
COMPARATIVE STUDY ON SELECTED ANTHROPOMETRIC VARIABLES AMONG DIFFERENT GAME PLAYERS



Mamgain Rohit*

*Assistant Professor, Deptt. Phy. Edu., H.N.B.G. University, Srinagar, Garhwal (U.K)-INDIA.
E. Mail: gurdeephnbgu.16@gmail.com

ABSTRACT

The aim of the study was comparison of Selected Anthropometric variables among Soccer, Cricket and Hockey players. A total number of 45 male subjects (15 each group) of H.N.B.G.U. Srinagar Garhwal were selected with age ranging from 18 to 25 years to act as a subject for the study. For the purpose of the study following Anthropometric variables were selected- Biceps, Triceps, Sub scapular, & supra iliac. Data on all the anthropometric variables was measured in Anthropometric lab at the department of Physical Education. All the necessary information pertaining to the requirement of the procedure was imparted to the subjects beforehand. The collected data was analyzed by using various Descriptive and Inferential Statistics. In order to assess the various selected anthropometric variables descriptive statistics namely Mean, Standard Deviation was determined. In inferential statistics One-way ANOVA was applied for comparison of selected anthropometric variables among Cricket, Soccer and Hockey players at Intercollegiate Level. The level of significance was set at 0.05 level. There was no significant difference found among male intercollegiate players of Soccer, Cricket and Hockey games on their Anthropometric variable i.e. Biceps Girth, Triceps Girth, Sub scapular Girth, and Suprailiac Girth. It may be concluded that all the three game players are having more or less same type of body characteristics at intercollegiate level.

Keywords: Anthropometric variables & Different Game Players.

INTRODUCTION

The improvement in particular sports is mainly based upon the specialization of that concerned sports so it is necessary to provide a very definite and scientific procedure for training technique in order to obtain the most efficient and effective performance. Measurements of body size include such descriptive information such as height, weight, length, width, and circumference of the various body segments. It has been found that top athletes in some sports tend to have that proportion that biomechanically aid the particular performance required.

Anthropometric measurements are the best application means for studying body, size, shape and composition. It helps greatly in sports talent selection, sports counseling and measurements of obesity for health related physical fitness. The scientific terminology given to the measurement of man Anthropometric measurements are widely used to assess and predict performance in various sports. Anthropometric measurements and morphological characteristic play an important role in determining is anthropometry. Which is a word synthesized from two Greek words – Anthropos means man and Metreesin means to measure. Hence anthropometry means – the measurement of human body.

OBJECTIVE OF THE STUDY

Following were the main objectives of the study:-

- To compare the anthropometric variables among intercollegiate level players of Soccer, Cricket and Hockey.
- To find out which game among Soccer, Cricket and Hockey have better Anthropometric profile than other.

HYPOTHESES

It is hypothesized that, there would be no significant difference on selected anthropometric measurements among male Soccer, Cricket and Hockey player at intercollegiate level.

METHODOLOGY

For the purpose of the study total 45 male subjects were selected from three groups that were Cricket, Soccer & Hockey players at intercollegiate level of H.N.B.G.U. studying at Birla Campus Srinagar (15 from each game) was selected as subjects. The age of subjects ranged from 18-25 years. The purposive sampling technique was used in selection of subjects in the aspects of the anthropometric measurements. The following variable was selected for the purpose of the study to assess Anthropometric variables were selected-

Anthropometric Variable-

- Skin fold (Biceps, Triceps, Sub scapular, Suprailiac)

COLLECTION OF DATA

Data on all the anthropometric variables were taken in Anthropometric lab at the department of physical education. All the necessary information pertaining to the requirement of the procedure was impart to the subjects beforehand.

RELIABILITY OF DATA

In order to ensure the reliability of data, the investigator was well equipped with the technique of conducting the test. The investigator has been given number of practice sessions in testing of all the variables. The selected anthropometric variable were measured by the

scientific equipment available at Anthropometry Laboratory of physical education department H.N.B.G.U. Srinagar Garhwal, Uttarakhand of India.

