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Aarif Hassan Khanday
M.Phil Scholar, Mewar
University, Chittorgarh,
Rajasthan, India

Dr. Amaresh Kumar
Assistant Professor, Department
of Physical Education and
Sports, Mewar University
Chittorgarh, Rajasthan, India

A comparative study of agility among football and handball players of Mewar University Chittorgarh Rajasthan

Aarif Hassan Khanday and Dr. Amaresh Kumar

Abstract

The purpose of this was to compare the agility among football and handball players. Sixty players from department of physical education and sports authority of India and Mewar University, Chittorgarh Rajasthan were conducted for this study and they were divided into two groups "football and handball" according to their status of game. The six agility tests "shuttle run, squat thrust, side step test, seemo agility test, boomerang test, dodging run agility test and haxagon run agility test" are conducted. To analyze the scores according to the nature of the tests. The statistical analysis used to test the data is reported as mean and standard deviation. The researcher had adopted the simple random method of sampling for the selection of subjects. The 't'- test was applying to find out the comparison of agility between variables of football and Handball players. The mean and standard deviation values are collected of both the groups. It was found that there is no significant difference in agility among football players and handball players. Both the games are field games in all players need to have a good flexibility, endurance, speed and co-ordination of movements.

Keywords: Comparative study, agility, among football, and handball players etc.

Introduction

Football is quite simple, the most popular sports in the world, a game where humanity comes alive with one goal. It inspires and enthuses millions upon millions of people all over the world. Football is requiring the highest levels of physical fitness, technical skill, courage, endurance and agility etc. The game has also evolved in terms of tactics and strategies, first articulated by Herbert Chapman. A continuous process of trying to bring the best out of eleven players and playing conditions. Football is a source of physical exercises to various parts of the body. It involves more time so it is tired game for the young age groups. Because this game requires much stamina and activeness their muscles movement. This game has developed by speedily and also developed all over the world. This game is offering outdoor activity. So this game is called the major game. For a bigger it requires much time it means not easy to learn in little time. It requires 3 to 5 years to become a football player. Football is also a game for the active, well runner and stamina players. This game is mostly developed by watching experienced and well famous players. While in action football being a fast game teaches the players self control quick movement, speed, running agility etc. tactics utilized by their mental and physical alertness during under pressure and prepared themselves to face the attack by opponent.

Handball is one the world's oldest sports in the world. It a very strenuous body contact team sport that places heavy emphasis on running, jumping, running speed and throwing and requires substantial strength level to hit, block, push and hold during game actions. Handball is placed over 143 nations and by over 15 million participants over world. Handball is an athletic high scoring spectacular dynamic and exciting sport that requires team work, sped, athleticism, patience and fitness. The sport is sometimes known as Olympic handball or team hand ball or even European handball in North America. Today, handballs included in the Olympic sport programme. The world champions are also held in this game every two years. Interestingly, Handball comes in a variety of guises. From the now rarely played feed (outdoor) handball which was played on a soccer size field with soccer sized gels, to the now popular Olympic

Corresponding Author:
Aarif Hassan Khanday
M.Phil Scholar, Mewar
University, Chittorgarh,
Rajasthan, India

(indoor) handball (played on 40m×20m court), to the recently introduced Beach (sand) handball played on the sands of a beach on 27× 12m playing area both of which have 3m× 2m goals.

Agility

Agility is a common term used in strength and conditioning and is often considered an essential element of many sports and activities. A boxer dodging a punch, a ballet dancer completing a pirouette, or a wrestler finishing a take-down could all be considered examples of agility. However, individuals involved in the development and improvement of sports performance often regard agility as a loco motor skill whereby an athlete changes direction. This type of movement is frequently observed in most field and court sports such as soccer, basketball, football, and lacrosse. In this light agility is commonly defined as an effective and quick coupling of braking, changing directions and accelerating again while maintaining motor control in either a vertical or horizontal direction. An athlete that displays good agility will most likely possess other qualities such as, dynamic balance, spatial awareness, rhythm, as well as visual processing. So while agility can be simply defined as an ability to quickly stop and re-start motion, there is a high degree of complexity to this motor skill. This article will briefly discuss the importance of agility training and present appropriate developmental strategies for instructing athletes.

Objectives

1. To study the agility among the football players of Mewar University, Chittorgarh Rajasthan.
2. To compare the agility among the football and handball players of Mewar University, Chittorgarh Rajasthan.

Methodology

Sample

The subjects were selected by using simple random sampling method. A total of 60 players who were age of above 20 years are used in this study. The subjects were collected from department of physical education and sports authority of India of Dr Babasaheb Ambedkar Marathwada University Aurangabad respectively.

Tools and Means

The equipments used were testing players in squat thrust, side step test, shuttle run, semo agility test, right boomerang run test and dodging run test are stopwatch, plastic cones, marking powder, marking tape.

Procedure

1. Squat thrust

Purpose: This test measures the rapidity by which one can change body position.

