

## EFFECT OF AEROBIC DANCE ON THE CARDIOVASCULAR EFFICIENCY OF COLLEGE STUDENTS

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### INTRODUCTION

For years we knew that endurance led to a reduction in the heart rate at rest and sub maximal workloads and to an increase in the stroke volume, the amount blood pumped with each beat of heart. That is why we used the term cardiovascular to describe training effect. Aerobic fitness is synonymous with endurance or stamina, it describes the ability part inherited and part trained, to preserve or persist in strenuous and prolonged endeavor. Those who persevere fare more enhanced health and performance. Aerobic fitness, defined as the maximal capacity to take in, transport and utilize oxygen. In the pattern of developing fitness aerobic exercises requires oxygen for a longer duration the aerobic exercises helps in increasing the ability of preserving oxygen. Aerobic exercise results into advantageous changes in lungs, heart and cardiovascular system. To be accurate such daily exercise increases the inhaling capacity of the lungs and it also increases the percentage of total blood. Generally aerobic exercises are related with endurance activities required less speed as jogging and aerobic dance etc. Aerobic fitness, defined as the maximal capacity to take in, transport and utilize oxygen. In the pattern of developing fitness aerobic exercises requires oxygen for a longer duration the aerobic exercises helps in increasing the ability of preserving oxygen. Aerobic exercise results into advantageous changes in lungs, heart and cardiovascular system. To be accurate such daily exercise increases the inhaling capacity of the lungs and it also increases the percentage of total blood. Generally aerobic exercises are related with endurance activities required less speed as jogging and aerobic dance etc.

### OBJECTIVE OF THE STUDY

The finding of the study may benefit to common men since they do aerobics to improve their suppleness of body. Aerobics may be used as an alternative means for enriching health and fitness level not only for boys aged 18-25 years population but also all population in general.

### RESEARCH DESIGN OF THE STUDY

The population of the present study was the college male and female within the age group of 18-25 years. A total 100 (50 male and 50 female) subjects were selected randomly and participated in this study. These subjects were selected from IPS Group of College, Gwalior (M.P.) and divided in two groups (experimental group and control group). A cardiovascular fitness test namely Harvard step test has been applied to measure cardiovascular efficiency of the college male and female students.

### METHODOLOGY

Pre test data has been taken through administering Harvard step test. To administer the cardiovascular efficiency test subjects were thoroughly instructed about the test as well as demonstrated properly by the researcher. After pre data collection actual training schedule training has been started for experimental group. The training schedule for 30 minute every day,

six days a week ruined up to 8 weeks was administrated. Aerobic dance classes with varied pace was administrated for experimental group with the range of 100-120 heart beat/ per minute. Post test data collection was completed as the same procedure used in pre test.

