor, SRMV Maruthi College of Physical Education, Coimbatore, Tamilnadu, India.*

Abstract

The purpose of this study was to find out the impact of aerobic dance training on vo_2 max and anaerobic power of college level over weight men. The investigator selected 60 college men selected from N.B.K.R Institute of Science and Technology, Vidyanagar, Kota, Nellore, Andhra Pradesh. whose age was ranging from 17 to 20 years. The subjects were divided into two equal groups. Group I consisting of 30 college level over weight men called as the experimental group and Group II consisting of 30 college level over weight men called as the control group. Group I was assigned the aerobic dance training programme. The control group was not given any kind of treatment. The dependent variables namely, vo_2 max and anaerobic power were selected and measured by vo_2 max step test and margaria kalamen power test for this study. The data was analysed by the use of paired 't' test. The obtained 't' ratio was tested for significance at 0.05 level of confidence. The analysis of the data revealed that there was a significant improvement on the selected dependent variables namely vo_2 max and anaerobic power by the application of aerobic dance training programme.

Keywords: Aerobic dance, vo_2 max and anaerobic power, vo_2 max step test and margaria kalamen power test.

INTRODUCTION

Aerobic dance exercise is essential to healthy cardio vascular fitness. According to Mitchell and Dale (1980), aerobic exercise produces beneficial changes in the body, especially the action of the lungs, heart and blood circulation. Some of the benefits of aerobic exercises include the ability to utilize more oxygen during strenuous exercise, a lower heart rate at rest, the production of less lactic acid and greater endurance. Also, many exercise physiologists have found that it reduces blood pressure and changes blood chemistry. It also improves the efficiency of the heart. Adaptations of aerobic training include increased stroke volume of the heart, capillary density and mitochondrial density. Stroke volume increase simply means that the heart pumps more blood per beat. Mitochondria are structures within muscle cells that produce energy from fat and carbohydrate oxidation. Think of them as tiny batteries for muscle contractions. Regular endurance training can double these structures. By increasing capillary density one can effectively transport more blood to the working muscles. The process of building capillaries occurs gradually. Because high stress training breaks down capillaries, base training is the best for allowing the slow growth of capillaries. As far as effects of aerobic dance exercises on cardiac system is concerned it facilitates the flow of air in and out of the lungs by strengthening the muscles involved in respiration, strengthening and enlarging the heart muscle, to improve its pumping efficiency and reduce the resting heart rate, toning muscles throughout the body, which can improve overall circulation and reduce blood pressure, increasing the total number of red blood cells in the body, to facilitate transport of oxygen throughout the body, increasing storage of energy molecules such as fats and carbohydrates within the muscles, allowing increased endurance and neovascularization of the muscle sarcomeres to increase blood flow through the muscles.

METHODOLOGY

For the purpose of this study 60 college level over weight men selected from N.B.K.R Institute of Science and Technology, Vidyanagar, Kota, Nellore, Andhra Pradesh whose age was ranging from 17 to 20 years. The subjects were divided into two equal groups. Group I consisting of 30 college level over weight men called as the experimental group and Group II consisting of 30 college level over weight men called as the control group. Experimental group was given 8 weeks (Duration - 8 weeks, Session - 3 days / week, Duration of one session – Sixty minutes) of aerobic dance training and the control group was not given any specific training. The criterion variables namely, vo_2 max and anaerobic power were selected and measured by vo_2 max step test and margaria kalamen power test for this study. The data was analysed by the use of paired 't' test. The obtained 't' ratio was tested for significance at 0.05 level of confidence.

TABLE-I
COMPUTATION OF 'T'-RATIO BETWEEN THE PRE AND POST TESTS ON VO_2 MAX OF EXPERIMENTAL AND CONTROL GROUPS

Group	Test	M	SD	σ DM	DM	t-ratio	(p value)
Experimental	Pre Test	83.04	2.03	0.22	3.29	15.04*	0.01
	Post Test	86.33	1.64				
Control	Pre Test	83.05	1.62	0.10	0.126	1.27	0.21
	Post Test	83.18	1.87				

* significance at 0.05 level.

The table I indicates that there was a significant improvement on the vo_2 max through the aerobic dance training. It reveals that the obtained 'p' value is lesser than the 0.05 level of confidence. So there was a significant improvement on the vo_2 max between pre and post tests of experimental group, whereas control group showed no significant improvement. Hence, the result indicated that the significant improvement on the vo_2 max was due to the aerobic dance training alone.

FIGURE – I
THE FIGURE SHOWING THE MEAN DIFFERENCE OF PRE AND POST-TESTS SCORES ON VO_2 MAX OF EXPERIMENTAL AND CONTROL GROUPS

