

# EFFECT OF CORE TRAINING ON SELECTED SKILL PERFORMANCE VARIABLES AMONG HOCKEY PLAYERS

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## Abstract

*This study was to determine the core training on selected skill performance variables among hockey players. To achieve the purpose of the study thirty male hockey players were selected from LASA (Lakshmi Ammal Sports Academy) Kovilpatti, Tamilnadu. Their age ranged between 14 and 16 years. The selected subjects were divided into two groups. Group I experimental and Group II acted as control. The experimental group was given core training for three days a week, for a period of 6 weeks. Before and after the training all the subjects were measured on skill variables such as dribbling was measured by W-form dribbling test and goal shooting test was measured by Stewart Brothers Field Hockey Test. The pre and post test data were statistically examined for significant difference by using dependent 't' test. The level of significance was fixed at 0.05 level of confidence. The results reveal that the 6 weeks core training had significant improvement for pre and post-test on skill performance variables when compared to the experimental and control groups. But also significant differences were found between experimental and control group towards their performance.*

**Keywords:** core training, dribbling, Goal shooting and hockey

## Introduction

Core strength training differs from many traditional weight training routines by working both the lower back and abdominals in unison. The same is true for the upper and lower body. All athletic movements incorporate the core in some way. Very few muscle groups are isolated. Instead the whole body works as a unit and core strength training endeavors to replicate this. The muscles of the trunk and torso act to stabilize the spine, pelvis and shoulder girdle. From this solid, balanced base the limbs can be moved powerful and under control. In fact before rapid movements of the extremities can take place, the central nervous system stabilizes the spine in anticipation (Hodges & Richardson, 1997). The rate at which the core muscles stabilize the spine may have a direct effect on the power of limb movement (Hodges & Richardson, 1997).

Sports training are done for improving sports performance. The sports performance, as any other type of human performance, is not the product of one single system or aspect of human personality. On the contrary, it is the product of the total personality of the sports person. The personality of a person has several dimensions e.g. physical, physiological, social and psychic. In order to improve sports performance, the social and psychic capacities of the sports person also have to be improving in addition to the physical and physiological ones. In other words, the personality of a sportsman has to be improving in order to enhance

his performance (Singh, 1991).

Multi-segmental coordination of core and lower extremity muscle activity provides dynamic stability for the kinetic chain that extends from the lumbar spine to the foot and is widely believed to be enhanced by an adequate level of core stability (Hodges, 2003).

Hockey at any level is a thrilling game enjoyed by the players of all ages. The huge majority plays the game primarily for social reasons and do not normally have the opportunity for the sort of coaching that could significantly improve both their individual skills and overall performance (Taylor Ion, 1988).

Dribbling is used to enable a player to cover ground with the ball in possession, as a preparation for other stroke. The art of dribbling is most important and a player is not perfect until he has mastered it. The chief object of dribble is to run as fast as possible with the ball under control, tapping it from right to left and then to the right continuously.

Goal shooting is stated that every action of the attacking side is directed at getting in to the circle and producing a successful shot at the opponent's goal. General speaking, the shot at goal should be made as soon as the forward has crossed the edge of the circle. For this reason all forwards must be able to shoot hard and quickly at top speed. So the forwards must use the chances with special concentration, determination and prudence (Deepak Jain, 2000).

### **Purpose of the study**

The aim of the study was to analysis the influence of core training on selected skillperformance variables among hockey players.

### **Methodology**

To achieve the purpose of the study thirtymale hockey players were randomly selected from LASA (Lakshmi Ammal Sports Academy) Kovilpatti, Tamilnadu India. Their age ranged between 14 and 16 years. The selected subjects were divided into two groups. Group I underwent core training and Group II acted as control. The experimental group was given core training for three days a week, for a period of 6 weeks (such as cat/cow, classic crunch, bent knee-drop, oblique's, bridge and plank). Before and after the training all the subjects were measured on skill variables such as dribbling measured by (W- Form Dribbling Test) and Goal Shooting measured by (Stewart Brothers Field Hockey Test). Before and after the training all the subjects were measured their performance. The pre and post test data of the two groups were statistically examined for significant differences by using dependent 't' test. The level of significance was fixed at 0.05 level of confidence for all cases.

