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EFFECT OF SUPER CIRCUIT TRAINING ON LEG STRENGTH AND STRENGTH ENDURANCE AMONG COLLEGE MEN KABADDI PLAYERS

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Abstract:

The purpose of the study was designed to examine the effect of super circuit training on leg strength and strength endurance of college men kabaddi players. For the purpose of the study, thirty men kabaddi players from the Colleges in Nalgonda District, Telangana State, India 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 leg strength and strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using leg lift with dynamometer and bend knee sit ups 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 super circuit training group and control group on leg strength and strength endurance. And also it was found that there was a significant improvement on leg strength and strength endurance due to twelve weeks of super circuit training.

Key Words: Super Circuit Training, Leg Strength, Strength Endurance, College Men Kabaddi Players

Introduction:

Super circuit training is a comprehensive and dynamic exercise regimen designed to optimize cardiovascular health, muscular strength, endurance, and overall fitness. It's an innovative approach that combines the benefits of traditional circuit training with high-intensity interval training (HIIT) techniques. This hybrid training method is tailored to push the boundaries of physical capabilities while ensuring a well-rounded workout experience. Super circuit training incorporates a diverse range of exercises, including cardiovascular activities, resistance training, bodyweight exercises, and functional movements. This variety not only keeps workouts engaging but also targets different muscle groups, enhancing overall body strength and agility. Super circuit training often includes intervals of high-intensity exercises alternated with periods of active recovery or lower-intensity movements. These intervals elevate the heart rate, burn calories effectively, and improve cardiovascular endurance. The fluctuating intensity keeps the body challenged and promotes efficient fat burning. Super circuit training can be adapted to accommodate various fitness levels. The intensity, duration, and complexity of exercises can be modified to suit beginners, intermediate, and advanced practitioners. This adaptability makes it accessible to a wide range of individuals, from beginners embarking on their fitness journey to athletes aiming to enhance their performance. Many super circuit training routines focus on functional movements that mimic everyday activities. By incorporating exercises that engage multiple muscle groups and improve stability and flexibility, participants not only build strength but also enhance their ability to perform daily tasks more efficiently.

Methodology:

The purpose of the study was designed to examine the effect of super circuit training on leg strength and strength endurance of college men kabaddi players. For the purpose of the study, thirty men kabaddi players from the Colleges in Nalgonda District, Telangana State, India 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 leg strength and strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using leg lift with dynamometer and bend knee sit ups 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:

Leg Strength:

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

Table 1: Analysis of Covariance of the Data on Leg Strength 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	92.47	92.33	Between	0.13	1	0.13	0.20
S.D.	0.62	0.93	Within	19.07	28	0.68	
Post Test							
Mean	94.73	92.67	Between	32.03	1	32.03	15.93*
S.D.	0.94	0.87	Within	56.30	28	2.01	
Adjusted Post Test							
Mean	94.69	92.71	Between	28.96	1	28.96	53.34*
			Within	14.66	27	0.54	

* 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 super circuit training group and control group are 94.69 and 92.71 respectively on leg strength. The obtained "F" ratio of 53.34 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 leg strength. 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 leg strength.

Strength Endurance:

The analysis of covariance on strength endurance of the pre and post test scores of super circuit 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 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	41.07	40.07	Between	12.03	1	12.03	2.39
S.D.	1.73	1.81	Within	95.33	28	3.40	
Post Test							
Mean	45.93	40.33	Between	252.30	1	252.30	19.87*
S.D.	1.83	1.78	Within	354.97	28	12.68	
Adjusted Post Test							
Mean	45.37	40.69	Between	145.71	1	145.71	150.86*
			Within	27.83	27	1.03	

* 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 super circuit training group and control group are 45.37 and 40.69 respectively on strength endurance. The obtained "F" ratio of 150.86 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 strength endurance. 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 strength endurance.

Conclusions:

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

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