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## The effect of Zumba & aerobics exercise training on physical fitness variables - A study

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### Abstract

The objective of the study was to assess the effect of Zumba & Aerobics exercises on physical fitness variables of college girls 18-24 years. Thirty (30) girls, aged from 18-24 years, were volunteered as subjects for this study. The selected variable for the study was cardiovascular endurance and BMI and for measuring cardiovascular endurance and BMI Harvard Step Test and skinfold measurement were taken into consideration. Zumba & Aerobics exercises were intervened for the period of twelve (12) weeks. This experimental design consists of an experimental group which was compared with a control group for the testing the effects of Zumba & Aerobics exercise training program on cardiovascular endurance and skin fold measurement component. This experimental design was Non-equivalent control groups Design (pretest/post-test) where the experimental group received the Zumba & aerobics exercise training program and the control group did not. The collected data were analyzed by using One Way ANCOVA. It was found that after the Twelve weeks training programme there was a significant improvement in the cardiovascular endurance and skinfold measurement of college girls.

**Keywords:** Zumba, aerobics, cardiovascular endurance, physical fitness, BMI

### Introduction

The art or mode of human living and the status have already been geared to an optimum stage i.e. sophisticated mechanized life cycle. Today due to scientific development man is enjoying the highest level of physical comfort. Modern technology is trying hard to make our life easier, more luxurious, more comfortable but less vigorous. Hence throughout the world man appears to be living a more and more inactive life. He rides instead of walking, sits instead of standing and watches instead of participating and such changes in life style, obviously resulted in a reduces physical labour and on the other hand increased mental stress and strain. Thus there is an urgent need to bring about positive changes in the present day life styles through participation in sports and physical education programs.

One of the significant aims of every programme of physical education and sports should be develop physical fitness among the population or participants. The aim of physical education must be to make every child physically, mentally and emotionally fit and to develop in him personal and social qualities, to help him to live happily with others and build him as a good citizen. Hence physical fitness could be developed in an individual through means of various programmes or exercises. Zumba & Aerobics exercises could help an individual to attain cardio-vascular respiratory fitness and coordination in the body.

Zumba & Aerobics is a fairly new form of exercise and it is one of the best ways to improve the quality of life. The term Zumba & Aerobics is a totally dance exercises. Zumba & Aerobics is empowering cardio workout where you are totally unleashed. This fiercely energetic program is inspired by dance and drawn from a wide variety of disciplines such as step aerobics, floor aerobics Zumba dance and supported by music.

Zumba & Aerobics improves your level of physical fitness and helps your body work more efficiently. The cardio pulmonary system (the heart, blood vessels and lungs) is the primary system used by the body during any workout.

**Objectives of the Study**

The objective of the study was as under

- To compare adjusted mean scores of Cardiovascular Endurance of College girls of Zumba & Aerobics Exercise group and Non Exercise group by taking pre cardiovascular endurance as a covariate.
- To compare adjusted mean scores of BMI of College girls of the Zumba & aerobics exercise group and Non exercise group by taking their BMI as a covariate.

**Hypothesis of the Study**

The hypothesis sought to be tested are as follows:

- **H<sub>01</sub>:** There was no significant difference in adjusted mean score of Cardiovascular Endurance of College girls of the Zumba & Aerobics Exercise group and non-Exercise group by taking Pre Cardiovascular endurance as a covariate.
- **H<sub>02</sub>:** There was no significant difference in adjusted mean score of BMI of college of the Zumba & Aerobics Exercise group and non-Exercise group by taking Pre BMI as a covariate.

**Materials and Method**

**Selection of Sample:** A sample of thirty (n=30) girls subject aged 18 to 24 years was selected randomly from KNC college, Delhi University

**Research Design: (Non-equivalent control groups pretest/post-test)** The design of the experiment had been planned in three phase's viz., Phase – I: Pre-test, Phase – II: Training or Treatment, and Phase – III: Post-test. The subjects in the experiment were divided into two groups one experimental group and one control group; each group consisted of 15 subjects. The experimental groups were imparted 60 minutes of training 5 times a week from Monday to Friday for duration of twelve weeks.

**Selected Variable:** Cardiovascular Endurance, Body Mass Index (BMI)

**Tools/ Instruments**

The following criterion measures were included to record the reading of test item of motor fitness.

Variable	Test	Unit
Cardiovascular endurance	Harvard Step Test	Fitness Index
Body Mass Index	Skin fold Caliper	In cm

**Treatment:** The following Zumba & Aerobics Exercise was selected as a Training Program for the experiment

1. Zumba
2. Zumba +specific body part workout
3. Floor Aerobics
4. Hi-Low Aerobics
5. Step Aerobics

**Statistics:** Since, there were two groups for this experimental study viz. Zumba & Aerobics Exercise group and Non Zumba & Aerobics Exercise group, wherein the researcher has decided to compare the adjusted Mean Scores of Physical Fitness variables, Physiological and Psychological Variable by taking Pre Test as Covariate in order to see the Zumba & Aerobics Exercise of college girls age 18 to 24 years. One Way ANCOVA test was appropriately used for the data analysis.

**Results and Discussion**

- Group wise comparison of effect of Zumba & Aerobics Exercise Training Programme on Cardiovascular Endurance

The mean achievement in *Cardiovascular Endurance* due to Integrated Exercises Training Module, as obtained from ANCOVA test, revealed that

- There was significant difference between adjusted mean score of *Cardiovascular Endurance* of College girls of the Zumba & Aerobics Exercise group and Non Exercise group by taking Pre Cardiovascular Endurance as Covariate ( $F_{y,x}=13.729, df=1/29, p<0.01$ ). Therefore the adjusted mean scores of Cardiovascular Endurance of girls of Zumba & Aerobics Group is 28.42 which is significantly higher than that of Non Zumba & Aerobics Group where adjusted mean scores of Cardiovascular Endurance of girls is 21.64. Thus, the overall performance scores of both the Non Zumba & Aerobics Exercise group and Zumba & Aerobics Exercise groups of *Cardiovascular Endurance* were not equal.
- There was significant difference between adjusted mean score of *BMI* of College of the Zumba & Aerobics Exercise group and Non Zumba & Aerobics Exercise group by taking Pre BMI as Covariate ( $F_{y,x}=13.296, df=1/29, p<0.01$ ). Therefore the adjusted mean scores of BMI of girls of Group is 26.89 which is significantly slightly higher than that of Non Zumba & Aerobics Group where adjusted mean scores of BMI of Girls is 27.14. Thus, the overall performance scores of both the Non Zumba & Aerobics Exercise group and Zumba and Aerobics Exercise groups of *BMI* were not equal.

These results help to interpret that the effect of Zumba and Aerobics Exercise Training Programme were useful in developing Cardiovascular Endurance as well as effect on BMI. However, the Zumba and Aerobics Exercise Programme has been recorded as more effective in improving *Cardiovascular Endurance and BMI* of the College girls aged 18 to 24 years.

**Conclusion**

Effect of twelve weeks Zumba and Aerobics Exercise Training Programme intervention has potential benefits to improve Cardiovascular Endurance and BMI of the College girls aged 18 to 24 years.

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