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**A COMPARATIVE STUDY OF SELECTED ANTHROPOMETRIC VARIABLES
AMONG TEAM GAME PLAYERS**



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ABSTRACT

The main objective of the study was to compare the selected anthropometric variables among team game players. 40 subjects were selected for the present study, in which, twenty 20 male athletes had participated in various inter-college tournaments in football and twenty 20 male athletes had participated in various inter-college tournaments in hockey during the year 2021-2022. The athletes were selected by applying systematic sampling method. The variables selected for measurement and comparison between the athletes were height, weight, arm length and leg length. The age of subjects ranged between 18 to 24 years. The Mean, Standard Deviation, Mean Difference and 't'-value were calculated to find out the significance of difference between the groups. The level of significance was set at 0.05. The result revealed no significant differences between the height, weight and leg length of the football and hockey players however there was significant difference between the arm lengths of the two groups. In conclusion there was no significant difference between the height, weight and leg length of the football and hockey players.

Keywords: Anthropometric variables & Team Game Players.

INTRODUCTION

Anthropometry has a long history, starting with researchers in the 17th and 18th centuries who were interested in using science to examine differences in human populations. Biologists, physicians, and anthropologists have all contributed to the field

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of anthropometry by developing a variety of instruments and guidelines for measuring the human body. Today, the methods used in anthropometry have proven beneficial for a variety of disciplines and individuals, including researchers, health care professionals, coaches, and athletes. By measuring the human body to assess its shape, size, and composition, health care professionals and researchers have developed guidelines used to determine the ranges for normal growth in children, healthy weight in adults, and the amount of muscle mass associated with athletic performance. For the most part, anthropometric measurements are considered non-invasive, as they do not require any surgical techniques in order to acquire these data. Instead, common everyday objects such as tape measures, weight scales, and calipers can be used to quickly collect measurements from individuals. What are anthropometric measurements? Anthropometric measurements refer to the use of specific tools to collect the data needed to assess the health and growth status of the human body. In this section, the different types of anthropometric measurements and the tools used to collect these data will be explained in greater detail.

OBJECTIVE OF THE STUDY

The main objective of the study was to compare the selected anthropometric variables among team game players.

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DESIGN OF THE STUDY

40 subjects were selected for the present study, in which, twenty 20 male athletes had participated in various inter-college tournaments in football and twenty 20 male athletes had participated in various inter-college tournaments in hockey during the year 2021-2022. The athletes were selected by applying systematic sampling method. The variables selected for measurement and comparison between the athletes were height, weight, arm length and leg length. The age of subjects ranged between 18 to 24 years. The Mean, Standard Deviation, Mean Difference and 't'-value were calculated to find out the significance of difference between the groups.

TOOLS FOR DATA COLLECTION

For Weight (kilograms) a weighing machine was used, for Height (centimeters) a stadiometer was used and for arm and leg length (centimeters) a measuring tape was used.

STATISTICAL ANALYSIS AND INTERPRETATIONS OF THE DATA

The Mean, Standard Deviation, Mean Difference and 't'-values were calculated to find out the significance of differences between the selected anthropometric components of Football and Hockey players. The level of significance was set at 0.05. The results with regard to the anthropometric variables arm length, leg length, height and weight are given in the tables below:-

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Table No: I

Table showing the significance of difference between the arm length of Players


Subjects	Mean	Standard Deviation	Mean Difference	Obtained t ratio	Table value of t ratio
Hockey	69	3.65	2.2	2.39*	2.09
Football	71.2	1.83			

*Significant at 0.05 level


The above table shows that the Mean value of hockey players is 56 and the Mean value football players are 58.4. Similarly it shows that the Standard Deviation of hockey players is 8.45 and 7.88 is the Standard Deviation of Football players. The Mean Difference between both groups was of 1.35. After calculations the value of the ‘t’ ratio is 0.92 whereas the table value of the ‘t’ ratio is 2.09. As the obtained ‘t’ ratio is more than the table value of ‘t’ ration, there is a significant difference between the height of hockey and football players.




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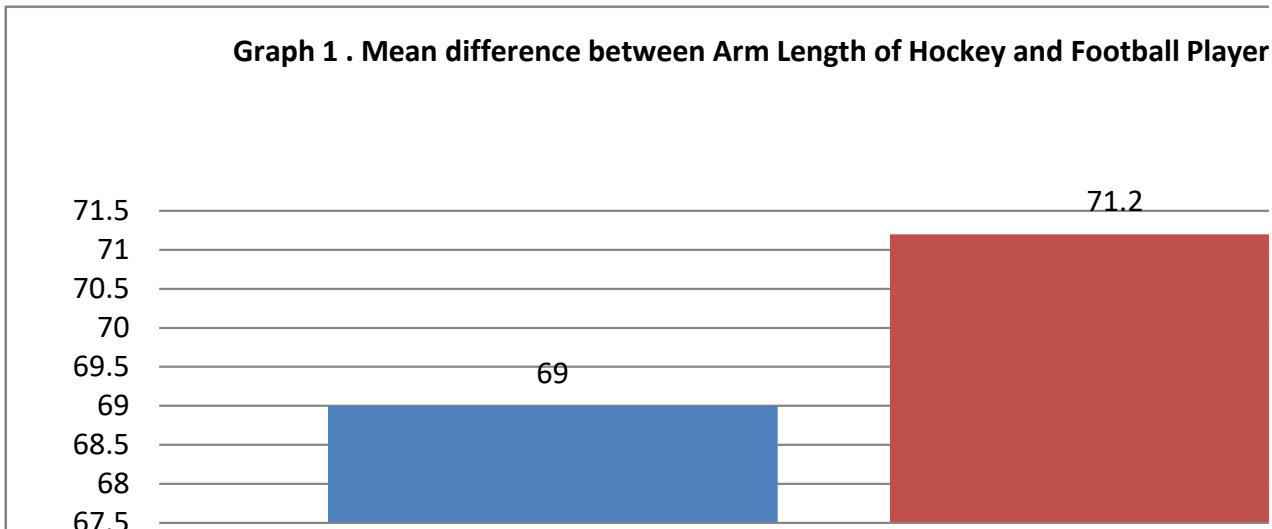


