



COMPARISON OF BASKETBALL AND KABADDI PLAYERS IN RELATION TO SELECTED ANTHROPOMETRIC VARIABLES

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ABSTRACT

Purpose of the present study was to find out difference between Basketball and Kabaddi players in comparison to selected anthropometric variables. For this purpose of study, total sixty inter-university male players (Basketball players=30, Kabaddi players=30) were selected as the subjects from G.G.V. Bilaspur(CG) , age ranged between 18-25 years. The height, weight, arm length and forearm girth parameters of anthropometry were selected by the researcher. Mean, S.D. and t-ratio were computed to compare the Basketball and Kabaddi players in relation to selected anthropometric variables. The results of the study showed the significant difference between Basketball and Kabaddi players in their selected anthropometric parameters i.e. height, weight. arm length and forearm girth.

Keywords: Males, Basketball players, Kabaddi players, anthropometric variables.

INTRODUCTION

Anthropometry (from Greek anthropos, "man" and metron, "measure") refers to the measurement of the human individual. Anthropometry involves the methodical measurement of the physical properties of the human body, mainly dimensional descriptors of body size and shape. Anthropometry is the measurement of the size, weight, and proportions of the human body. Anthropometric measurements are a set of noninvasive, quantitative techniques for determining human size, shape, proportion, composition by measuring, recording, and analyzing specific aspects of the body such as height and weight, skin fold thickness, length of upper and lower extremities and bodily circumference at waist, hip, and chest. The ability of a fast bowler to achieve superior ball release speeds has been suggested to be related to a bowler's anthropometry (Glazier et al., 2000; Loramet et al., 2005; Portus et al., 2000; Pyne, Duthie, Saunders, Petersen, and Portus, 2006).

Anthropometry has a rich convention in sports sciences and sports medicine. In different times, various terms were used like dynamic anthropometry, sports anthropometry, biometry, physiological anthropometry, anthropometrical, kin anthropometry etc. by scientists to establish some relations between the body structure and the specific functions required for various tasks (Koley, 2006). In fact, it is well established that each individual is unique. The extent of human variability is so enormous that no two persons can ever be accurately the similar. There are two basic causes for this difference. One is the genes inborn from parents and the other is the infinity of surroundings which acts upon individuals from cradle to grave. Therefore, scientists have always been enthralled by the fact of human dissimilarity. In the populations, the law of probability operates as a whole and people in general tend to fall along a curve of normal distribution on all traits (Koley & Sandhu, 2005).

Kabaddi is the game which is combative in nature. Kabaddi players require more energy and strength to perform different skills efficiently and effectively. Anthropometric variables play a very important role to give the best performance in the competitions such as height, weight, arm length, and forearm girth. If a player has good height and arm length he can take advantages during the game by increasing the reach level of the players to touch the opponent's players. If a player has more weight he can take advantages by increase the stability and strength during performing the defensive skills.

Basketball is one of the fastest games among all speedy game in the world. Players requires enough energy to play with full of energy and give the best performance. Anthropometric parameters such as height and arm length are most important and advantageous for the players to perform any skill easily and accurately. Players can take advantages during shooting and passing the ball during the match in the dodging of opponents.

The purpose of the study was to find out difference between Basketball and Kabaddi players in their selected anthropometric variables i.e. Height, Weight, Arm Length and Forearm Girth. It was also hypothesised that there will be significance difference between Basketball and Kabaddi players in their selected anthropometric variables.

METHODOLOGY

Selection of Subjects:

For purpose of the present study total sixty (N=60) inter university male players (30 Basketball players and 30 Kabaddi players) were selected as subject from G.G.V. Bilaspur Chhattisgarh. The age was ranging between 18-25 years. The mean and S.D. of the subjects was 22.310 and 1.929. The purposive sampling technique was used to select the subjects.

