

## RESEARCH ARTICLE

### MOTOR FITNESS OF BASKETBALL AND HANDBALL FEMALE PLAYERS

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#### ABSTRACT

The purpose of the study was to compare the selected motor fitness variables between basketball and handball female players. For the purpose of the study 40 female players who have represented university in the respective games were randomly selected as the subject for this study. The subjects' age was ranged between 18 to 25 years. The data of speed (50 mtrs dash), Endurance (12 minutes cooper aerobic test), Strength (modified pushups), agility (10x4mtrs shuttle run) and power (Standing board Jump) was collected by using standardized procedure. In order to find out the difference in the selected motor fitness variables between basketball and handball female 't' test was applied and the level of significance was set at 0.05. The study reveals that there were significant difference found in speed, endurance, strength, agility and power between basketball and handball players.

**Keywords :** Motor fitness, speed, endurance, strength, agility and power.

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#### INTRODUCTION

Sports and games in the modern era occupy a very prominent and important place in the life of people and also in every sphere of life. Sport consists of physical activity carried out with a purpose for competition, for self-enjoyment, to attain excellence, for the development of a skill, or more often, some combination of these. A sport is typically characterized by physical activity, competition, self-motivation and a scoring system. Sports differ in their dependence upon a set of individuals or team skills, as well as in the ways in which they have their participants compete. As fitness and sports go hand in glove there is a need to develop the ability in an individual to play the game with good skill and perform consistently well. There are many sports which a person can choose from the world of training methodology has crossed many milestones as result of different types of research in general and their application to sports development in particular. In the modern scientific age, athletes are being trained by highly sophisticated means for better achievements in their concerned sports. They are being exposed to the exercises and training methods which have proved beneficial for achieving higher standard. Much progress has been made in the recent years in the acquisition of knowledge about training means and techniques of sports skills. In sport training specialized exercise are being prescribed for the fullest and optimum development for a particular game. The world of games and sports is every expanding with intensity and of competition and enhancing scientific studies of human movements. Sports are dynamic and nature and progressive.

#### Purpose of the study

The main purpose of the study is to compare the selected motor fitness variables such as speed, endurance, strength, agility and power between handball and basketball female players.

## MATERIALS AND METHODS

For this study eight players who have participated in the inter university tournament were selected as subjects for the present study. In which forty subjects were from handball and forty from basketball game. The subject's age ranged from 18 to 28 years.

### Variable

The following motor fitness variable were selected for this study

- 1.. Speed – Speed was measured by 50 yard dash.
- 2.. Endurance –Endurance was measured by cooper's 12minute run/walk test.
- 3.. Strength- It was measured by using Modified floor pushups.
4. Agility – Agility was measured by using 4 × 10 yard shuttle run.
5. Power – Explosive Strength was measured using standing broad jump.

### STATISTICAL ANALYSIS

To compare the selected motor fitness variables between the handball and basketball players, 't' test was used. The level of significance was set at 0.05 level.

**Results:** To achieve the purpose of the study data collected was analyzed with statistical technique and results are presented in the following tables.

**Table – 1:** Showing the Mean value  $\pm$  Standard deviation and 't' score of speed between handball and basketball

Sl. No.	Players	Sample Size	Mean	Standard. deviation	't' value
1.	Basketball	40	6.86	0.43	8.87*
2.	Handball	40	7.95	0.64	

\* Significant at 0.05 level

The above table shows the mean value, standard deviation and 't' value speed of handball and basketball. The 't' value has shown significant difference between Handball and basketball. Basketball players are having more speed than the handball female players.

**Table – 2:** Showing the Mean value  $\pm$  Standard deviation and 't' score of endurance between handball and basketball

Sl. No.	Players	Sample Size	Mean	Standard. deviation	't' value
1.	Basketball	40	2832.50	233.58	7.30*
2.	Handball	40	2284.25	427.20	

\* Significant at 0.05 level

The above table shows the mean value, standard deviation and 't' value endurance of handball and basketball. The 't' value has shown significant difference between handball and basketball. Basketball players are having more endurance than the handball female players.

**Table – 3:** Showing the Mean value  $\pm$  Standard deviation and 't' score of Shoulder strength between handball and basketball

Sl. No.	Players	Sample Size	Mean	Standard. deviation	't' value
1.	Basketball	40	40.00	7.10	4.73*
2.	Handball	40	28.20	11.44	

\* Significant at 0.05 level

The above table shows the mean value, standard deviation and 't' value shoulder strength of handball and basketball. The 't' value has shown significant difference between handball and basketball. Basketball players are having more shoulder Strength than the handball female players.

**Table – 4:** Showing the Mean value  $\pm$  Standard deviation and 't' score of agility between handball and basketball

Sl. No.	Players	Sample Size	Mean	Standard. deviation	't' value
1.	Basketball	40	16.24	0.96	2.05*
2.	Handball	40	16.74	1.01	

\* Significant at 0.05 level

The above table shows the mean value, standard deviation and 't' value agility of handball and basketball. The 't' value has shown significant difference between handball and basketball. Basketball players are more agility than the handball players.

**Table – 5: Showing the Mean value  $\pm$  Standard deviation and 't' score of power between handball and basketball**

Sl. No.	Players	Sample Size	Mean	Standard. deviation	't' value
1.	Basketball	40	2.02	0.13	3.56*
2.	Handball	40	1.79	0.36	

\* Significant at 0.05 level

The above table shows the mean value, standard deviation and 't' value explosive power of handball and basketball. The 't' value has shown significant difference between handball and basketball. Basketball players are having more explosive power than the handball players

## DISCUSSIONS OF FINDINGS

The statistical findings of the present study revealed that there is a significant difference in the selected motor fitness variables among basketball and handball players. Speed, endurance, strength, agility and power are vital to the performance of fundamental motor skills like throwing, kicking, jumping, striking, hopping and skipping. Basketball players have found significant than handball female players because of the training they get in that particular game and skills involved in the game.

## CONCLUSIONS

Within the limitations of the present study it may be concluded that in speed basketball players are having more speed than the handball female players, in endurance basketball players are having more endurance than the handball female players, in strength basketball players are having more endurance than the handball female players, in agility. Basketball players are more agile than the handball players and in power also Basketball players are having more explosive power than the handball players. This results clearly shows that basketball players are getting good training when compare to handball female players, this is also shows the popularity of that game.

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