Equipments: A stopwatch.

2. Shuttle run

Equipments: Chalk powder, 2 wooden blocks, measuring tape, stop watch.

Purpose: To measure agility of subjects.

3. Side step test

Purpose: This test is used to measure the agility of the body for lateral body movements.

Equipments: A stopwatch measuring tape and marking chalk.

4. Semo agility test

Purpose: To measure agility ability of the subjects during

forward, sideward and backward movements.

Equipments: A stopwatch, four plastic cones and marking tape.

5. Boomerang run test

Purpose: This test is used to measure the agility ability in running and changing directions.

Equipments: one stopwatch, marking tape, one chair and plastic cones for the outside stations.

6. Dodging run test

Purpose: To measure the running ability of the subjects.

Equipments: stopwatch, four chairs measuring tape and marking chalk.

7. Haxagon agility test

Purpose: To test the ability to move with the maximum speed while maintain balance.

Equipments: stopwatch, measuring tape and marking chalk.

Collection of data

The data was collected from department of physical education and sport and Sports Authority of India of Mewar University Chittorgarh Rajasthan. It was collected before the finalization of this project. The voluntary data which we got from the departments were divided in to two groups according to their status of game. Some students are football players, while as the others are the handball players respectively.

Statistical analyses

The statistical analyzes used to test the data are reported as mean and standard deviation. After using parametric tests. The comparisons of both the variables are analyzed by the t-test. The comparison between variable means and standard deviations was performed using t-test. Significant value of 0.05 levels.

Table 1: Squat thrust mean, standard deviation and t-test between football and handball players

Group	Mean	S.D	T-Test	M.D	M.D
Football	15.8	0.77	0.45	0.01	58
Handall	15.7	1.03			

*Level of Significance = 0.05

Tabulated 't' 0.05 (58) = 2.000

Table-1 reveals that there is no significant difference between means of football players and handball players because mean of handball players is 15.7 is slightly less than mean of football players i.e.15.8, and there mean difference is 0.01. Standard deviation was calculated between Football players and handball players. Football players S.D. = 0.77 and handball players S.D. = 1.03 was collected. To check the significant difference between football players and handball players. The data was analyzed by applying t-test. There wasno significant difference between football players and handball players because value of calculated 't' = 0.45, is less than tabulated 't' =2.000 at 0.05 level of confidence.

Table 2: Shuttle run mean, standard deviation and t-test between football and handball players

Group	Mean	S.D	M.D	T-Sest	M.D
Football	11.18	0.51	0.31	1.47	58
Handall	10.87	0.45			

*Level of Significance = 0.05

Tabulated 't' 0.05 (58) = 2.000

Table-2 reveals that there is least significant difference between means of football players and handball players because mean of handball players is 10.87 is slightly less than mean of football players i.e. 11.18, and there mean difference is 0.31. Standard deviation was calculated between Football players and handball players. Football players S.D. = 0.51 and handball players S.D. = 0.45 was collected. To check the significant difference between football players and handball players. The data was analyzed by applying t-test. There was no significant difference found between football players and handball players because value of calculated 't' = 1.475, is less than tabulated 't' = 2.000 at 0.05 level of confidence.

Table 3: Side step test means, standard deviation and t-test between football and handball players

Group	Mean	S.D	M.D	T-Sest	M.D
Football	10.84	1.42	0.63	1.70	58
Handball	10.21	0.93			

*Level of Significance = 0.05
Tabulated 't' 0.05 (58) = 2.000

Table-3 reveals that there is no significant difference between means of football players and handball players because mean of handball players is 10.21 is slightly less than the mean value of football players i.e. 11.18, and there mean difference is 0.63. Standard deviation was calculated between Football players and handball players. Football players S.D. = 1.42 and handball players S.D. = 0.93. To check the significant difference between football players and handball players. The data was analyzed by applying t-test. There was no significant difference found between football players and handball players because value of calculated 't' = 1.70, is less than tabulated 't' = 2.000 at 0.05 level of confidence.

Table 4: Semo agility test mean, standard deviation and t-test between football and handball players

Group	Mean	S.D	M.D	T-Sest	M.D
Football	14.07	0.79	0.24	0.96	58
Handball	14.31	0.92			

*Level of Significance = 0.05
Tabulated 't' 0.05 (58) = 2.000

Table-4 reveals that there is least significant difference between means of football players and handball players because mean of handball players is 14.31 is slightly less than mean of football players i.e. 14.07, and there mean difference is 0.24. Standard deviation was calculated between Football players and handball players. Football players S.D. = 0.51 and handball players S.D. = 0.45 was collected. To check the significant difference between football players and handball players. The data was analyzed by applying t-test. There was no significant difference found between football players and handball players because value of calculated 't' = 0.96, is less than tabulated 't' = 2.000 at 0.05 level of confidence.

