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COMPARATIVE STUDY ON SELECTED PHYSIOLOGICAL PARAMETERS BETWEEN FOOTBALL AND BADMINTON PLAYERS

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ABSTRACT

The purpose of the study is to compare the selected physiological parameters of football and badminton players .To achieve the purpose of the study 20 football and 20 badminton players from Coimbatore district were randomly selected between the age group of 18 to 22 years. The subjects were randomly assigned to two equal groups. Group- I (n=20) underwent football training and Group – II (n=20) badminton training. The following tests were performed to measure the physiological fitness parameters: 12miniutes coopers test was used to measure the Vo2 Max, Breath holding test was used to measure the breath holding time. The data collected from the subjects were statistically analysed using't' test to find out whether significant mean difference existed at 0.05level of confidence. The result of the study showed significant difference in the Vo2 max and breath holding time between the football and badminton players. The Vo2 max was better among the football players comparde with the badminton players. The breath holding time was better among the badminton players compared with the football players.

KEYWORDS: ***Speed Endurance, Speed, Football Referees, Players***

INTRODUCTION

Football is a popular sport in India. Football has enjoyed popularity in Kerala, West Bengal, Goa and northeaster India which consists of Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Arunachal Pradesh and Sikkim. India's current top domestic league, I-League, was formed in 2007 in an attempt to professionalize domestic football. In 2013 the Indian Super League was formed as an unrecognised professional league with 8 teams to promote Indian football to the country and world. After three season, the Indian Super League was recognised as a top tier league, running in parallel with the I-League, thus leaving India as one of the few countries with two fully recognised top tier leagues.[5] Also contested is Santosh Trophy, a knock-out competition between states (provinces) and government institutions. The current captain of the Indian national team is Sunil Chhetri. India is currently ranked 103 among the FIFA World Rankings.[6]The 2017 FIFA U-17 World Cup was hosted by India in the month of October in 2017 and the first time the country had hosted a FIFAevent. The tournament was touted as the most successful FIFA U-17 World Cup ever, with the attendance being a record 1,347,133 surpassing China's 1985 edition where it was 1,230,976. India is also going to host the 2020 FIFA U-17 Women's World Cup. Owing to this, India has also bid to host the 2019 FIFA U-20 World Cup and is considering a bid for the 2023 FIFA Women's World Cup.

BADMINTON

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.

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. Since 1992, badminton has been a Summer Olympic sport with four events: men's singles, women's singles, men's doubles, and women's doubles, with mixed doubles 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. **Grice (2008)**

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METHODOLOGY

To achieve the purpose of the study twenty (20) football players were and twenty (20) badminton players were randomly selected from Coimbatore district. The age of the subjects ranged between 18 to 22 years. The following tests was performed to measure the physiological fitness parameters:-To measure Vo2 max 12 minutes cooper test was used and to measure breath holding time breath holding test was applied.

STATISTICAL TECHNIQUES

The data was collected & statically examined to compare the physiological parameters of football and badminton players. The "t" ratio was calculated to find out the significance difference between the variables, in all the cases to test significance of the data was tested 0.05 level of confidence.

TABLE-4.1
COMPUTATION OF'T'RATIO ON VO2 MAX BETWEEN FOOTBALL AND BADMINTON PLAYERS

VARIABLE	GROUP	MEAN	SD	't'
Vo2 Max	Football	2593.30	2.07	4.93 *
	Badminton	2315	2.08	

*Significant at 0.05 level 2.093(1, 19)

The table4.1 reveals that the computation of 't' ratio on speed between footballs and badminton players. The mean value of football and badminton players. Were 2593.30 and 2315 respectively. The observed t value of Vo2 max 4.93 was greater than the table value of 2.093 for the degrees of freedom 1 and 19 at0.05 level of confidence. Since, it was found to be statistically significant.

The result inferred that there is a significant difference over Vo2 max between footballs and badminton players.

