

A COMPARATIVE STUDY OF SPEED AND ENDURANCE AMONG TENNIS BADMINTON PLAYERS

Mr. Abhishek Singh,

Assistant Professor, L.N.I.P.E, Gwalior, (M.P)

MR. Ravi Sharma,

M.P. Ed., L.N.I.P.E, Gwalior, (M.P)



Abstract

Speed and Endurance are very important physical ability for performance in tennis and Badminton. Tennis is very similar to badminton. The purpose of the present study was to compare the speed and endurance among tennis and Badminton Players. For the present study 40 Male tennis and Badminton Players of Bundelkhand University (20 tennis players and 20 Badminton players) of age 21 ± 3 , on the basis of purposes sampling were selected as subjects. The independent t-test was employed and found significant difference at 0.05 level of significance in speed and endurance. The 30 Meters Run for Speed and 12 Minute Run Cooper Test for endurance was used to assess the results. This study shows that Badminton Players are having good speed and tennis Players are having the good aerobic endurance. Badminton Players performed very well in 30 Meters Run due to good speed requires in badminton game and tennis Players are shown good in 12 min run because they are playing the tennis game for very long duration. Tennis is heavily intermittent meaning it involves physical events expressing maximal exertion short distance, speed, agility, explosive power and endurance. Badminton requires high speed, super agility and enormous endurance.

Keywords: Tennis, Badminton, Intermittent, Speed and, Endurance etc.

INTRODUCTION

Aerobic Endurance is the amount of oxygen intake during exercise. Aerobic Endurance is the time which you can exercise, without producing lactic acid in your muscles. During aerobic (with oxygen) work, the body is working at a level that the demands for oxygen and fuel can be meeting by the body's intake. The only waste products formed are carbon-dioxide and water which are removed by sweating and breathing. Aerobic exercise is physical exercise of relatively low intensity and long duration, which depends primarily on the aerobic energy system. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy – generating process. Many types of exercise are aerobic, and by definition are performed at moderate levels of intensity for extended periods of time. Speed is the quickness of movement of a limb, whether this is the legs of a runner or the arm of the shot putter. Speed is an integral part of every sport and can be expressed as any one of, or combination of, the following: maximum speed, elastic strength (power) and speed endurance. Badminton is a racquet sport played by either two opposing players (singles) or two opposing pairs (doubles), who take positions on opposite halves of a rectangular court divided by a net. Players score points by striking a shuttlecock with their racquet so that it passes over the net and lands in their opponents' half of the court. Each side may only strike the shuttlecock once before it passes over the net. A rally ends once the shuttlecock has struck the floor, or if a fault has been called by either the umpire or service judge or, in their absence, the offending player, at any time during the rally. Tennis is a sport usually played between two players (singles) or between two pairs (doubles). Tennis is enjoyed by millions of recreational players and is also a hugely popular worldwide spectator sport,

especially the four grand slam tournaments. Racket sport such as Tennis is highly individual sport and players have to play for their own in completion and the success of a Tennis player is purely based on his/her own performance. Along with the physical abilities and technical skill, a Tennis player required tremendous amount of physiological abilities. However, there are a lot of team competitions in Tennis as well such as Davis cup, Federation cup, Hopman cup, and college and university competitions at a lower level. In these competitions the tennis players have to play as a team to win. Thus, along with the physical and technical skill the player have to be physiologically fit. In tennis you constantly find yourself meeting some physiological variables of your opponent. The personal equation is the basis of tennis success. A great player not only knows himself in physiological abilities.

PURPOSE OF THE STUDY

The purpose of the present study to compare the speed and endurance among tennis and Badminton Players.

METHODOLOGY

To find out the Aerobic Endurance and Speed between Male tennis and Male badminton Players, 20 Male tennis Players and 20 Male badminton Players of age 21 ± 3 of Bundelkhand University who has taken part in the BKD Inter College sports independent t test was employed at 0.05 level of significance.

CRITERION MEASURES

12 Min. Run Cooper Test

The 12 Minute Cooper Test is used for collection of Data.

The Cooper test is a test of Aerobic Endurance. It was designed by Kenneth H. Cooper in 1968 for US military used in the original form; the point of the test is to run as far as possible within 12 minutes.

30 Meter Run

The objective of this test is to monitor the development of the athlete's ability to effectively and efficiently build up acceleration, from a standing start or from starting blocks, to maximum speed. This test requires the athlete to sprint as fast as possible over 30 meters. The athlete warms up for 10 minutes. The assistant marks out a 30 meter straight section with cones. The athlete starts in their own time and sprints as fast as possible over the 30 meters. The assistant starts the stopwatch on the athlete's 1st foot strike after starting and stopping the stopwatch as the athlete's torso crosses the finishing line. The test is conducted 3 times the assistant uses the fastest recorded time to assess the athlete's performance.

