



Comparative Analysis of Selected Anthropometric Variables between College Level Men Handball Players and Kabaddi Players

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Abstract

The purpose of the study was to compare the selected anthropometric variables between college level men handball players and kabaddi players. Thirty inter collegiate level players were selected as subjects; Fifteen handball players from Selvam college of Physical Education Handball team, and fifteen Kabaddi players from Selvam college of Physical Education Kabaddi team were selected as subject at random. The age of the subjects were ranged between 19 to 28 years only. The selected subjects were tested on their selected anthropometric variables. The data on Upper arm girth, Chest girth, and thigh, calf girths were collected by the investigator with the standard measuring tape. The collected data were tabulated and statistically analysed mean, standard deviation and 't' ratio was used as statistical technique by Garrett (1981)(independent 't' ratio as two groups are comparing different sets of players). From the results obtained it found that there was a significant difference between the mean values of the handball players and kabaddi players on selected anthropometric variables. From the findings of the study it was concluded that the Kabaddi players are better than the handball players on selected anthropometric variables.

Keywords: Anthropometry, Girths, Handball players, Kabaddi players.

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Introduction

Sport for all has become a very popular slogan all over the world today. In the present day successful sportsman are among the most popular figures in the public like. Physical fitness involves the development and maintenance of a sound physique and of soundly functioning organs to the end that the individual realizes his capacity for physical strains or by a body lacking in strength and vitality. Basic elements of physical fitness are organic soundness freedom from disease, and nutritional adequacy. Handball is one of the world's fastest games. It is played between two teams, each consist of seven active players. A team moves the ball by dribbling, passing or bouncing it as they run. Players may stop, catch, throw, bounce or strike the ball with any part of the body above the knees. The game handball requires significant aerobic, anaerobic fitness, lateral quickness, core strength and the ability to move explosively with in a small space, while maintaining ones balance and coordination on the next shot are the components of handball success.

Kabaddi is one of the most popular games in India. It does not require material or equipment. There is, however, concrete evidence, that the game is 4,000 year old. It is a team sport, which requires both skill and

bower, and combines the characteristics of wrestling and rugby. It was originally meant to develop self-defense, in addition to responses to attack and reflexes of counter attack by individuals and by groups or teams. It is a rather simple and inexpensive game, and neither requires a massive playing area, nor any expensive equipment. This explains the popularity of the game in rural India. Kabaddi is played all over Asia with minor variations. Anthropometric characteristics are related to an athlete's profile and might be used to predict an athlete's success. These parameters are potential indicators of sports performance, are mainly dependent on hereditary factors and are correlated with age, gender, ethnicity, and morphological characteristics.

Skeletal muscle properties depend on several factors such as fiber-type distribution, muscle architecture, muscle activation and systematic physical activity. Functional demand has been proposed to be responsible for skeletal muscle adaptation. If this was true, adaptation should not only occur in muscle tissue, but also in some of the surrounding tissues. Functional adaptation due to different training regimens may be responsible for the determination of some anthropometric changes. The number of hours per day and the number of days per week that a specific physical activity is performed may result in systematic changes in body composition. In addition, the joint range of motion (ROM) may change in subjects with different functional demands placed on specific joints. The objective of the

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study was to compare the selected anthropometric variables between college level men handball players and kabaddi players.

Methodology

The purpose of the study was to compare the selected anthropometric variables between college level men handball players and kabaddi players. It was hypothesized that, the handball players may better than the kabaddi players on selected anthropometric variables among college men. Thirty intercollegiate level players were selected from Selvam college of Physical Education, Namakkal, Tamilnadu, India. Fifteen Handball players and fifteen Kabaddi players were selected as subject at random. The age of the subjects

were ranged between 19 to 28 years were selected only as subjects. The selected subjects were tested on selected anthropometric measurements; Upper Arm Girth, Chest Girth, thigh and calf girths respectively. The data for the study was collected on the selected subjects by the investigator. The data collected from the two groups on selected variables; Upper Arm Girth, Chest Girth, thigh and calf girths were statistically examined to compare the college level men Handball and kabaddi players the ‘t’ test was applied. The collected data were tabulated and statistically analysed mean, standard deviation and ‘t’ ratio was used as statistical technique by Garrett (1981) (independent ‘t’ ratio as two groups are comparing different sets of players)

