



INFLUENCE OF CIRCUIT TRAINING ON SPEED AND AGILITY AMONG COLLEGE MEN THROWBALL PLAYERS

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Abstract:

The purpose of the study was designed to examine the effect of circuit training on speed and agility of college men throwball players. For the purpose of the study, thirty men college throwball players from in the colleges in and around Warangal, Telangana, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group I underwent circuit training for three days per week for twelve weeks. Group 2 acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely speed and agility were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using 50 mts run and shuttle 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 appropriate. The results of the study showed that there was a significant difference between circuit training group and control group on speed and agility. And also it was found that there was a significant improvement on speed and agility due to twelve weeks of circuit training.

Key Words: Circuit Training, Speed, Agility, College Men Throwball Players

Introduction:

Throwball is a dynamic and fast-paced sport that demands a high level of physical fitness, agility, strength, and endurance. For college men participating in throwball, maintaining peak physical condition is crucial to perform quick movements, powerful throws, and sustained effort throughout intense matches. Circuit training offers an effective and structured method to enhance these physical attributes simultaneously. By combining strength exercises with cardiovascular activities in a time-efficient format, circuit training helps players build muscular endurance, improve aerobic capacity, increase speed, and reduce the risk of injuries. Given the multifaceted physical demands of throwball, incorporating circuit training into regular practice routines is essential for optimizing athletic performance and ensuring overall fitness. It provides a comprehensive approach to conditioning that directly translates to improved on-court skills, stamina, and resilience during competitive play.

Circuit training is a popular method of conditioning that combines strength training and cardiovascular exercise into a single workout. In sports, it is used to improve overall fitness, muscular endurance, strength, agility, and aerobic capacity. A circuit typically consists of a series of exercises (stations) performed one after the other with minimal rest in between. Each station targets a different muscle group or fitness component, helping athletes develop balanced strength and endurance while keeping the heart rate elevated throughout the session. Circuit training can be easily tailored to match the specific needs of different sports, making it an efficient and versatile option for athletes at all levels.

Methodology:

The purpose of the study was designed to examine the effect of circuit training on speed and agility of college men throwball players. For the study, thirty men college throwball players from in the colleges in and around Warangal, Telangana, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group 1 underwent circuit training for three days per week for twelve weeks. Group 2 acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables namely speed and agility were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using 50 mts run and shuttle 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 appropriate.

Analysis of the Data:

Speed:

The analysis of covariance on speed of the pre and post test scores of circuit training group and control group have been analyzed and presented in table 1.

Table 1: Analysis of Covariance of the Data on Speed of Pre and Post Tests Scores of Circuit Training and Control Groups

Test	Circuit Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	8.43	8.41	Between	0.003	1	0.003	0.23
S.D.	0.11	0.09	Within	0.359	28	0.013	
Post Test							
Mean	8.18	8.36	Between	0.236	1	0.236	12.12*
S.D.	0.11	0.11	Within	0.545	28	0.019	
Adjusted Post Test							
Mean	8.18	8.36	Between	0.258	1	0.258	29.09*

			Within	0.239	27	0.009	
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* 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 1 shows that the adjusted post-test means of circuit training group and control group are 8.18 and 8.36 respectively on speed. The obtained “F” ratio of 29.09 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.

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

Agility:

The analysis of covariance on agility of the pre and post test scores of circuit training group and control group have been analyzed and presented in table 2.

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

Test	Circuit Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained ‘F’ Ratio
Pre Test							
Mean	8.32	8.35	Between	0.008	1	0.008	0.68
S.D.	0.10	0.10	Within	0.341	28	0.012	
Post Test							
Mean	8.16	8.31	Between	0.176	1	0.176	10.98*
S.D.	0.11	0.10	Within	0.450	28	0.016	
Adjusted Post Test							
Mean	8.17	8.30	Between	0.121	1	0.121	37.14*
			Within	0.088	27	0.003	

* 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 training group and control group are 8.17 and 8.30 respectively on agility. The obtained “F” ratio of 37.14 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 agility.

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

Conclusions:

- There was a significant difference between circuit training group and control group on speed and agility.
- And also it was found that there was a significant improvement on selected criterion variables such as speed and agility due to circuit training.

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