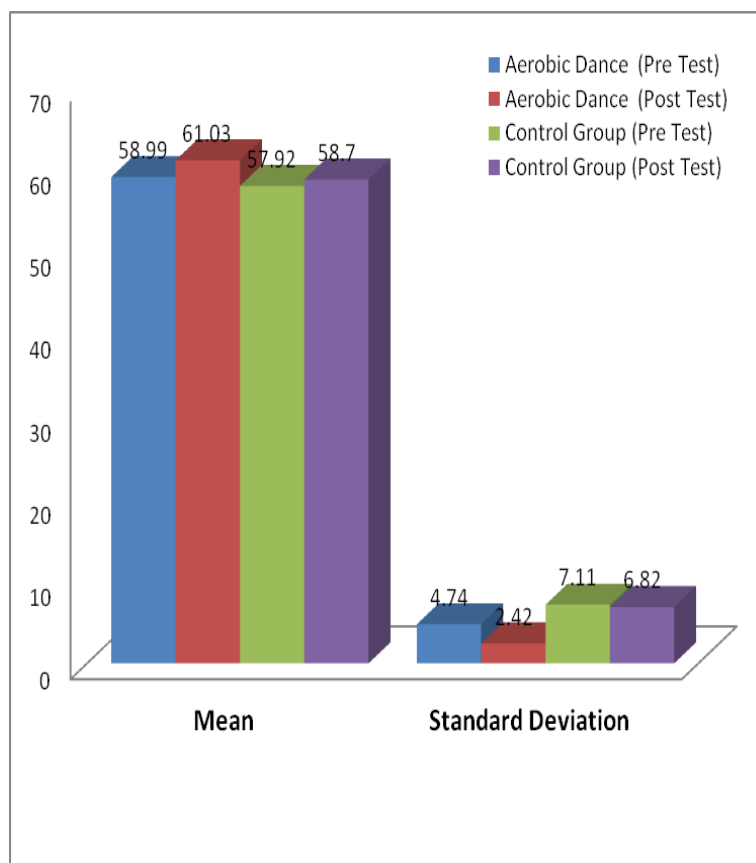
## RESULTS

**Table No. 1**  
**Impact of Aerobic Dance on Cardiovascular Efficiency**

Groups	Mean	S.D.	Mean Difference	SE	't' Value
Aerobic Dance (Pre Test)	58.99	4.74	2.051	0.54	3.80
Aerobic Dance (Post Test)	61.03	2.42			
Control Group (Pre Test)	57.92	7.11	0.774	0.75	1.032
Control Group (Post Test)	58.70	6.82			

\* Significant at 0.05 level of Significance  $t_{(0.05)(29)} = 2.045$

Table-1 showed the comparison of pre and post test score of Experimental and Control Groups respectively. Where the mean score of pre and post test of Continuous running group was 61.08 and 64.58 and standard deviation was 1.94 and 2.98 respectively. The calculated 't' value of 19.44 was found to be significant at 0.05 level of significance which shows that the continuous running group have better cardio vascular efficiency than other groups. The table further showed the comparison of pre and post test score of Aerobic dance group. Where the mean score of pre and post test of Control Group was 58.99 and 61.03 and standard deviation is 4.74 and 2.42 respectively, the calculated 't' value of 0.68 was found to be insignificant at 0.05 level of confidence. Again table showed the comparison of pre and post test score of Control Group. Where the mean score of pre and post test of Control Group was 57.92 and 58.70 and standard deviation was 7.11 and 6.82 respectively. The calculated 't' value 0.24 is found to be insignificant at 0.05 level of significance. Graphically representation of above table have been given



**Fig. 01:** Mean values of different Aerobic Dance on Cardiovascular Efficiency

### Interpretation and Discussion

Among the three groups only the continuous running group had significant mean difference after the innervations of 8week of continuous running. But when we think about the aerobic dance group which shown insignificant different between the mean after 8 weeks of aerobic dance training. It may be happened because 8 weeks of aerobic training is not sufficient to improve the cardiovascular efficiency or the steps selected for the aerobic training would not be appropriate to improve the cardiovascular efficiency. In case of continuous running this study supports the study of baker and In case of aerobic dance it supports the study of smith.

### CONCLUSION

Under the limitations of the study, after discussion on findings it can be concluded that 8 weeks aerobic dance is effective to improve the cardio vascular efficiency of the male adolescents of aged 14-18 years.

It may be attributed due to the fact that aerobic dance program consisted of a combination of numerous movements such as step-touch, side to side, v-step, walking front and back, kick steps, skips, jumps, turn, balance and flexing in all different directions & various combination of the aforementioned steps including hand & body movements that are used to increase or decrease intensity. Combination of different movements simultaneously activated body parts and where each exercise was repeated four to eight times (K. Radmila & Meta 2005). These repeated various movements of aerobic dance consistently increased the demand of oxygen and therefore required optimum efficiency in term of rate and force of breathing which played a key role in increasing the capacity of heart and lungs. Respiration includes the inhale, exhale and air

exchange that happens in the lungs. Exercise lends to immediate and permanent changes in respiration function. Regular aerobic dance strengthens and tones the heart and lungs, enabling the pulmonary system to increase the maximum amount of oxygen that the lungs can handle because of this reason lungs also improve their ability to attract and retain a larger volume of air inside the lungs that resulted in increased the breath holding capacity.

Prolonged participation in aerobic dance resulted in strengthening the muscles involved the respiration to facilitate the flow of air in and out of the lungs. In other words with every breath, air flow volume is improved after exercise program compared with the volume prior to an exercise program. This may be probable reason of lowering of resting respiratory rate. Over time, with consistent aerobic exercise, resting respiration rate slows. This is a result of enhanced respiratory muscle endurance and strength. With every breath, air flow volume is improved compared with the volume prior to an exercise program. In other words, one becomes a more efficient breather. The study conducted by Denis E et al. (1998) also found this result to be true in those who suffer from chronic airflow limitation disorders.

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