STATISTICAL TECHNIQUE

The collected data was analyzed by using various Descriptive and Inferential Statistics. In order to assess the various selected anthropometric variables descriptive statistics namely Mean, Standard Deviation, was determined. In inferential statistics One-way ANOVA was applied for comparison of selected anthropometric variables among male Cricket, Soccer and Hockey players at intercollegiate level. The level of significance was set at 0.05 level.

Table No: I

Mean scores and standard deviation of Biceps girth of male Soccer, Cricket and Hockey players

Game	No. Of Subject	Mean	Standard Deviation
Soccer	15	4.33	0.96
Cricket	15	3.74	1.27
Hockey	15	3.37	1.43
Total	45	3.81	1.27

Table No-I reveals that the mean score of Hockey player are lowest while Soccer players has the highest mean value on Biceps girth. Standard deviation of Soccer players has lowest value while Hockey players have the highest standard deviation in scores.

Figure No: I

The graphical representation of mean and standard deviation of Biceps girth of male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University

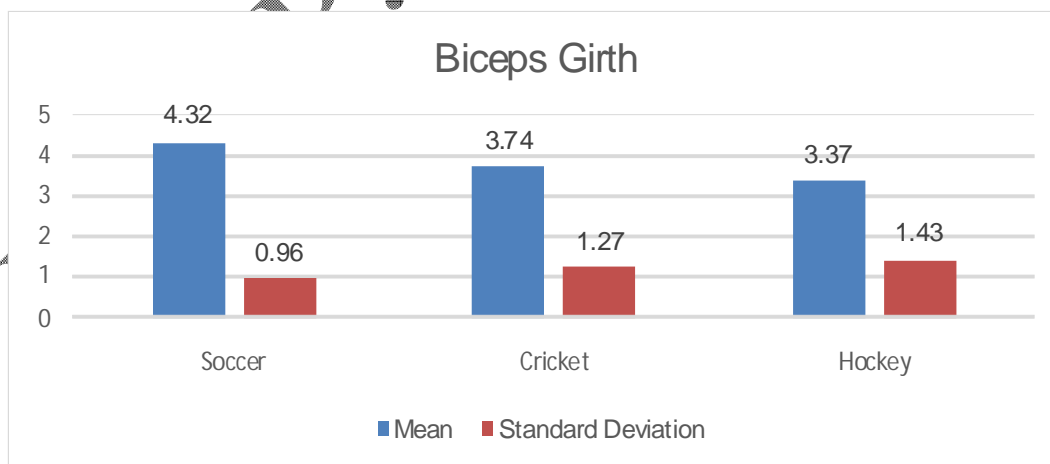


Table No: II
One-way analysis of variance (ANOVA) on Biceps girth of male Soccer, Cricket and Hockey players

Variable	Source of variance	Sum of Squares	Degree of freedom (df)	Mean Square	F Ratio Table value	F ratio Calculated value	Sig.
Biceps	Between Groups	6.94	2	3.46	3.23	2.277	0.115
	Within Groups	63.99	42	1.52			
	Total	70.93	44				

Table No-II Clearly shows that calculated F-ratio (2.277) is lower than tabulated value of F (3.23) at 0.05 level of significance. Therefore, no significant difference in Biceps girth among male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University.

Table No: III
Mean scores and standard deviation of Triceps girth of male Soccer, Cricket and Hockey players

Game	No. Of Subject	Mean	Standard Deviation
Soccer	15	8.32	1.76
Cricket	15	6.99	2.72
Hockey	15	7.63	3.62
Total	45	7.65	2.79

Table No-III reveals that the mean score of Cricket player are lowest while Soccer players have the highest mean value on triceps girth. Standard deviation of Soccer players has lowest value while Hockey players have the highest standard deviation in scores.

