

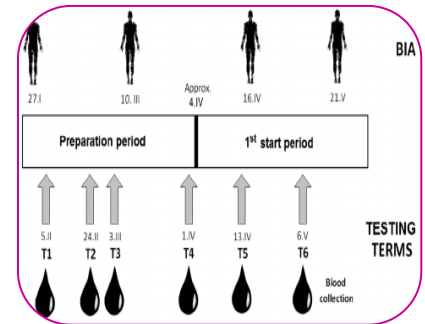


## CORRELATION BETWEEN ANTHROPOMETRIC MEASUREMENTS AND HOCKEY PLAYING ABILITY

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### ABSTRACT

**Introduction :** The anthropometric measurement provides numerical measurements of the physical structure; these measurements are used to determine condition of nutrition and development, growing up differences and structural status of the professional athletes. Based on these measurements the athlete will opt for his/her convenient sports. Depending upon on the characteristics of a particular sports branch different physical structure and body proportions are needed to achieve high level success in each sports. Successful performance in sports is influenced by anthropometric characteristics.

**Aim:** The aim of the study was to explore the relationship exist between anthropometric measurements and hockey playing ability.

**Methodology:** To attain the aim of the study Ninety hockey men university players, who were participated in South Zone Inter University hockey tournament, were selected as subjects for this study. The age of the subjects ranges from 18 to 28. The data related to anthropometric measurements variables like height, leg length, upper arm girth, chest girth, thigh girth and calf girth were collected with standard method. Hockey playing ability was measured through subjective rating with the help of NIS coaches during the game situation.

**Results:** The data collected for the study was treated with the statistical technique product moment correlation with the help of SPSS 23<sup>rd</sup> version and the results revealed that there was a significant relationship in almost all the selected anthropometric measurements and hockey playing ability.

**KEYWORDS :** Playing Ability, Anthropometry, Hockey and Inter-University.

### INTRODUCTION:

Scientific investigation into performance of sportsmen has been playing an increasingly important role in the training of athletes, in the scientific way, to attain excellence in performance, in different spheres of sports. Various research studies conducted by experts, in Physical Education and sports, have emphasized the importance of investigating the specific structures correlated with various sports activities for the selection and development of talent in sports for better performance, at different levels of sports competitions.

The anthropometric measurement provides numerical measurements of the physical structure; these measurements are used to determine condition of nutrition and development, growing up differences and structural status of the professional athletes. Based on these measurements the athlete will opt for his/her convenient sports. Depending upon on the characteristics of a particular sports branch different physical structure and body proportions are needed to achieve high level success in each sports. Successful performance in sports is influenced by anthropometric characteristics and performance success in sports is

influenced by anthropometric characteristics such as height, leg length, upper arm girth, chest girth, thigh girth and calf girth.

The ability of a player in field hockey originates from various anthropometric and other parameters of the players. Now-a-days science is very much interested in estimating the optimum anthropometric make-up of a player. So the scanning and selection of a particular player may be achieved to a great extent by measuring anthropometric components. Anthropometric are dimensions of the structure of the human body taken at specific sites to give measures of length, and girth.

To the physical educator, coach and sportsman an understanding of anthropometric measurements is important because the anthropometric measurements make the edge when performance is equal. More recently several studies conducted on Olympic athletes have revealed that various sports events differ from one & another not only in their skill patterns, organization and equipment requirements but also in the requirement of an anatomical structure of the athletes taking part in it.

Anthropometry has been used to assess gross structure and function. There are numerous factors which are responsible for the performance of a sportsman. The size, shape and form are known to play a predominant role in sports performance. At present, sportsman for superior performance in any sports is selected on the basis of physical structure and body size.

## PROCEDURE

To achieve the aim of the present study ninety university men players who represented different universities of Karnataka state were selected for this study. Age of the subjects ranges from 18 to 28 years. The data of height, leg length, upper arm girth, chest girth, thigh girth and calf girth were collected through standard procedure. Hockey players' ability was measured through subjective rating with the help of NIS coaches. Karl Pearson's product movement correlation technique was applied to know the correlation between anthropometric measurements and playing ability of hockey players.

## Results

**Table-1**  
**Relationship between Anthropometric Measurements and Hockey Playing Ability**

| Sl. No. | Variables                           | Correlation co-efficient |
|---------|-------------------------------------|--------------------------|
| 1       | Height and playing ability          | .229**                   |
| 2       | Leg length and playing ability      | .213*                    |
| 3       | Upper arm girth and playing ability | .224*                    |
| 4       | Chest girth and playing ability     | .113                     |
| 5       | Thigh girth and playing ability     | .215*                    |
| 6       | Calf girth and playing ability      | .222*                    |

\*Significant at 0.05 level.

\*\* Significant at 0.01 level.

The above table depicts the relationship of selected Anthropometric measurements with playing ability of hockey players. There was a significant relationship between Height and playing ability ( $r = 0.229$ ), it is a positive low correlation at 0.01 level of significance, Leg length and playing ability ( $r = 0.213$ ), it is a positive low correlation at 0.05 level of significance, Upper arm girth and playing ability ( $r = 0.224$ ), it is a positive low correlation at 0.05 level of significance, Thigh girth and playing ability ( $r = 0.215$ ), it is a positive low correlation at 0.05 level of significance, Calf girth and playing ability ( $r = 0.222$ ), it is a positive low correlation at 0.05 level of significance, There is no significant relationship between chest girth and performance.

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## CONCLUSION

On the basis of findings of the present study, the following conclusions were drawn:

There was a significant relationship between selected anthropometric measurements like height, leg length, upper arm girth, thigh girth and calf girth and performance. There was no significant relationship between chest girth and performance.

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