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RELATIONSHIP OF SELECTED PHYSIOLOGICAL VARIABLES TO SLICE SERVE IN TENNIS

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Abstract
The purpose of the study was to find out the relationship of the selected physiological variables to slice serve in tennis. Random sample was employed for reaching valid conclusion of the study. Thirty male tennis players of U.P. and M .P. who have participated in national level tournaments with age ranging between 18 to 23 were selected as a subject for the study. The following physiological variables were selected for the study: positive breath holding capacity, anaerobic capacity and cardiovascular endurance. Speed of the service ball was measured by speed radar gun while performing slice serve/service. The speed of slice serve was record in Km/hr. In order to find out the relationship of selected physiological variables to slice serve, Pearson product correlation was applied at 0.05 level of the significance. On the basis of research findings, the hypothesis stated earlier that there is no significant relationship of slice serve and physiological variables was accepted in the variables anaerobic capacity and cardiovascular endurance. In case of variables such as positive breath holding capacity was found significant relationship and the hypothesis was rejected at .05 level of the significance

Keywords: Speed radar gun, positive breath holding capacity and anaerobic capacity

Introduction

Tennis is a four-point game played on a court and divided in the middle by a net. A tennis match consists of games and sets. To win a game, a player must simply win four points before their opponent. To win a set, a player must be the first to win six games and must be ahead of the other player by at least two games. To win a match, a player must win the predetermined number of sets, usually two or three. There is no time allotted for these games; play continues until a competitor wins four points. If, however, players tie at six games each, they continue playing games until one is ahead of the other by two, or they may engage in a tiebreak game.Play always begins with a serve. Players alternate turns serving, and each in their turn is given two tries to hit a serve into the opponent's service area. One failed serve is called a fault; two is called double fault, and a point is scored for the opponent. When a serve lands successfully in the area of play, the other player attempts to return in with their racket into the area of play on the other person's side of the net.The ball may never bounce more than once before a player hits it. If this happens, the opponent scores a point. After the serve, the players continue to rally the ball back and forth under these guidelines until one of them scores a point. A point is scored whenever a player is unable to return the ball to their opponents' side of the court and in bounds. That is, when 1) the ball bounces more than once, 2) the ball hits the net, or 3) the ball is hit out of bounds. When any of these things happen, the player who last hit a valid shot in bounds is scored a

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point. There is a particular vocabulary used to mark the score in tennis. Love means zero in tennis scoring. The first point scored earns the player 15 points, the second brings their score to 30, the third to 40, and the final point is the game-winning point. When the score ties at 40, it is called deuce. A player must win two points in a row to win the game after deuce. The server always announces the score before serving, stating their score first.

Methodology

Thirty male tennis players of U.P. and M .P. who have participated in national level tournaments with age ranging between 18 to 23 were selected as a subject for the study. The following physiological variables were selected for the study: positive breath holding capacity, anaerobic capacity and cardiovascular endurance. Positive breath holding capacity was measured by the manual method and was recorded in seconds. Cardiovascular endurance was measured by the Harvard Step Test. Sergeant jump was used for measuring anaerobic power and the score was recorded in foot pounds. Speed of the service ball was measured by speed radar gun while performing slice serve/service. The speed was record in Km/hr. In order to find out the relationship of selected physiological variables to slice serves, Pearson product correlation was applied at 0.05 level of the significance.

Finding

To analyze and interpret the data for reaching at a definite conclusion, Pearson product correlation was applied at 0.05 level of the significance in finding out the relationship of selected physiological variables to slice serves in tennis. The coefficients of correlation have been presented in Table-1.

TABLE-1
RELATIONSHIP OF SELECTED PHYSIOLOGICAL VARIABLES TO SLICE SERVES IN TENNIS

S. No	Variables Correlated	Coefficient of Correlation 'r'
1	Positive Breath Holding Capacity	0.411*
2	Anaerobic Power	0.176
3	Cardiovascular Endurance	0.037

*Significant at .05 level of significance $r_{0.05\,(28)} = 0.361$

Table-1 indicated that there were significant relationships between slice service to positive breath holding capacity (r =0.411) as obtained value of correlation were greater than value of correlation .361 required for correlation significant at .05 level of significance. Table-1 also indicated that there were insignificant relationships between slice tennis service to anaerobic capacity (r =.176) and cardiovascular endurance (r = 0.037) because these values were less than correlation value of (.361) required for significant. Graphical representation of table no. 1 is presented in figure- 1.

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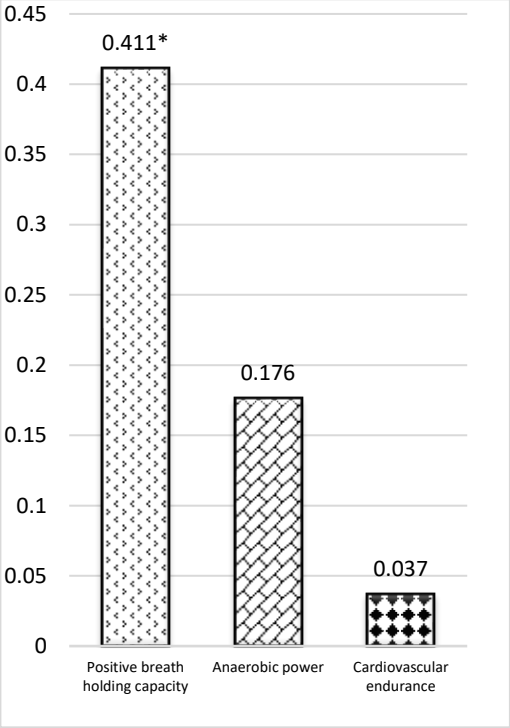

Figure 01: Relationship of Physiological Variables to Slice Serve in Tennis

Discussion of Finding

The significant relationship of positive breath holding capacity with performance of slice serve in tennis may probably be due to reason that greater inhalation prior to services and its maintenance during the execution phase helps in generating more force. It is generally seen that weight lifter also takes a deep breath prior to the execution of a movement so as to generate more force. On the basis of research findings, the hypothesis stated earlier that there is no significant relationship of slice services and physiological variables was accepted in the variables anaerobic capacity and cardiovascular endurance.

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