Selection of Variables:

Following Anthropometric Characteristics of upper extremities were selected:

1. Height
2. Weight
3. Arm length
4. Forearm Girth

Criterion Measures:

TABLE 1

SELECTED ANTHROPOMETRIC VARIABLES, MEASUREMENT EQUIPMENT AND MEASUREMENT UNITS

Sr. No.	Variables	Measurement Equipment	Measurement Units
1.	Height	Stadiometer	Centimetres
2.	Weight	Weighing scale	Kilogram
3.	Arm Length	Measuring tape	Centimetres
4.	Forearm Girth	Measuring tape	Centimetres

Administration of the test:

All the data were taken in one day under the direction and supervision of researcher with the help of two helpers. Before the test aim and objectives of the study and proper instructions about the procedure of data collection were explained by the researcher.

RESULTS

To know the nature of the data descriptive statistics (Mean, S.D., Std. Error of mean) was applied and to compare the Basketball and Kabaddi players in relation to selected anthropometric variables (Height, Weight, Arm Length and forearm Girth) independent sample t-test was used. Level of significant set at 0.05. All the statistics has been done by the SPSS 16.0 software.

TABLE 1

DESCRIPTIVE AND COMPARATIVE TABLE OF BASKETBALL AND KABADDI PLAYERS IN RELATION TO HEIGHT

Group	N	Mean	SD	σ_{DM}	t- value
Basketball Players	30	180.07	2.132	.389	9.723
Kabaddi Players	30	172.17	3.906	.713	

Table-1 shows the mean of the Basketball and Kabaddi players is 180.07 and 172.17; S.D. is 2.132 and 3.906 in relation to height. The obtained t-value is 9.723 that shows significant difference was exist in relation to height.

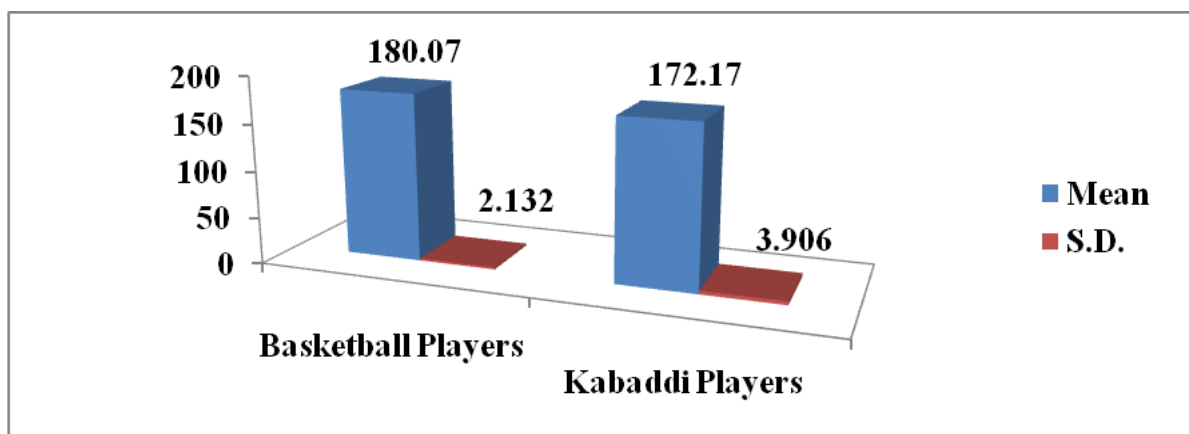


Figure-1 :Comparison of Basketball and Kabaddi player in relation to Height

TABLE 2
DESCRIPTIVE AND COMPARATIVE TABLE OF BASKETBALL AND KABADDI PLAYERS
IN RELATION TO WEIGHT

Group	N	Mean	SD	σ_{DM}	t- value
Basketball Players	30	73.175	4.087	.746	5.628
Kabaddi Players	30	78.603	3.346	.610	

Table-2 shows the mean of the Basketball and Kabaddi players is 73.175 and 78.603, S.D. is 4.087 and 3.346. The obtained t-value is 5.628 that shows significant difference was exist in relation to weight.