Figure No: II

The graphical representation of Mean and Standard deviation of Triceps girth of male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University

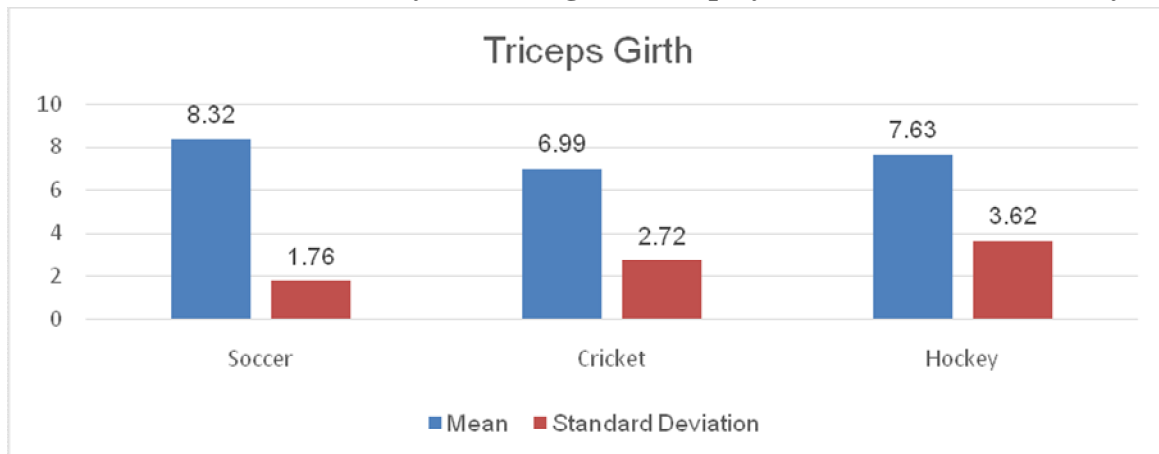


Table: IV

One-way analysis of variance (ANOVA) on triceps girth of male Soccer, Cricket and Hockey players

Variable	Source of variance	Sum of Squares	Degree of freedom (df)	Mean Square	F Ratio Table value	F ratio Calculated value	Sig.
Triceps	Between Groups	13.33	2	6.66	3.23	0.849	0.435
	Within Groups	329.93	42	7.85			
	Total	343.27	44				

Table No-IV Clearly shows that calculated F-ratio (0.849) is lower than tabulated value of F (3.23) at 0.05 level of significance. Therefore, no significant difference in triceps girth among male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University.

Table No: V
Mean scores and standard deviation of sub scapular of male Soccer, Cricket and Hockey Players

Game	No. Of Subject	Mean	Standard Deviation
Soccer	15	13.36	2.46
Cricket	15	11.65	5.92
Hockey	15	9.60	3.51
Total	45	11.54	4.41

Table No-V reveals that the mean score of Hockey players are lowest while Soccer players has the highest mean value on sub scapular girth. Standard deviation of Soccer players has lowest value while Cricket players have the highest standard deviation in scores.

Figure No: V
The graphical representation of mean and standard deviation of Sub scapular girth of male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University

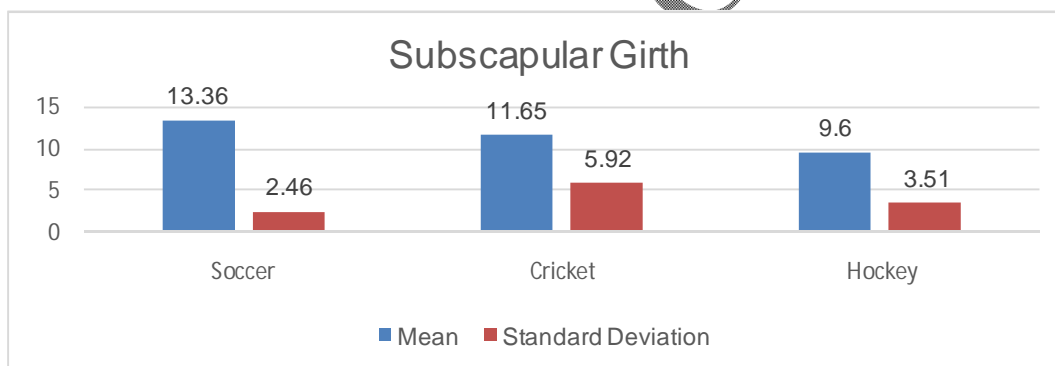


Table No: VI
One-way analysis of variance (ANOVA) on sub scapular girth male of Soccer, Cricket and Hockey players

