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## Relationship between motor ability and anthropometric components of Kho-Kho and Kabaddi players

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#### Abstract

**Purpose:** The aim of the present study was to compare the physical fitness and anthropometric variables of Kabaddi and Kho-Kho players. Pro Kabaddi league and ultimate kho-kho league have given a different status of Indian indigenous games.

**Material and Method:** For this study Twenty-six (26) female (thirteen players of each game) junior-level players were chosen randomly from the Kabaddi and Kho-Kho academies of Jind and Surrounding areas. The age group of the subjects ranged from 14-17 years. The minimum playing criteria for the subjects was participation in the State level games in any age group. To find out the difference in the anthropometrical and Physical fitness variables between Kabaddi and kho-kho players their height, weight, sit and reach, standing, broad jump, and shuttle run measurements were computed using standardized tools and equipment. For the statistical analysis T-test was used employed. The level of significance was set to 0.05.

**Results:** The results of the study signify that there is no significant difference in the physical fitness variables of speed, strength, and endurance but there was a significant difference in the anthropometrical components of height and weight between Kabaddi and Kho-Kho players.

**Conclusions:** It was concluded that the Kabaddi players showed a higher mean weight scale because the game is strength dominating and the player's weight is according to the weight category; however, there is no such weight category limitation in the game of Kho-Kho.

**Keywords:** Physical fitness, anthropometry, kho-kho, Kabaddi

#### Introduction

Kabaddi and Kho-Kho games are played without any equipment. For this study Female players in their high school were chosen as subjects. The players had an average of one to two years of experience with Junior/sub-junior school Kabaddi and Kho-Kho teams, and they were consistent in their practice sessions under the supervision of coaches. Anthropometry is the science of measuring the human body. It was an early tool comprising physical and anthropological components (stadiometer, weighing machine, measuring tape, etc.) that were used for identifying and measuring bodily parts or girth [1]. It is the comparative study of the dimensions of the human body. It entails taking exact, highly standardized measurements to define size and form objectively. In its most basic form, anthropometry is the systematic quantitative depiction of the human body [2]. Games and sports have become vital to humanity and have been ingrained in society [3]. Games and sports are powerful unifying factor that significantly impacts national and worldwide integration. While the origins of sports are unknown in antiquity, physical exercise was likely a component of the lives of even primordial men. It may move been a basic requirement of existence for him, more than just enjoyment and distraction, for his survival depended on it. His life depends on activities such as hunting, fishing, and hurling missiles. Gradually, as the evolution occurred, such events converted into the game and formed a part of the tribe's culture. Sports and games are used by people to pass along their tribes' cultural history. In spite of and drop of ancient civilizations, games, sports, and physical activities persevered and were deeply ingrained in the past era of civilization as a cultural inheritance that lived from one generation to another. Today games and sports have begun as worldwide cultural events.

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Sports and games foster spirits of patriotism and aid in the development of new congs, who don't believe in any kind of discrimination in caste and religion while believing in love and peace, purity, helpfulness, and comradeship serve humanity outstandingly. Sports and games afford a mutual stage to interact with one another in a pleasant-sounding environment where they fail to recall their differences and arise as a homogeneous group<sup>[4]</sup>. This style of understanding and rational attitude can be beneficial to national integration. Sports and Games aid in the development of such sympathy and can play crucial in achieving national integration.

### Review of related literature

<sup>[4]</sup> Conducted a study on Kabaddi and Kho-Kho Players. In his study, the researcher has studied the flexibility between the players of the two games. Sit and reach test was applied to the subjects and it was concluded that there was a significant difference between the players of both games. Kabaddi players scored higher on flexibility when compared to Kho-Kho players. The researcher further suggested investigation using physical fitness parameters which are dominant in the games of Kabaddi and Kho-Kho.

<sup>[5]</sup> In this study, the researcher has compared strength, power and coordination ability between Kho-Kho and Kabaddi players in which 50 males (25 from each game) from YMCA College of physical education, Chennai was randomly selected. A T-test was used to analyze the data and the significance level was fixed at 0.05. After app the lying t-test, the researcher concluded conclusion there was no significant difference between Kho-Kho and Kabaddi players on the variables of strength, power, and coordination. The research gap and the further suggestions of the study suggested that further studies could be carried out with different physical fitness variables.

<sup>[2]</sup> The researcher examined the anthropometry of Kho-Kho and Kabaddi players. Forty male state-level (Twenty from each game) players have selected whose ages ranged from 17-23 years. After applying the t-test the researcher concluded that there was a significant difference between Kho-Kho and Kabaddi players.

<sup>[1]</sup> The main objective of this study was to compare Kabaddi and Kho-player's anthropometric characteristics and physical fitness variables female players (25 from each game) were randomly selected. The age of the subjects was between 18 to 28 years. AAPHAR youth fitness was used to measure the physical fitness variables. After applying the t-test the researcher came to conclude was no significant difference between Kabaddi and Kho-Kho players.

### The hypothesis of the study

After reading the previous study and research paper, the researcher imagines that there will be a significant difference in the physical fitness variables between Kabaddi and Kho-Kho players.

The researcher assumes that there will be a significant difference in the anthropometrical variables of height and weight between Kabaddi and Kho- Kho players.

### Material and Methods

### Selection of subjects

For the present study subjects were selected from Baba Karmainath Yuva Khel club Baroda Uchana, Jind district of Haryana. (Thirteen from Kho-Kho and Thirteen from Kabaddi game). The age limit of players is between 14 to 17 years.

