

INFLUENCE OF AEROBIC DANCE ON CARDIOVASCULAR FITNESS AMONG YOUNG WOMEN

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Abstract

The purpose of this investigation was to analyze the effects of twelve weeks systematic aerobic dance practice on cardiovascular fitness among young women. For this purpose ten ($n = 10$) undergraduate young women students were randomly selected as subjects and their age were ranged between 18 and 22 years. The selected subjects were undergoing a systematic training programme of aerobic dance for twelve weeks duration. Cardiovascular fitness was taken as a criterion variable for the present study and Rockport Walk Test was used as a test battery to measure the cardiovascular fitness. The collected data were analyzed by using dependent 't' test and the level of confidence was fixed at 0.05 in all cases. The result of the study shows that aerobic training lead to significant ($p \leq 0.05$) progress in cardiovascular fitness among the selected young women.

Key Words: Aerobic dance, cardiovascular fitness, young women

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Introduction

Regular aerobic exercise will produce beneficial effects for any age group providing the exercise is specific and appropriate to the level of fitness of the individual. Progressive exercise correctly performed will increase the level of fitness and improve health. It will also create a sense of well-being, produce greater energy and reduce the risk of developing many diseases. Exercise makes demands on the body systems over and above normal everyday activities and as result the systems adapt anatomically and physiologically (Rosser, 2001).

People are encouraged to take part in regular physical activity for health and fitness benefits. It is believed that the low physical fitness level of an individual is associated with a higher mortality rate (Gillespie, 2003). Different exercise modalities have been explored in the tale of time to promote cardiovascular fitness. Aerobic dance, walk-jog combination, and step aerobics are important examples.

The aerobic exercise is a system of acyclic exercises, which improves the capacity of cardiovascular functions, develops the toughness of muscles and the coordination of movement. A regular participation in aerobics exercise program, as in other endurance exercises, increases the capacity of the cardiovascular system. The physical work carried out in the aerobics program has many advantages: they are emotional, accessible and attractive. The practice of different purpose of physical work in the aerobic exercise has an impact on the development of important to the human's health physical features (Shephard and Balady, 1999).

The aerobic dancing is a popular means of exercise regimen, especially in the urban population. Exercising to music, no requirement of costly equipments or space, especially made dance aerobic is very popular in urban areas. Numerous studies carried out on aerobic dance and its effect on the body. These have yielded mixed results of the aerobic dancing on various physiological parameters of the population (Jaywant, 2013). The aim of the research is to determine the effects of aerobic dance on the cardiovascular fitness of the selected college young women.

Materials and Methods

Ten girls students ($n = 10$) studying in various degree courses at Annamalai University, Tamil Nadu was selected as subjects and their age were ranged between 18 and 22 years. The selected young women students were underwent their respective systematic training protocol for 3 days per week for sixteen weeks in the systematic aerobic dance program. The intensity of the training

was fixed at Moderate level (60-70%) in this experimentation. Cardiovascular fitness was selected as the dependent variable for this study and Rockport Walk Test was used as a test tool. The procedure of this test is to walk as fast as possible for 1 mile. The pulse rate was taken immediately after the running. The tester can use the heart rate monitor, or can do it manually. If using manual protocol means should count the number of beats for 15 seconds, and then multiply that by 4 to get it into minute heart rate. The time taken to complete the mile also should note in minutes. The body weight and the age of the students also needed for the calculation of the VO_{2max} . The body weight was converted to *lb* by knowing the value of $1lb = 454g$. The collected data were treated with VO_{2max} formula and the final result was analyzed by using dependent 't' test. The level of significance was fixed at 0.05 levels in all cases.

This is the formula used for the calculation of VO_{2max} , $VO_{2max} \text{ Female} = [139.168 - (0.388 \times \text{Age}) - (0.077 \times \text{Weight in lb}) - (3.265 \times \text{Walking time in Minutes}) - (0.156 \times \text{Heart rate})]$.

Table I
Training Schedule

Weeks	Training Programme	Duration	Sets	Recovery time
1 st & 2 nd	Warming up	10 Min.		
	Aerobic Dance	10 Min.	1	
3 rd & 4 th	Warming up	10 Min.		
	Aerobic Dance	15 Min.	1	
5 th & 6 th	Warming up	10 Min.		
	Aerobic Dance	10 Min.	2	5 Min.
7 th , 8 th & 9 th	Warming up	10 Min.		
	Aerobic Dance	15 Min.	2	6 Min.
10 th , 11 th & 12 th	Warming up	10 Min.		
	Aerobic Dance	20 Min.	2	8 Min.

Results and Discussion

Table - II

Analysis of dependent 't' Test on Cardiovascular Fitness of Young Women

Subjects	Strength	Mean	SD	't'
Pre	N= 10	75.43	3.64	15.24
Post		80.45	2.73	

*Significant at 0.05 level of confidence

Table II gives the value of dependent 't' for the young women undergraduate students on cardiovascular fitness. The mean values of the pre and post tests were 75.43 and 80.45 respectively. The obtained 't' value from the table was 15.24 and it was greater than the table value 2.26 for df 1 and 9 required for the significance at 0.05 level. The result of the study indicated that there was a significant difference in cardiovascular fitness of female undergraduate students after the training protocol of aerobic dance activity. It may be concluded that the aerobic dance has a major role in cardiovascular fitness of selected subjects. The mean values of pre and post test scores of cardiovascular fitness among young women undergraduates were graphically represented in figure 1.

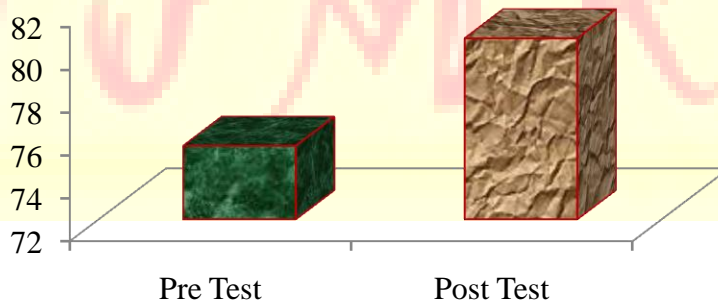


Figure 1: The pre and post test mean values of cardiovascular fitness of female undergraduate students

The result of the study indicated that the aerobic dance program has a major role to improve in cardiovascular fitness of the selected young. The study of Kostic *et. al.* (2006) pointed out that the cardiovascular improvement through the aerobic dance protocol for limited duration. The studies of Hosiso *et. al.* (2013), Shahana *et. al.* (2010), Li *et. al.* (2006) and Chatterjee *et. al.* (2013) also supporting the results of this study. So we can say a systematic aerobic dance programme improves the cardiorespiratory endurance.

Conclusion

The result of the study indicates that the twelve week training protocol of aerobic dance was shown that the significant improvement in cardiovascular fitness of the female undergraduate students. It was further concluded that the aerobic dance program is one of the best methods for improving the cardiovascular fitness and the physical fitness of young women.

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