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Influence of Circuit Training on Selected Physical Fitness Variables among Men Hockey Players

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Abstract

The purpose of this study was to find out the influence of circuit training on selected physical fitness variables among women hockey players. For the purpose of the study 30 college level men hockey players, age ranging between 18 and 25 years from were selected as subjects from Thanthai Hans Roever College, Perambalur, Tamilnadu, India. They were further divided into experimental and control group randomly after the preliminary tests taken for the study. All students in this institution had identical and controlled living condition with variation in socio-economic background. The investigator was well acquainted with the subjects being a student himself in the same institution. This institution being a fully residential institution this study was planned out as they could be taken into confidence and control. Prior to the administration of further procedures a series of meetings was held with subjects they were made clear about the objectives and purpose of the study. Testing and training procedures were also explained to them in details. They were requested to co-operate and participate actively for the same. After the pre-test condition they were randomly distributed to experimental and control group of fifteen each. 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 men students each. The groups were assigned as experimental group (EG) and control group (CG) in an equivalent manner. The experimental group participated in the circuit training for a period of six weeks.

Keywords: Circuit Training, Women, Hockey, Agility, Speed, Explosive Strength.

Introduction

Circuit training was invented in 1953 as an efficient way for coaches to train many athletes in a limited amount of time with limited equipment. Circuit training is an effective organisational form of doing physical exercises for improving all physical fitness components. Hockey is the fastest and most beautiful of ball games. Though it was introduced into the sub continent by the British, Indians have developed their own style game. The name '*Hockey'* was perhaps derived from a French word *'Hoquet'* which means shepherds'scrook.Whatever be the game's ancient origin Hockey as we it to-day, originated in the British Isle. The Birth of modern hockey dates from 1876, when a few clubs joined together and formed a hockey union for darfting suitable rules. The hockey association was formed in 1886. In 1900 the international Hockey Board was formed and its rules are universally adopted for men's Hockey. Since 1886 the game has spread to all parts of the world and is increasing in popularity day by day. The game Hockey was introduced in India by British military officers for the soldiers and it was spread over to the civilians.

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Methodology

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Results and Discussions

The data collected prior to and after the experimental periods on circuit training group and control group were analysed and presented in the following table - I.

Table I. Descriptive Analysis of Pre and Post Test Means of Experimental and Control Group on Selected Fitness Variables

S.No	Variables	Pre Test Mean	Post Test Mean
1	Speed	Exp:7.56	Exp:7.13
		Con:7.73	Con:7.56
2	Agility	Exp:11.73	Exp:9.49
		Con:11.20	Con:10.30
3	Explosive Strength	Exp:1.38	Exp:1.45
		Con:1.50	Con:1.49

Table II. Computation of‘t’ ratio between the pre test and post test means of speed of experimental and control group

S. No	Variables	Mean diff	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 indicates 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 not significant. 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 and control group

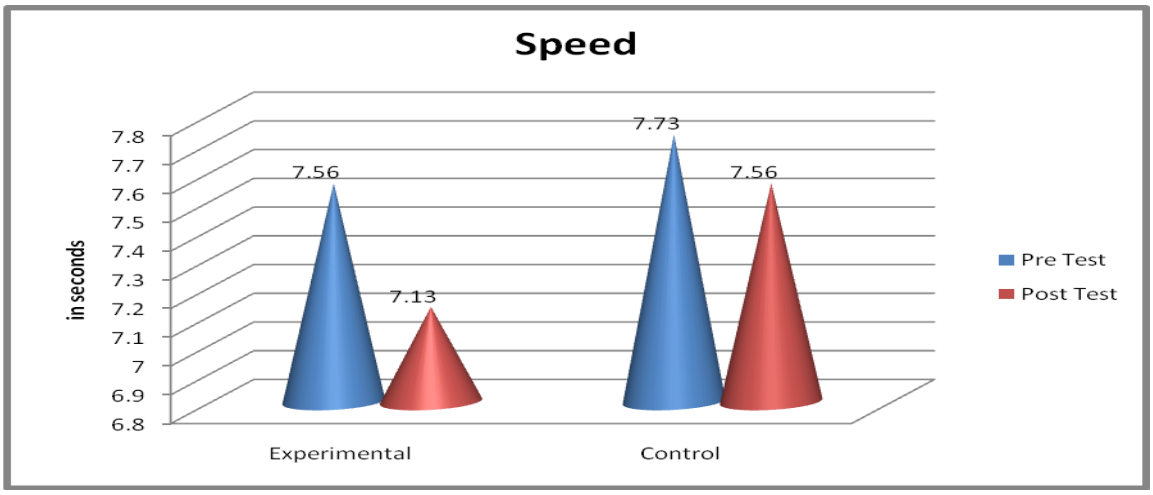


Table III. Computation of‘t’ ratio between the pre test and post test means of agility of experimental and control group

S. No	Variables	Mean diff	SD	σ DM	‘t’ ratio
1	Agility	Exp:2.24	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 indicates 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 not significant. 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 and control group

