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Impact of Plyometric Training on Selected Physical Fitness Variables among Tennis Players

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Abstract

The purpose of the study was to examine the impact of plyometric training on physical fitness variables among Tennis players. For the present study 30 male Tennis players from Tuticorin, Tamilnadu were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent plyometric training and Group 'B' underwent no training. The data was collected before and after six weeks of training. The data was analyzed by applying Dependent 't' test to find out the impact of plyometric training programme. The level of significance was set at 0.05. The findings of the present study have strongly indicates that plyometric training of six weeks has significant impact on selected physical fitness variables i.e., Muscular Endurance and Speed of Tennis players. Hence the hypothesis earlier set that plyometric training would have been significant impact on selected physical fitness variables in light of the same the hypothesis is accepted. Significant impact of plyometric training was found on Muscular Endurance and Speed.

Keywords: Tennis, physical fitness variables.

Introduction

Tennis is one of the oldest games in the world. It is one of the most popular games. Tennis is an Olympic sport and is played at all levels of society and at all ages. The modern game of tennis originated in Birmingham, England, in the late 19th century as "lawn tennis". The rules of tennis have changed periodically and attained good status. The server had to keep one foot on the ground at all times, and the adoption of the tie-break. A recent addition to professional tennis has been the adoption of electronic review technology coupled with a point challenge system, which allows a player to contest the line call of a point.The four Grand Slam tournaments are especially popular: the Australian Open played on hard courts, the French Open played on red clay courts, Wimbledon played on grass courts, and the US Open played also on hard courts. Plyometrics is defined as exercises that enable a muscle to reach maximum strength in as short as possible.Systematic plyometric exercises follow a specific pattern of muscle contractions. These exercises use movements that develop the ability to generate a large amount of force quickly. Plyometrics began being used in the late 1960s by Russian track and field athletes.

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Methodology

The purpose of the study was to investigate the impact of plyometric training on selected physical fitness variables among Tennis players. It was hypothesized that there would have been a significant impact of plyometric training on selected physical fitness variables among Tennis players. For the present study 30 male Tennis players from Tuticorin,Tamilnadu were selected as subjects at random and their age ranged from 18 to 25 years. For the present study pre test – post test randomized group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent plyometric training and Group 'B' underwent no training. The data was collected before and after six weeks of training. The data was analyzed by applying Dependent 't' testtechnique to find out the impact of plyometric training on selected physical fitness variables among Tennis players. The level of significance was set at 0.05.

Analysis of Data

The findings pertaining to 't' test between experimental group and control group on selected physical fitness variables among Tennis players for pre-post test respectively have been presented in table No.I and II.

Results

Table I. Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Plyometric Training Group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Muscular Endurance	29.76	33.52	3.76	3.07	0.79	3.12*
2	Speed	13.31	12.63	0.68	0.47	0.11	2.93*

An examination of table I indicates that the obtained't' ratios were 3.12 and 2.93 for muscular endurance and speed respectively. The obtained't' ratios on the selected variables were found to be greater than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be significant. The results of this study showed that statistically significant and explained its effects positively.

Figure I. Comparisons of Pre – Test Means Post – Test Means for Experimental Group in Physical Fitness Variables

