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Impact of Circuit Training on Speed and Agility among Volleyball Players

Dr. T.P.Yokesh

Assistant Professor, Alagappa University College of Physical Education, Karaikudi, Tamilnadu, India.

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Abstract

The purpose of the study was to investigate the impact of circuit training on speed and agility among volleyball players. To achieve the purpose of the present study, thirty volleyball players were selected as subjects at randomly 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 in the training for a period of eight 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 eight weeks of circuit training.

Keywords: Circuit Training, Speed, Agility, Volleyball Players.

Introduction

Training for volleyball, as in most sports is basically of two kinds-technical and physical. The kind of specific physical presentation is dictated by the two extremes at which a volleyball player is required to work. At one extreme is smashing and blocking at the net, both of which require players to jump as high as they can. Therefore part of each player's physical preparation should be training to improve his vertical jump, and by doing so increase his effective reach above the net. Like any other game, Volleyball too involves various factors for the success and high level performance. But the physical, physiological and anthropometric variables have been realised as vital trios, that constitute for the excellence of this sport. Various studies have been conducted on these aspects, which in turn have contributed at large to sports and games. Circuit training is an effective organisational form of doing physical exercises for improving all physical fitness components. Before and after training, the initial and final tests were conducted for the variables such as speed and agility for the experimental and control groups. Circuit training was given for eight weeks for alternative days. The study showed that the skill related fitness components such as speed and agility were significantly improved due to circuit training among volleyball players. The maximum improvement attained at the eight week of training.

Correspondence
Dr.T.P.Yokesh
E-mail: yoki4u@gmail.com, Ph. +9199654 01718

Methodology

To achieve the purpose of the present study, thirty volleyball players were selected as subjects at randomly 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 eight weeks to find out the outcome of the training package. The two groups were statistically analysed by using paired 't' test.

Table I. Variables and Test Items

S.No	Variables	Test Items	Units
1	Speed	50 yard dash	In seconds
2	Agility	Shuttle run	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 speed of experimental group and control group

S. No	Variables	Mean dif	SD	σ DM	't' ratio
1	Speed	Exp:0.44	Exp:0.39	Exp:0.10	4.34*
		Con:0.16	Con:0.32	Con:0.08	1.97

*Significant at 0.05 level

An examination of table II reveals that the obtained 't' ratio for speed of experimental group was 4.34. The obtained 't' ratio on speed 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 speed of control group was 1.97. The obtained 't' ratio on speed 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 speed of experimental group and control group was shown graphically in figure I.

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

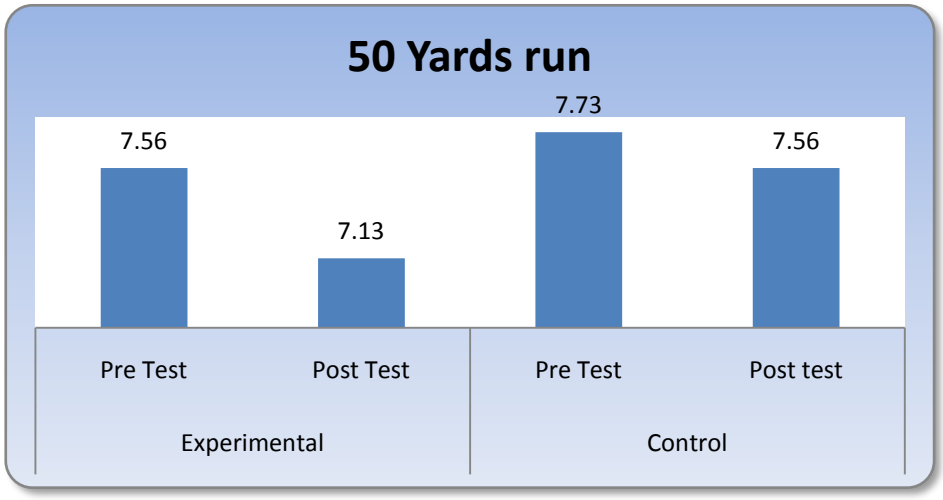


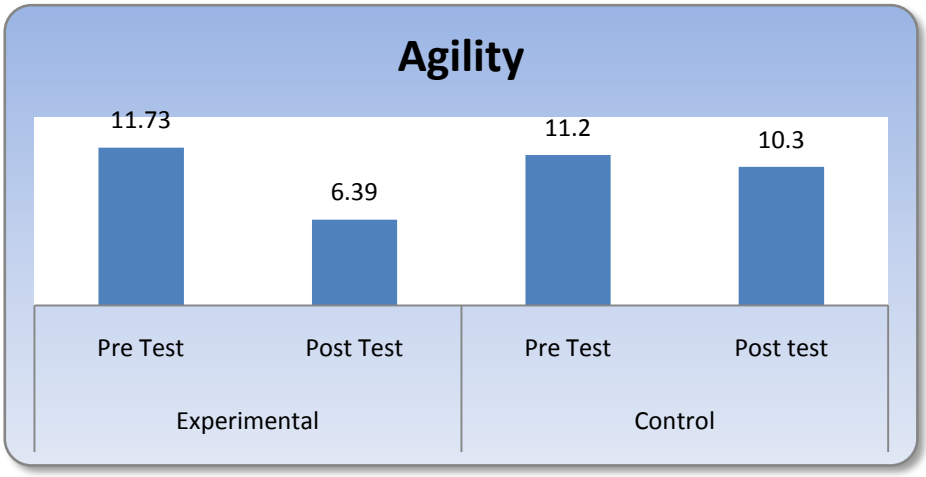
Table III. Computation of 't' ratio between the pre test and post test means of agility of experimental group and control group

S.No	Variables	Mean dif	SD	σ DM	't' ratio
1	Agility	Exp:5.33	Exp:0.80	Exp:0.21	25.79*
		Con:0.89	Con:1.79	Con:0.46	1.94

*Significant at 0.05 level

An examination of table III reveals that the obtained 't' ratio for agility of experimental group was 25.79. The obtained 't' ratio on agility 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' ratios for agility of control group was 1.94. The obtained 't' ratio on agility 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 agility of experimental group and control group was shown graphically in figure II.

Figure II. Bar diagram showing the pre mean and post mean of agility of experimental group and control group



Conclusion

1. 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 eight weeks of circuit training.

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