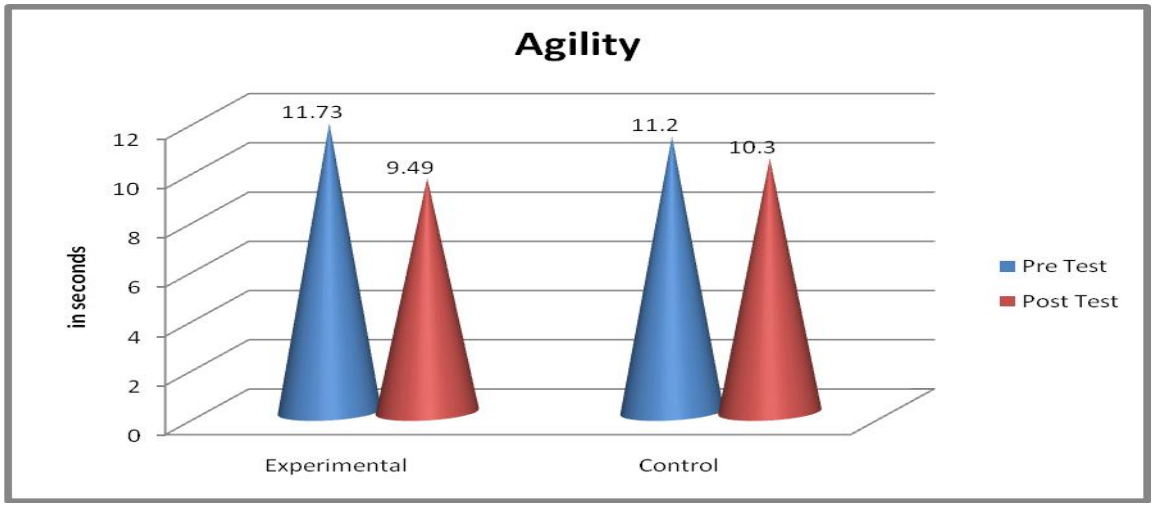


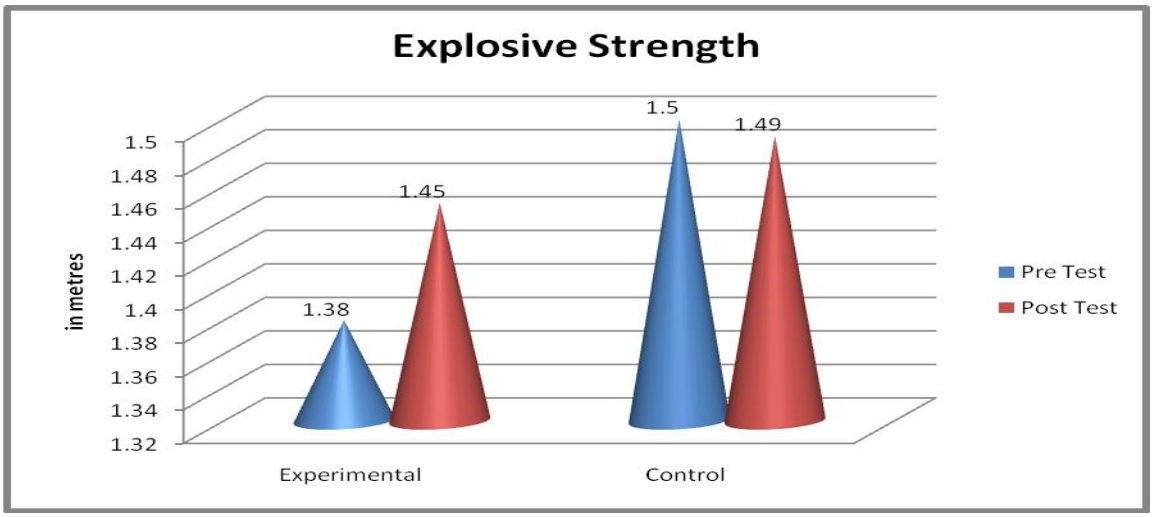
Table IV. Computation of‘t’ ratio between the pre test and post test means of Explosive Strength of experimental and control group

S. No	Variables	Mean diff	SD	σ DM	‘t’ ratio
1	Explosive Strength	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 IV indicates that the obtained‘t’ ratio for Explosive Strength of experimental group was 2.22. The obtained‘t’ ratio on Explosive Strength 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 Strength of control group was 0.19. The obtained‘t’ ratio on Explosive Strength 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 not significant. The mean scores of Explosive Strength of experimental group and control group were shown graphically in figure III.

Figure III. Bar diagram showing the pre mean and post mean of Explosive Strength of experimental group and control group



Conclusions

Within the limitation of the present study, the following conclusions were drawn.

1. It was observed that there was significant improvement in the speed of the experimental group owing to circuit training.
2. It was observed that there was significant improvement in the Explosive Strength of the experimental group owing to circuit training.
3. It was observed that there was significant improvement in the agility of the experimental group owing to circuit training.
4. There was no significant improvement in the selected variables of the control group.

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