



**COMPARISON OF SELECTED ANTHROPOMETRIC MEASUREMENTS
BETWEEN HALFBACK FOOTBALL AND HOCKEY PLAYERS OF HIMACHAL
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Abstract

The purpose of the study was to analyze the differences in diameter between halfback football and hockey players. This study was conducting on 60 football and hockey players with an aim to find out differences in diameter between the halfbacks football (n=30) and halfback hockey (n=30). The data for the present study were collected in the inter college competition organized by Himachal Pradesh University. Each players was tested for various diametric measurements necessary for estimation of humerus diameter, wrist diameter, femur bicondylar diameter and ankle diameter measurements of halfback footballers and hockey players. To analyze the difference in certain diametric measurements between two groups of football and hockey players were determined through 't' test. From the findings, it may be interpreted that halfbacks of hockey game possessed significantly greater elbow diameter as compared to halfbacks of football game. . Further, although the halfbacks of football game have depicted somewhat higher mean value for wrist diameter and ankle diameter in comparison to halfbacks of hockey game, similarly half back of hockey game depicted somewhat higher mean value for femur bicondylar diameter. But none of such mean differences were found to be significant. In case of wrist diameter, femur bicondylar diameter and ankle diameter there existed no significant differences between the halfback of football and hockey games.

Keywords: Anthropometry, diameter

Introduction:

The sports structure in India is fast changing because of the availability of increased facilities and sports environment. Awareness among the coaches and physical Educationists towards the recent advances in sports sciences is growing rapidly. The role of an emerging

scientific discipline known as sports anthropometry is of great significance. The Knowledge of this science equips us with the techniques of various body measurements like height, body weight, diameters, circumferences and skinfolds thickness which ultimately deal with the assessment of human physique, body composition, physical growth, maturation and gross functions of the human body. The inter-relationship between each of these above mentioned variables with the success in sports can be regarded as a proven fact today (Cureton, 1951; Sargent, 1887; Tanner, 1964).

Anthropometry is used to assess and predict performance, health and survival of individuals and reflect the sports, and social well being of populations. It is scientific specialization dealing with the measurement of persons in a variety of morphological perspectives, its application to movement and those factors which influence movement, including: components of body build, body measurements, proportions, composition, shape and maturation; motor abilities and cardiorespiratory capacities ;physical activities including recreational activities as well as highly specialized sports performance. (Ross 1978)

Assessment of the human body is important to determine its relationship with risk of health problems such as overweight, growth failure, and eating disorders. Anthropometry is an important technique in the field of public health and nutrition.

It is important to note that research in India, in this particular field started during the past few years. In other countries, however, research in the disciplines concerning sports has been on since long (Hirata 1979).

In recent past years, the selection and development of talent in sports have been gaining emphasis. Of course it involves integral approach of different sports science specialists. However, the role of anthropometry as a sports science is perhaps one of the most crucial in this regards. This is essential because the physique, body composition, physical growth and one's motor development are of fundamental importance in developing the criteria of talent selection and development in sports (Sodhi 1991). The purpose of the present study is to find out the differences in anthropometric variables i.e. diameter of halfback footballers and hockey players of Himachal Pradesh University.

METHODOLOGY

To achieve the purpose of this study 60 football and hockey players i.e. halfback football (n=30), halfback hockey (n=30), who participated in the inter college competition organized by Himachal Pradesh University were randomly selected and used as subjects in this study. Age group ranged from 18-25years. Each athlete was tested for various anthropometric measurements necessary for estimation of diameter measurements. A set of anthropometric measurements, which included humerus bicondylar diameter, wrist diameter, femur bicondylar diameter and ankle diameter were taken into consideration for anthropometric measurements. Sliding caliper was used for the measurement of diameters of body parts.. To test the significance of mean difference between the football and hockey players, statistical technique of 't' test was applied.

RESULTS AND DISCUSSION

Since the purpose of the study was to analyze the diameters of halfback players of football and hockey, these are explained with the help of different tables.

TABLE-1

COMPARISON OF HUMERUS BICONDYLAR DIAMETERS AND WRIST DIAMETER BETWEEN HALFBACK PLAYERS OF FOOTBALL AND HOCKEY

VARIABLES	Footballers (N=30)			Hockey Players (N=30)			't'
	MEAN	S.D	S.E.M	MEAN	S.D	S.E.M	
HumerusBicondylar Diameter	6.46	.43	.08	6.72	.29	.05	2.75**
Wrist Diameter	5.78	.25	.05	5.71	.24	.04	.57

* Significant at .05 level

** Significant at .01 level

Table 1 depict the means, standard deviations and values of SEM for Humerus Bicondylar diameter and wrist diameter of halfbacks players of football and hockey games.

