



Effect of Circuit Training on Selected Physical Variables among Kho-Kho Players

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Abstract

The purpose of the study was to find out the effect of circuit training on selected physical variables among kho-kho players. To achieve the purpose of the present study, thirty players from Rayalaseema College of Physical Education, Proddatur, Andhra Pradesh were selected as subjects and their age shall ranged from 18 to 25 years. The subjects were divided into two equal groups. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen players each. The groups were assigned as circuit training group and control group in an equivalent manner. The experimental group were participated the training for a period of six weeks to find out the outcome of the training package. The initial and final scores in selected physical variables were put in to statistical treatment using ANOVA test to find out the significant mean differences. It was concluded that there was significant improvement in speed and elastic power due to circuit training comparing than control group.

Keywords: Circuit Training, Speed, Elastic Power.

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Introduction

Circuit training is a form of body conditioning or resistance training using high-intensity aerobics. It targets strength building and muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one circuit is complete, one begins the first exercise again for the next circuit. Traditionally, the time between exercises in circuit training is short, often with rapid movement to the next exercise. Circuit training is an excellent training protocol to use for anyone seeking fat loss results and improved conditioning. Circuit training has being around for decades and traditionally used by athletes (Abel et al. 2011).

Methodology

The purpose of the study was to find out the effect of circuit training on selected physical variables among kho-kho players. To achieve the purpose of the present study, thirty players from Rayalaseema College of Physical Education, Proddatur, Andhra Pradesh were selected as subjects and their age shall ranged from 18 to 25 years. The subjects were divided into two equal groups. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen players each. The groups were assigned as circuit training group and control group in an equivalent manner. The experimental group were participated the training for a period of six weeks to find out the outcome of the training package. The initial and final scores in selected physical variables were put in to statistical treatment using ANOVA test to find out the significant mean differences.

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Results

Table 1. Analysis of covariance of speed of control group and circuit training group

	Control Group	Circuit Training	Source of Variance	Sum of Squares	Degree of Freedom	Mean Squares	'F' Ratio
Pre-Test Mean	7.94	7.98	Between	0.01	1	0.01	0.60
Standard Deviation	0.07	0.15	Within	0.56	28	0.02	
Post-Test Mean	7.81	7.55	Between	0.48	1	0.48	20.18*
Standard Deviation	0.09	0.12	Within	0.67	28	0.02	
Adjusted Pre-Test Mean	7.81	7.55	Between	0.46	1	0.46	67.64*
			Within	0.18	27	0.01	

*significant at 0.05 level

The required table value for significance at 0.05 level of confidence with degree of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20.

Table 1 shows that the pre test means of speed of control group and circuit training group are 7.94 and 7.98 respectively. The obtained 'F' ratio value of 0.60 for pre test means on speed is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on speed of control group and circuit training group are 7.81 and 7.55 respectively. The obtained 'F' ratio value of 20.18 for post –test data on speed is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degree of freedom 1 and 28. The adjusted post-test means on speed of control group and circuit training group are 7.81 and 7.55 respectively. The

obtained 'F' ratio value of 67.64 of adjusted post-test data on speed is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degree of freedom 1 and 27. The results of the study showed that there was significant difference among the adjusted post-test means of control group and circuit training group. Since only two groups are involved post hoc test is not required. It may be concluded from the results of the study that significant differences were found on speed between circuit training group and control group. This study also shows that circuit training group had significant impact on speed of the subjects.

Figure I. Bar diagram showing the mean values of pre post and adjusted on speed of experimental and control group

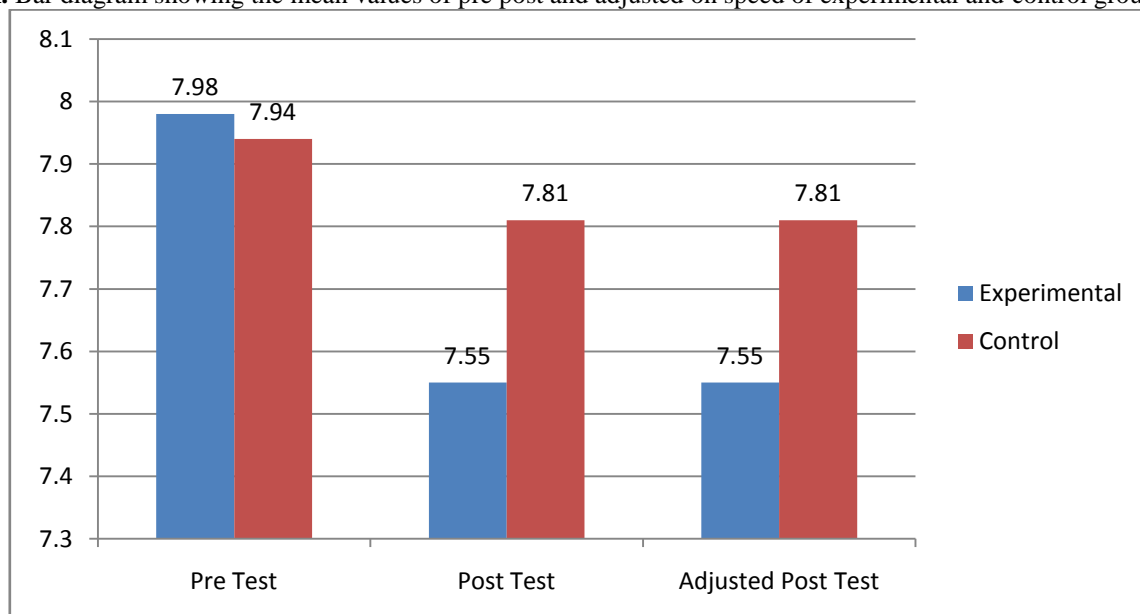


Table 2. Analysis of covariance of elastic power of control group and circuit training group

