Effect of Plyometric Exercises on Speed Among Volleyball Players

S.Maheshkumar  
Volleyball Coach, SDAT, Dr MGR Stadium, Race Course, Madurai / Tamilnadu

Dr.S.Gladykirubakar  
Assistant Professor, YMCA College of Physical Education, Chennai / Tamilnadu

ABSTRACT

The purpose of the study was to determine the effect of plyometric exercise on speed among men volleyball players. The subjects of the study were 24 men Volleyball players from Madurai district. The subjects were randomly assigned into two groups that is an experimental group and a control group with 12 students in each group. The experimental group underwent plyometric training program in a schedule of 60 minutes daily evening, weekly six days for a period of 12 weeks. The control group did not involve in any fitness program. 50 yards run was administrated to find out the effect of training before and after the training period and the difference was recorded to arrive the training significance.

Methodology

The purpose of the study was to determine the effect of plyometric exercise on speed among men volleyball players. The subjects of the study were 24 men Volleyball players from Madurai district. The subjects were randomly assigned into two groups that is an experimental group and a control group with 12 students in each group. The experimental group underwent plyometric training program in a schedule of 60 minutes daily evening, weekly six days for a period of 12 weeks. Plyometric exercise work out includes Lateral High Hops, Hurdle jumps, Lateral Barrier jumps, Split Squat jumps,Bounding. Bounding with Rings, ZigZag Hops, Depth jumps. 50 yards run was administrated to find out the effect of training before and after the training period and the difference was recorded to arrive the training significance.

Result of Speed

The mean, standard deviation and t-test were employed to analyze the significant difference in the mean value of pre and post-test of experimental and control groups and are presented in Table-1 and Table-2.

Table-1 Significant Difference of pre and post-test values of experimental group

<table>
<thead>
<tr>
<th>Variables</th>
<th>Test</th>
<th>Mean</th>
<th>SD</th>
<th>'t' Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Pre-Test</td>
<td>7.07</td>
<td>0.209523</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>6.517</td>
<td>0.072</td>
<td>5.23795*</td>
</tr>
</tbody>
</table>

*significant at 0.05 level of confidence t0.05 (22) = 2.074

The experimental group pre and post-test mean, standard deviation and t-values are presented in Table-2 and it reveals the significant level in the effect of plyometric exercise on experimental group. The t-value of the selected variable is above the table value of 2.074. Hence the study indicates that the plyometric exercise is useful for the significant improvement of physical fitness variable speed.

Table-2 Significant Difference of pre and post-test values of experimental group

<table>
<thead>
<tr>
<th>Variables</th>
<th>Test</th>
<th>Mean</th>
<th>SD</th>
<th>'t' Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Pre-Test</td>
<td>7.03</td>
<td>1.000738</td>
<td>0.06523*</td>
</tr>
<tr>
<td></td>
<td>Post-Test</td>
<td>7.05</td>
<td>0.18028</td>
<td></td>
</tr>
</tbody>
</table>

*significant at 0.05 level of confidence t0.05 (22) = 2.074

The control group pre and post-test mean, standard deviation and t-values are present in Table-2. The result indicates that there is no significant difference in speed.

Discussion

All the subjects of the experimental group were undergone regular plyometric training which were assigned to them. From the analysis it is evident that in the case, of 50 yards run significant changes were noticed after twelve weeks of different plyometric exercises.
training programme. But the control group did not show any changes in the 50 yards run timing. The timing significantly reduced due to the plyometric training. The study reveals that the experimental group are significant than the control group. Therefore the hypothesis has been accepted.

**Conclusion**

From the above results and discussions the following conclusions were drawn:

1. The plyometric exercises have the impact on the improvement in speed.
2. In control group there is no significant improvement found.
3. The result of the study indicates that plyometric exercise is useful to the development of various physical fitness variables.

The result of the study is in consonance with the finding of the following studies such as RahmanRahimi. et.al, (2006), Miller, et.al (2006)