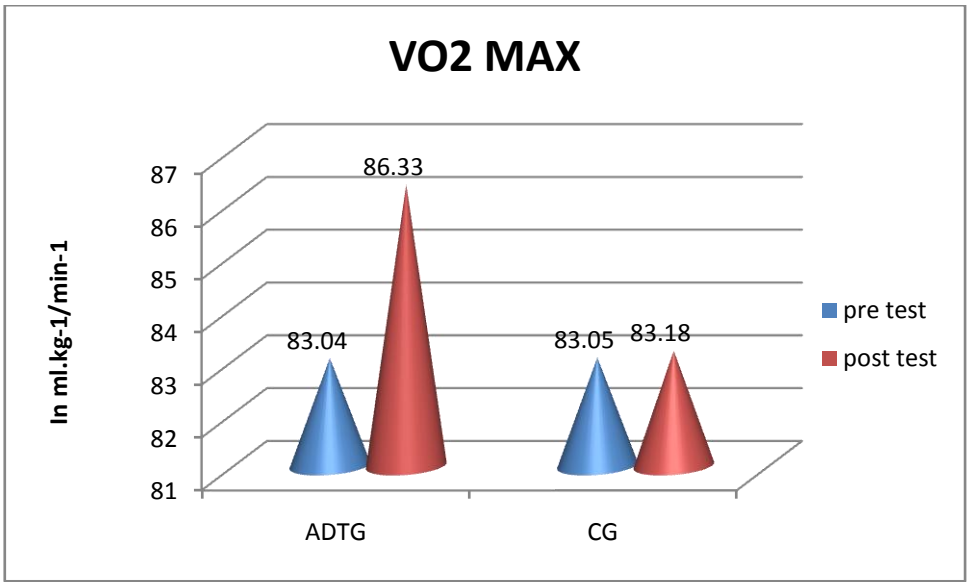


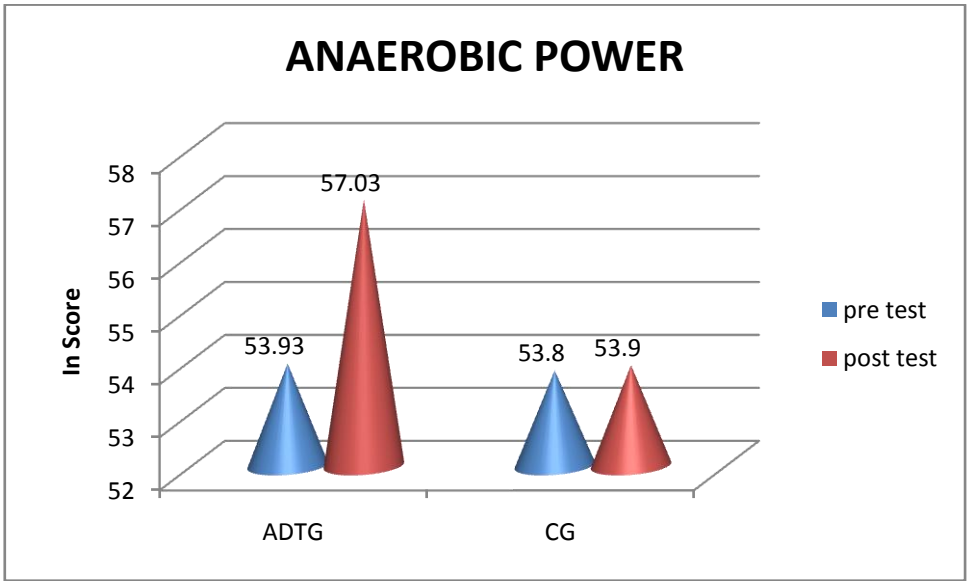
TABLE-II
COMPUTATION OF 'T'-RATIO BETWEEN THE PRE AND POST TESTS ON ANAEROBIC POWER OF EXPERIMENTAL AND CONTROL GROUPS

Group	Test	M	SD	σ DM	DM	t-ratio	'P' value
Experimental	Pre Test	53.93	4.17	0.45	3.10	6.84*	0.01
	Post Test	57.03	4.21				
Control	Pre Test	53.80	2.16	0.51	0.100	0.20	0.85
	Post Test	53.90	3.12				

* significance at 0.05 level.

The table II indicates that there was a significant improvement on the anaerobic power through the aerobic dance training. It reveals that the obtained 'p' value is lesser than the 0.05 level of confidence. So there was a significant improvement on the anaerobic power between pre and post tests of experimental group, whereas control group showed no significant improvement. Hence, the result indicated that the significant improvement on the anaerobic power was due to the aerobic dance training alone.

FIGURE – II
THE FIGURE SHOWING THE MEAN DIFFERENCES OF PRE AND POST-TESTS SCORES OF ANAEROBIC POWER OF EXPERIMENTAL AND CONTROL GROUPS



DISCUSSION OF FINDINGS

The result of the study reveals that the twelve weeks of aerobic dance training programme on the selected dependent variables there was a significant improvement on the vo_2 max through the aerobic dance training. There was a significant improvement on the vo_2 max between pre and post tests of experimental group, whereas control group showed no significant improvement. Hence, the results indicated that the significant improvement on the vo_2 max was due to the aerobic dance training alone.

The result of the study reveals that the twelve weeks of aerobic dance training programme on the selected dependent variables there was a significant improvement on the anaerobic power through the aerobic dance training. There was a significant improvement on

the anaerobic power between pre and post tests of experimental group, whereas control group showed no significant improvement. Hence, the results indicated that the significant improvement on the anaerobic power was due to the aerobic dance training alone.

CONCLUSIONS

It was concluded that the aerobic dance training is one of the best training means to improve the vo_2 max and anaerobic power of college level over weight men.

REFERENCE

1. Anju Madan Gupt, Mukesh Kumar, Rajesh Kumar Sharma, Rajeshisra & Anadi Gup. (2015). Effect of moderate aerobic exercise training on pulmonary functions and its correlation with the antioxidant status. *National journal of medical research print, 5* (2).
2. Sharon Plowman, & Denise Smith. (2007). *Exercise Physiology for Health, Fitness, and Performance.* Lippincott Williams & Wilkins.