



# A comparative study of men and women anthropometrics with respect to playing positions in Kabaddi

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## Abstract

Kabaddi is one of the ancient games in India which was initially played among men as a determination of strength in competition. Later Women's Kabaddi has taken its initiation and today irrespective of gender, the game of Kabaddi is being admired by all individuals across the nations. Day by day, the competition levels in the game are enhancing and the same is the case with the skills and techniques. The bodily measurements and maintenance of fitness is the key requirement for performance enhancement. This study aims at comparing the selected anthropometric measurements among men and women Kabaddi players. 40 regular men and women Kabaddi players were taken as sample of the study and 6 selected anthropometric measurements namely Height, Weight, Hand Length, Hip Circumference, Leg Length and Calf Girth were taken as variables for the study. It was found that there was not notable difference in the lower body measurements i.e. leg length and calf girth but the height, weight and the two upper body measurements i.e. hand length and hip circumference varied in raiders and defenders with respect to gender.

**Key Words:** Positional Play, Defensive Skills, Offensive Skills, Agility.

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## Introduction

The performance in any game is directly proportional to the fitness of a player. The fitness of any individual is determined by many aspects such as physical, mental and social elements. One among these is the physical fitness which mainly depends on the maintenance of physical and physiological functioning of an individual. Both these things are directly dependent on the maintenance of bodily parts which determine the anthropometrics. Men and Women have biologically the same composition but physically vary with respect to many aspects. Even when it comes to the position in a game, the physical requirements of the players will be different based on the skills being executed during the game. In Kabaddi, the 2 major

variants of positional play are the Raiders-players performing the offensive skills and the Defenders – players performing the defensive skills. These positions demand the expertise in skill which in turn depends on the anthropometrics to some extent.

Hence, this study was formulated to compare the 6 selected anthropometric measurements namely Height, Weight, Hand Length, Hip Circumference, Leg Length and Calf Girth among the men and women Kabaddi players with respect to their playing positions categorised as Raiders and Defenders.

## Literature Review

Earlier in the field of Physical Education and Sports, many Indian researchers have studied the players of Kabaddi and have made multiple comparisons from time to time with the



change in training methods, skills and techniques.

Dr. A Arun Mozhi and Dr. W Vinu in their research have mentioned that there was significant difference between men and women players on selected psychological variable namely competition anxiety irrespective of their games (kabaddi and kho-kho) and gender (men and women). Among them, men kabaddi players were better on aggression than other categories of players.

Thambal Laishram in his study “A Comparative Study of Will to Win Between Male and Female Inter-Collegiate Kabaddi Players of Manipur” revealed insignificant difference exists between male and female inter-collegiate

kabaddi players of Manipur with regard to will to win.

### Methodology

The purpose of this study was to compare the selected anthropometric measurements of Men and Women raiders and defenders. 40 men and 40 women in the age group of 18 to 25 years of age who were regular state level Kabaddi players were taken as the sample of the study. They were explained in detail about the purpose of the research and were made a part of it. The selected variables for the study were Height, Weight, Hand Length, Hip Circumference, Leg Length and Calf Girth. The measurements of the players were made using the following tools

**Table:1** – The tools used for making the anthropometric measurements

S No	Anthropometric Measurement	Tool Used to Measure
1	Height	Stadiometer
2	Weight	Digital Weighing Machine
3	Hand Length	Flexible measuring tape
4	Hip Circumference	
5	Leg Length	
6	Calf Girth	

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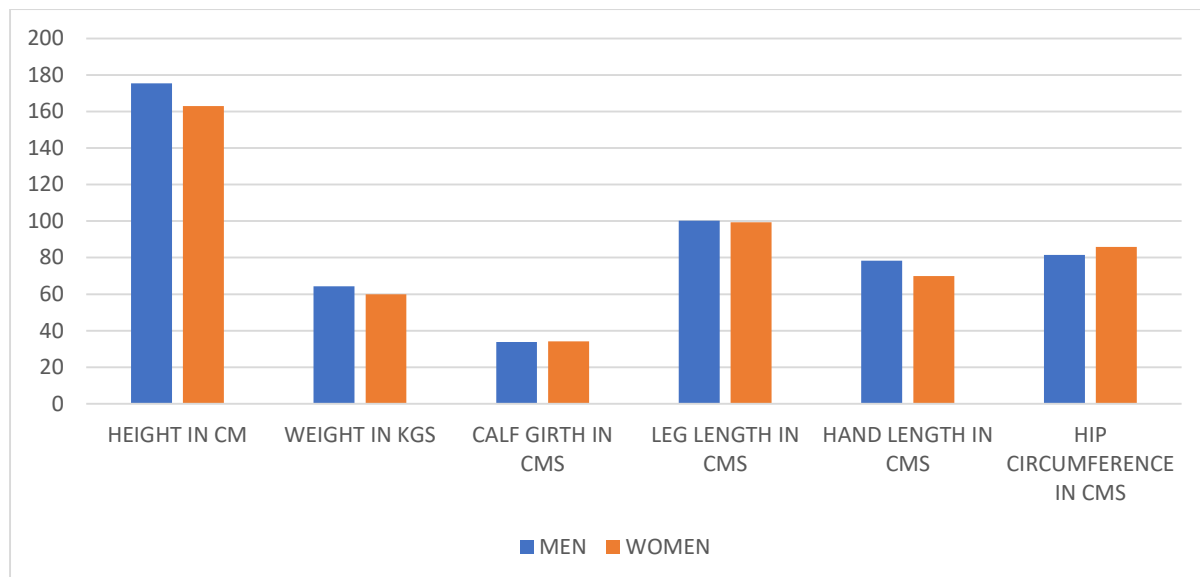
The anthropometric measurements were hence taken from all the 80 samples among which there were 20 raiders and 20 defenders in each gender. So, on the whole the measurements were taken from 20 male raiders, 20 female raiders, 20 male defenders and 20 female defenders to proceed with the data analysis.

