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Comparative Study OfSelected Anthropometric Characteristics Between Football And Hockey Players Of Himachal Pradesh University

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ABSTRACT: The purpose of the study was to analyze the differences in certain circumferences and skin fold characteristics between fullback football and hockey players. This study was conducting on 60 football and hockey players with an aim to find out differences in selected anthropometric measurements between the fullbacks football (n=30) and fullbacks hockey (n=30). The data for the present study were collected in the inter college competition organized by Himachal Pradesh University, during the session 2011-2012. Each athlete was tested for various anthropometric characteristics necessary for estimation of chest, hip, thigh and calf circumference and biceps, triceps, sub scapular, supera iliac, thigh and calf skinfold measurements of fullback footballers and hockey players. To analyze the difference in these anthropometric measurements between two groups of football and hockey players were determined through 't' test. From the findings, it has been found that the fullbacks of football game have depicted somewhat higher mean value for chest circumference, hip circumference, thigh circumference and calf circumference as compared to fullbacks of hockey game. In skinfold measurements, it has been found that fullbacks of hockey game possessed significantly greater biceps skinfold and suprailiac skinfold than football players. In triceps skinfold, sub scapular skinfold, thigh and calf skinfolld there exist no significant difference between football and hockey players.

KEYWARDS: Anthropometry, circumference, skinfolds

1. INTRODUCTION

Soccer is the most popular discipline in the world (Bangsbo 1994). In india , there is inadequate

significant research work has been done to find out the factors which Caused low performance of the Indian soccer players in international competitions or the factors which enhanced the efficiency of soccer players**.** Recent studies have demonstrated the applications of anthropometry to include the prediction of who will benefit from interventions, identifying social and economic inequity and evaluating responses to interventions. For more information on the application of anthropometric data, Anthropometry can be used for various purposes, depending on the anthropometric indicators selected. For example, weight-for-height (wasting) is useful for screening children at risk and for measuring short-term changes in

nutritional status. However, weight-for-height is not appropriate for evaluating changes in a population over longer time periods. A clear understanding of the different uses and interpretations of each anthropometric indicator is help to determine the most appropriate indicator for evaluation.

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. The role of an emerging scientific discipline known as sports anthropometry is of great significance. It is the science that deals with the body measurements of athletes. The knowledge of this science is increasingly being appreciated by the sports administrators. The investigator in the underline study would like to compare the anthropometric variables i.e. circumference and skinfolds between fullbacks players of football and hockey.

2. METHODOLOGY

To achieve the purpose of this study 60 football and hockey players i.e. fullback football (n=30), fullback hockey (n=30), who participated in the inter college completion organized by Himachal Pradesh University in the session 2011-12, were randomly selected and used as subjects in this study. Age group ranged from 18-25years. Each athletes was tested for various anthropometric measurements necessary for estimation of chest, hip, thigh and calf circumference and biceps, triceps, sub scapular, supera iliac, thigh and calf skinfold characteristics of fullback footballers and hockey players. A set of anthropometric measurements, were taken into consideration for anthropometric measurements of chest, hip, thigh and calf circumference and biceps, triceps, sub scapular, supera iliac, thigh and calf skinfold measurements of fullback footballers and hockey players. Anthropometric rod, measuring tape and sliding caliper were used for the measurements. To test the significance of mean difference between the football and hockey players, statistical technique of 't' test was applied.

3. RESULTS AND DISCUSSION

Since the purpose of the study was to analyze the selected circumferences and skinfolds of fullback players of football and hockey, these are explained with the help of different tables.

TABLE 1

COMPARISON OF CIRCUMFERENCES (cm) BETWEEN FULLBACK 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	
Chest Circumference (cm)	85.10	4.60	.84	84.83	3.01	.55	.27
Hip Circumference (cm)	86.49	5.05	.93	86.25	3.88	.71	.20
Thigh Circumference (cm)	48.35	3.52	.64	47.11	3.35	.61	1.41
Calf Circumference (cm)	32.26	2.84	.52	31.35	2.49	.45	1.32

