Effects of Varied Frequencies of Circuit Training on Selected Motor Ability Components of College Men Students

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Abstract

The study was designed to investigate the effects of varied frequencies of circuit training on selected motor ability components of college men students. For this purpose, 45 male students of Ananda College Devakottai, Tamilnadu were selected as subjects. Their age was ranging from 18 to 25 years. They were divided into three equal groups namely Experimental Group-I, Experimental Group –II, and Control Group. In a week the Experimental Group-I underwent 3 days circuit training, Experimental Group –II underwent 5 days circuit training and Control Group was not given any specific training. The following criterion variables were chosen namely, speed, Agility and Explosive power. They assessed before and after the training period of 6 weeks. The analysis of covariance was used to analyze the data. The study revealed that the motor ability components such as speed and agility were significantly improved due to influence of 3 days and 5 days circuit training.

Keywords: Circuit Training Frequency Speed Agility.

Introduction

Sports achievements of a country depend mostly on the training designed for a particular sport. Success in the competitive sports and games can be attributed to many factors. Different training methods have been commonly used to improve physical fitness and it related standards of performance of athletes. Circuit training is probably the most comman training method used by a wide range of sports persons in order to improve their performance. A Circuit consists of a number of stations at which the athlete performs a given set of exercise within a specified time. In this study an attempt is made to find out the effects of varied frequencies of circuit training on selected motor ability components of college men Students.

Related Literature

Morgan and Admson (1993) carried out an experiment on the boys in the circuit training . The boys (aged 18 to 25) were made in to two balanced groups which had three physical education periods per week. The experimental group had an addition, overload programme, amount to thirty minutes per week, for one month. Gains of the experimental group over control group indicated that a relatively small amount of intensive over load training using the apparatus normally found in college produced significant improvement in strength efficiency and fitness indices.

Methodology

The study was designed to investigate the effects of varied frequencies of circuit training on selected motor ability components of college men students. For these 45 male students of Ananda College Devakottai, Tamilnadu were selected as subjects. Their age was ranging from 18 to 25 years. They were divided into three equal groups namely Experimental Group-I, Experimental Group –II, and Control Group. The following circuit was used for the

above purpose (High knee Action, Push-ups, Burpee Jump, Sit-ups, Spilit jump and Medicine ball exercise). In a week the Experimental Group-I underwent 3 days circuit training, Experimental Group –II underwent 5 days circuit training and Control Group was not given any specific training. The following criterion variables were chosen namely, speed, Agility and Explosive power and they were assessed before and after the training period of 6 weeks. The analysis of covariance was used to analyze the data. The study revealed that the motor ability components such as speed and agility were significantly improved on Experimental Group-I and Experimental Group –II due to the influence of circuit training.

Results and Discussions

Table – I

Computation of Analysis of Covariance on Speed of 3 Days Training Group, 5 Days Training Group and Control Group (Scores in Seconds)

	3 Days training group	5 Days training group	Control group	Source of variance	Sum of squares	df	Mean squares	F ratio
Pre-test means	6.60	6.60	6.67	B	0.05	2	0.03	0.29
				W	3.68	42	0.09	
Post -test means	6.40	6.39	6.68	B	0.83	2	0.41	4.61*
				W	3.71	42	0.09	
Adjusted	6.42	6.41	6.63	B	0.47	2	0.23	
Post-test means					0.15	41	0.00	64.31*

Table value for 0.5 level 3.25

Table I shows the analyzed data on speed. The pre test means of speed were 6.67 for control group, 6.60 for 3 days training group and 6.60 for 5 days training group. Since the obtained F-ratio of 0.29 is less than the required table value 3.25 at 5 percent level of significance, the study has revealed that the groups were equated when it was classified.

The post test mean of speed were 6.68 for control group 6.40 for 3 days training group and 6.39 for 5 days training group. The obtained F-ratio value was 4.67. It is greater than the table value 3.25 at 5 percent level of significance. This may be due to initial mean difference.

The adjusted post test means of speed were 6.63 for control group 6.42 for 3 days training group and 6.41 for 5 days training group. Here the obtained F-ratio value of 64. 31 was greater than the required table value 3.25 at 5 percent level of significance. Hence 5 days circuit training group has better than the other two groups.