FIGURE- 1
BAR DIAGRAM SHOWING THE MEAN VALUE ON Vo2 MAX OF FOOTBALL AND BADMINTON PLAYERS

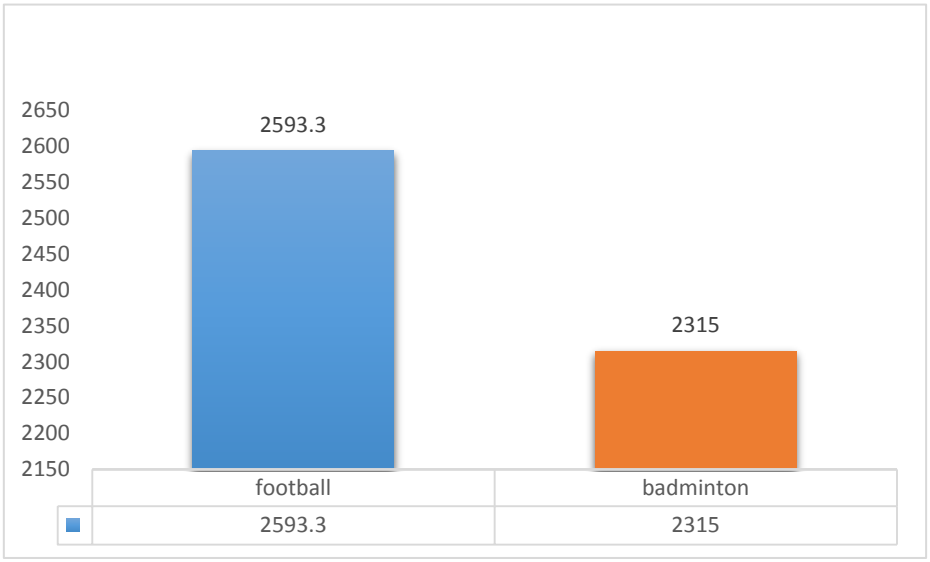

TABLE-4.2
COMPUTATION OF'T'RATIO ON BREATH HOLDING TIME BETWEEN FOOTBALL AND BADMINTON PLAYERS

VARIABLE	GROUP	MEAN	SD	't'
Breath holding time	Football	34.26	1.16	6.45 *
	Badminton	35.60	1.63	

*Significant at 0.05 level 2.093(1, 19)

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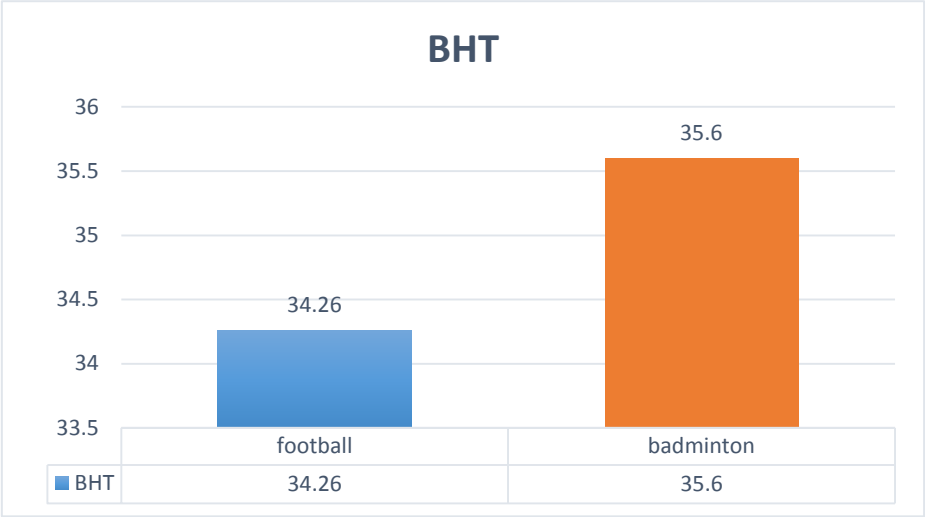
The table4.1 reveals the computation of t ratio on speed endurance between footballs and badminton players. The mean value of footballs and badminton players were 34.26 sec and 35.60 sec respectively. The observed t value of speed endurance 6.45 was greater than the table value of 2.093 for the degrees of freedom 1and19 at0.05level of confidence. Since, it was found to be statistically significant.

From the result it is speculated that there is significant difference over speed endurance between footballs and badminton players.

FIGURE- 1
BAR DIAGRAM SHOWING THE MEAN VALUE ON BREATH HOLDING TIME OF FOOTBALL AND BADMINTON PLAYERS



DISCUSSIONSONFINDINGS

The football players naturally need to have more vo2 max compared to the players. Since, during the course of match the football players must be moving around the big field as the game moves up and down on the field in order to control the ball and to attack the opponents goal during the entire 90 minutes of the match.at all the place and at right time are the see the game up close throughout the field for entire 90 minutes of duration of the match.

The results of the study indicated that there was a significant difference over selected physiological parameters of Vo2 max and breath holding time difference between footballs and badminton players. The findings of the present study had similarity with the findings of the investigations referred in this study.

Harshvardhan (2013) The result revealed that there was a significant difference found in case of vital capacity and pulse rate while insignificant in case of systolic, diastolic blood pressure, positive and negative breath holding capacity and pick flow rat.

Phogat (2019) There is also a significant difference found in their maximal oxygen consumption (VO2 max). However, there is no significant difference found between ball and racket games players in there speed and strength profile.

The result of the present study indicates that football players shows better performance on Vo2 max when compare to badminton players and badminton players shows better performance on breath holding time when compare to football players.

Conclusion

From the results of this study, the following conclusions were drawn

1. It was concluded that there was a significant mean difference in Vo2 max between football players and badminton players.
2. It was concluded that there was significant mean difference in Breath holding time between football players and badminton players.
3. Further it was concluded that the football players possess better Vo2 max then badminton players.
4. Further it was concluded that the badminton players better then breath holding time then football players.

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