* Significant at .05 level ** Significant at .01 level

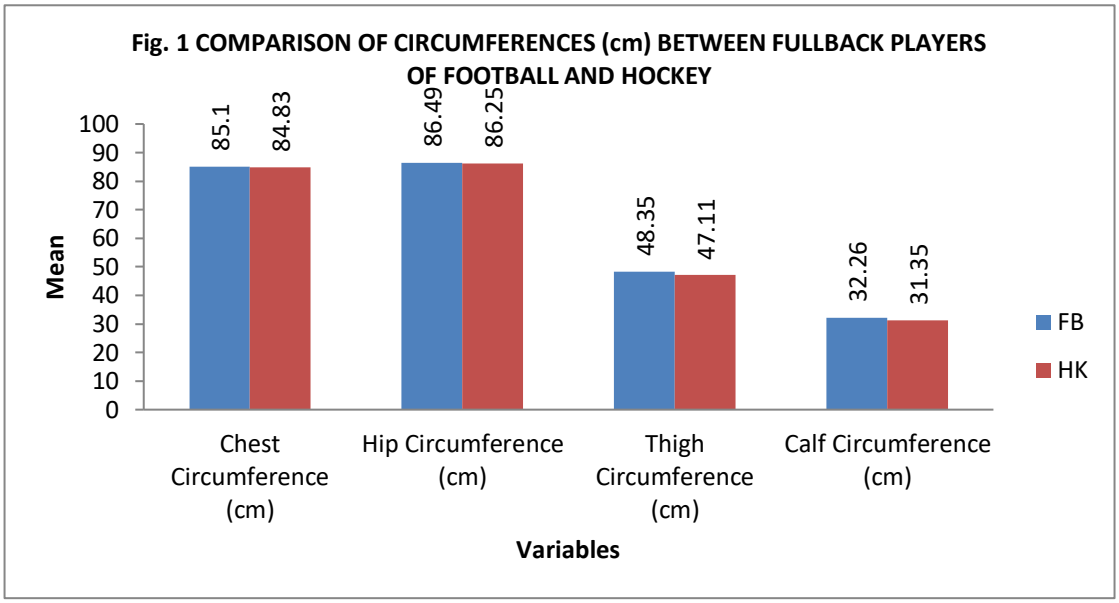

Table 1 depict the means, standard deviations and values of SEM for chest circumference, hip circumference, thigh circumference and calf circumference of fullbacks players of football and hockey games. Further, it has been found that the fullbacks of football game have depicted somewhat higher mean value for chest circumference, hip circumference, thigh circumference and calf circumference as compared to fullbacks of hockey game. But none of such mean differences were found to be significant. So, it may be interpreted that in case of all circumferences; chest circumference, hip circumference, thigh circumference and calf circumference, there existed no significant differences among the fullbacks of football and hockey games. **Hence, the Hypothesis that,** *"there would be no significant difference between fullbacks players of football and hockey in relation to selected circumferences namely; chest circumference, hip circumference, thigh circumference and calf circumference"* **is accepted**.

TABLE 2

COMPARISON OF SKINFOLDS (mm) BETWEEN FULLBACK 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	
Biceps skinfold (mm)	2.50	1.33	.24	3.21	.72	.13	2.59*
Triceps skinfold (mm)	6.88	3.15	.57	6.56	1.90	.34	.47
Sub Scapular Skinfold (mm)	8.59	3.13	.57	8.47	1.91	.39	.18
Suprailiac skinfold (mm)	5.95	3.45	.63	8.43	2.27	.41	3.30**
Thigh skinfold (mm)	10.09	5.22	.95	9.33	2.04	.37	.74
Calf skinfold (mm)	8.79	2.96	.54	8.31	1.93	.35	.73