The mean value of Humerus Bicondylar diameter for halfbacks of hockey game was found to be 6.72 and for halfbacks of football game, it was computed to be 6.46. The t-value testing the significance of mean difference between the halfbacks of two games came out to be 2.75 which is significant at 0.01 level of significance, for df 58. Hence, it may be interpreted that halfbacks of hockey game possessed significantly greater elbow diameter as compared to halfbacks of football game. Further, although the halfbacks of football game have depicted somewhat higher mean value for wrist diameter in comparison to halfbacks of hockey game, but none of such mean differences were found to be significant. So, it may be interpreted that in case of wrist diameter there existed no significant differences among the halfbacks of football and hockey games. **Hence, the Hypothesis that, “there would be no significant difference between halfbacks players of football and hockey in relation to Humerus Bicondylar diameter and wrist diameter” is accepted** only in case of wrist diameter and **stands rejected** in case of Humerus Bicondylar diameter.

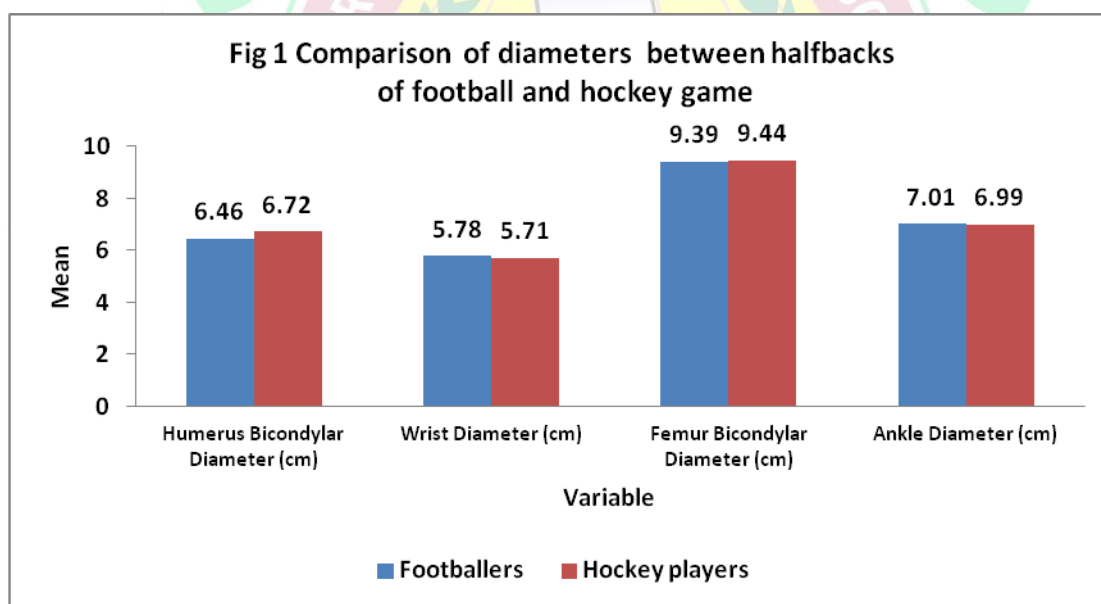


TABLE-2**COMPARISON OF FEMUR BICONDYLAR DIAMETERS AND ANKLE DIAMETER BETWEEN HALFBACK PLAYERS OF FOOTBALL AND HOCKEY**

VARIABLES	Footballers (N=30)			Hockey Players (N=30)			't'
	MEAN	S.D	S.E.M	MEAN	S.D	S.E.M	
Femur Bicondylar Diameter	9.39	.26	.04	9.44	.36	.07	1.04
Ankle Diameter	7.01	.14	.02	6.99	.39	.07	.26

* Significant at .05 level

** Significant at .01 level

Table 2 depict the means, standard deviations and values of SEM for femur bicondylar diameter and ankle diameter of halfbacks players of football and hockey games. The mean value of femur bicondylar diameter for halfbacks of hockey game was found to be 9.44 and for halfbacks of football game, it was computed to be 9.39. The t-value testing the significance of mean difference between the halfbacks of two games came out to be 1.04 which is not significant at 0.05 level of significance, for df 58. Hence, it may be interpreted that halfbacks of hockey game have shown little bit higher mean value for femur bicondylar diameter as compared to forwards of football game. Similarly the mean value of ankle diameter for halfbacks of football game was found to be 7.01 and for halfbacks of hockey game, it was computed to be 6.99. The t-value testing the significance of mean difference between the halfbacks of two games came out to be .26 which is not significant at 0.05 level of significance, for df 58. Hence, it may be interpreted that halfbacks of football game have shown little bit higher mean value for ankle diameter as compared to forwards of hockey game. But none of such mean differences were found to be significant. So, it may be interpreted that in case of femur bicondylar diameter and ankle diameter, there existed no significant differences among the halfbacks of football and hockey games. **Hence, the Hypothesis that, "there would be no significant difference between halfbacks players of football and hockey in relation to femur bicondylar diameter & ankle diameter" is accepted.**

CONCLUSIONS

1. Halfback of football game possess significantly lesser diameter of elbow than the halfbacks of hockey game.
2. Halfback players of football and hockey do not differ significantly in the variables of wrist diameter, femur bicondylar diameter and ankle diameter when compared with each other.

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