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## Effect of aerobic exercise programme on development of physical and physiological components in college men

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### Abstract

The human body is designed for movement. To develop and maintain peak level of fitness, exercise must be carried out on a regular basis and must be relatively strenuous. The recommended amount from a health perspective is about 20 to 30 minutes of moderate exercise three times a week, though the level of activity which produces a benefit is a factor of the individual initial level of fitness. There are two types of physical fitness that can help to improve physical health. There is aerobic exercise and anaerobic exercise. Aerobic exercise involves a continuous and intensive exercise of the heart and lungs. These exercises help to strengthen the cardiovascular system and heart rate. The second type of physical fitness is anaerobic exercise. This involves with muscular fitness and flexibility. However, this exercise does not improve or strengthen the cardio vascular system but it will improve muscular strength. It is the ability to exert force for a brief period and apply force against any object. Yoga and stretching would be a component of flexibility, which is the ability to move joints using the muscles full range of motion (Chung & Baird, 1999). The purpose of the study was to find out the effect of aerobic exercise programme on development of physical and physiological components in college men. To achieve the purpose of the study fifteen students were selected for the age group of 17 – 22 years in Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore. They were only experimental group. The pre-tests were taken the group on selected physical and physiological components. This is speed, flexibility and cardio respiratory endurance. The experimental group underwent the aerobic exercise training programme for six weeks. The end of the training programme post- test conducted for the experimental group. The group were tested before the start of the six week aerobic training programme and after the end of six week training programme. The result of the study there were significant improvement on physical and physiological components among experimental group in speed, flexibility and cardio respiratory endurance.

**Keywords:** Aerobics exercise

### Introduction

The human body is designed for movement. To develop and maintain peak level of fitness, exercise must be carried out on a regular basis and must be relatively strenuous. The recommended amount from a health perspective is about 20 to 30 minutes of moderate exercise three times a week, though the level of activity which produces a benefit is a factor of the individual initial level of fitness. There are two types of physical fitness that can help to improve physical health. There is aerobic exercise and anaerobic exercise. Aerobic exercise involves a continuous and intensive exercise of the heart and lungs. These exercises help to strengthen the cardiovascular system and heart rate.

### Methodology

To achieve the purpose of the study, fifteen students were selected for the age group of 17 – 22 years in Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore. They were only experimental group. The pre-tests were taken for experimental group on selected physical and physiological components. This is speed, flexibility and cardio respiratory endurance. The experimental group underwent 6 weeks of aerobic training. The group was tested before the start of the six week aerobic training programme and after the end of six week training programme.

The subjects were free to withdraw in case they felt any discomfort during the period of their participation. But there were no drop outs in the study.

**Training procedure**

All the subjects were practiced aerobic training in the morning for forty five minutes and evening for forty five minutes in a schedule of weekly five days for a period of six week started with aerobic exercise and ended with relaxation exercise.

**Testing Procedure**

Each subjects was tested individually and the scores were recorded and after the six week training programme. The

procedure adopted in the initial tests was strictly followed in the final tests also. Instructions were also given recording the testing procedure. The subjects were instructed not of take part in the extraneous vigorous activities during the period of experimental.

**Statistical Procedure**

The data were collected from the experimental group statistically analyzed by using “t” ratio. The criteria for statistical significance were set at 0.05 level of confidence ( $P<0.05$ ) Required Table values for 1 and 14 degrees of freedom 2.32 at 0.05 level.

**Results and Discussions**

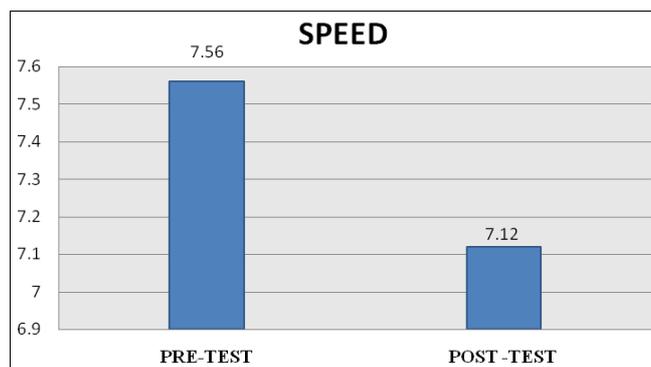
**Table 1:** Computation of “t” ratio for experimental group for the Pre and Post- test mean value on speed.

S. No	Test	Mean	Standard Deviation	Mean Difference	DM	“t” Value
1	Pre-test	7.56	0.54	0.44	0.08	2.41*
2	Post -test	7.12	0.46			

\*significant Difference required table values for 1 and 14 degrees of freedom 2.32 at 0.05 level.