Results

Table I. The comparison of difference between college level Handball players Kabaddi players on Upper Arm Girth

Variable	Handball Players mean ± σ	Kabaddi Players mean ± σ	Mean difference	σDM	‘t’ ratio
Upper Arm Girth	24.73 ± 1.90	27.07 ± 1.57	2.34	0.28	8.37*

Table - I indicates the upper arm girth scores of Handball players and Kabaddi players. The obtained ‘t’ ratio was 8.37, the required table value was 2.14 at 0.05 level of significance for 1, 14 degrees of freedom at 0.05 level of confidence. Since the obtained value was greater than the table value. There was a significant difference between the Handball players and Kabaddi players.

Hence the hypothesis was accepted. The mean of the Handball players and Kabaddi players were 24.73 and 27.07 that indicates the Kabaddi players are better than the Handball players on upper arm girths. The mean difference between the college level Handball players and Kabaddi players were shown in figure – I.

Figure I. Bar diagram shows the mean values of college level Handball players and Kabaddi players on upper arm girth

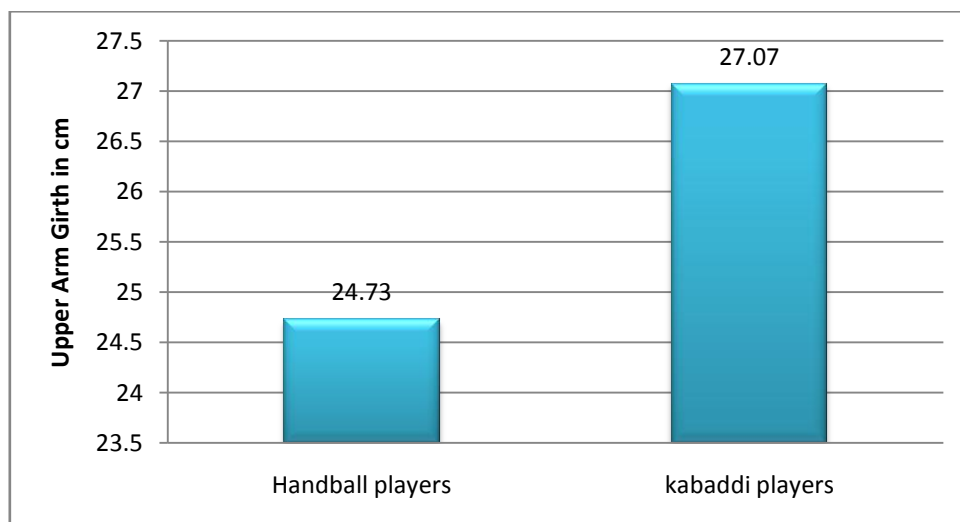


Table II. The comparison of difference between college level Handball players Kabaddi players on Chest Girth

Variable	Handball Players mean ± σ	Kabaddi Players mean ± σ	Mean difference	σDM	't' ratio
Upper Arm Girth	81.47 ± 5.07	84.07 ± 4.75	2.6	0.46	5.70*

Table - II indicates the chest girth scores of Handball players and Kabaddi players. The obtained 't' ratio was 5.70, the required table value was 2.14 at 0.05 level of significance for 1, 14 degrees of freedom at 0.05 level of confidence. Since the obtained value was greater than the table value. There was a significant difference between the Handball players and Kabaddi players.

Hence the hypothesis was accepted. The mean of the Handball players and Kabaddi players were 81.47 and 84.07 that indicates the Kabaddi players are better than the Handball players on chest girths. The mean difference between the college level Handball players and Kabaddi players were shown in figure – II.