Table 5: Boomerang run test mean, standard deviation and t-test between football and handball players

Group	Mean	S.D.	M.D	T-Test	M.D
Football	20.34	0.52	0.29	1.94	58
Handball	20.05	0.50			

*Level of Significance = 0.05
Tabulated 't' 0.05 (58) = 2.000

Table-5 reveals that there is least significant difference between means of football players and handball players because mean of handball players is 20.05 is slightly less than mean of football players i.e. 20.34, and there mean difference is 0.29. Standard deviation was calculated between Football players and handball players. Football players S.D. = 0.51 and handball players S.D. = 0.45 was collected. To check the significant difference between football players and handball players. The data was analyzed by applying t-test. There was no significant difference found between football players and handball players because value of calculated 't' = 0.29, is less than tabulated 't' = 2.000 at 0.05 level of confidence.

Results and discussions

For the comparison of agility of all players from both groups selected for this study, who were instructed to give the true response in all the tests. After collecting the test sheets they were scored according to the instructions as given by the author of the test in its manual. The mean and standard deviations of both football players and handball players were found out and t-test values were calculated in order to find the significant differences between these groups. Table 1 shows mean and standard deviation score of football and handball players separately.

According to table-1 least significant difference is between means of football players and handball players in squat thrust. Where mean value of football players is 15.8 and that of handball players mean value is 15.7. The data was again analyzed by applying t-test. But before applying t-test, standard deviation was calculated. Standard deviation of football players is 0.77 and that of handball players is 1.03. It was found that there is no significant difference in squat thrust between football players and handball players, because calculated 't' = 0.45, which is less than tabulated 't' = 2.000 at 0.05 level of significance.

According to statistical analysis, table-2 shows that there is no significant difference between football players and handball players in shuttle run. Where mean value of football players is 11.18 and that of handball players mean value is 10.87. Standard deviation of football players is 0.51 and that of handball players is 0.45. The data was again analyzed by applying t-test. It was found that there is no significant difference in shuttle run agility test between football players and handball players, because calculated 't' = 1.47, which is less than tabulated 't' = 2.000 at 0.05 level of significance.

Table 3 shows that there is least significant difference between means of football players and handball players in side step test. Where mean value of football players is 10.84 and that of handball players mean value is 10.21. The data was again analyzed by applying t-test. But before applying t-test, standard deviation was calculated. Standard deviation of football players is 1.42 and that of handball players is 0.93. It was found that there is no significant difference in side step agility test between football players and handball players, because calculated 't' = 1.70, which is less than tabulated 't' = 2.000 at 0.05 level of significance.

Table-4 shows that there is not significant difference between means of football players and handball players in semo agility test. Where mean value of football players is 14.07 and that of Hand Ball player Mean Value is 14.31, whose mean difference is 0.24. To check the significant difference between football players and Hand Ball players of semo agility test. The data was again analyzed by applying t-test. Standard deviation was calculated Standard deviation of football

players is 0.79 and that of Handball players is 0.92. After that t- test was applied. It was found that there is no significant difference in semo agility test between football and Handball players because calculated 't' = 0.96, which is less than Tabulated 't' = 2.000 at 0.05 level of significance.

Table 5 shows that there is least significant difference between means of football players and handball players in boomerang agility test. Where mean value of football players is 20.34 and that of handball players mean value is 120.05. The data was again analyzed by applying t-test. But before applying t-test, standard deviation was calculated. Standard deviation of football players is 0.52 and that of handball players is 0.50. It was found that there is no significant difference in boomerang agility test between football players and handball players, because calculated 't'= 1.94, which is less than tabulated 't' = 2.000 at 0.05 level of significance.

Conclusions

From the statistical analysis and the limitations of this study, the following conclusion was drawn.

1. The agility of football players in squat thrust is more than the handball players is rejected. It has been observed that both football and handball players have good flexibility, co-ordination of movements, endurance and quick changing of directions.
2. Agility of football players in shuttle run is more than the handball players are rejected. Both players have exceptional speed and quickness. Both players have improved foot speed, quickness, acceleration, switching gears, cutting, starting/stopping, change of direction and reaction.
3. Agility of football players in side step test is more than the handball players are not accepted. As we know agility is the fundamental components of successful performances of both handball and football players. They have good controlled ability to change body position and direction rapidly and accurately.
4. Third hypothesis that the agility of football players in SEMO agility test is less than the handball players is also rejected. Both players have ability to shift body position in an efficient manner.
5. It was hypothesized that the agility of football players in right boomerang run test is more than the handball players is not accepted. Both games are physically engaging game that requires all balance, coordination and stamina. There is a lot of movement, dribbling, bending and turning in football and handball thus they need to be agile.
6. The agility of handball players in Dodging run test is more than the football players is not accepted. Both players have ability to quickly stop and re-start motion. They have also high degree of complexity to control quick movements.
7. There was no significant effect found between football players and handball on hexagon test. Both team players have the ability to shift one's position in an efficient manner. They have good coordination, balance and stamina.

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