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Effect of Plyometric Training on Flexibility among Female Hockey Players

P.Y. Sivachandran[1], Dr.G.Vasanthi[2]

[1]*Ph.D Research Scholar, Department of Physical Education, Pondicherry University, Pondicherry, India.*
[2]*Associate Professor, Department of Physical Education, Pondicherry University, Pondicherry, India.*

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Abstract

The purpose of the study was to find out the effect of plyometric training on flexibility among female hockey players. To achieve the purpose of the present study, thirty female hockey players were randomly selected from PKR Women College of Arts and Science and Gopi Arts and Science College, Erode district, Tamilnadu, India and their age ranged from 18 to 21 years. The selected subjects were divided into two groups of fifteen subjects in each. Group I acted as plyometric training group and Group II acted as control group. The Plyometric Training group participated for a period of eight weeks for alternate three days in a week and the post-tests were taken. To find out the difference between the two groups paired 't' test was used. The result reveals that the plyometric training group showed better performance on flexibility than the control group.

Keywords: Plyometric, Hockey, Female, Flexibility.

Introduction

In 1975 Fred Wilt the American Track and Field coach coined the term plyometrics. The elements ply means "increase" and metric means "measure" derived from Latin thus the combined meaning 'measurable increase' (Thomas, 1994). Plyometric rapidly got popular among the coaches and athletes as exercises aimed at linking strength with speed of movement to produce power. Plyometric training started became essential for athletes. The necessity for power development in sports needs no argument. Strength and conditioning specialists dedicate a great deal of time researching muscular power development techniques and implementing only those that produce significant results on athletes. Recent studies suggest that plyometric and resistance training exercises can increase vertical jump height, explosive power, and sprint speed by improving the production of peak muscle force and power. Presently many coaches and athletes have successfully used plyometric exercises as a method of training for performance enhancement.

Hockey is a popular sport played in many countries. But its official name is Hockey. However, in some countries in order to differentiate from ice hockey it was termed as field Hockey. The origin of the word Hockey is not clear. In hockey the players attempt to place a ball into their opponent's goal using wooden sticks. Historical records show that game was played in various antique civilizations and believed to be an ancient sport. The evidences of 4,000 year old drawings in Beni Hasan tombs, in Nile Valley, Egypt confirmed the sport has been played.

The Persians, the Romans, the Ethiopians, as well as the Aztecs were also played their own variation of the game In last three decades, India has not seen any victory at the world level due to several reasons. Restructuring the administrative system, creating infrastructure & world class facilities coaching / training programme, several scheme uniform selection policy. The national championship and the Premier Hockey League should be revitalized to widen the base for a talent search. To compare our teams with the international standards and to compete with the foreign teams proper selection must be done in order to measure the skill and performance level. **(Dureha & Akhil, 2003)**.

Purpose of the study

The purpose of the study was to find out the effect of plyometric training on flexibility among female hockey players.

Hypothesis

It was hypothesized that the plyometric training group would show significant improvement on flexibility among female hockey players than control group.

Correspondence
P.Y.Sivachandran,
E-mail: yasodharansiva@gmail.com, Ph. 081442 57074

Methods

To achieve the purpose of the present study, thirty female hockey players were randomly selected from PKR Women College of Arts and Science and Gopi Arts and Science College, Erode district, Tamilnadu, India and their age ranged from 18 to 21 years. The selected subjects were divided into two groups of fifteen subjects in each. Group I acted as plyometric training group and Group II acted as control group. The Plyometric Training group participated for a period of eight weeks for alternate three days in a week and the post-tests were taken. To find out the difference between the two groups paired 't' test was used.

Results and Discussions

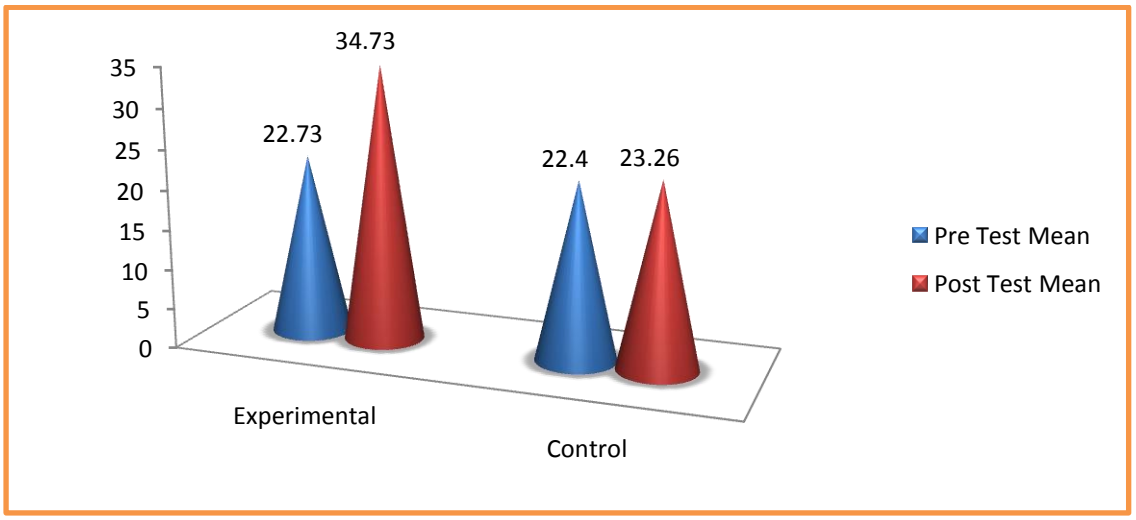
The primary objective of the paired 't' ratio was to describe the differences between the pre-test and post-test mean.

Table I. Computation of 't' ratio on Flexibility on Experimental and Control Groups

S.No	Flexibility	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Experimental	22.73	34.73	12.00	4.29	1.10	10.82*
2	Control	22.40	23.26	0.86	3.48	0.89	0.96

An examination of table - I indicates that the obtained't' ratio for experimental group was 10.82 for flexibility. The obtained't' ratio was found to be greater than the required table value of 2.14 at 0.05 level of significance for 1, 14 degrees of freedom. Hence it was found to be significant. The obtained 't' ratio for control group was 0.96 for flexibility. The obtained't' ratio was found to be lesser than the required table value of 2.14 at 0.05 level of significance for 1, 14 degrees of freedom. Hence it was found to be insignificant. The results of this study showed that the control group was statistically insignificant.

Figure I. Pre and Post Test differences of the Experimental and Control Groups on Flexibility



Discussions and Conclusions

In case flexibility the results between pre and post (8 weeks) test has been found significantly higher in experimental group in comparison to control group. The findings of the present study have strongly indicates that eight weeks of plyometric training group had significant influence on flexibility of female hockey players. Hence the hypothesis earlier set that plyometric training would have been significant influence on flexibility in light of the same the hypothesis was accepted. The result reveals that the plyometric training group showed better performance on flexibility than the control group.

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