



RELATIONSHIP ON SPEED, EXPLOSIVE POWER AND SHOULDER STRENGTH BETWEEN HOCKEY AND CRICKET PLAYERS

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Abstract

The purpose of the study was to find out the Relationship on Speed, Explosive Power and Shoulder Strength between Hockey and Cricket Players. To achieve this purpose of the study thirty men university players from the Department of Physical Education and Sports Sciences, Annamalai University were selected randomly as subjects. The age of the students ranged from 21 to 24 years. The selected subjects were divided into two groups namely group - I underwent experimental and Group - II acted as control group. Group I and II were underwent their respective training programme for three days per week for twelve weeks who did not underwent any special training programme apart from their regular physical education curriculum. The following variables such as speed, explosive power and shoulder strength were selected as criterion variables. The speed, was assessed by 50 meters run (in seconds), explosive power was assessed by using Vertical Jump (in centimeters) and shoulder strength was assessed by using Pull ups (in numbers). The Data's were collected from each subject before and after the training period and statistically analyzed by using dependent 't' test was used as statistical application and statistical analysis obtained from the data were interpreted with the results. The result also shows that there was no significant difference on both explosive power and shoulder strength between hockey and cricket players.

Keywords: speed, explosive power, shoulder strength, university hockey players and cricket players.

INTRODUCTION

Hockey is a strenuous contact Olympic team sport that places emphasis on running, sprinting, hitting. It's a team sport which requires a high standard of preparation in order to complete twenty five minutes of competitive play and to achieve success. In this game, movement patterns are characterized as intermittent and change continuously in response to different offensive and defensive situations in which anthropometric characteristics and high levels of strength, muscle power, and cricket throwing velocity are the most important factors that give a clear advantage for successful participation in elite levels of hockey leagues. From this, it is believed that to improve their hockey performance, elite level players must arrange specific hokey conditioning with some additional resistance, as well as sprint and endurance training.

Similarly the hockey is also a contact Olympic sport that emphasis on running, sprinting, shooting. These teams have more close relationship between physical fitness variables. Hence, to increase our knowledge of elite performance in male cricket and hockey, and to collect up-to-date data related to high-level male players, more investigations need to be undertaken. This knowledge could be used by coaches in order to make better selection of players and to design training programs according to the specific needs of each player.

METHODOLOGY

The purpose of the study was to find out the Relationship on Speed, Explosive Power and Shoulder Strength between Hockey and Cricket Players. To achieve this purpose of the study thirty men university players from the Department of Physical Education and Sports Sciences, Annamalai University were selected randomly as subjects. The age of the students ranged from 21 to 24 years. The selected subjects were divided into two groups namely group - I underwent experimental and Group - II acted as control group. Group I and II were underwent their respective training programme for three days per week for twelve weeks who did not underwent any special training programme apart from their regular physical education curriculum. The following variables such as speed, explosive power and shoulder strength were selected as criterion variables. The speed, was assessed by 50 meters run (in seconds), explosive power was assessed by using Vertical Jump (in centimeters) and shoulder strength was assessed by using Pull ups (in numbers). The Data's were collected from each subject before and after the training period and statistically analyzed by using dependent 't' test was used as statistical application and statistical analysis obtained from the data were interpreted with the results. The result also shows that there was no significant difference on both explosive power and shoulder strength between hockey and cricket players.

ANALYSIS OF DATA

The data were analysed and is presented in the

below table.

TABLE I
MEAN, STANDARD DEVIATION, STANDARD ERROR AND 'T' RATIO ON SPEED, EXPLOSIVE POWER AND SHOULDER STRENGTH BETWEEN HOCKEY AND CRICKET PLAYERS

Variable	Group	Mean	Standard Deviation	Standard Error Mean	't' Ratio
Speed (in Seconds)	Hockey	8.32	0.41	0.130	8.775*
	Cricket	7.17	0.11		
Explosive Power (in Centimeters)	Hockey	71.27	5.954	1.683	0.238
	Cricket	70.87	5.013		
Shoulder Strength (in numbers)	Hockey	15.4	5.031	1.516	0.923
	Cricket	16.8	3.902		

* Significant at 0.05 level of confidence.
 The required table value is 2.048 with 28 degree of freedom.