It is observed from the table I that there is significant difference on speed. It is seen that the mean of the pretest is 7.56 and post-test is 7.12. The standard deviation of the pre-test is 0.54 and post-test is 0.46. The obtained ‘t’ ratio is 2.41

is greater than table value 2.32. Hence the obtained ‘t’ ratio is significant at 0.05 level confidence. So the hypothesis about speed is accepted.



**Fig 1:** Bar diagram showing the experimental group for the Pre and Post-Test mean value of speed in seconds

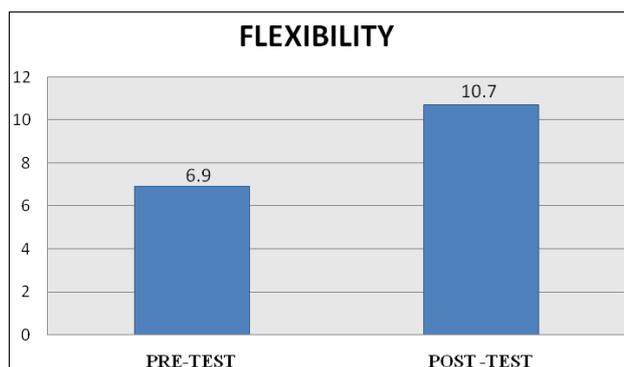
**Table 2:** Computation of “t” ratio for Experimental Group for the Pre and Post- test Mean Value on flexibility.

S.no	Test	Mean	Standard Deviation	Mean Difference	DM	“t” Value
1	Pre-test	6.9	3.84	3.8	0.11	3.8
2	Post -test	10.7	3.95			

\*significant Difference required table values for 1 and 14 degrees of freedom 2.32 at 0.05 level.

It is observed from the table II that there is significant difference on flexibility. It is seen that the mean of the pre-test is 6.9 and post-test is 10.7 the standard deviation of the pre-test is 3.84 and post-test is 3.95. The obtained ‘t’ ratio is 3.8 is

higher than the table value hence the obtained ‘t’ ratio is significant at 0.05 level confidence. So the hypothesis about flexibility is accepted.



**Fig 2:** Bar diagram showing the experimental group for the Pre and Post-Test mean value of flexibility in centimeter.

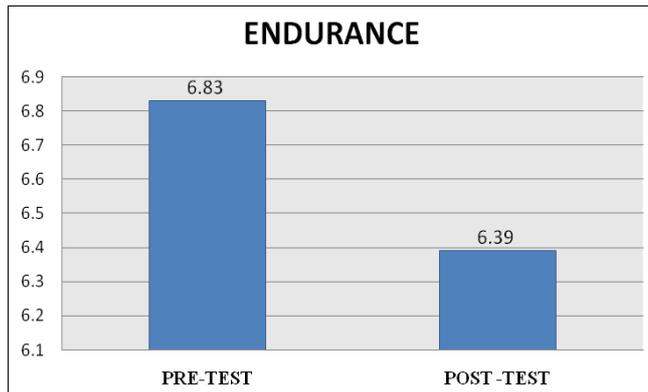
**Table 3:** Computation of “t” ratio for experimental group for the Pre and Post-test mean value on cardio respiratory endurance.

S.no	Test	Mean	Standard Deviation	Mean Difference	DM	“t” Value
1	Pre-test	6.83	0.2	0.44	0.3	2.35*
2	Post -test	6.39	0.5			

\*significant Difference required table values for 1 and 14 degrees of freedom 2.32 at 0.05 level.

It is observed from the table III that there is significant difference on cardio respiratory endurance. It is seen that the mean of the pre-test is 6.83 and post-test is 6.39 the standard deviation of the pre-test is 0.2 and post-test is 0.5. The obtained ‘t’ ratio is 2.35 is greater than the table value 2.41. Hence the obtained ‘t’ ratio is significant at 0.05 level confidence. So the Hypothesis about cardio respiratory endurance is accepted.

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**Fig 3:** Bar diagram showing the experimental group for the Pre and Post- test Mean value of cardio respiratory endurance in seconds.

### Conclusions

On the basis of the result obtained within the limitation of the present study the following conclusions were drawn.

1. The consistency of the constructed test was good and the test was reliable.
2. There were significant improvement on physical and physiological variable among experimental group.
3. Through aerobic training speed were considerably increasing among the students.
4. There were better significant improvement in flexibility and cardio respiratory endurance due to aerobic training.
5. Aerobic training may be used as a training procedure to enhance physical fitness and well-being among the students.

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