

# **A SKILL RELATED FITNESS TEST FOR RACKET SPORTS**

## **-AN OVERVIEW**

Mr. Rahul Yadav<sup>1</sup>, Dr. Y.S Rajpoot<sup>2</sup>

<sup>1</sup>Research scholar , LNIPE, Gwalior(M.P),India

<sup>2</sup>Associate Professor ,LNIPE, Gwalior(M.P),India

### **ABSTRACT**

In this study, the objective is to provide knowledge regarding skill-related fitness tests of racket sports for players to identify their fitness ability, which will help them improve their performance. Racket sports is considered to be a powerful and aggressive sport, so the players require adequate physical fitness to succeed. The literature shows that there has never been a fitness test made for racket sports players, but skill-related fitness tests have been made before, so the researcher wants to motivate these researchers to construct a fitness test for racket sports to help coaches, physical educators, and players to evaluate their fitness capacity and develop training programs.

**Keywords:-** Skill , Racket Sports, Physical Fitness ,Correlation And Evaluation .

### **ABSTRACT**

In this study, the objective is to provide knowledge regarding skill-related fitness tests of racket sports for players to identify their fitness ability, which will help them improve their performance. Racket sports is considered to be a powerful and aggressive sport, so the players require adequate physical fitness to succeed. The literature shows that there has never been a fitness test made for racket sports players, but skill-related fitness tests have been made before, so the researcher wants to motivate these researchers to construct a fitness test for racket sports to help coaches, physical educators, and players to evaluate their fitness capacity and develop training programs.

**Keywords:-** Skill , Racket Sports, Physical Fitness ,Correlation And Evaluation .

### **INTRODUCTION**

Tennis is a sport played by all ages and by men and women of all skill levels.As Tennis becomes more popular as a leisure time activity, people learn the benefits of physical exercise and their personal satisfaction in participating.(Pearce & Pearce, 1971)

The simplest form of tennis is hitting a ball over a net.Rackets must be used within a specific area and are used with an implement known as a racket.The features of tennis, like an opponent and boundaries, as well as its set of rules have made this sport one of the most popular in the world today.(L.hensley,1989)

Tennis players have to become faster, more powerful and aggressive because of advances in racquet and ball design. This sport requires better physical and skill-related abilities.The success of a tennis player is primarily defined by the technique they use on the court.(Hornery et.al,2007).

Its goal is to encourage researchers to develop skill-related fitness programs for racket sports like tennis, squash, badminton, table tennis that will help athletes improve their performance ability.

### REVIEW

In accordance with genevois (2019)The fact that Tennis matches alternate between points and rest, as well as the demands on players' energy systems between points and rest, which causes competitive players to focus on recovering after high-intensity performances.. Therefore, tennis training should include aerobic and anaerobic exercises.

According to ken purcell(2011)A tennis skills test used to quantify forehand and backhand stroke performance was developed and validated using 76 female college students enrolled in a beginner tennis class. The subject`s shot velocity was assessed by measuring her cumulative flight time over 10 trial rounds using a stopwatch.

According to Baiget et al (2015), Observed that athletes with better aerobic fitness played at lower intensities thus enduring less fatigue. Therefore, if players have to play a lot of matches in a short time, this could be an advantage because it improves hitting accuracy and stroke placement.

According to M. alexandras et.al (2010),The goal of the present study was to analyze the performance of the groundstrokes of young tennis players aged 12-15, of both sexes. In this study , sixty (60 )samples were taken and performance of players using two parameters i.e score and accuracy ,in both forehand drive and backhand drive .A two-way ANOVA was used for statistical analysis, revealing statistically significant differences in performance levels among all three age groups (12-13, 13-14, 14-15).A significant difference was also found between backhand and forehand shots ( $p < 0.001$ ).Results of the study did not indicate any differences in tennis performance between the sexes of the age groups surveyed after completing a valid test.

According to Avery richardson et. al,(2013)Tennis service test that was designed to maximize the practical relationship between the skills test and actual playing situations.As part of the test, 2 balls per trial are used as well as service attempts on both right and left service courts, as well as credit for flat, slice and spin serves.Tennis norms were also established for both college males and females at beginning and intermediate skill levels.