Table No: II
 Significance of difference between the leg length of hockey and football players

Sport	Mean	Standard Deviation	Mean Difference	Obtained t ratio	Table value of t ratio
Hockey	93.05	2.52	0.35	0.14	2.09
Football	93.15	1.82			

*Significant at 0.05 level

The above table shows that the Mean value of Hockey players is 93.05 and the Mean value Football players are 93.15. Similarly it shows that the Standard Deviation of



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hockey players is 2.52 and 1.82 is the Standard Deviation of Football players. The Mean Difference between both groups was of 0.35. After calculations the value of the ‘t’ ratio is 0.14 whereas the table value of the ‘t’ ratio is 2.09. As the obtained ‘t’ ratio is less than the table value of ‘t’ ratio, there is no significant difference between the height of Hockey and Football players.

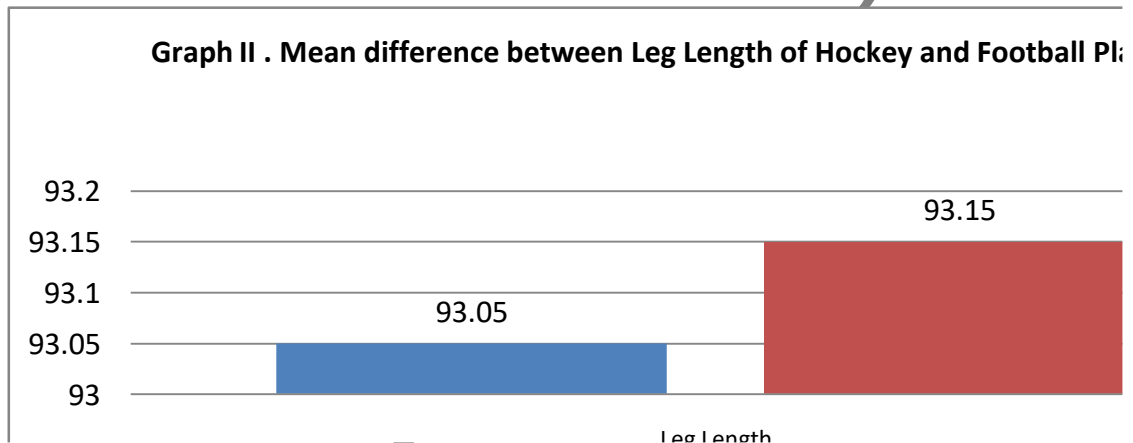


Table No: III

Table showing the significance of difference between the height of hockey and football players

Sport	Mean	Standard Deviation	Mean Difference	Obtained T ratio	Table value of t ratio
Hockey	170.6	4.99	1.35	0.96	2.09
Football	171.95	3.80			

*Significant at 0.05 level

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The above table shows that the Mean value of hockey players is 170.6 and the Mean value football players are 171.95. Similarly it shows that the Standard Deviation of hockey players is 4.99 and 3.80 is the Standard Deviation of football players. The Mean Difference between both groups was of 1.35. After calculations the value of the ‘t’ ratio is 0.96 whereas the table value of the ‘t’ ratio is 2.09. As the obtained ‘t’ ratio is less than the table value of ‘t’ ration, there is no significant difference between the height of hockey and football players.

Table No-IV
Table showing the Significance of difference between the weight of hockey and football players


Sport	Mean	Standard Deviation	Mean Difference	Obtained t ratio	Table value of t ratio
Hockey	56	8.45	2.4	0.92	2.09
Football	58.4	7.88			

*Significant at 0.05 level


The above table shows that the Mean value of hockey players is 56 and the Mean value football players are 58.4. Similarly it shows that the Standard Deviation of hockey players is 8.45 and 7.88 is the Standard Deviation of Football players. The Mean Difference between both groups was of 2.4. After calculations the value of the ‘t’ ratio is 0.92 whereas the table value of the ‘t’ ratio is 2.09. As the obtained ‘t’ ratio is less than the table value of ‘t’ ration there is no significant difference between the height of Hockey and football players.




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FINDINGS & CONCLUSION

The study shows that there is no huge difference between the height, weight and leg length of the players of both games. This may be because of the similarities of both the games as both the games require extensive running and other such activities. However, the arm length of the Hockey players seems to be significantly larger than those of the Football players. This provided the Hockey players with much larger range with the Hockey stick. As many of the subjects are still developing further training might bring even more changes, albeit much slowly, in their bodies in response to their training.

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