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## A COMPARATIVE STUDY OF MOTOR FITNESS AMONG HANDBALL AND BASKETBALL PLAYERS

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### ABSTRACT

**H**uman growth and development to become an athlete is a long journey. Physical features are partly inherited genes but also developed through versatile training, using the developmental stages and specialization models as guidelines through childhood .to become a good handball and Basketball player one must have a high level of fitness to maintain the high levels of intensity of handball and basketball game. This is very versatile ball game and it includes continuous chain of events. The main objective of the present study is to compare the vertical jump and agility for the handball players and basketball players. The sample for present study of twenty handball player and twenty basketball players between the age group of 20 to 25 years. Vertical jump test is used to



measure the explosive leg power and shuttle run test is used to measure the agility of handball and basketball players. The study shows that the handball players are having good vertical jump compare to basketball players.

**KEYWORDS:** Vertical Jump, Agility, Handball, Basketball, Player, etc.

### INTRODUCTION:

Fitness is a condition of the entire organism, characterized by energy and efficiency but also guided by attitudes and habit patterns that contribute to mental and emotional poise. It is the ability to perform muscular work satisfactorily and ability to carry out our daily

tasks without undue fatigue. Physical Fitness is one of most important aspects in the field of physical education. Physical Fitness may be defined as the ability to carry out daily tasks with alertness without undue fatigue and having ample energy to enjoy leisure time pursuit and meet unforeseen emergencies. Motor fitness is a limited phase of physical fitness and it concerns the capacity to move the body efficiently with force over a reasonable length of time. It refers an efficient performance of an individual in such basic requirement as jumping, running, falling in a variety of situation. It is the limited phase of general motor ability.

Motor ability has been defined as the present acquired and innate ability to perform motor skills of a general and fundamental nature exclusive of highly specialized sports and gymnastic techniques. Hand Ball is a team game played with Ball, under specified rules each side seven players. Modern world has introduced a number of games and sports. Handball is an ancient game. Particularly it occupies to unique place among them. Handball (also known as team handball, Olympic handball, European team handball, European handball, or Borden ball) is a team sport in which two teams of seven players each (six outfield players and a goalkeeper on each team) pass a ball to throw it into the goal of the other team. A standard match consists of two periods of 30 minutes, and the team that scores more goals wins. Modern handball

is usually played indoors, but outdoor variants exist in the forms of field handball and Czech handball (which were more common in the past) and beach handball (also called handball). The game is quite fast and includes body contact, as the defenders try to stop the attackers from approaching the goal. Contact is allowed only when the defensive player is completely in front of the offensive player; i.e., between the offensive player and the goal. Basketball is the world's most popular sports in terms of spectator's attendance and player participation. In American sport it takes its pride of place as most popular and more people in U.S.A play basketball than any other game. The standard of play there is so good and the game so exciting that the Basketball fans of that continent outnumber all others. This wonderful game, which originated in the United States, has spread to other countries of world – thanks largely to Y.M.C.A physical directors and Army, Navy and Air force personnel. The pleasure and the thrill the game produces have impelled the people of all classes to play basketball or witness the game the world over. From humble beginnings basketball has progressed to be a “world-wide game” internationally popular and universally accepted. It is probably the leading ball game in the world as far “Action occurrence” is concerned within one second many things may happen in this game in comparison with other games. Basketball may be called movement oriented game as “action” implies movement.

**Vertical jump:** A vertical jump or vertical leap is the act of raising the centre of gravity of an individual higher in the vertical plane slowly with the use of one's own muscle; it is a measure of how high an individual or an athlete can elevate of the ground from a standstill.

**Agility:** Agility is a skill-related component of physical fitness that relates to the ability to rapidly change the position of the entire body in space with speed and accuracy.

Agility is the ability to move change direction rapidly without a significant loss of speed, glance, or body control. Agility fitness combines power, strength, balance, flexibility, reaction time, coordination, anticipation, and muscular control. Ability is critical in any sport that requires rapid changes in direction, deceleration, and acceleration, such as handball, basketball, football, and gymnastics.

**Aim:** To know the vertical jump and agility between handball and basketball players.

**Sample:** The sample for present study of twenty handball and twenty basketball players between the age group of 20 to 25 years.