* Significant at .05 level ** Significant at .01 level

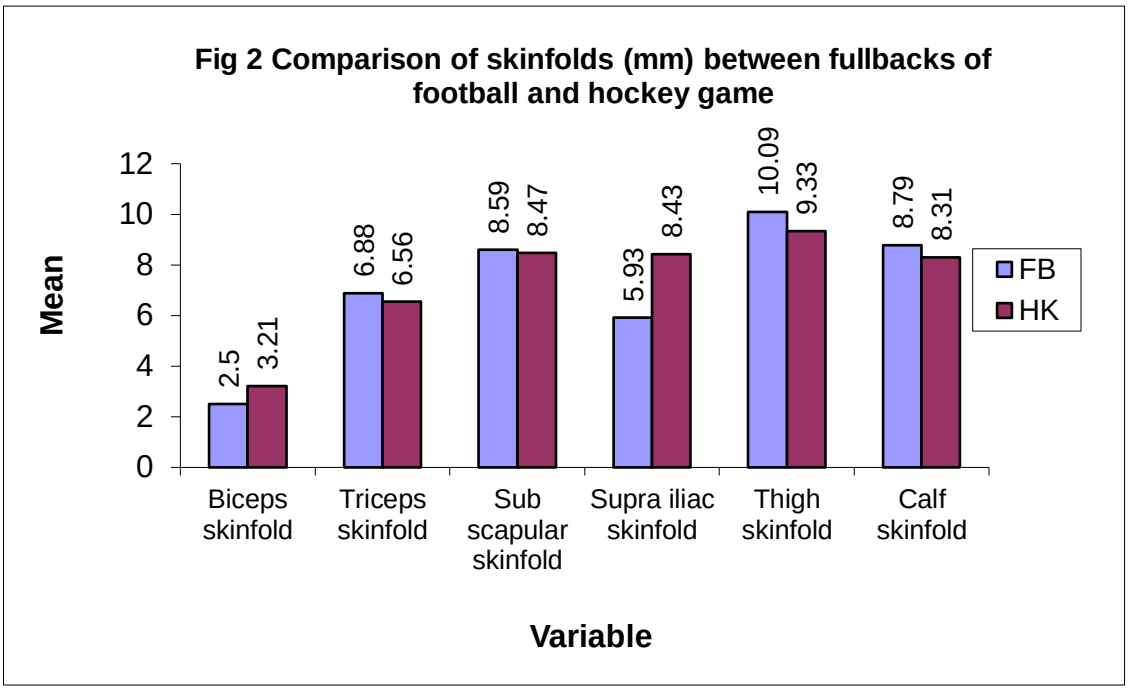

Table 2 depict the means, standard deviations and values of SEM for biceps skinfold, triceps skinfold, sub scapular skinfold, suprailiac skinfold, thigh skinfold and calf skinfold of fullbacks players of football and hockey games. The mean value of biceps skinfold &uprailiac skinfold for fullbacks of hockey game was found to be 3.21and 8.43 and for fullbacks of football game, it was computed to be 2.50 and 5.95, respectively. The t-value testing the significance of mean difference between the fullbacks of two games came out to be 2.59 and 3.30 which is significant at 0.05level and .01 level of significance, respectively for df 58. Hence, it may be interpreted that fullbacks of hockey game possessed significantly greater biceps skinfold and suprailiac skinfold as compared to fullbacks of football game. Further, although the fullbacks of football game have depicted somewhat higher mean value for triceps skinfold, sub scapular skinfold, thigh skinfold and calf skinfold in comparison to fullbacks of hockey game. But none of such mean differences were found to be significant. So, it may be interpreted that in case of other skinfolds; triceps skinfold, sub scapular skinfold, thigh skinfold and calf skinfold, there existed no significant differences among the fullbacks of football and hockey games. **Hence, the Hypothesis that,** *"there would be no significant difference between fullbacks players of football and hockey in relation to selected skinfolds namely; biceps skinfold, triceps skinfold, sub scapular skinfold, suprailiac skinfold, thigh skinfold and calf skinfold"* **is accepted** only in case of triceps skinfold, sub scapular skinfold, thigh skinfold and calf skinfold and **stands rejected** in case of biceps skinfold &suprailiac skinfold.

Discussion of finding

Fullbacks of football game possess greater value for chest circumference, hip circumference, thigh circumference and calf circumference than the fullbacks of hockey game. There was no significant differences were established between the fullbacks of football and hockey game in all circumference measurements. This indicates that fullbacks of football and hockey game have approximate same development of muscle at chest, hip, thigh and calf.

It has been found that fullbacks of football game possess greater value for triceps skinfold, sub scapular skinfold, thigh skinfold and calf skinfold and lesser value for biceps skinfold and suprailiac skinfold than the fullbacks of hockey game. There was significant

difference established between fullbacks of football and hockey game in biceps skinfold and suprailiac skinfold. However there was no significant difference in triceps, sub scapular, thigh skinfold and calf skinfolds between them. This indicates that fullbacks of hockey possess greater thickness for biceps and suprailiac skinfold but have approximate same thickness of triceps, sub scapular, thigh and calf. In skinfold variable, hockey players have better thickness of muscles at biceps and suprailiac. It may be due to the nature and arrangement of the hockey game. The players have to carry the ball with stick in bending position most of the time and the involvement of these muscles may be more as compared to their counterpart football players.

4. CONCLUSIONS

1. Fullback of football game possess greater value for circumference of chest, hip, thigh and calf circumference than fullbacks of hockey game. However they do not differ significantly in all circumferences when compared with each other.
2. Fullback of football game possess significantly lesser value for biceps skinfold and supra iliac skinfold than the fullbacks of hockey game. However they do not differ significantly in triceps, sub scapular, calf and thigh skinfold when compared with each other.

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