ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Effect of Circuit Training on Selected Physical Variables among College Men Volleyball Players

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Received 29th March 2016, Accepted 15th May 2016

Abstract

The purpose of the study was to investigate the impact of circuit training on selected physical variables among college men volleyball players. To achieve the purpose of the present study, thirty volleyball players were selected as subjects at random and their ages 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 subjects each. The groups were assigned as experimental group and control group in an equivalent manner. The two groups were participated the training for a period of six weeks to find out the outcome of the training packages. The two groups were statistically analysed by using paired 't' test. The result of the study reveals that there was a significant improvement in the experimental groups on selected variables when compared to the control group after the completion of six weeks of circuit training.

Keywords: Circuit training, Explosive power, Cardio vascular endurance and Volleyball Players.

Introduction

The way in which the game is played combined with the restrictions of the court and the obstacle presented by the net produce conditions, which favour a certain kind of player both in terms of physique and personality. Volleyball because it is played over a net 2 ½ m height is easier in attack for players of above average height. Most players at international level have above 6 ft height. Volleyball players must be very agile, have above average hand-eye-coordination, have a high vertical jump and able to keep jumping for long periods. As a result of these demands a certain physical type tends to be do better at this game player tend to be tall with above average degrees of both linearity and muscularity and very low level of fat.

The circuit training format utilizes a group of exercises that are completed one exercise after another. Each exercise is performed for a specified number of repetitions or for a prescribed time period before moving on to the next exercise. The exercises within each circuit are separated by brief, timed rest intervals, and each circuit is separated by a longer rest period. The total number of circuits performed during a training session may vary from two to six depending on your training level (beginner, intermediate, or advanced), your period of training (preparation or competition) and your training objective.

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Methodology

To achieve the purpose of the present study, thirty Volleyball players were selected as subjects at random and their ages 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 subjects each. The groups were assigned as experimental group and control group in an equivalent manner. The two groups were participated the training for a period of six weeks to find out the outcome of the training packages. The two groups were statistically analysed by using paired 't' test.

Table I. Variables and Tests

S.No	Variables	Test Items	Units
1	Explosive power	Standing broad jump	In centimeters
2	Cardio vascular endurance	One mile run test	In seconds

Results and Discussion

The detailed procedure of analysis of data and interpretation were given below,

Table II. Computation of 't' ratio between the pre test and post test means of explosive power of experimental group and control group

S.No	Variables	Mean dif	SD	σ DM	't' ratio
1	Explosive Power	Exp:0.07	Exp:0.11	Exp:0.03	2.22*
		Con:0.01	Con:0.10	Con:0.03	0.19

*Significant at 0.05 level

An examination of table II indicates that the obtained 't' ratio for explosive power of experimental group was 2.22. The obtained 't' ratio on explosive power was found to be greater than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be significant. The obtained 't' ratio for explosive power of control group was 0.19. The obtained 't' ratio on explosive power was found to be lesser than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be insignificant. The mean scores of explosive power of experimental group and control group were shown graphically in figure I.

Figure I. Bar diagram showing the pre mean and post mean of explosive power of experimental group and control group

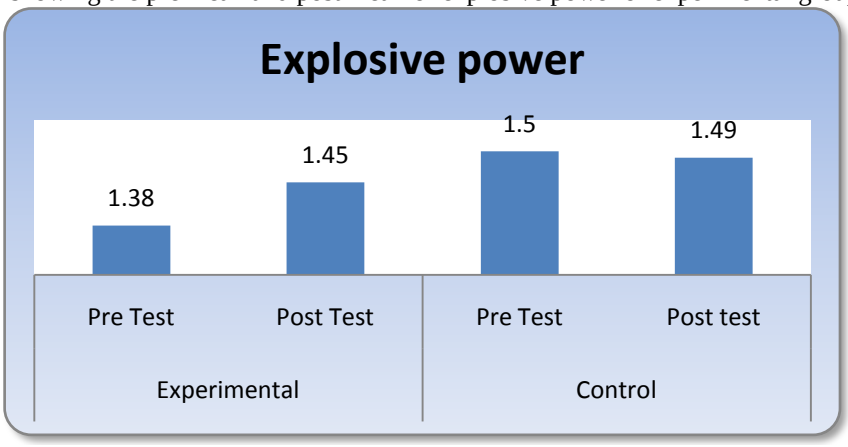


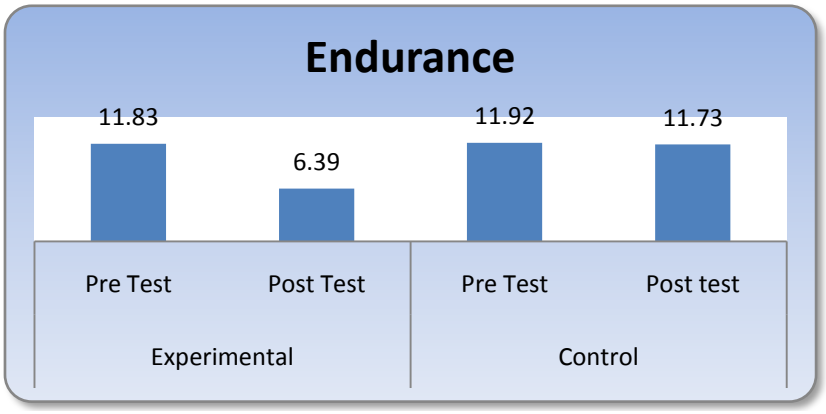
Table III. Computation of 't' ratio between the pre test and post test means of cardio vascular endurance of experimental group and control group

S.No	Variables	Mean dif	SD	σ DM	't' ratio
1	CARDIO VASCULAR ENDURANCE	Exp:5.43	Exp:0.77	Exp:0.20	27.37*
		Con:0.19	Con:1.21	Con:0.31	0.61

*Significant at 0.05 level

An examination of table III reveals that the obtained 't' ratio for cardio vascular endurance of experimental group was 27.37. The obtained 't' ratio on cardio vascular endurance was found to be greater than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be significant. The obtained 't' ratio for cardio vascular endurance of control group was 0.61. The obtained 't' ratio on cardio vascular endurance was found to be lesser than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be insignificant. The mean scores of cardio vascular endurance of experimental group and control group were shown graphically in figure II.

Figure II. Bar diagram showing the pre mean and post mean of cardio vascular endurance of experimental group and control group



Conclusions

1. The result of the study reveals that there was a significant improvement in the experimental group on selected variables when compared to the control group after the completion of six weeks of circuit training.

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