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Assessment study on selected physical fitness components of basketball & badminton players

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Abstract

The aim of the present study was to compare the physical fitness components among the Basketball and Badminton players. 20 (10 Basketball & 10 Badminton) players were selected as subjects. They were represented West Zone Inter University Tournament. The age of the subjects was 19 to 28 years. Age, Height and Weight were taken as personal data. Selected physical fitness components were measured as criterion by standard tests. The subject was taken randomly. Data were collected in the afternoon (3-4:30 p.m.) consecutively four days. Mean, Standard Deviation and independent t-test was used. Significant level was set at 0.05 levels. Badminton players were better than Basketball players on pull ups, sit ups & standing broad jump and Basketball players were better than Badminton players on speed, agility & endurance. But there were insignificant difference between Basketball and Badminton players on selected physical fitness components.

Keywords: Physical fitness, AAHPER test, basketball & badminton players

Introduction

Basketball: The basketball is a ball game played by two teams of 5 players, plus 7 substitutes in each team. The players may pass, throw, roll, bat or dribble the ball. The main aim of a basketball player is to obtain points by throwing the ball into the basket of opponent team's court. A goal is considered when the ball enters into the basket from above and passes through or remain in the net.

A match consists of two halves of 20 minutes each and a break of 10 minutes in between. In case score of both the teams is equal at the end, extra periods of 5 minutes each are provided to break the tie. The match is won by the team scoring greater number of goals, or when the opponent team refuses to play, or declared winner by referee due to any other reason.

Basketball is a game full of thrill and excitement. The game is played between two teams both having five players, and five substitutes. In this manner, team consists of 10 players, with 5 active players. One out of these players is captain who will direct his team while playing. Along with this, team can have its coach and assistance coach, however, captain of the team can act as its coach. On the court, there are two forwards, two guards and a centre, where players are required to take position. During the play, players can move from their place to another. There are two halves, each having a duration of 20 minutes. Between these two halves an interval of 10 minutes is provided to the players. However, this time can be increased or decreased as condition demands, like for high school teams duration of game is reduced to 8 minutes while for players younger than high school age, it is played 6 minute quarters. Act of throwing the ball by a player in his opponent's basket is termed as scoring the basket or field goal. For every field goal, both teams get two points and one point for a foul.

References of a game which resembles basketball are found in ancient Central and South American Civilization. The game as played today, was invented by Dr. Naismith in 1891. The first match of basketball was played in the Y.M.C.A. gymnasium at Springfield on 20th Jan. 1892. The basketball was included as demonstration game in 1924, 1928 and 1932 Olympics. The game was included in XIth Olympiad held at Berlin in the year 1936, in which a total number of 22 teams participated and U.S.A. became the first Olympic champion. James Naismith was the Canadian physical education instructor who invented basketball in 1891.

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James Naismith was born in Almonte, Ontario and educated at McGill University and Presbyterian College in Montreal. He was the physical education teacher at McGill University (1887 to 1890) and at Springfield College in Springfield, Massachusetts (1890 to 1895). At Springfield College (which was then the Y.M.C.A. training school), James Naismith, under the direction of American physio specialist Luther Halsey Gulick, invented the indoor sport of basketball.



Basketball

Badminton

Badminton is officially the fastest of all racket sports. Players can hit the shuttlecock at speeds of up to 180 mph (288kph) toward their opponent. But, it is not just all about speed; a player can expect to run up to four miles (6.4km) around the court during a match whilst having the agility to maintain energy-busting rallies.

So, whilst stamina and agility are important, certainly at a competitive level, anyone can play badminton and the sport is a popular choice for people of all ages and fitness abilities.

Badminton is a racquet sport played using racquets to hit a shuttlecock across a net. Although it may be played with larger teams, the most common forms of the game are "singles" (with one player per side) and "doubles" (with two players per side). Badminton is often played as a casual outdoor activity in a yard or on a beach; formal games are played on a rectangular indoor court. Points are scored by striking the shuttlecock with the racquet and landing it within the opposing side's half of the court.

Each side may only strike the shuttlecock once before it passes over the net. Play ends once the shuttlecock has struck the floor or if a fault has been called by the umpire, service judge, or (in their absence) the opposing side.

The shuttlecock is a feathered or (in informal matches) plastic projectile which flies differently from the balls used in many other sports. In particular, the feathers create much higher drag, causing the shuttlecock to decelerate more rapidly. Shuttlecocks also have a high top speed compared to the balls in other racquet sports. The flight of the shuttlecock gives the sport its distinctive nature.



Badminton

The game developed in British India from the earlier game of battledore and shuttlecock. European play came to be dominated by Denmark but the game has become very popular in Asia, with recent competitions dominated by China. In 1992, badminton debuted as a Summer Olympic sport with four events: men's singles, women's singles, men's doubles, and women's doubles; mixed doubles was added four years later. At high levels of play, the sport demands excellent fitness: players require aerobic stamina, agility, strength, speed, and precision. It is also a technical sport, requiring good motor coordination and the development of sophisticated racquet movements.

