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Comparative study on selected physical fitness variables among football and hockey players

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Abstract

The purpose of the study was to compare Agility, speed, Explosive Strength, Muscular Strength between Hockey players of igipess College 30 male Players (n=30), fifteen (15) players each from the game of football and hockey, were selected of the study. The age of the subject ranged from 17-25 year. The Speed was measured through 50 m, Agility through shuttle run, Chinup for Muscular endurance and Explosive Strength measured by Vertical Jump. The t test was employed for analysing the data and the hypothesis were tested at 0.05 level of Significance. According to our finding no significant difference were found with regards Agilit, Vertical Jump, and Chinup on other aspect their is significant difference with regard Speed.

Keywords: Football players, hockey players, vertical jump, Chinup, speed, agility

Introduction

Physical Fitness is the ability to carry out daily task with vigour and alertness, without undue fatigue and with ample energy to engage leisure in pursuits and to deal with emergency situations. The physical fitness is the ability to last or to endure the stress and to preserve under difficult circumstances whereas unfit person would be ineffective and quit. Living individuals have some degree of physical fitness which is minimal in the severally ill and maximal in the highly trained athlete. It considerably varies in different people and also in the same individual from time to time.

The commonly mentioned physical fitness components are speed, power, endurance, balance, co-ordination and flexibility. Physical fitness is an important and inseparable part of sports performance and achievement. The fitness abilities of an athlete is directly proportional to the level of performance.

Hockey, on the other hand, often emphasises short bursts of intense effort, requiring players to have strong anaerobic capacities as well as agility for quick direction changes. Football, on the other hand, requires more sustained running, which necessitates a combination of aerobic endurance and strength, particularly for positions such as midfielder and forward. Both sports demand muscular strength, although the precise muscle groups and types of strength required may differ. Hockey players frequently demand strong lower body muscles to skate, whereas football players may rely on upper body strength for ball control and physical obstacles. Ultimately, the comparison study is based on specific positions and playing styles within each sport, as well as individual athlete qualities.

Methodology

The purpose of the study to compare speed, agility, explosive strength and muscular strength between football and hockey players. The present study was conducted on thirty (30) male football and hockey player of Igipess College, Delhi University. The age of the subjects was ranged from 17 to 25 years.

To Find out the significance difference between football and hockey players with regard to speed 50 m and agility, explosive strength, muscular strength. 't' test was applied with the help of SPSS software. The level of significances was set at 0.05 level of significance

Results and Findings

For the finding of the significance difference between football and hockey players with regard to speed, agility explosive strength and muscular strength are depicted in Table -1

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Table 1: Comparison of Score on Speed, Agility, Explosive Strength, Muscular Endurance.

Variable	Group	N	Mean	S.D	t-value	P-value(sig)
50meter (Sec)	Football	15	6.9693	.16803	-2.467	.001
	Hockey	15	7.2820	.46112		
Shuttle Run(sec)	Football	15	11.0993	.51859	1.351	.293
	Hockey	15	10.7627	.81397		
Vertical Jump (m)	Football	15	.4107	.05561	-2.258	.667
	Hockey	15	.4587	.06069		
Chin-up	Football	15	9.7333	4.07898	-.336	.325
	Hockey	15	10.3333	5.58911		

It can be seen from Table-1 that no significant difference were found with regard to Agility (Shuttle run), Explosive strength (Vertical Jump), Chin-up (Muscular endurance between football and Hockey players as t-value were (0.293), (0.667), (-.336) respectively, which were found higher than 0.05 level of significance ($p>0.05$). On other

variable there is significant difference found in speed (0.001) which is lower than significant value 0.05. The Graphical Representation of Mean scores of Speed, Agility, Chin-up, Vertical Ju5mp between Football and Hockey Players has been depicted in Figure 1.

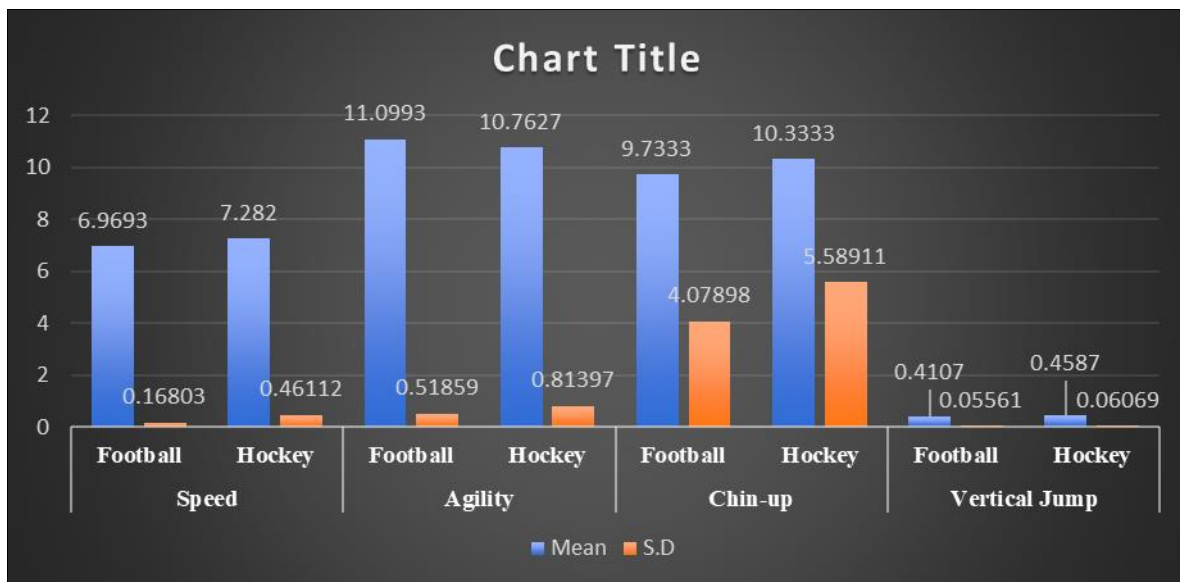


Fig 1: The Graphical Representation of Mean scores of Speed, Agility, Chin-up, Vertical Ju5mp between Football and Hockey Players

Discussion of Findings

The analysis of data shows that intercollegiate level Football players are significantly superior to that of the Hockey players in Speed. In respect of the other motor components namely Agility, Strength endurance and Explosive Strength no difference has been observed between the two groups. From this result it could be inferred that the fitness status of the Football and Hockey players in respect of Agility, Strength endurance and Explosive Strength is almost identical. With respect to Speed Football players are better than Hockey players and on the other hand in respect to Agility Football players possess better agility than that of Hockey players. This could be due to the fact that coaches of Football team have given due emphases Explosive and agility training in their training programme realizing fully that this variable important for their performance. On the other hand, because Football involves lots of running in the court and that is why their performance in strength endurance has been found to be significantly better than the Hockey players. As a matter of fact, both Football and Hockey are explosive strength dominating sports and at the same time agility is another important component in order to excel both these sports

Conclusion

- Football players are significantly better than the

Hockey players in Speed. It could be nature of game, area of ground and flat running according to demand of game. Some other study Singh B. Kaur R. (2023) falls in same line and supports the study

- There was no significant difference in Strength Endurance, Agility and Explosive Strength performance between Football and Hockey players.

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