STATISTICAL ANALYSIS

The Speed and Endurance among tennis and badminton Players were calculated by using independent t-test. For testing the hypothesis the level of significance was set at 0.05 levels.

Table No.1
MEAN AND STANDARD DEVIATION VALUES OF 30 METRE RUN TEST

Results of 30 M Run Test	N	Mean	SD	S.E. Mean	T	df	Sig. (2-tailed)
Tennis Players	20	4.50	0.292	0.653	13.067	38.00	.000
Badminton Players	20	3.36	0.259	0.580			

*Significant at 0.05 level $t'_{(0.05)(38)} = 1.68$

The Table No.1 showing the Mean, S.D, Standard Error, t-ratio of tennis Players and badminton Players in 30 M Run Test. It reveals that there is significant difference in speed of tennis and badminton players as calculated t values (13.067) is greater than tabulated t value (1.68). The Mean Score of Badminton Players is 3.36 compare to tennis Players Mean Score of 4.50. That Means Badminton Players are having good speed compare to tennis Players.

Table No.2
MEAN AND STANDARD DEVIATION VALUES OF 12 MINUTES COOPER TEST

Results of 12 min Cooper Test	N	Mean	SD	S.E. Mean	t	df	Sig. (2-tailed)
Tennis Players	20	3086.50	140.19	25.59	10.19	38.00	0.000
Badminton Players	20	2645.83	190.73	34.82			

*Significant at 0.05 level $t'_{(0.05)(38)} = 1.68$

The Table No.2 showing the Mean, S.D, Standard Error, t-ratio of tennis Players and badminton Players in 12 minutes cooper run/walk test. It reveals that there is significant difference in endurance of tennis and badminton players as calculated t values (10.197) is greater than tabulated t value (1.68). The tennis Players mean performance in 12 Min cooper test is 3086.500 and Badminton Players mean performance in 12 Min cooper test is 2645.833. The tennis players are having the better endurance i.e.3086.500 than Badminton players is 2645.833.

RESULTS

This study show that Badminton Players are having good speed and tennis Players are having the good aerobic endurance. Badminton Players performed very well in 30 Meters Run due to good speed requires in badminton game and tennis Players are shown good in 12 min run because they are playing the tennis game for longer duration of time.

DISCUSSION/CONCLUSION

It is concluded that Badminton Players are having good speed and tennis players are having the good endurance. Both this motor qualities are compulsory for both players to excel in their performance. Hence the entire condition programme for improvement of motor qualities is included in the coaching programme of both the players.

REFERENCES

- Delamarce, P., Gratas, A., Beillot, J., Dassonville, J., Rochcongar, P., & Lessard, Y. (1987).Extent of lactic anaerobic metabolism in tennis players.*International Journal of Sports Medicine*, 8, 55-59.
- Gorostiaga, E., Granados, C., Ibanez, J., Gonzalez-Badillo, J., & Izquierdo, M. (2006). Effects of an entire season on physical fitness changes in elite male badminton players.*Med. Sci. Sports Exerc.*, 38(2), 357-366.
- Granados, C., Izquierdo, M., Ibanez, J., Bonnabau, H., & Gorostiaga, E. (2007).Differences in Physical Fitness and Throwing Velocity among Elite and Amateur Female badminton Players. *International Journal of Sports Medicine*, 28, 850-867.
- Marques, M., & Gonzalez-Badillo, J. (2006).In-season resistance training and detraining in professional tennis players. *Journal of Strength and Conditioning Research*, 20(3), 563-571.
- Srroj, V., Marinovic, M., & Rogulj, N. (2002).Position specific morphological characteristics of top-level male tennis players.*Coll. Anthropol.*, 1, 219-227.

Zapartidis, I, Toganidis, T., Varelziz, I., Christodoulidis, T., Kororos P.& Skoufas, D. (2009). Profile of young female badminton players by playing position. *Serbian Journal of Sports Sciences*, 3(1-4), 53-60.

Tsunawake, N. Tahara Y, Moji K, Muraki, S. Minowa K. Yukawa K, (2003) "Body Composition and Physical Fitness of Femalebadminton and tennis Players of the Japan Inter High School Championship Teams", *Physiological Anthropometrical Applied Human Science* 4, pp. 195-201.

Harold Wilson Percy, (1973). Correlated of Leg Power measured by jump and Reach and Dekan Timer Test), Leg Strength, Leg Speed and Certain Anthropometric Measurements. *Completed Research in Health Education and Recreation* 15.

IJPEHSS