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Effect of aerobic exercises on muscular endurance and cardio: Respiratory endurance among college men

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Abstract

The purpose of the study was to find out the effect of aerobic exercise on selected physical and physiological variables among college men. To achieve this purpose, 40 students were randomly selected from different colleges in Chennai. The age of the subjects was ranged from 18 to 25 years. The subjects were further classified into two equal groups of 20 subjects each. Group - I underwent aerobic exercises for three days per week for twelve weeks and Group - II acted as control. The criterion variables namely muscular endurance and cardio-respiratory endurance were assessed before and after the training period. The collected data were statistically analyzed by using Analysis of Covariance (ANCOVA). From the results of the study, it was found that there was a significant difference on muscular endurance and cardio-respiratory endurance among the aerobic exercise group when compared with the control group.

Keywords: Aerobic exercises, muscular endurance and cardio respiratory

Introduction

Athletes enhance their fitness through training in order to meet the demands of their sport. Training is a long-term, progressive process that meets each athlete at their current level of fitness and conditioning. To prepare an athlete for their sport, training includes both general and event-specific workouts. Training is a cyclical process that includes tearing down, recovering, compensating, and building up (adaptation). The word aerobic, which means "with oxygen," is used to symbolize a thought, although the dynamics of the idea are more sophisticated than the definition implies. Aerobic exercise can be thought of as a complex system of bodily supply and demand. That is, the body need energy for any type of action, and this requirement is met by burning the meals consumed.

Aerobics engages the entire body, including key muscular groups such as the legs, trunk, and arms. The heart rate increases significantly during aerobic exercise, yet it never reaches its maximum level. The heart is always capable of delivering sufficient oxygen-rich blood to muscles, allowing them to obtain energy aerobically from fat and glycogen. Aerobic exercise improves athletic stamina and is the most significant type of exercise for overall health since it improves heart, circulation, and muscle efficiency. Aerobic exercise increases the capillary network in the body, which is the cornerstone of fitness. Aerobics is a type of progressive physical training that stimulates respiratory activity for a long enough amount of time to cause favorable changes in the body.

Methodology

The purpose of the study was to find out the effect of aerobic exercise on selected physical and physiological variables among college men. To achieve this purpose, 40 students were randomly selected from different colleges in Chennai. The age of the subjects was ranged from 18 to 25 years. The subjects were further classified into two equal groups of 20 subjects each. Group - I underwent aerobic exercises for three days per week for twelve weeks and Group - II acted as control. The criterion variables namely muscular endurance and cardio-respiratory endurance were assessed (Muscular Endurance: Sit ups Test, Cardio respiratory Endurance: Coopers 12 Minutes run) before and after the training period. The collected data were statistically analyzed by using Analysis of Covariance (ANCOVA).

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Table 1: Analysis of Co Variance on Selected Variables among Aerobic Exercise and Control Groups

Variables	Group	Control Group	Aerobic exercise group	'F' Ratio
Muscular endurance	Pre-test Mean \pm S.D	33.85 \pm 3.94	33.30 \pm 4.31	0.178
	Post-test Mean \pm S.D.	34.45 \pm 3.83	40.25 \pm 4.25	20.53*
	Adj. Post-test Mean	34.18	40.52	864.84*
Cardio respiratory endurance	Pre-test Mean \pm S.D	1888.50 \pm 115.95	1883.50 \pm 114.03	0.019
	Post-test Mean \pm S.D.	1886.50 \pm 117.62	2017.50 \pm 109.68	13.27*
	Adj. Post-test Mean	1884.09	2019.92	304.30*

*Significant at .05 level of confidence (The table value with df 1 and 38, 1 and 37 was 4.098 and 4.107 respectively)

Above table shows that the adjusted post-test means on muscular endurance of control group and aerobic exercise group are 34.18 and 40.52 respectively. The obtained 'F' ratio value of 864.84 of adjusted post- test data on muscular endurance is greater than the required table value of 4.107 for significance at 0.05 level of confidence with degree of freedom 1 and 37. The adjusted post-test means on cardio respiratory endurance of control group and aerobic exercise group are 1884.09 and 2019.92 respectively. The obtained 'F' ratio value of 304.30 of adjusted post-test data on cardio respiratory endurance is greater than the required table value of 4.107 for significance at 0.05 level of confidence with degree of freedom 1 and 37.

Results

The findings of the study shows that significant difference exists between aerobic training and control group on muscular endurance and cardio respiratory endurance.

Conclusions

Based on the findings of the study, it was concluded that there was a significant difference between aerobic training group and control group on muscular endurance and cardio respiratory endurance.

References

1. Ted A. Baumgartner and Andrew S. Jackson, Measurement for Evaluation in Physical Education and Exercise Science (3rd ed; Dubeque, Iowa: W.Mc. Brown Publishers, 1987, 11p.
2. Bernard Gutin. "Defining Health and Fitness: First Step toward establishing children's fitness standards", Research Quarterly, 1992;63(2):128-132.
3. Hardayal Singh. Science of Sports Training, (New Delhi: D.V.S. Publication, 1991, 5p.
4. Frank Dick W. Sports Training Principles, (London: A & C Block Publishers Ltd., 1997, 193p.
5. Robert Barne M, Mathew Levy N. Cardiovascular Physiology, (St. Louis: The C.V. Mosby Company Ltd., 1972, 243p.