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# Effect of Aerobic Exercises on Cardio Respiratory Endurance Parameter Among College Women Students

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**Abstract**

*The present study was to investigate the effect of aerobic exercises on cardio respiratory endurance parameter among college women students. To achieve this purpose of the study thirty (N=30) college men students were selected from srm university, Chennai, Tamil Nadu state, India, during the year 2016-17. The subject's age ranges from 17 to 25 years. The selected subject were divided into two equal groups consists of fifteen subject each namely one experimental group and control group from college students. The experimental group I underwent aerobic exercise group (AEG) programme for six weeks. The control group was not taking part in any exercise during the course of the study. The dependent variable cardio respiratory endurance parameter selected for the study, it was measured by cooper12 min run/walk test unit of meters.Pre-test was taken before the exercise period and post- test was measured immediately after the six weeks exercise period. The collected data were analyzed by using paired sample 't'test and analysis of covariance to find the significant difference among the experimental and control group. The level of significance will be fixed at .05 level of confidence for all the cases. These results suggest that aerobic exercises group improve cardio respiratory endurance level compare better than to control group.*

**Keywords:** Aerobic exercises, Cardio respiratory endurance and Cooper12 min run/walk test.



## Introduction

Aerobic exercise (also known as cardio) is physical exercise of low to high intensity that depends primarily on the aerobic energy-generating process. Aerobic literally means "relating to, involving, or requiring free oxygen", and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism. Generally, light-to-moderate intensity activities that are sufficiently supported by aerobic metabolism can be performed for extended periods of time. When practiced in this way, examples of cardiovascular/aerobic exercise are medium to long distance running/jogging, swimming, cycling, and walking, according to the first extensive research on aerobic exercise, conducted in the 1960s on over 5,000 U.S. Air Force personnel by Dr. Kenneth H. Cooper (2009).

Bowman A.J (1992) said Aerobic exercise refers to exercise that involves or improve 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. The steps that can be choreographed in to an aerobic dance routine can be varied by impact (i.e, high impact versus low impact.) Aerobic dance exercise (ADE) can usually be completed easily by participants of all ages and fitness level. This is one of the unique characteristics of ADE, in that the same step can be modified by the participants to meet the needs of her individual workout. A typical ADE workout fulfils the cardio respiratory training principles (i, e frequency, intensity, duration, and type of activity continuous) and is similar to any cardio respiratory workout classes begins with a warm up of light activity and stretching exercise for 10 minutes, progress to the 20-30 minutes workout phase and then have a gradual cool down period for 10 minutes. Three parts of a typical 60 minutes program. A number of steps have been defined; walk, run, skip, two-steps, march, jog. Jumping jack, step touch, sidekicks and touch backs. According to the President's Council on Physical Fitness and Sports, cardio respiratory endurance is defined as the body's ability to deliver oxygen and other nutrients to tissue and to remove waste products over a sustained period of time. Improving cardio respiratory endurance through aerobic exercise can help reduce the risk of heart disease, some types of cancer and can aid in weight control and weight maintenance. Walking, swimming, cycling and running are examples of exercises that can improve cardio respiratory endurance.

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**Methods & Materials**

The present study was to investigate the effect of aerobic exercises on cardio respiratory endurance parameter among college women students. This study was selected thirty (N=30) college men students were selected from Srm university, Chennai, Tamil Nadu state, India, during the year 2016-17. The subject's age ranges from 17 to 25 years. They were divided into two group namely aerobic exercise group I (Experimental group) and control group (group II) each consists of 15 subjects. The experimental groups I were subjected to six weeks of aerobic exercise training respectively, and the group II acted as control. The experimental groups II used exercises v step, turn step, over the top, L step, basic straddle step, side to side, double step side, knee kick, kick forward, kick sideward., but start with smaller number of reps) and the load given were progressively increased from 50%,60%,70% intensity level water aerobic exercise and aerobic exercises drills respectively for one hour per day for three days a week for a period of six weeks. The subjects of all the two groups were tested on cardio respiratory endurance prior to and after the training period.

To ascertain cardio respiratory endurance parameter measured by cooper 12 min run/walk test accordingly the mean value count by meters.

**Statistical Technique**

The following statistical procedures were used. The "t" ratio was calculated to find out the significance of the difference between the mean of the initial and final test of the experimental group. The significance of the difference among the means of experimental group was found out by pre-test. The data were analyzed and dependent't' test was used with 0.05 levels as confidence.

