

COMPARISON OF ARM GRIP STRENGTH OF COLLEGE AND DISTRICT LEVEL HOCKEY PLAYERS

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Abstract

In hockey a player needs strong wrists, in order to pass the ball at different speed as well as to deceive the opponents with sudden wrist movements in either direction. 30 male hockey students from each college and district level were randomly selected as subjects for this study, aged (18 to 25 years). The data were collected under natural environmental conditions in evening session. Grip strength was measured by grip dynamometer. Grip strength of both hand were measured. Recording to the nearest of half kilogram from the dial of the calibrated dynamometer was be carefully record. To analyze the collected data, descriptive data and t-ratio were applied to grip strength of college and district level hockey players. Graphical representation of mean comparison of right and left hand Grip Strength is given figure no. 01 and 02 respectively. The level of significance was set at 0.05. Findings of the study revealed that there was a significant difference found in college and district level hockey players in terms of right and left hand grip strength because the calculated 't' value (7.524) and (6.477*) respectively are significantly higher than the required 't' value (2.00).*

Keywords: Strength, Players, Wrist and Technique.

Introduction

Modern game of hockey is played in 132 countries around the world and is second only in popularity to soccer as a team sport. Field hockey is a fast-paced game which nowadays is only played on artificial turf. The game is played with 11 aside (with a maximum of 5 extra players who can be substituted) on a 91m by 55m pitch. The rules of the game allow unlimited substitutions. Unique to field hockey is the semi-crouched position in which players move a large percentage of the match or training session. This causes extra physiological strain on players. During matches a player is faced with a lot of short high energy sprints, alternated with short periods of relatively low intensity activities. The intermittent

nature of the game and the large number of changes in direction makes repeated sprint ability an important skill for field hockey players. This is emphasized even more with the newly introduced rule which allows a player to pass a free hit to himself to quickly resume play at any time when certain conditions are met. Modern hockey is fast and vigorous game; need high level of proficiency of motor fitness components and anthropometrics measurement or variables specially in playing on Astor turf for the hockey players. In hockey it is felt by many players of specialist that is full backs are tall and well built than it is advantageous for a team. More over it is organized that forwards in competition to full backs need not be well built. Many variables involved in the ability to succeed in hockey not least important appear to be those of body structure and motor fitness components yet even here relatively little research has been done. The game of hockey is geared to either scoring the goals or preventing goals being scored. Modern hockey demands that all players should prepared to adapt to the situation at the time. Since the game of hockey involve hard physical work while chasing and quick visual reaction while hitting and dodging or passing the ball with stick. Grip strength appears to be contributing factors towards hockey performance. A player needs supple wrists, in order to pass the ball at different speed as well as to deceive the opponents with sudden wrist movements in either direction. After going throughout the limitations scholar is very much interested to do the comparison of grip strength among different level i.e. college and district level that exist in physical variables of hockey players.

Material and Methods

30 male hockey students from each college and district level were randomly selected as subjects for this study, aged (18 to 25 years). The data were collected under natural environmental conditions in evening session. Grip strength was measured by grip dynamometer. Grip strength of both hand were measured. Recording to the nearest of half kilogram from the dial of the calibrated dynamometer was be carefully record.

Statistical Technique

To analyze the collected data, descriptive data and t-ratio were applied to grip strength of college and district level hockey players. The level of significance was set at 0.05.

Results

The descriptive statistics and the “t” test of collected data of the measurements in grip strength of two groups are given below on table.

Table - 1

Mean Comparison of Right Hand Grip Strength between College and District Level Hockey Players

Level	Mean	M D	SE	d.f.	‘t’
College	55.50	11.47	1.52	58	7.524*
District	44.03				

*Significant at 0.05 level of significance $t_{(0.05)(58)} = 2.00$

Table 1 reveals that college and district level hockey players differ significant in terms of right hand grip strength because the calculated ‘t’ value (7.524*) is significant higher than the required ‘t’ value (2.00). Graphical representation of mean comparison of Right Grip Strength is given figure no. 01.

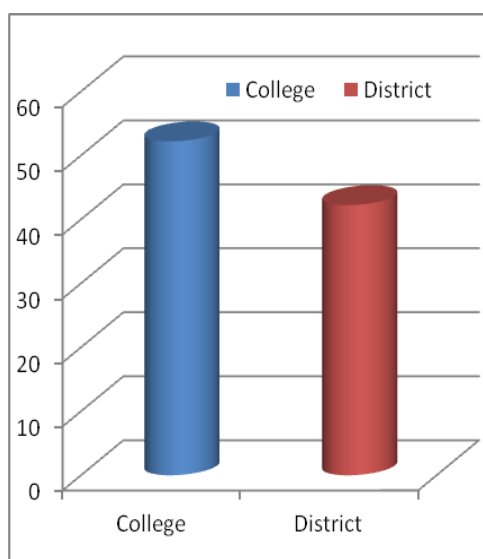


Fig. no: 01 Mean values of Right Hand Grip College and District level hockey players

Table - 2

Comparison of Left Hand Grip Strength between College and District Level Hockey Players

Level	Mean	M D	SE	d.f.	‘t’
College	52.20	9.97	1.53	58	6.477*
District	42.23				

*Significant at 0.05 level of significance $t_{0.05(58)} = 2.00$

Table 2 reveals that college and district level hockey players differ significant in terms of left grip strength because the calculated ‘t’ value (6.477*) is significant higher than the required ‘t’ value (2.00). Graphical representation of mean comparison of Left Grip Strength. Is given figure no. 2.

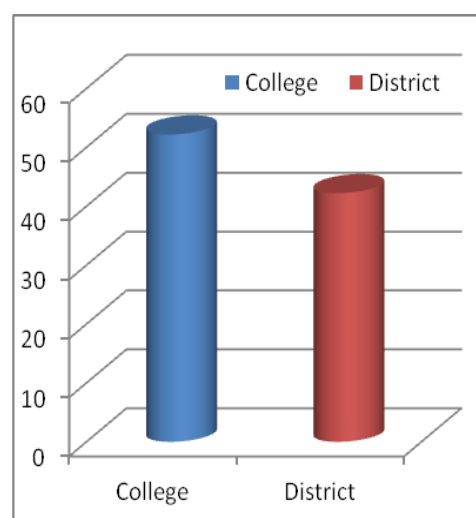


Fig. no: 02 Comparison of Left Hand Grip Strength between College and District Level Hockey Players

Discussion

In this study significant difference was found in case of arms grip strength between college and district level hockey players. This may be attributed to the fact that college players may have under gone a systematic training programme. The number of competitive participation in case of college players is more than the district level players. If we go one step ahead, we will further find that college players are in constant touch with modern techniques and latest equipments of training which are available in college gymnasium and their training schedule also includes exercise for developing arm strength and grip strength. However it is more or less absent in-case of district level players. The direct training of one’s grip strength has been mostly limited to spring loaded hand squeeze devices

and variations of tennis ball squeezes. Though these are ways of strengthening ones grip, there are many less conventional methods, but possibly more effective methods of training grip strength. Many exercises currently used in gyms and fitness centres across the country indirectly work an individual's grip.

Another unconventional method of training ones grip strength is through the use of grip enhancers and free weight bars of varying thicknesses. According to Ratamess et al, "these bars have the potential of enhancing grip strength because of the higher degree of difficulty performing exercises while grasping the bar in an area of range of motion where gripping ability is relatively weak. The college level players may use the above mention training method to improve their grip strength. However it is more or less absent in case of district level players.

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