According to L. k burke,(1990),This Burke Accuracy Tennis Test for Serving (BATTTS) provides a mechanism for determining the accuracy of serve.In this test researcher gives five minutes for warm up .After that, students must serve in 40 alternate attempts into the appropriate service box.Attempts are made on both the right (deuce) court and the left court 20 times each.Service boxes are categorized into four areas and marked.

According to K .Shahnaz (2019), The goal of this study was to develop a new skill testing battery and to develop standard norms for squash players.We randomly selected 100 male squash players from the LNIFE, Gwalior, the Noida Stadium, Noida, Mayohall Sports Complex, Allahabad, ranging in age from 17 to 20 years old,This data, which was collected by administering the skill test items Alternate Parallel Drive from Front Court, Parallel Drive from Back Court (Forehand and Backhand), and Court Run, was statistically processed in order to create norms for all test items.Normative scales were constructed for male squash players, specifically the Percentile Scale and 6-Sigma Scale.

According to W. Michael et. al (2009), The aim of this study was to examine the validity of an endurance capacity test and an aerobic power test specifically designed for squash players.Eight squash players and

eight runners performed incremental treadmill (TT) and squash-specific (ST) tests until they became exhausted. This test distinguished endurance performance between runners and squash players, and induced a higher Vo<sub>2</sub>max in squash players than a non-specific test.

According to Talabi et.al(2016), This study examined the essential factors that influence playing ability of elite Nigerian squash players. The study was designed to predict squash playing ability of male squash players based on selected motor skill variables. Thirty nationally rated players took part in the study, which looked into eight selected squash playing variables. After finding the mean, standard deviation, correlation and regression analysis, four variables were finally found to be highly essential in assessing squash playing ability among elite players in Nigeria.

According to yadav and patel(2011), In this study, backhand drop shot tests were constructed for 40 male badminton players from different colleges at Devi Ahilya University, Indore. From 25th to 27th August, 2008, all subjects participated in an inter-collegiate badminton tournament held by the New Science College, Indore. Correlation of the Backhand Drop Shot Test (0.878) with the Lockhart and McPherson Badminton Test was used to establish validity. To compute the reliability of the Backhand drop shot test (0.970), three trials administered by the same tester were used to compute the interclass correlation coefficient. Objectivity of the backhand drop shot test was 0.974 through three trials conducted independently by three individuals.

According to wong et,al (2019), We compared the balance, agility, eye-hand coordination, and sports performance of amateur badminton players and control participants. A static standing balance test (with eyes closed) as well as a dynamic balance test (lower quarter) were conducted. A hexagon agility test was used to measure agility, and a computerized finger-pointing task was used to measure eye-hand coordination. Sports performance was measured by counting the number of times the shuttlecock landed in a designated area following a badminton serve. The badminton players were more accurate at badminton serving than the active controls ( $P < .001$ ). In all other outcome variables, no significant differences between groups were observed ( $P > .05$ ). Amateur badminton players had better sports performance, but not balance, agility, or eye-hand coordination, compared to controls.

According to J. Masrath and S. Yadav(2018), As a human activity, sports are a way to strengthen the interaction between the body and mind. Joint and muscle flexibility refer to the range of motion in a joint, as well as the length across joints of any muscle. Coordination refers to the ability to integrate muscle movements into an efficiency pattern. We conducted the study in district Shopian to determine the impact of selected exercises on flexibility and coordination in tennis and badminton players. The 40 samples selected for the study, 20 for badminton and 20 for tennis. In comparison to tennis players, badminton players showed significant improvements in both flexibility and coordination.

According to W. Harry et. al (2021), In this study, we tested the content validity of a reaction time test among table tennis players. First, a qualitative literature review was conducted using narrative review techniques. The second part of the study was content validation using the Delphi technique. Research instrument was a questionnaire with four grading scales (very relevant, relevant, less relevant, and irrelevant). Content validity was tested with Aiken's formula. It is concluded from the results of our study that (1) the concept definition and operation of the table tennis reaction time were compiled, (2) the Aiken's V coefficient was above 0.76, indicating that the test was quite valid, so it can be said that this test is quite reliable.