The above table shows that the mean value on speed for the hockey and cricket players was 8.32 seconds and 7.17 seconds. The calculated 't' value between hockey and cricket players is 8.775, it was greater than the required table value 2.048 at .05 level. The result indicates that there was a significant difference between hockey and cricket players on speed. The above table also shows that the mean value on explosive power for the hockey and cricket players was

71.27 centimeters and 70.87 centimeters. The calculated 't' value between hockey and cricket players is 0.238; it was less than the required table value 2.048 at .05 level. Similarly the mean value on shoulder strength for the hockey and cricket players was 15.4 numbers and 16.8 numbers; it was also less than the table value. Both the variables result showed that there was no significant difference between hockey and cricket players on explosive power and shoulder strength.

FIGURE I
DIAGRAM SHOWING THE MEAN VALUES OF HOCKEY AND CRICKET PLAYERS ON SPEED (IN SECONDS)

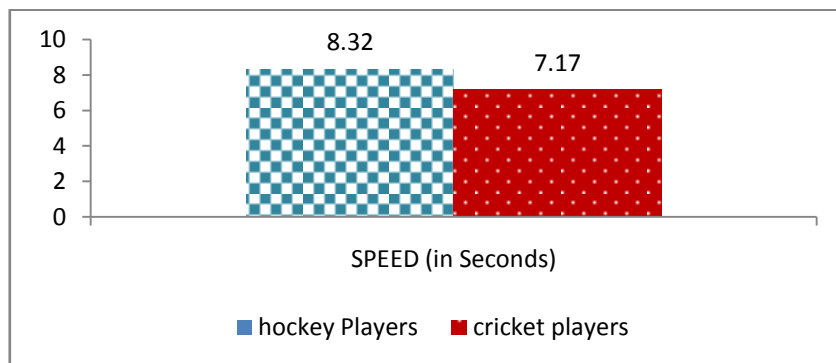


FIGURE II
DIAGRAM SHOWING THE MEAN VALUES OF HOCKEY AND CRICKET PLAYERS
ON EXPLOSIVE POWER (IN CENTIMETERS)

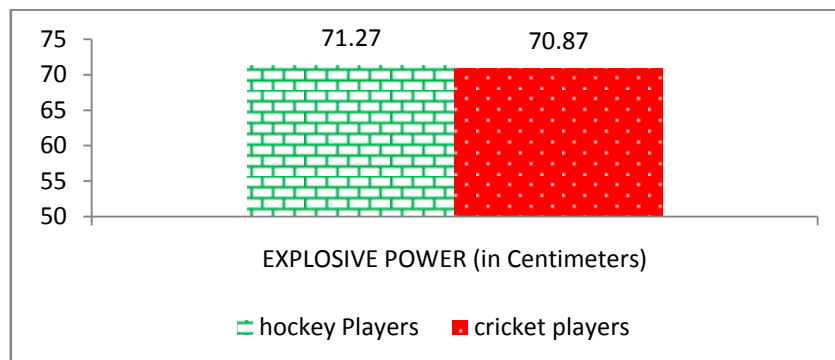
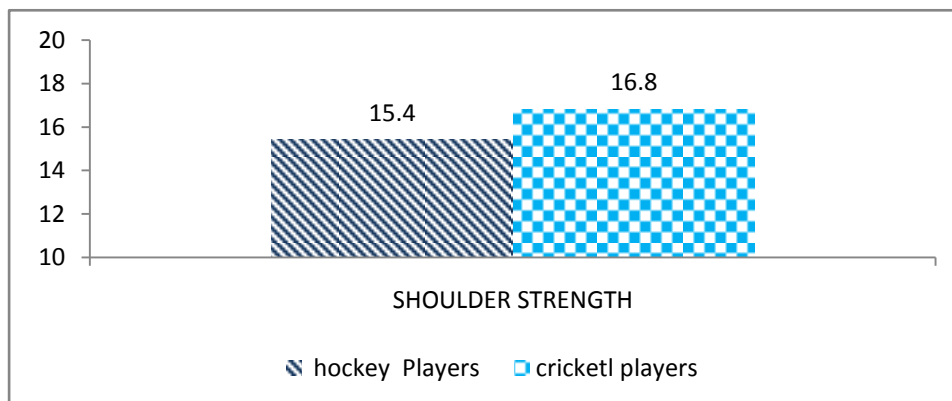