Table 1

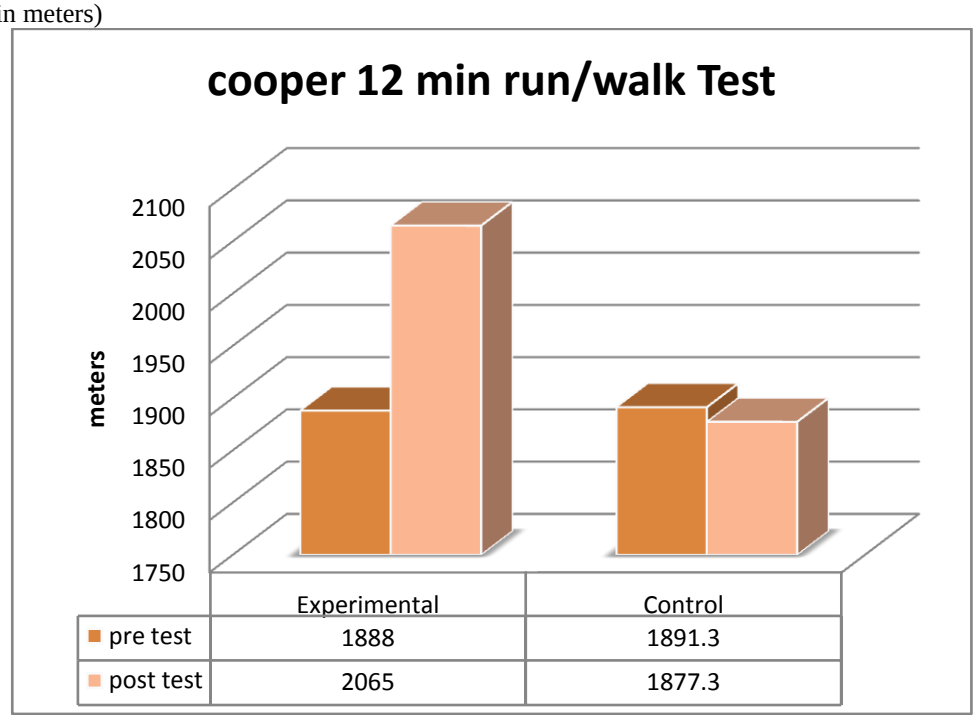
*Analysis of dependent t-test for the Pre and Post Test Means Values for Aerobic exercise group and Control group on cardio respiratory endurance (Cooper 12 min run/walk test mean value measure by meters)*

| Groups | Mean | | Mean Difference | S.D | Standard Error | 't' ratio |
|---|---|---|---|---|---|---|
| | Pre | Post | | | | |
| Experimental | 1888 | 2065.03 | 177.03 | 139.38785 | 35.98875 | 4.92* |
| Control | 1891.3 | 1877.3 | 14 | 72.38784 | 18.6904 | 0.75 |

***Significance at .05 level of confidence. (The table value required for 0.05 level of significant with df of 28 is 2.04)*

The Table-I shows that the mean values of pre-test and post-test of control group on cardio respiratory endurance were 1891.3 and 1877.3 respectively. The obtained 't' ratio was 0.75, since the obtained 't' ratio was less than the required table value of 2.04 for the significant at 0.05 level with 28 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of experimental group on cardio respiratory endurance were 1888 and 2065.03 respectively. The obtained 't' ratio was 4.92* since the obtained 't' ratio was greater than the required table value of 2.04 for significance at 0.05 level with 28 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in cardio respiratory endurance. It may be concluded from the result of the study that experimental group improved in cardio respiratory endurance due to six weeks of Aerobic exercises among college men students.

*Figure I*
Mean values of Aerobics exercises group and control Group on cardio respiratory endurance for college men students (means in meters)




**Discussions on Findings**

The result of the study indicates that the experimental group namely aerobic exercise group had significantly improved the selected dependent variables namely cardio respiratory endurance, when compared to the control group. It is also found that the improvement caused by aerobic exercise when compared to the control group.

Gormley SE et al (2008) To determine whether various intensities of aerobic training differentially affect aerobic capacity as well as cardio respiratory endurance. The result significantly increased in all exercising groups by 1888,to 2065 meters in the near-maximal-, the vigorous-, and the moderate-intensity groups, respectively. Percent increases in the near-maximal- (20.6%), the vigorous- (14.3%), and the moderate-intensity (10.0%) groups were all significantly dif ferent from each other ($P < 0.05$). When volume of exercise is controlled, higher intensities of exercise are more effective for improving cardio respiratory endurance than lower intensities of exercise in healthy, young adults.

**Conclusions**

1. There was a significant difference between experimental and control group on cardio respiratory endurance variables after the exercise period.
2. There was a significant improvement in cardio respiratory endurance. However the improvement was in favour for experimental group compare better than the control group due to six weeks of Aerobic exercises.

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