Variable	Source of variance	Sum of Squares	Degree of freedom (df)	Mean Square	F Ratio Table vale	F ratio Calculated value	Sig.
Subscapular	Between Groups	106.67	2	53.33	3.23	2.99	.061
	Within Groups	748.07	42	17.81			
	Total	854.75	44				

Table No-VI Clearly shows that calculated F-ratio (2.995) is lower than tabulated value of F (3.23) at 0.05 level of significance. Therefore, no significant difference in sub scapular girth among male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University.

Table No: VII
Mean scores and standard deviation of Suprailiac girth of male Soccer, Cricket and Hockey players

Game	No. Of Subject	Mean	Standard Deviation
Soccer	15	7.39	3.49
Cricket	15	6.67	3.72
Hockey	15	5.30	2.81
Total	45	6.45	3.40

Table No-VII reveals that the mean score of Hockey players are lowest while Soccer players has the highest mean value on Suprailiac girth. Standard deviation of Hockey players has lowest value while Cricket players have the highest standard deviation in scores.

Figure-VII

The graphical representation of mean and standard deviation of supra iliac girth of male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University

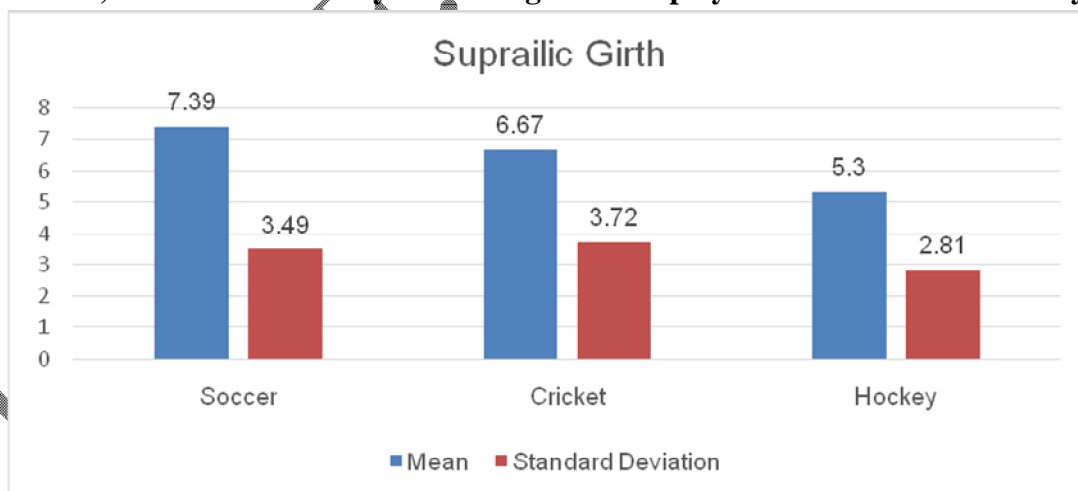


Table No: VIII
One-way analysis of variance (ANOVA) on Suprailiac girth of male Soccer, Cricket and Hockey players

Variable	Source of variance	Sum of Squares	Degree of freedom (df)	Mean Square	F Ratio Table vale	F ratio Calculated value	Sig.
Suprailiac	Between Groups	33.93	2	16.96	3.23	1.498	.235
	Within Groups	475.59	42	11.32			
	Total	509.53	44				

Table No-VIII Clearly shows that calculated F-ratio (1.498) is lower than tabulated value of F (3.23) at 0.05 level of significance. Therefore, no significant difference in Suprailiac girth among male Soccer, Cricket and Hockey intercollegiate level players of H.N.B.G. University.

CONCLUSION

There was no significant difference found among male intercollegiate players of Soccer, Cricket and Hockey games on their Anthropometric variable i.e. Biceps Girth, Triceps Girth, Sub scapular Girth, and Suprailiac Girth. It may be concluded that all the three game players are having more or less same type of body characteristics at intercollegiate level.

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