FIGURE III
DIAGRAM SHOWING THE MEAN VALUES OF HOCKEY AND CRICKET PLAYERS
ON SHOULDER STRENGTH (IN NUMBERS)



CONCLUSIONS

With in the limitation of the study and on the basis of the obtained results from the study, the following conclusions have been drawn.

1. From the results it was concluded that the significant difference between hockey and cricket players on speed. Hence it proved that cricket players are fast game players than the hockey players.
2. The result also shows that there was no significant difference on both explosive power and shoulder strength between hockey and cricket players. It means that similar abilities found on explosive power and shoulder strength for hockey and cricket players.

RECOMMENDATIONS

On the basis of observations and conclusions drawn from this study, the following recommendations were made:

1. This study proves that the cricket game is the fastest game than the hockey game.

2. Both the team players had similar abilities on explosive power and shoulder strength, so that same type of training programmes are applicable to both the teams.
3. From this study it was proved that the cricket game is the fastest game, the trainers should give more attention on speed as the essential physical fitness. So that, much importance should give to the cricket players on speed parameters.

REFERENCES

1. Gal Ziv and Ronnie Lidor “Vertical Jump in Female and Male Basketball Players-A Review of Observational and Experimental Studies” Journal of Strength and Conditioning Research 23(5), (August 2009):1570-1577.
2. HakkinenK.“Changes in Physical Fitness Profile in Female Basketball Players during the Competitive Season Including Explosive Type Strength Training” Journal of Sports Medicine and Physical Fitness 33(1), (Mar 1993): 19-26.

3. Granados C.et. al., “Effects of an Entire Season on Physical Fitness in Elite Female Handball Players” *Medicine and Science in Sports and Exercise* 40(2), (Feb 2008): 351-61.
4. Delextrat A. and Cohen D. “Strength, Power, Speed, and Agility of Women Basketball Players According to Playing Position” *Journal of Strength and Conditioning Research* 23(7), (Oct 2009): 1974-81.
5. Visnapuu M. and Jurimae T. “Relations of Anthropometric Parameters with Scores on Basic and Specific Motor Tasks in Young Handball Players” *Perceptual and Motor Skill* 108(3), (Jun 2009): 670-6.
6. Frane Erculjet. al., “An Analysis of Basketball Player Movements in the Slovenian Basketball League Play-Offs Using the Sagit Tracking System” *Physical Education and Sport* 6(1), (2008): 75 – 84.
7. Drinkwater EJ. Design and interpretation of anthropometric and fitness testing of basketball players. *Sports Med.* 2008;38(7):565-78.
8. Angyán L, Relationship of anthropometrical, physiological and motor attributes to sport-specific skills. *Acta Physiol Hung.* 2003;90(3):225-31.
9. Sorabh Trikha, A comparative Study of Motor Abilities and Physiological Variable of Different Game players, *Physical Education*, Volume : 2 | Issue : 11 | November 2013.
10. Diego Augusto Santos Silva, Anthropometric and Physical Fitness Differences Among Brazilian Adolescents who Practise Different Team Court Sports, *J Hum Kinet.* Mar 2013; 36: 77–86.