	Control Group	Circuit Training	Source of Variance	Sum of Squares	Degree of Freedom	Mean Squares	'F' Ratio
Pre-Test Mean	9.81	9.76	Between	0.02	1	0.02	1.77
Standard Deviation	0.05	0.07	Within	0.27	28	0.01	
Post-Test Mean	9.83	10.16	Between	0.83	1	0.83	20.49*
Standard Deviation	0.13	0.11	Within	1.14	28	0.04	
Adjusted Pre-Test Mean	9.81	10.18	Between	0.98	1	0.98	225.13*
			Within	0.12	27	0.004	

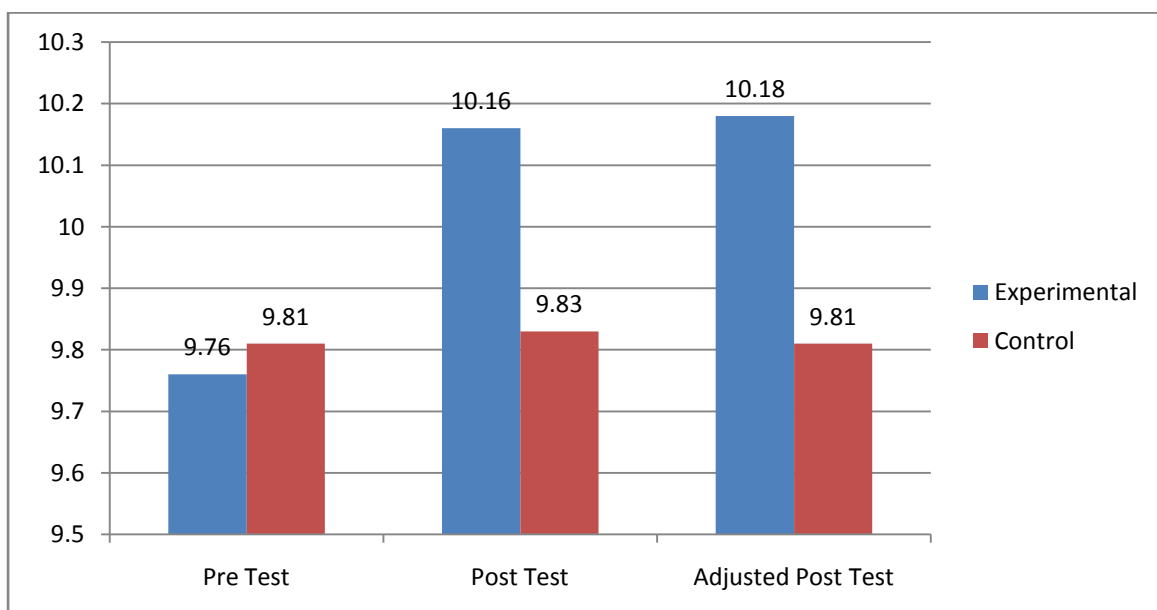
*significant at 0.05 level

The required table value for significance at 0.05 level of confidence with degree of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20.

Table 2 shows that the pre test means of Elastic Power of control group and circuit training group are 9.81 and 9.76 respectively. The obtained 'F' ratio value of 1.77 for pre test means on Elastic Power is lesser than the required table value of 4.20 for significance at 0.05 level of confidence with degrees of freedom 1 and 28. The post-test means on Elastic Power of control group and circuit training group are 9.83 and 10.16 respectively. The obtained 'F' ratio value of 20.49 for post -test data on Elastic Power is greater than the required table value of 4.20 for significance at 0.05 level of confidence with degree of freedom 1 and 28. The adjusted post-test means on Elastic Power of control group and circuit training group are 9.81 and 10.18

respectively. The obtained 'F' ratio value of 225.13 of adjusted post-test data on Elastic Power is greater than the table value of 4.21 required for significance at 0.05 level of confidence with degree of freedom 1 and 27. The results of the study showed that there was significant difference among the adjusted post-test means of control group and circuit training group. Since only two groups are involved post hoc test is not required. It may be concluded from the results of the study that significant differences were found on Elastic Power between control group and circuit training group. This study also shows that circuit training group had significant impact on Elastic Power of the subjects.

Figure II. Bar diagram showing the mean values of pre post and adjusted on elastic power of experimental and control group



Conclusion

1. It was concluded that there was significant improvement in speed and elastic power due to circuit training comparing than control group.

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