EFFECT OF AEROBIC TRAINING ON CARDIO VASCULAR ENDURANCE AND SPEED ENDURANCE AMONG UNIVERSITY MEN STUDENTS

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ABSTRACT

The purpose of the study was designed to examine the effect of aerobic training on cardio vascular endurance and speed endurance of university men students. For the purpose of the study, thirty men students studying in Yogi Vemana University, Y.S.R District, Andhra Pradesh, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent aerobic training for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely cardio vascular endurance and speed endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using Cooper's 12 min run and walk test and 150 mts run respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate. The results of the study showed that there was a significant difference between aerobic training group and control group on cardio vascular endurance and speed endurance. And also it was found that there was a significant improvement on cardio vascular endurance and speed endurance due to twelve weeks of aerobic training.

KEYWORDS: Aerobic training, cardio vascular endurance, speed endurance, ANCOVA.

INTRODUCTION

Aerobic training in sports is exercise of low to moderate intensity that relies primarily on the aerobic energy-generating process. It is designed to increase oxygen uptake and improve endurance, and can be done in the form of aerobic exercise such as running, cycling, swimming, rowing, or walking. Aerobic training is any form of exercise that increases the heart rate and requires the body to work harder to keep up with an increased demand for oxygen. This type of exercise is primarily used to improve endurance and cardiovascular health and is often done in conjunction with strength training.

METHODOLOGY

The purpose of the study was designed to examine the effect of aerobic training on cardio vascular endurance and speed endurance of university men students. For the purpose of the study, thirty men students studying in Yogi Vemana University, Y.S.R District, Andhra Pradesh, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent aerobic training for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart

from their regular physical education programme. The following variables namely cardio vascular endurance and speed endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using Cooper's 12 min run and walk test and 150 mts run respectively at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered as an appropriate.

ANALYSIS OF THE DATA

Cardio Vascular Endurance

The analysis of covariance on cardio vascular endurance of the pre and post test scores of aerobic training group and control group have been analyzed and presented in Table I.

TABLE I
ANALYSIS OF COVARIANCE OF THE DATA ON CARDIO VASCULAR ENDURANCE OF PRE AND POST TESTS SCORES OF AEROBIC TRAINING AND CONTROL GROUPS

Test	Aerobic Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	1418.00	1416.67	Between	13.33	1	13.33	0.02
S.D.	26.88	24.28	Within	19373.33	28	691.90	
Post Test							
Mean	1502.00	1418.67	Between	52083.33	1	52083.33	21.42*
S.D.	23.85	21.87	Within	68096.67	28	2432.02	
Adjusted Post Test							
Mean	1501.50	1419.17	Between	50808.98	1	50808.98	265.31*
			Within	5170.76	27	191.51	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table I shows that the adjusted post-test means of aerobic training group and control group are 1501.50 and 1419.17 respectively on cardio vascular endurance. The obtained "F" ratio of 265.31 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on cardio vascular endurance.

The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobic traininggroup and control group on cardio vascular endurance.

Speed Endurance

The analysis of covariance on speed endurance of the pre and post test scores of aerobic training group and control group have been analyzed and presented in Table II.

TABLE II

ANALYSIS OF COVARIANCE OF THE DATA ON SPEED ENDURANCE OF PRE AND POST TESTS SCORES OF AEROBIC TRAINING AND CONTROL GROUPS

Test	Aerobic Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	20.39	20.32	Between	0.0333	1	0.0333	1.46
S.D.	0.15	0.09	Within	0.6413	28	0.0229	
Post Test							
Mean	20.08	20.30	Between	0.3630	1	0.3630	13.61*
S.D.	0.15	0.13	Within	0.7470	28	0.0267	
Adjusted Post Test							
Mean	20.06	20.32	Between	0.4863	1	0.4863	94.13*
			Within	0.1395	27	0.0052	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table II shows that the adjusted post-test means of aerobic training group and control group are 20.06 and 20.32 respectively on speed endurance. The obtained "F" ratio of 94.13 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on speed endurance.

The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobic traininggroup and control group on speed endurance.

CONCLUSIONS

1. There was a significant difference between aerobic training group and control group on cardio vascular endurance and speed endurance.
2. And also it was found that there was a significant improvement on selected criterion variables such as cardio vascular endurance and speed endurance due to aerobic training.

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