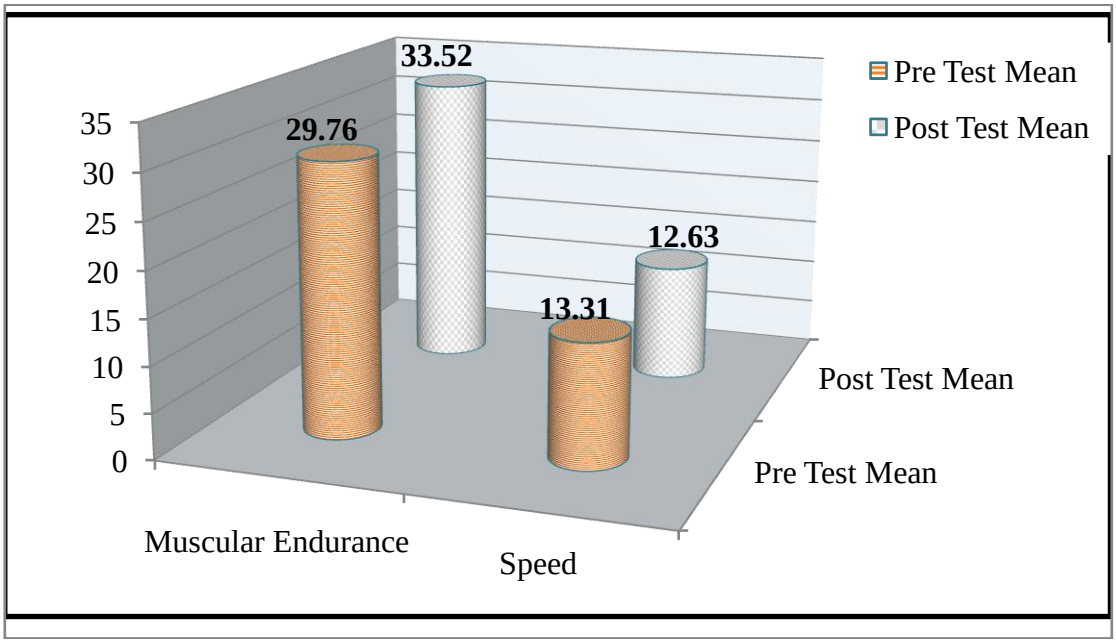
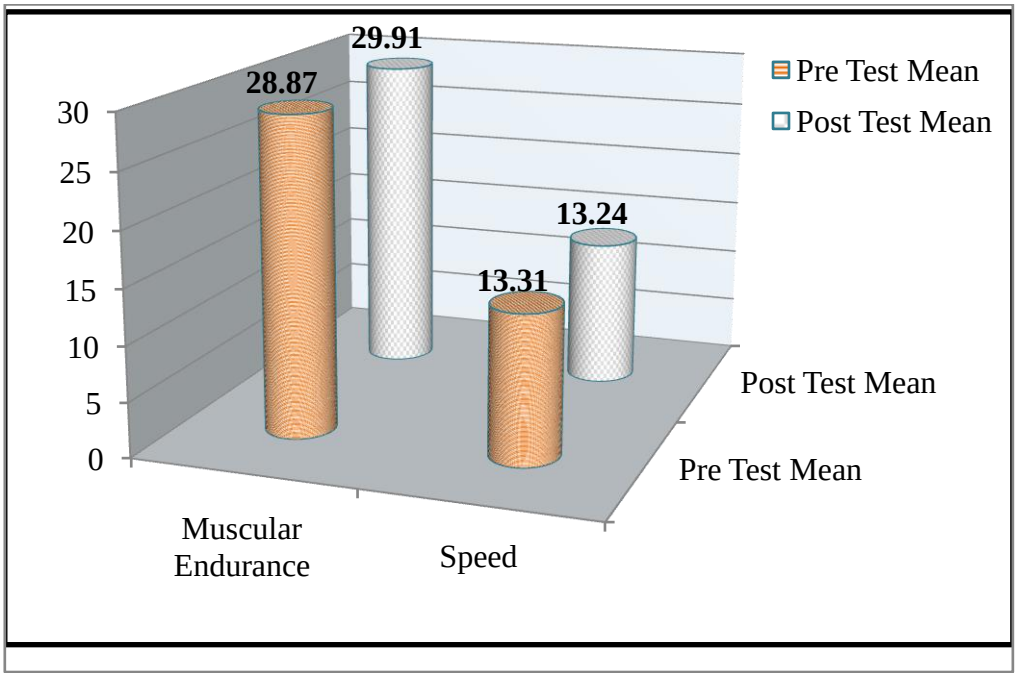


Table II. Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Control Group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Muscular Endurance	28.87	29.91	0.04	2.87	0.69	1.35
2	Speed	13.31	13.24	0.07	043	0.14	0.99

An examination of table II indicates that the obtained't' ratios were 1.35 and 0.99 for muscular endurance and speed respectively. The obtained't' ratios on the selected variables were found to be lesser than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be insignificant.

Figure III. Comparisons of Pre – Test Means Post – Test Means for Control Group in Physical Fitness Variables



In case of physical fitness variables i.e.Muscular Endurance and Speed the results between pre and post (6 weeks) test has been found significantly higher in experimental group in comparison to control group. This is possible because plyometric training is currently one of the most commonly practiced adult fitness activities which directly contribute to performance enhancement of Tennis players. Hence the hypothesis earlier set that plyometric training programme would have been significant impact on selected physical fitness variables in light of the same the hypothesis was accepted.

Conclusions

On the basis of findings and within the limitations of the study the following conclusions were drawn: Significant impact of plyometric training was found on Muscular Endurance and Speed.

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