Physical Fitness

Every person has a different level of physical fitness which may time, place of work and situation. In the field of game and sport, physical fitness varied on sports man in different sports. Actually physical fitness depend upon their movement in limbs which involve in sport and games. In the present study Basketball player is a team game and Badminton is an individual sport. So both games nature of skill are different, Basketball is endurance type sport where it place by hand, Badminton is same individual game. Physical fitness asset of attributes that are either health or skill related. The degree to which people have these attributes can be measured with specific tests. These definition are offered as an interpretation from work for comparing studies that relate physical activity exercise and physical fitness to health. According to Roger Banister, "Physical fitness a state of mental and physical harmony which enable same one to carry on his occupation to the best of his ability with greatest happiness."

Objectives

The main object of the present study is to find out the "comparative study of physical fitness among Basketball players and Badminton players."

Methodology

In methodology involves selection of the subject; criterion measures and statistical techniques.

Selection of the subject

The subjects were selected from Nagpur district of Maharashtra, India. 20 (10 Basketball and 10 Badminton) male university level players, age ranged 19-28 years were selected randomly as subjects. All subjects were participated West Zone Inter University Tournament.

Data were collected in the afternoon (3-4:30 p.m.) consecutively four days.

Criterion Measures

Speed, shoulder strength, leg strength, abdominal strength endurance, agility and endurance were considered as selected physical fitness components. All the components were measured by standard tests.

Statistical Techniques

To compute mean difference between Basketball players and Badminton players in relation to selected physical fitness components mean, standard deviation and independent t-test was used (Statistical Package for the Social Sciences, version 17.0, SPSS Inc, Chicago, IL, USA). Significant level was set at 0.05 levels.

Results and Discussions

In order to find out the significance difference of Pull-ups, 50 yard Dash, 600 yard Run, Standing Broad Jump, sit-ups and Shuttle Run of Basketball and Badminton groups by subjecting the difference between means scores without any training, statistical significance calculating ‘t’ ratio using the formula.

Result of AAHPER test between basketball and badminton players.

There are two physical fitness are not significant pull up and 4 × 10 meter shuttle run an other variables Significant.

There was no significant difference between Basketball and Badminton players on pull up.

There was no significant difference between Basketball and Badminton players on 4 × 10 m Shuttle Run.

There was significant difference between Basketball and Badminton players on 50 yard dash .001 level

There was significant difference between Basketball and Badminton players on standing Broad Jump at .02 level

There was significant difference between Basketball and Badminton players on Sit up .001 level

There was significant difference between Basketball and Badminton players on 600 Yard Run .001 level

Table 1: Comparative Study among Physical Fitness Badminton Player and Basketball Player Pull-Ups

	Mean	S.D	Mean deviation	G.S.D	Sed	T value
Badminton	12.1	2.49	0.8	2.273	0.984	0.813
Basketball	11.3	2.60				

Table 2: Comparative study among physical fitness badminton player and basketball player Sit- ups

	Mean	S.D	Mean Deviation	G.S.D	Sed	T value
Badminton	58.2	3.89	10.6	5.62	2.51	4.223
Basketball	47.6	6.46				

Table 3: Comparative study among physical fitness badminton player and basketball player standing broad jump

	Mean	S.D	Mean Deviation	G.S.D	Sed	T value
Badminton players	2.47	0.129	0.15	0.122	0.054	2.77
Basketball players	2.32	0.224				

Table 4: Comparative study among physical fitness badminton player and basketball player 50 yard dash

	Mean	S.D	Mean Deviation	G.S.D	SED	T value
Badminton players	6.66	0.0915	-1.03	0.354	0.155	6.516
Basketball players	7.69	0.37				

Table 5: Comparative study among physical fitness badminton player and basketball player 4 × 10 m shuttle run

	Mean	S.D	Mean Deviation	G.S.D	SED	T value
Badminton players	9.07	0.174	-0.14	0.227	0.099	1.414
Basketball players	9.21	0.250				

Table 6: Comparative study among physical fitness badminton player and basketball player 600 yard run

	Mean	S.D	Mean Deviation	G.S.D	SED	T value
Badminton Players	1.45	0.052	-0.76	0.154	0.067	11.343
Basketball Players	2.21	0.2006				

Conclusion

On the basis of result and statistical analysis of data within the limitation imposed and the experimental condition, the following conclusions may be drawn: Badminton and Basketball students indicated no real difference in relation physical fitness under taken in the presents study. Badminton and Basketball player the “t” scale constructed as a result of the study will be applicable to all the professional students in Physical Education Institutions. There was no significant in pull up of Badminton and Basketball players. Badminton players are better arm muscle strength than the Basketball Players. There are significant in 50 yard run Badminton and Basketball Players. Basketball players are better in speed from the Badminton player. In Explosive Leg Muscle Power Badminton players are better than Basketball players. In Endurance Basketball players are better than Badminton players. There are significant relation in physical fitness between Badminton and Basketball players of university level male students.

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