### Selection of variables

The following five test items were selected for this study:

1. Height
2. Weight
- 3 Sit and reach
- 4 Shuttle run
- 5 Standing broad jump.

### Criterion measure

The height of the subjects was measured using by standardized stadiometer, weight by a digital weighing machine, flexibility sit and reach test, agility (10X6) by shuttle run, leg explosive strength by standing broad jump. Before conducting the exam, the individuals were instructed on the aim of the study, and the test contents were explained to them.

### Statistical techniques

Descriptive statistics were used to calculate the mean and standard deviation of the groups. For inferential statistics, an independent t-test was used to compare the mean of the groups. The level of significance was set to 0.05.

### Statistical analysis

The basic statistical parameters were calculated for all the data: the mean, and standard deviation. The independent t-test was used to examine whether or not there were any differences between the two groups of players. The MS Excel Data Analysis toolset was used to process the data. Statistical significance difference was determined at a level of confidence of 0.05. The outcome in each case was scored as per the instruction manual and tabulated for statistical analysis.

### Results and Discussion

Table 1 shows mean height of kabaddi and kho-kho players were 5.327 and 5.319 while standard deviations were 0.196 and 0.173 and t – value was 0.106.

The mean weight of Kabaddi and kho-kho players were 52.746 and 52.8 while standard deviations were 5.645 and 3.986 and t – value was -0.0281.

The mean sit and reach of Kabaddi and kho-kho players were 7.05 and 7.321 while standard deviations were 1.185 and 1.201 and t – value was -0.387.

The mean standing broad jump of Kabaddi and kho-kho players were 1.865 and 1.944 while standard deviations were 0.128 and 0.195 and t – value was -1.212.

Mean shuttle run of Kabaddi and kho-kho players were 16.142 and 16.177 while standard deviations were 0.704 and 0.718 and t – value was -0.125.

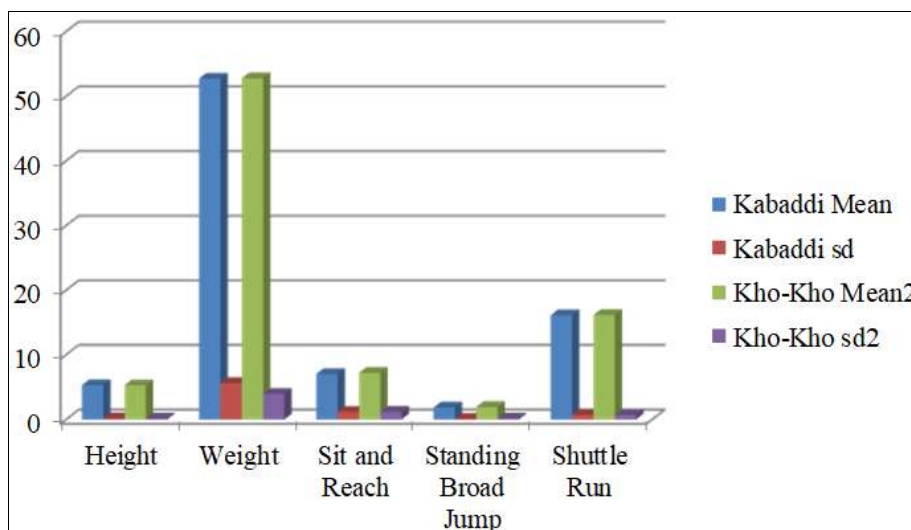


Fig 1: Graphical presentation of mean & standard deviation

Table 1: shows mean height of kabaddi and Kho-Kho players were 5.327 and 5.319 while standard deviations were 0.196 and 0.173 and t – value was 0.106

Test item	Group	No.	Mean	S.D.	SEM	t-test
Height	Kabaddi	13	5.327	0.196	0.0545	0.106
	Kho-kho	13	5.319	0.173	0.0479	
Weight	Kabaddi	13	52.746	5.645	1.566	-0.0281
	Kho-Kho	13	52.8	3.986	1.106	
Sit And Reach	Kabaddi	13	7.05	1.185	0.329	0.387
	Kho-Kho	13	7.231	1.201	0.333	
Standing Broad Jump	Kabaddi	13	1.865	0.128	0.0355	-1.212
	Kho-Kho	13	1.944	0.195	0.0541	
Shuttle Run	Kabaddi	13	16.142	0.704	0.195	-0.125
	Kho-Kho	13	16.177	0.718	0.199	

\*Significance at 0.05level and Tabulated t-value =1.710882, DF=24

**Results**

Descriptive statistics and t-value for height, weight, sit and reach, standing broad jump, shuttle run between Kabaddi and Kho-Kho players are presented in table-I

The t-test showed there is no significant difference between kabaddi and kho-kho player on height (t=0.106), weight (t=-0.0281), sit and reach (t=-0.387), standing broad jump (t=-1.212), shuttle run (t=-0.125)

**Conclusion**

Findings of the present study pertaining to agility, flexibility, and leg explosive strength were found to be similar between both game players. There is no significant difference between the Kabaddi and Kho-Kho players in relation to the agility, flexibility, speed, and leg explosive strength of junior-level players. But after analyzing the data on height and weight parameters the Kabaddi players were found to score higher with more bulk and muscularity when compared with the lean Kho-Kho junior players. After going through the earlier research and analyzing the results of the study the following recommendations and suggestions are advised. The study might be performed on the same people with different anthropometrical and physical fitness characteristics. Comparable research on male individuals also might be conducted. The same study could be repeated for different age groups in the other class of society. The present study has been evaluated with five variables; however the further research may be carried out with more variables. A comparable study may be conducted on the total physical

fitness of the players of both

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