According to L. Hanik et. al (2018), During this study, we will develop the physical test norms for table tennis players, men and women, ages 13 to 15 years old. In the test-retest and part-whole procedures, data is analyzed using SPSS version 23 software, while the normality test is performed using Minitab 16 by Anderson Darling. Researchers studied 141 players of both genders aged 13-15 years, trained at least 2 years, and exercised three times each week. There were 73 male and 68 female players. There were several results from the test norms such as arm span length, hand reaction speed, tennis ball catching, shuttle run, 20 meters fast run and multistage run.

### CONCLUSION

According to the literature reviewed, only skill-related tests were constructed for racket sports players, and few research studies investigated fitness-related tests for these players. As a result of reading this article we can understand the importance of fitness in racket sports. When competition at high level, we need to possess fast reaction time to cover the whole distance during the match, agility to take quick decision at the time volley, smash, strokes and return serve and strength for good execution of the skill. Thus, it is necessary to develop fitness tests to assess the fitness levels of players in different racket sports. For this reason, the researchers recommend that racket sports players be fitted with fitness and skill tests in order to raise their performance and standard.

### REFERENCES

1. Pearce, W., & Pearce, J. (1971). Tennis. New Jersey: Englewood Cliffs.
2. Hensley, Larry, Ed, "Tennis for Boys and Girls Skills Test Manual American Alliance for Health, Physical Education, Recreation and Dance" Reston, VA. National association for Sport and Physical Education. ISBN-0- 88314-442-589. P.3
3. Hornery, D. J., Farrow, D., Mujika, I., & Young, W. (2007). Fatigue in Tennis. Sports Medicine.
4. Genevois, c. (2019). Importance of aerobic fitness for tennis : training and testing part 2. ITF coaching and sport science, 16-18
5. Alexandros mavvidis , aggelos stamboulis et.al (2010), differences in forehand and backhand performance in young tennis players, studies in physical culture and tourism vol. 17, no. 4.
6. Cathy A. Avery , Peggy A. Richardson & Allen W. Jackson (1979) A Practical Tennis Serve Test: Measurement of Skill under Simulated Game Conditions, Research Quarterly. American Alliance for Health, Physical Education, Recreation and Dance, 50:4, 554-564
7. Kevin L. Burke (1990) Skill Evaluation: Evaluating the Tennis Serve, Strategies, 3:6, 8-18, DOI: 10.1080/08924562.1990.11000254
8. K . shahnaz begum (2019), Construction of skill test and norms for squash players International Journal of Physiology, Nutrition and Physical Education 2019; 4(2): 159-162
9. Michael Wilkinson, Damon Leedale-Brown, and Edward M. Winter (2009) Validity of a Squash-Specific Fitness Test International Journal of Sports Physiology and Performance, 2009, 4, 29-40 © 2009 Human Kinetics, Inc.
10. Talabi, A. E., Dominic, O. L ,(2016) essential variables for assessing squash playing Ability of elite players ,Journal of Science Education and Research (JOSER) Vol. 2 No 1
11. Yadav, S.K. and Patel, Vinod (2011). Construction of backhand drop shot test in badminton. Internat. J. Phy. Edu., 4 (1) : 185-187.
12. Wong et al. (2019) Balance control, agility, eye-hand coordination, and sport performance of amateur badminton players - A cross-sectional study, Medicine 98:2.

13. Jan masrath and yadav shankar ,(2018)A Comparative Study on Effect of Selected Exercises on Flexibility and Co-Ordination of Badminton and Tennis Players, Journal of Tourism, Hospitality and Sports,vol.33.
14. Hary Widodo, Tomoliyus, Fauzi, Salvator Nahimana. Reaction Time Test Innovation Of Table Tennis Performance: Aiken Validity-- Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(4), 7103-7110. ISSN 1567-214x
15. Hanik Liskustyawati, Suratmin, Rumi Iqbal (2018)Physical Testing Norms Of Table Tennis Players 13-15 Years Old In Indonesia European Journal of Physical Education and Sport Science vol. 4 .