### **ANALYSIS OF THE DATA**

Computation of mean and dependent 't' test of Dribbling & Goal Shooting on experimental and control groups

TABLE I

## COMPUTATION OF MEAN AND DEPENDENT “t’ TEST FOR THE PRE AND POST TEST OF EXPERIMENTAL AND CONTROL GROUPS

Variables	Mean And Test	Experimental Group	Control Group
Dribbling	Pre Test Mean	42.73	42.53
	Post Test Mean	35.46	43.13
	<b>T-Test</b>	<b>18.35*</b>	1.126
Goal Shooting	Pre Test Mean	19.53	30.20
	Post Test Mean	19.53	19.00
	<b>T-Test</b>	<b>13.91*</b>	0.900

\* Significant at 0.05 ( $P < .05$ ) level with degrees of freedom 1 & 14 is 2.145.

From the table, the obtained t-test values of Dribbling and Goal Shooting for core training are 18.35\* and 13.91\* respectively, which are greater than the tabulated t-value of 2.145 with df 14 at .05 level of confidence. Also obtained values of Dribbling and Goal Shooting are 1.126 and 0.900 respectively, which are lesser than the tabulated t-value of 2.145 with df 14 at .05 level of confidence. This means core training had significant difference on Dribbling and Goal Shooting. This result indicates that there was significant difference between experimental and control group

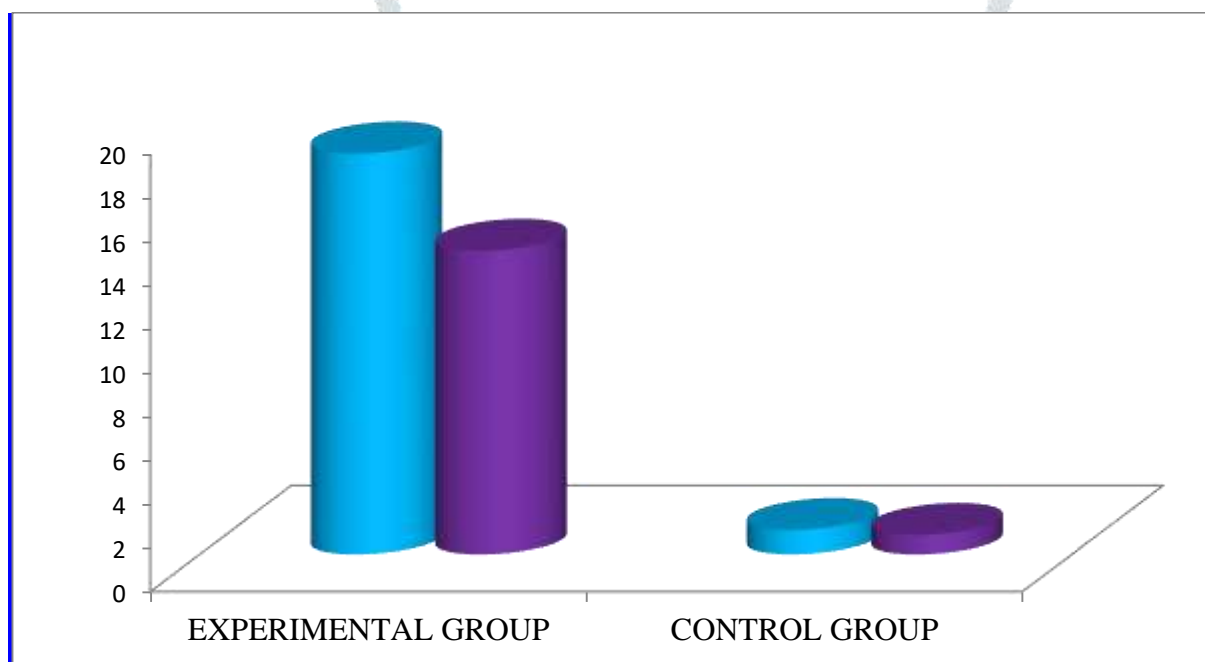


Figure I. The graph showing the pre and post mean values of Dribbling and Goal Shooting forexperimentaland control groups.

### Discussion and Findings

The result of the study indicated that the experimental group had achieved significant improvement on core training on selected skill performance variables such as dribbling and goal shooting when compared to control group. The time of often seen as a limiting factor when daily routine of core training can be builds core muscles, especially in upper and lower extremist through the progression. Especially the core muscles were most adequate support to the any kind of sports performance related skills and also prevent injuries to

the hockey players.

Kim, K J. (2010) evaluated the effect of 12 weeks combined training in core muscle strengthening on the flexibility, muscular strength and driver shot performance of the core body parts of the female professional golfers. The result of the study determined that the 12 weeks of combined core muscle training had positive effects on flexibility and strength of core muscles. More ever it was effective in enhancing driver shot performance in female professional golfer.

### Conclusions

1. Experimental group had achieved significant improvement of pre and post-test on dribbling and goal shooting performance.
2. Significant differences were found between experimental group and control group on dribbling and goal shooting performance.

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