Table –II

Computation of Analysis of Covariance on Explosive Power of 3 Days Training Group, 5 Days Training Group and Control Group (Scores in Meters)

	3 days training group	5 days training group	Control gGroup	Source of variance	Sum of sSquares	df	Mean squares	F ratio
Pre-test means	2.68	2.61	2.55	B	0.12	2	0.06	3.10
				W	0.72	41	0.02	
Post –test means	2.84	2.84	2.54	B	0.89	2	0.44	27.17*
				W	0.68	41	0.02	
Adjusted	2.78	2.85	2.59	B	0.48	2	0.29	
Post-test means				W	0.14	41	0.00	72.8*

Table value for 0.5 level 3.25

Table II shows the analyzed data on explosive power. The pre test mean explosive power were 2.25 for control group, 2.68 for 3 days training group and 2.61 for 5 days training group. Since the obtained F-ratio of 3.10 is less than the required table value 3.25 at 5 percent level of significance. So the study has revealed that the groups were equated when it was classified.

The post test mean of explosive power were 2.54 for control group 2.84 for 3 days training group and 2.84 for 5 days training group. The obtained F-ratio value was 27.17. It is greater than the required table value 3.25 at 5 percent level of significance..

The adjusted post test means of explosive power were 2.59 for control group 2.78 for 3 days training group and 2.85 for 5 days training group. Here the obtained F-ratio value of 72.85 was greater than the table F-ratio value 3.25 at 5 percent level of significance. Hence 5 days training circuit training has been group better than the other two groups.

Table –III
Computation of Analysis of Covariance on Agility of 3 Days Training Group, 5 Days Training Group and Control Group (Scores in Meters)

	3 Days training group	5 Days training group	Control group	Source of variance	Sum of squares	df	Mean squares	F ratio
Pre-test means	19.09	18.86	19.28	B	1.30	2	0.65	1.15
				W	23.76	41	0.57	
Post – test means	18.83	18.56	19.30	B	4.20	2	2.10	3.51*
				W	25.13	41	0.60	
Adjusted	18.82	18.78	19.09	B	0.83	2	0.42	
Post-test means				W	0.20	41	0.00	86.42*

Table value for 0.5 level 3.25

Table III shows the analyzed data on agility. The pre test mean explosive power were 19.28 for control group, 19.09 for 3 days training group and 18.86 for 5 days training group. Since the obtained F-ratio of 1.15 is lesser than the table F-ratio value 3.25 at 5 percent level of significance the study has revealed that there is no significant difference among the groups in their performance.

The post test mean of agility were 19.30 for control group 18.83 for 3 days training group and 18.56 for 5 days training group. The obtained F-ratio value was 3.51. It is greater than the table F-ratio value 3.25 at 5 percent level of significance. This proved that there is a statistically significant difference among there groups and 5 days circuit training has proved more efficient than the 3 days circuit training. 3 days circuit training has provided better performance than the control group.

The adjusted post test means of agility were 19.09 for control group 18.82 for 3 days training group and 18.78 for 5 days training group. Here the obtained F-ratio value of 86.42 was greater than the table value 3.25 at 5 percent level of significance. Hence 5 days circuit training group better than the other two groups.

Discussion of Findings

Speed

The findings of speed showed that there was significant effect due to the treatment of circuit training. The improvement of speed may be depends upon the effect of circuit training. It may be due to the increase in activity level of glycolytic enzymes following the circuit training. The finding of the study was supported by Romen started that the circuit training improves the speed performance.

Explosive Power

The findings of the study shows that there was significant effect due to the treatment of circuit training on leg explosive power. It may be due to the increase in the total amount of myosin, action and other may of efficiency protein followed by correct intensities circuit training. The finding of the study was supported by Romen starting that the performance of power was significantly improved due to training.

Agility

The finding of speed shows that there was significant effect due tot he treatment of circuit training. The improvement of agility depend upon the intensity and mode of circuit training. In the present study the above factors would have influenced by increase the Agility. The finding of the study was supported by Romen stating that training improves agility.

Conclusions

With in the limitations of the present study, the following conclusion were drawn.

1. The motor ability components such as, speed and agility were significantly improved due to influence of 3 days and 5 days circuit training in a week among the college men students.
2. The 5 days training group showed significantly greater improvement in speed and agility than 3 days training group.
3. The leg explosive was improved due to the influence of varied frequencies of circuit training.

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