



EFFECT OF CIRCUIT RESISTANCE TRAINING ON SELECTED MOTOR FITNESS VARIABLES AMONG COLLEGE MEN CRICKETERS

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Abstract:

The purpose of the study was designed to examine the effect of Circuit resistance training on shoulder strength and strength endurance of college men cricketers. For the purpose of the study, thirty men cricket players from the colleges in Virudhunagar district were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent Circuit resistance 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 shoulder strength and strength endurance were selected as criterion variables.

All the subjects of two groups were tested on selected dependent variables by using pull ups and bend knee situps 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 Circuit resistance training group and control group on shoulder strength and strength endurance. And also it was found that there was a significant improvement on shoulder strength and strength endurance due to twelve weeks of Circuit resistance training.

Introduction:

Circuit training can use most of the muscles in the body, which significantly increases oxygen consumption when compared to a mode of cardio exercise relying primarily on the lower body. Circuit training is a type of training that involves rotating between several exercises that target different muscle groups with minimal rest in between. It's ideal for those looking for a quick, effective. Usually, circuits range from 8–10 exercises, but that varies based on the goal of the class, time available, and experience levels of the participants. Once all exercises have been completed, you may rest for 1–2 minutes, then repeat the exercises.

Most circuits are completed 1–3 times. Depending on the exercises you perform during the circuit, you may be able to build stronger and larger muscles. Muscle growth (hypertrophy) requires a person to lift moderate to heavy weights or perform a high number of reps just before failure, a point at which you can't do another rep, to stimulate muscle growth. Circuit training is a favorite for many because it combines strength training and cardiorespiratory training.

Methodology:

The purpose of the study was designed to examine the effect of Circuit resistance training on shoulder strength and strength endurance of college men cricketers. For the purpose of the study, thirty men cricket players from the colleges in Virudhunagar district were selected as subjects. They were divided into two equal groups.

Each group consisted of the fifteen subjects. Group I underwent Circuit resistance 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 shoulder strength and strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using pull ups and bend knee situps 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:

Shoulder Strength:

The analysis of covariance on shoulder strength of the pre and post test scores of Circuit resistance training group and control group have been analyzed and presented in Table I.

Table I: Analysis of Covariance of the Data on Shoulder Strength of Pre and Post Tests Scores of Circuit Resistance Training and Control Groups

Test	Circuit Resistance Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	23.80	23.47	Between	0.83	1	0.83	0.39
S.D.	1.38	1.44	Within	60.13	28	2.15	
Post Test							
Mean	27.27	23.73	Between	93.63	1	93.63	17.31*
S.D.	1.45	1.34	Within	151.50	28	5.41	
Adjusted Post Test							
Mean	27.13	23.87	Between	78.52	1	78.52	125.86*
			Within	16.84	27	0.62	

* 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 Circuit resistance training group and control group are 27.13 and 23.87 respectively on shoulder strength. The obtained "F" ratio of 125.86 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 shoulder strength. The results of the study indicated that there was a significant difference between the adjusted post-test means of Circuit resistance training group and control group on shoulder strength.

Strength Endurance:

The analysis of covariance on strength endurance of the pre and post test scores of Circuit resistance training group and control group have been analyzed and presented in table 2.

Table 2: Analysis of Covariance of the Data on Strength Endurance of Pre and Post Tests Scores of Circuit Resistance Training and Control Groups

Test	Circuit Resistance Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	33.53	33.47	Between	0.03	1	0.03	0.0045
S.D.	2.70	3.24	Within	207.47	28	7.41	
Post Test							
Mean	36.87	33.73	Between	73.63	1	73.63	6.40*
S.D.	2.55	2.46	Within	322.30	28	11.51	
Adjusted Post Test							
Mean	36.83	33.77	Between	70.53	1	70.53	45.06*
			Within	42.27	27	1.57	

* 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 2 shows that the adjusted post-test means of Circuit resistance training group and control group are 36.83 and 33.77 respectively on strength endurance. The obtained "F" ratio of 45.06 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 strength endurance. The results of the study indicated that there was a significant difference between the adjusted post-test means of Circuit resistance training group and control group on strength endurance.

Conclusion:

- There was a significant difference between Circuit resistance training group and control group on shoulder strength and strength endurance.
- And also it was found that there was a significant improvement on selected criterion variables such as shoulder strength and strength endurance due to Circuit resistance training.

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