### Data Analysis

After collection of Data from all the 80 players, it was compared with respect to playing positions among men and women using the simple statistics such as mean, bar diagrams and pie diagrams as shown below

**Fig: 1** -Comparative Bar Diagram of anthropometric measurements of Men and Women Raiders

Anthropometric Measurement	Men	Women
Height in cm	175.4	162.97
Weight in Kgs	64.3	60
Calf girth in Cms	33.79	34.08
Leg length in Cms	100.18	99.36
Hand length in Cms	78.34	69.98
Hip circumference in Cms	81.4	85.79



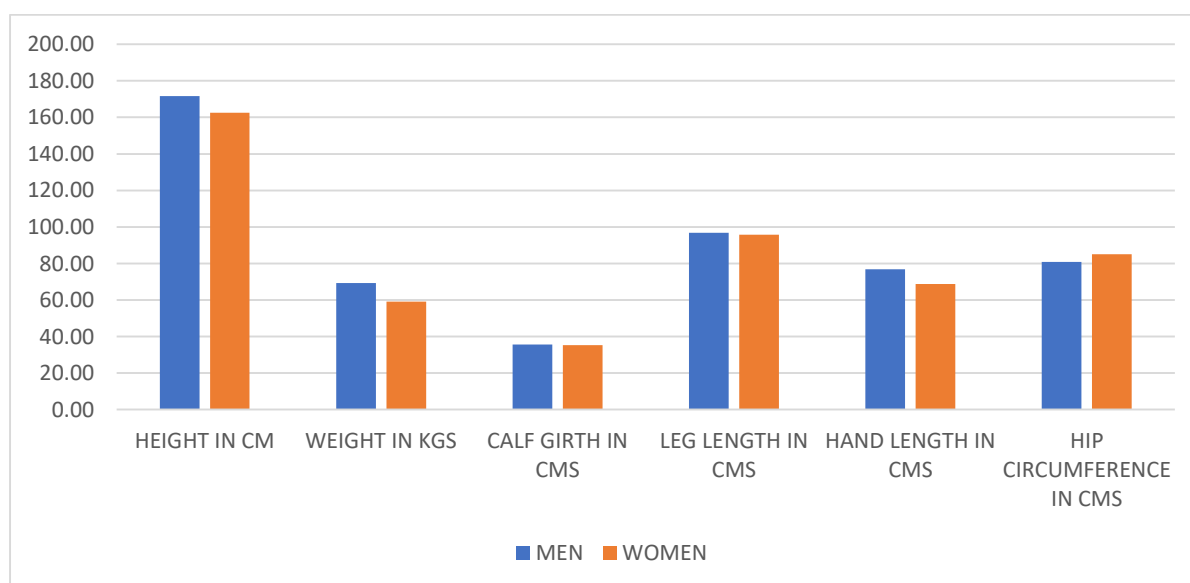
As seen from the table above, the average height of male raiders was 175.4 cm and that of women was 162.97 cm, the average weight of male raiders was 64.3 kg and that of women was 60 kg, the average calf girth of male raiders was 33.79 cm and that of women was 34.08 cm, the average leg length of male

raiders was 100.18 cm and that of women was 99.36 cm, the average hand length of male raiders was 78.34 cm and that of women was 69.98 cm and the average hip circumference of male raiders was 81.4 cm and that of women was 85.79 cm.

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**Fig: 2** -Comparative Bar Diagram of anthropometric measurements of Men and Women Defenders

Anthropometric Measurement	Men	Women
Height in cm	171.68	162.48
Weight in kgs	69.22	59.11
Calf girth in cms	35.61	35.24
Leg length in cms	96.84	95.68
Hand length in cms	76.90	68.71
Hip circumference in cms	80.91	85.08



As seen from the table above, the average height of male defenders was 171.68 cm and

that of women was 162.48 cm, the average weight of male defenders was 69.22 kg and

that of women was 59.11 kg, the average calf girth of male defenders was 35.61 cm and that of women was 35.24 cm, the average leg length of male defenders was 96.84 cm and that of women was 95.68 cm, the average hand length of male defenders was 76.90 cm and that of women was 68.71 cm and the average hip circumference of male defenders was 80.91 cm and that of women was 85.08 cm.

### Results & Discussion

From the above analysis, it is found that the values obtained in case of Height, Weight, Hand Length and Hip Circumference of men and women in raiders and also defenders differ considerably and the other two components i.e., Leg Length and Calf Girth have not much difference between the groups.

### Conclusions

The following conclusions were drawn out of the study

- The height and weight of male and female kabaddi players differ considerably as per the universal anthropometric statistics.
- The leg length and calf girth of men and women kabaddi players in the age group of 18 to 25 years are almost the same with not considerable degree of variance.
- The hand length and hip circumference of male and female kabaddi players – raiders and defenders differ considerably which means that the lower body anthropometrics plays an important role in the game of Kabaddi.

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