IMPACT OF PLYOMETRIC TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES AMONG BALL BADMINTON PLAYERS

Dr. K. Devaraju
Director of Physical Education,
Dr. Sivanthi Aditanar College of Engineering, Tiruchendur-628 215.

ABSTRACT

BACKGROUND: The purpose of the study was to examine the impact of plyometric training on physical fitness variables among Ball Badminton players.

METHOD: For the present study 30 male ball badminton players from Dr. Sivanthi Aditanar College of Engineering, Tiruchendur 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.

RESULT: 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 Ball Badminton 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.

CONCLUSION: Significant impact of plyometric training was found on Muscular Endurance and Speed.

KEY WORDS: Ball Badminton, physical fitness variables.
INTRODUCTION

Ball badminton is basically a south Indian game. In India, the game Ball Badminton attained immense popularity in the nineteenth century particularly in the south. There is no exact record available when and by whom this game was introduced. But there is evidence that before 1856 the rulers at Thanjavur played this game. In India the game ball badminton attained immense popularity in the 19th century particularly in the South. People who migrated from South India carried the game to different parts of the country. The nature of the game lies mainly on accuracy, stability and control.

Plyometrics is defined as exercises that enable a muscle to reach maximum strength in as short as possible. Plyometrics are power improvement workouts designed specifically for athletes and advanced exercisers who have a well-conditioned body. Training with this mode of exercise increase muscular strength and improve a specific skill whether it is to jump higher, jump longer, throw farther or hit harder. 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. The most common exercises from ordinary exercisers for this type are jumping rope, jumping jacks, throwing and catching ball on wall, and boxing with a punching bag. These are usually practiced under supervision by fitness experts or by athletes' coaches. There are techniques and rules to follow when training with plyometrics especially if you are training for a specific sport. Plyometrics began being used in the late 1960s by Russian track and field athletes. The actual term plyometrics was first coined in 1975 by Fred Wilt, one of the America’s more forward-thinking track and field coaches. The seemingly exotic exercises were thought to be responsible for the rapid competitiveness and growing superiority of Eastern Europeans in track and field events. Until the 1980s, plyometrics were strictly used by the track and field athlete. After this period of time, other sports began to apply plyometrics to their training as well.

OBJECTIVE OF THE STUDY

The purpose of the study was to investigate the impact of plyometric training on selected physical fitness variables among Ball Badminton players.

HYPOTHESIS

It was hypothesized that there would have been a significant impact of plyometric training on selected physical fitness variables among ball badminton players.

PROCEDURE AND METHODOLOGY

For the present study 30 male ball badminton players from Dr. Sivanthi Aditanar College of Engineering, Tiruchendur 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’ test technique to find out the impact of plyometric training on selected physical fitness variables among ball badminton players. The level of significance was set at 0.05.
RESULTS AND DISCUSSIONS ON FINDINGS

The findings pertaining to ‘t’ test between experimental group and control group on selected physical fitness variables among ball badminton players for pre-post test respectively have been presented in table No.1 to 2.

Table – 1: Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Plyometric Training Group

<table>
<thead>
<tr>
<th>S.No</th>
<th>Variables</th>
<th>Pre-Test Mean</th>
<th>Post-Test Mean</th>
<th>Mean difference</th>
<th>Std. Dev (±)</th>
<th>σ DM</th>
<th>‘t’ Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Muscular Endurance</td>
<td>29.86</td>
<td>32.53</td>
<td>2.66</td>
<td>3.22</td>
<td>0.83</td>
<td>3.20*</td>
</tr>
<tr>
<td>2</td>
<td>Speed</td>
<td>13.52</td>
<td>12.99</td>
<td>0.53</td>
<td>0.52</td>
<td>0.13</td>
<td>3.90*</td>
</tr>
</tbody>
</table>

An examination of table-I indicates that the obtained ‘t’ ratios were 3.20 and 3.90 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: 1 Comparisons of Pre – Test Means Post – Test Means for Experimental Group in Physical Fitness Variables

Table – 2: Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Control Group

<table>
<thead>
<tr>
<th>S.No</th>
<th>Variables</th>
<th>Pre-Test Mean</th>
<th>Post-Test Mean</th>
<th>Mean difference</th>
<th>Std. Dev (±)</th>
<th>σ DM</th>
<th>‘t’ Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Muscular Endurance</td>
<td>28.93</td>
<td>29.18</td>
<td>0.25</td>
<td>3.23</td>
<td>0.83</td>
<td>1.82</td>
</tr>
<tr>
<td>2</td>
<td>Speed</td>
<td>13.53</td>
<td>13.45</td>
<td>0.08</td>
<td>0.63</td>
<td>0.16</td>
<td>1.35</td>
</tr>
</tbody>
</table>

An examination of table-2 indicates that the obtained ‘t’ ratios were 1.82 and 1.35 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: 2 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 practised adult fitness activities which directly contribute to performance enhancement of ball badminton 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.

REFERENCES