Figure II. Bar diagram shows the mean values of college level Handball players and Kabaddi players on chest girth

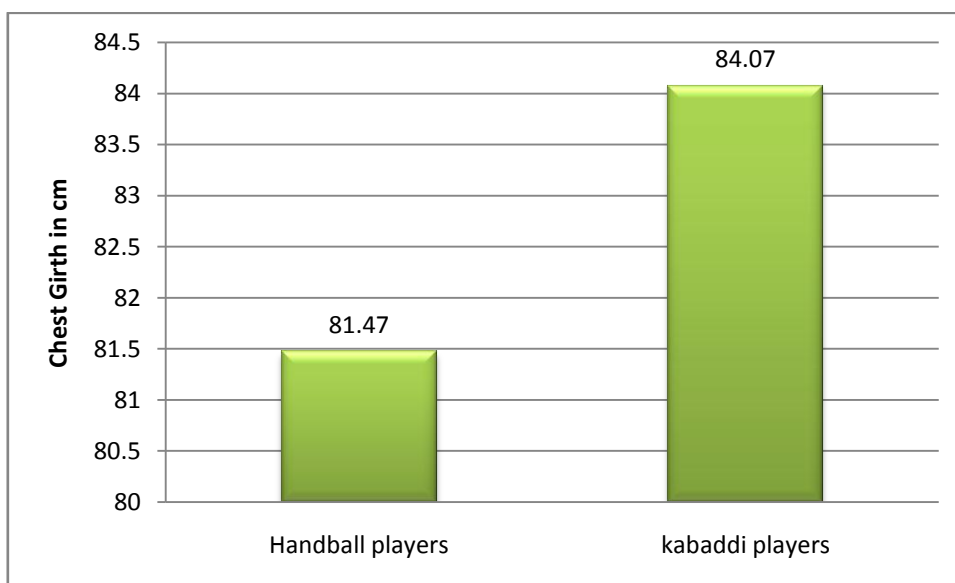


Table III. The comparison of difference between college level Handball players Kabaddi players on Thigh Girth

Variable	Handball Players mean ± σ	Kabaddi Players mean ± σ	Mean difference	σDM	't' ratio
Upper Arm Girth	47.0 ± 3.12	49.86 ± 3.46	2.86	0.39	7.40*

Table - III indicates the thigh girth scores of Handball players and Kabaddi players. The obtained 't' ratio was 7.40, the required table value was 2.14 at 0.05 level of significance for 1, 14 degrees of freedom at 0.05 level of confidence. Since the obtained value was greater than the table value. There was a significant difference between the Handball players and Kabaddi players.

Hence the hypothesis was accepted. The mean of the Handball players and Kabaddi players were 47.0 and 49.86 that indicates the Kabaddi players are better than the Handball players on thigh girths. The mean difference between the college level Handball players and Kabaddi players were shown in figure – III.

Figure III. Bar diagram shows the mean values of college level Handball players and Kabaddi players on thigh girth