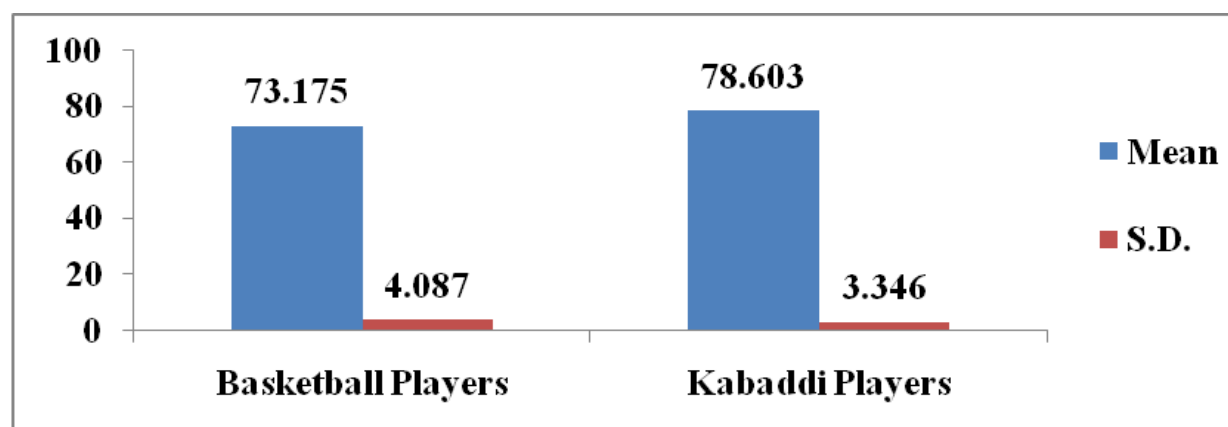


Figure-2: Comparison of difference between Basketball and Kabaddi players in relation to Weight

TABLE 3
DESCRIPTIVE AND COMPARATIVE TABLE OF BASKETBALL AND KABADDI PLAYERS
IN RELATION TO ARM LENGTH

Group	N	Mean	Standard Deviation	Std. Error Mean	t- value	p-value
Basketball Players	30	66.685	1.710	.312	7.436	.000
Kabaddi Players	30	63.079	2.031	.370		

Table-3 indicates the mean of the Basketball and Kabaddi players is 66.685 and 63.079, S.D. is 1.710 and 2.031. The obtained t-value is 7.436 that shows significant difference was exist in relation to Arm Length

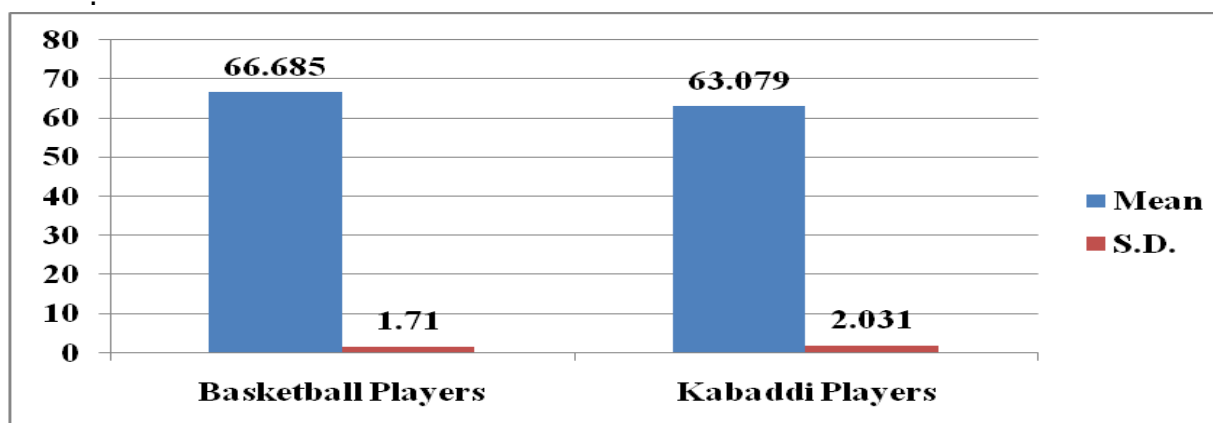


Figure-3: Comparison of difference between Basketball and Kabaddi players in relation to Arm Length