**Limitations:** This research work is limited to handball and basketball players between the age group of 20 to 25 years.

**Administration of Tests:** To collect the data, administration of the test was done on agility and vertical jump of handball and basketball players. For agility and vertical jump specific standard tests was administrated.

Vertical Jump

**Purpose:** To measure the explosive leg power of handball and basketball players.

**Equipment:** Chalk and smooth wall surface with adequate ceiling height etc.

**Description:** The subject with his side towards wall, reach as highest as possible with heels on the floor, and made mark on the wall with a piece of chalk or chalked figure. The subject then swung arms downward and backward, assuming a crouched position with the knees bent at about right angle. He then jump as high as possible, swinging the arms upward. As the highest point of the jump was reach.

**Rules:** Three trials were given for each player.

**Scoring:** The score was the nearest centimeter between the reach and jump marks. The best of the three trials recorded.

**Shuttle Run**

**Purpose:** To measure the Agility of handball and basketball players.

**Equipment:** Two blocks of wood, five centimeters by ten centimeters and a stop watch, track, lime powder etc.

**Description:** Two parallel lines were marked on the ground, 10 yard apart. Two blocks of wood was placed behind one of the lines. The subject start behind the other line on the signal, “Are you ready?”, “GO”. The subject run back to the starting line, and placed the block behind the line; he then run back and picked up the second block

which he carried back across the starting line.

**Rules:** One trial was allowed with some rest between them.

**Scoring:** Time of the better of trials was recorded to the nearest one tenth of a second and that was the score in agility of player.

### Analysis:

#### Summary of mean, Standard Deviation and T-Ratio for the Data on Vertical Jump of Handball & basketball

Group	Mean	Standard Deviation	Mean Difference	Standard Error	T-Ratio
Handball	51.90	4.89	13.45	1.71	7.86*
Basketball	38.45	5.92			

N= (20+20)=40

\*Significant at 0.05 level

Tabulated t0.05 (38) =2.025

The findings of reveal that the Mean of Handball and Basketball players are 51.90 and 38.45 respectively and their Mean Difference is 13.45. The Standard Deviations between them are 4.89 and 5.92 and Standard Error is 1.71. After statistical analysis the T-Ratio found to be 7.86 which are greater than the tabulated T- Value of 2.025 at 0.05 level of confidence for the 38 Degree of Freedom. Hence there is significant Difference between the Handball and Basketball Players in Vertical Jump. The Handball players have better Vertical Jump then Basketball players.

#### Summary of mean, Standard Deviation and T-Ratio for the Data on Agility of Handball & Basketball

Group	Mean	Standard Deviation	Mean Difference	Standard Error	T-Ratio
Handball	9.916	0.756	1.284	0.28	-0.20
Basketball	11.20	0.503			

N= (20+20)=40

Not Significant at 0.05 level

Tabulated t0.05 (38) =2.025

The findings of table 2 reveal that the Mean of Handball and Basketball players are 9.916 and 11.20 respectively and their Mean Difference is 1.284. The Standard Deviations between them are 0.756 and 0.503 and Standard Error is 0.28. After statistical analysis the T-Ratio found to be -0.20 which is less than the tabulated T- Value of 2.025 at 0.05 level of confidence for the 38 Degree of Freedom. Hence there is no significant Difference between the Handball and Basketball Players in Agility. The Basketball players have better Agility then Handball players.

### DISCUSSION OF FINDINGS:

On the basis of findings from it was understood that there was no significant difference in the agility between the Handball & Basketball players, it may be attributed to the fact that Handball & Basketball is a game of agility are required to movement quickly our body, hence such result occurred in the study.

The finding also revealed that was significant difference in Vertical Jump between the Handball & Basketball players, it may be attributed to fact that Handball players are better in Vertical Jump, hence Handball players showed significantly better in Vertical Jump .

### CONCLUSION:

**Within the limitations of the present study and on the basis of findings the following conclusions are drawn:**

1. There was significant mean difference in Vertical Jump between Handball & Basketball players
2. There was no significant mean difference in Agility in between Handball & Basketball players.

Thus the hypothesis stated for this study is accepted and the purpose of the study "A comparative study of motor

fitness among handball and basketball players” is achieved.

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