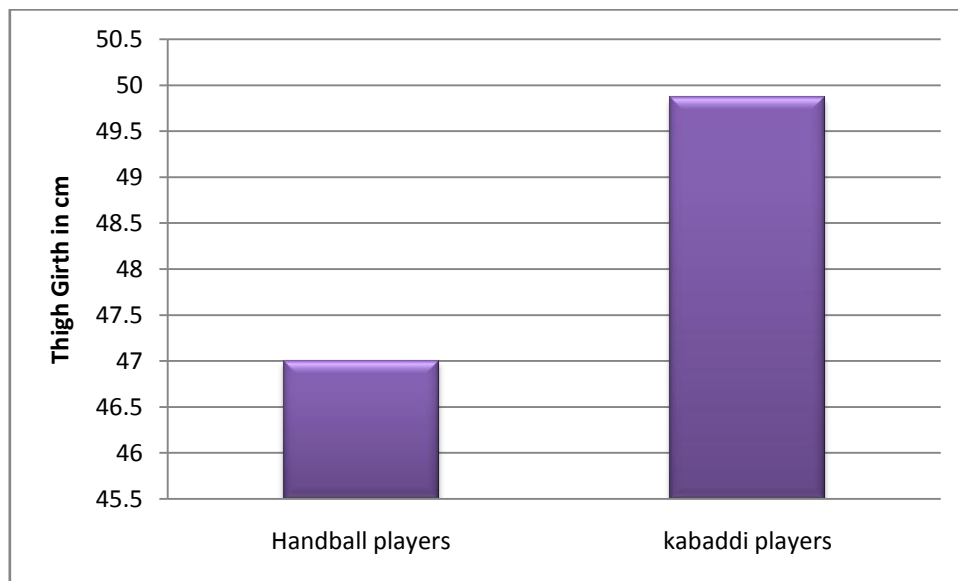


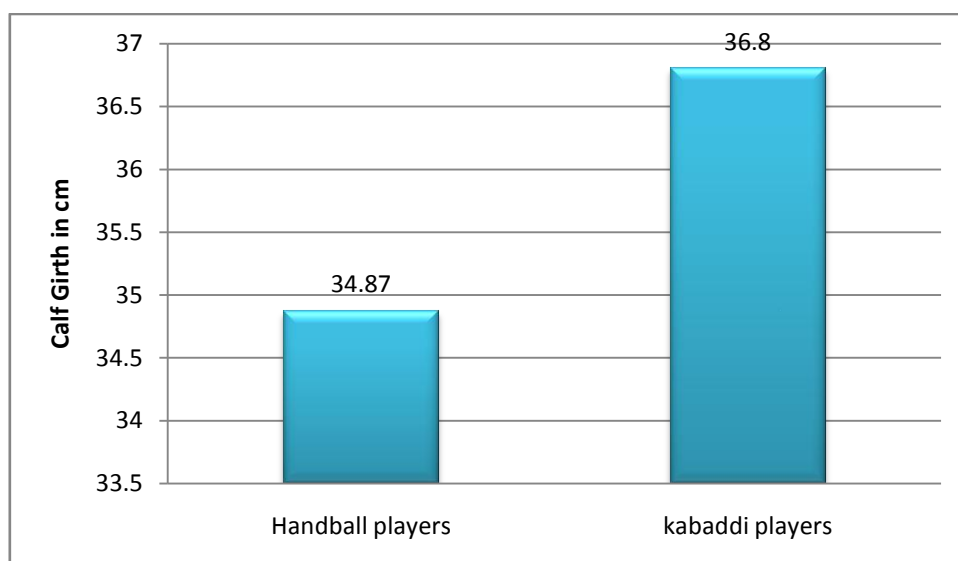
Table IV. The comparison of difference between college level Handball players Kabaddi players on Calf Girth

Variable	Handball Players mean \pm σ	Kabaddi Players mean \pm σ	Mean difference	σ DM	't' ratio
Upper Arm Girth	34.87 \pm 2.45	36.8 \pm 2.07	1.93	0.34	5.76*

Table - IV indicates the calf girth scores of Handball players and Kabaddi players. The obtained 't' ratio was 5.76, the required table value was 2.14 at 0.05 level of significance for 1, 14 degrees of freedom at 0.05 level of confidence. Since the obtained value was greater than the table value. There was a significant difference between the Handball players and Kabaddi players.

Hence the hypothesis was accepted. The mean of the Handball players and Kabaddi players were 34.87 and 36.8 that indicates the Kabaddi players are better than the Handball players on calf girths. The mean difference between the college level Handball players and Kabaddi players were shown in figure – IV.

Figure IV. Bar diagram shows the mean values of college level Handball players and Kabaddi players on calf girth



Discussion on Findings

The result of the study indicated that there was a significant difference between the Handball players and Kabaddi players. The upper arm girth scores of Handball players and Kabaddi players. The obtained 't' ratio was 8.37 and the mean of the Handball players and Kabaddi players were 24.73 and 27.07 that indicates the Kabaddi players are better than the Handball players on upper arm girths. The chest girth scores of Handball players and Kabaddi players. The obtained 't' ratio was 5.70 and the mean of the Handball players and Kabaddi players were 81.47 and 84.07 that indicates the Kabaddi players are better than the Handball players on chest girths. The thigh girth scores of Handball players and Kabaddi players. The obtained 't' ratio was 7.40 and The mean of the Handball players and Kabaddi players were 47.0 and 49.86 that indicates the Kabaddi players are better than the Handball players on thigh girths. The calf girth scores of Handball players and Kabaddi players. The obtained 't' ratio was 5.76 and The mean of the Handball players and Kabaddi players were 34.87 and 36.8 that indicates the Kabaddi players are better than the Handball players on calf girths. Hence the study revealed that the Kabaddi players are better than the Handball players in the selected anthropometric variables among

college men.

Conclusions

Based on the results and discussion it was concluded as follows:

1. The Kabaddi players are better than the Handball players in the selected anthropometric variables among college men.

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