IMPACT OF SUPER CIRCUIT TRAINING ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE MEN STUDENTS [BHT/RPR]

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ABSTRACT

The purpose of the study was designed to examine the effect of super circuit training on breath holding time and resting pulse rate among college men students. For the purpose of the study, thirty men students from the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent super circuit 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 breath holding time and resting pulse rate were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables 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 super circuit training group and control group on breath holding time and resting pulse rate. And also it was found that there was a significant improvement on selected criterion variables such as breath holding time and resting pulse rate due to super circuit training.

KEYWORDS : SUPER CIRCUIT TRAINING, BREATH HOLDING TIME AND RESTING PULSE RATE

INTRODUCTION

The greatest benefit of a regular exercise program is an improvement in overall fitness. As discussed above, appropriate exercise improves muscular strength and endurance, body composition, flexibility, and cardiorespiratory endurance. The level of maximal oxygen intake or cardiorespiratory endurance is not by itself of great importance to most individuals. What is important is that one's sustained energy-spending ability is directly related to maximal levels of performance. Super circuit weight training refers to a program in which running or other aerobic exercises are performed between sets; this training produces aerobic as well as strength benefits.

METHODOLOGY

The purpose of the study was designed to examine the effect of super circuit training on breath holding time and resting pulse rate among college men students. For the purpose of the study, thirty men students from the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent super circuit 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 breath holding time and resting pulse rate were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables 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

Breath Holding Time

The analysis of covariance on breath holding time of the pre and post test scores of super circuit training group and control group have been analyzed and presented in Table I.

TABLE I
ANALYSIS OF COVARIANCE OF THE DATA ON BREATH HOLDING TIME OF PRE AND POST TESTS SCORES OF SUPER CIRCUIT TRAINING AND CONTROL GROUPS

Test	Super Circuit Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	43.33	42.20	Between	9.63	1	9.63	0.24
S.D.	6.54	5.62	Within	1115.73	28	39.85	
Post Test							
Mean	49.80	43.27	Between	320.13	1	320.13	7.22*
S.D.	7.08	5.71	Within	1241.33	28	44.33	
Adjusted Post Test							
Mean	49.29	43.78	Between	225.44	1	225.44	18.74*
			Within	324.87	27	12.03	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 1 and 28 and 1 and 27 are 3.34 and 3.35 respectively).

The table I shows that the pre-test means of super circuit training group and control group on breath holding time are 43.33 and 42.20 respectively. The obtained "F" ratio of 0.24 for adjusted post-test means is less than the table value of 3.34 for df 1 and 28 required for significance at .05 level of confidence on breath holding time. The post-test means of super circuit training group and control group on breath holding time are 49.80 and 43.27 respectively. The obtained "F" ratio of 7.22 for adjusted post-test means is more than the table value of 3.34 for df 1 and 28 required for significance at .05 level of confidence on breath holding time.

The table I further shows that the adjusted post-test means of super circuit training group and control group on breath holding time are 49.29 and 43.78 respectively. The obtained "F" ratio of 18.74 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 breath holding time.

The results of the study indicated that there was a significant difference between the adjusted post-test means of super circuit training group and control group on breath holding time.

Resting Pulse Rate

The analysis of covariance on resting pulse rate of the pre and post test scores of super circuit training group and control group have been analyzed and presented in Table II.

TABLE II

ANALYSIS OF COVARIANCE OF THE DATA ON RESTING PULSE RATE OF PRE AND POST TESTS SCORES OF SUPER CIRCUIT TRAINING AND CONTROL GROUPS

Test	Super Circuit Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	71.80	72.60	Between	4.80	1	4.80	0.76
S.D.	2.37	2.50	Within	178.00	28	6.36	
Post Test							
Mean	66.73	72.73	Between	270.00	1	270.00	7.12*
S.D.	7.97	2.69	Within	1061.87	28	37.92	
Adjusted Post Test							
Mean	67.00	72.46	Between	217.55	1	217.55	5.99*
			Within	980.16	27	36.30	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 1 and 28 and 1 and 27 are 3.34 and 3.35 respectively).

The table II shows that the pre-test means of super circuit training group and control group on resting pulse rate are 71.80 and 72.60 respectively. The obtained "F" ratio of 0.76 for adjusted post-test means is less than the table value of 3.34 for df 1 and 28 required for significance at .05 level of confidence on resting pulse rate. The post-test means of super circuit training group and control group on resting pulse rate are 66.73 and 72.73 respectively. The obtained "F" ratio of 7.12 for adjusted post-test means is more than the table value of 3.34 for df 1 and 28 required for significance at .05 level of confidence on resting pulse rate.

The table II further shows that the adjusted post-test means of super circuit training group and control group on resting pulse rate are 67.00 and 72.46 respectively. The obtained "F" ratio of 5.99 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 resting pulse rate.

The results of the study indicated that there was a significant difference between the adjusted post-test means of super circuit training group and control group on resting pulse rate.

CONCLUSIONS

1. There was a significant difference between super circuit training group and control group on breath holding time and resting pulse rate.

2. And also it was found that there was a significant improvement on selected criterion variables such as breath holding time and resting pulse rate due to super circuit training.

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