TABLE 4
DESCRIPTIVE AND COMPARATIVE TABLE OF BASKETBALL AND KABADDI PLAYERS
IN RELATION TO FOREARM GIRTH

Group	N	Mean	S.D.	Mean Difference	t- value
Basketball Players	30	24.543	1.542	.281	3.228
Kabaddi Players	30	25.823	1.528	.279	

Table-4 shows the mean of the Basketball and Kabaddi players is 24.543 and 25.823, S.D. is 1.542 and 1.528. The obtained t-value is 3.228 that shows significant difference was exist in relation to Forearm girth.

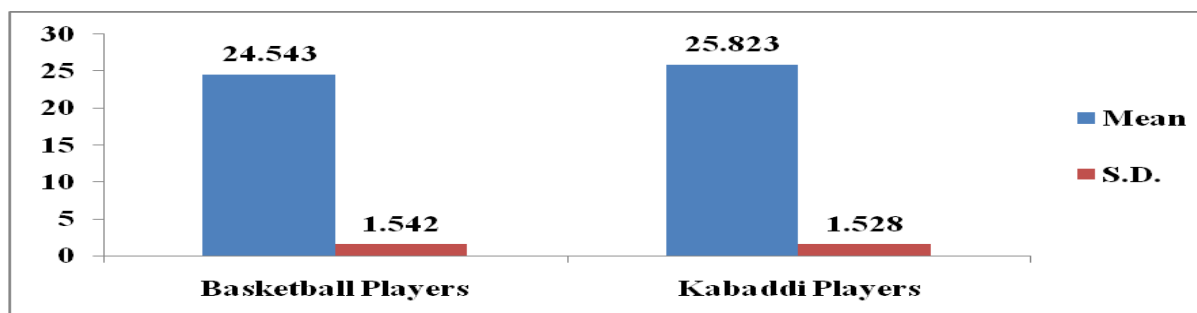


Figure-4: Comparison of difference between Basketball and Kabaddi players in relation to Forearm Girth

DISCUSSION

The mean of the Basketball and Kabaddi players is 180.07 and 172.17, S.D. is 2.132 and 3.906 in relation to height, and the obtained t-value is 9.723 that shows significant difference was exist in relation to height. The mean of the Basketball and Kabaddi players is 73.175 and 78.603, S.D. is 4.087 and 3.346, and t-value is 5.628 that shows significant difference was exist in relation to weight. The mean of the Basketball and Kabaddi players is 66.685 and 63.079, S.D. is 1.710 and 2.031, and t-value is 7.436 that shows significant difference was exist in comparison to Arm Length. The mean of the Basketball and Kabaddi players is 24.543 and 25.823, S.D. is 1.542 and 1.528 and t-value is 3.228 that shows significant difference was exist in relation to Forearm girth.

Basketball and Kabaddi both game comes under the category of combative games. Anthropometric variables play a very important role all types of sports according to the type and nature of the sports. In comparison to Kabaddi players, basketball player are more height, arm length and length of upper and lower extremities because of the players who have greater height and length of upper and lower extremities or more beneficial in basketball game in comparison to Kabaddi players. On the other hand the players who have more weight and strength of upper and lower body parts are more beneficial compare to basketball players.

Initially it was hypothesized that there will be no significant difference between Basketball and Kabaddi players in their height, weight, arm length and forearm girth is not accepted at 0.05 level of significant.

CONCLUSIONS

On the basis of findings of the study, following conclusions are drawn:

1. Significant difference was found between Basketball and Kabaddi players in relation to height ($t = 9.723$, $p < .05$).
2. Significant difference was found between Basketball and Kabaddi players in relation to weight ($t = 5.628$, $p < .05$).
3. Significant difference was found between Basketball and Kabaddi players in relation to arm length ($t = 7.436$, $p < .05$).
4. Significant difference was found between Basketball and Kabaddi players in relation to forearm girth ($t = 3.288$, $p < .05$).

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