Impact of core with speed training on inspiratory reserve volume expiratory reserve volume among male kabaddi players

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Abstract
The purpose of the study is to find out the impact of core with speed training on inspiratory reserve volume, expiratory reserve volume among male kabaddi players. To achieve the purpose of the present study thirty male kabaddi players studying in various departments and colleges of Dhanalakshmi Srinivasan group of institutions, Perambalur, Tamil Nadu, in the age group of 18 - 25 years were selected as subjects. They were divided into three groups, in which, Group - I (n=15) underwent core with speed training, group – II (n=15) acted as control, who did not participate any special training apart from their regular routine activities. Prior to and after the exercises period the subjects were tested for inspiratory reserve volume and expiratory reserve volume. Inspiratory reserve volume and expiratory reserve volume was measured by Wet spirometer. Analysis of covariance (ANCOVA) was applied to know the significant mean difference between experimental and control group on inspiratory reserve volume and expiratory reserve volume. It is concluded that twelve weeks of core with speed training showed an impact on inspiratory reserve volume and expiratory reserve volume in experimental group.

Keywords: Core with speed training, Kabaddi, inspiratory reserve volume and expiratory reserve volume

Introduction
The lumbo-pelvic-hip complex and/or transversus abdominis muscles, which are essential for posture and lumbar spine stabilization, are developed gradually with core exercise. In speed training, moving swiftly is often required. Speed training includes activities like running and other fast movements. Speed is the ability to move limbs swiftly for catching or throwing, or to quickly cover ground. In Asia's tropical nations, kabaddi is mostly an outdoor team sport. Other Asian nations have adapted this game that is native to India. The sport demands a significant degree of presence of mind, agility, muscle coordination, breath holding capacity, explosive power, upper and lower body strength, speed, aerobic and anaerobic endurance, flexibility, and core strength.

Statement of the problem
The purpose of present study was to find out impact of core with speed training on inspiratory reserve volume, expiratory reserve volume among male kabaddi players.

Methodology
The purpose of the study is to find out the impact of core with speed training on inspiratory reserve volume, expiratory reserve volume among male kabaddi players. To achieve the purpose of the present study thirty male kabaddi players studying in various departments and colleges of Dhanalakshmi Srinivasan group of institutions, Perambalur, Tamil Nadu, in the age group of 18 - 25 years were selected as subjects. They were divided into three groups, in which, Group - I (n=15) underwent core with speed training, group – II (n=15) acted as control, who did not participate any special training apart from their regular routine activities. Prior to and after the exercises period the subjects were tested for inspiratory reserve volume and expiratory reserve volume. Inspiratory reserve volume and expiratory reserve volume was measured by Wet spirometer. Analysis of covariance (ANCOVA) was applied to know the significant mean difference between experimental and control group on inspiratory reserve volume and expiratory reserve volume. It is concluded that twelve weeks of core with speed training showed an impact on inspiratory reserve volume and expiratory reserve volume in experimental group.
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**Analysis and interpretation of data**

The data collected prior to and after the experimental periods on inspiratory reserve volume and expiratory reserve volume on core with speed training and control group were analyzed and presented in the following Table 1.

Table 1 showed that the pre-test and S.D values of inspiratory reserve volume for core with speed training and control group were 2.62 ± 1.32 and 2.63 ± 1.82. The obtained ‘F’ ratio value of 0.965 for pre-test score of core with speed training and control group on inspiratory reserve volume was less than the required table value of 4.196 for significance with DF 2 and 28 at 0.05 level of confidence.

The post-test and S.D values of inspiratory reserve volume for core with speed training control group were 2.6 ± 0.85 and 2.69 ± 1.52 respectively. The obtained ‘F’ ratio value of 6.15 for post-test score of core with speed training and control group on inspiratory reserve volume was greater than the required table value of 4.196 for significance with DF 2 and 28 at 0.05 level of confidence.

The adjusted post-test mean value of inspiratory reserve volume for core with speed training and control group were 2.6 ± 0.85 and 2.69 ± 1.52 respectively. The obtained ‘F’ ratio value of 6.15 for adjusted post-test score of core with speed training and control group on inspiratory reserve volume was greater than the required table value of 4.196 for significance with DF 2 and 28 at 0.05 level of confidence.

Table 1: Analysis of covariance of inspiratory reserve volume and expiratory reserve volume on core with speed training and control group

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Group Name</th>
<th>Experimental Group</th>
<th>Control Group</th>
<th>‘F’ Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspiratory Reserve Volume</td>
<td>Pre-test Mean ± S.D.</td>
<td>2.62 ± 1.32</td>
<td>2.63 ± 1.82</td>
<td>0.965</td>
</tr>
<tr>
<td></td>
<td>Post-test Mean ± S.D.</td>
<td>2.64 ± 0.85</td>
<td>2.69 ± 1.52</td>
<td>06.58*</td>
</tr>
<tr>
<td></td>
<td>Adj. Post-test Mean ± S.D.</td>
<td>2.63</td>
<td>2.67</td>
<td>56.12*</td>
</tr>
<tr>
<td>Expiratory Reserve Volume</td>
<td>Pre-test Mean ± S.D.</td>
<td>2.54 ± 1.40</td>
<td>2.54 ± 1.65</td>
<td>0.985</td>
</tr>
<tr>
<td></td>
<td>Post-test Mean ± S.D.</td>
<td>2.56 ± 1.45</td>
<td>2.64 ± 1.99</td>
<td>6.15*</td>
</tr>
<tr>
<td></td>
<td>Adj. Post-test Mean ± S.D.</td>
<td>2.55</td>
<td>2.59</td>
<td>54.28*</td>
</tr>
</tbody>
</table>

* Significant at 0.05 level of significance.

(The table value required for significance at 0.05 level of significance with DF 1 and 28 and 1 and 27 were 4.196 and 4.210 respectively).

The data collected prior to and after the experimental periods on expiratory reserve volume on core with speed training and control group were 2.54 ± 1.40 and 2.54 ± 1.65. The obtained ‘F’ ratio value of 6.15 for pre-test score of core with speed training and control group on expiratory reserve volume was less than the required table value of 4.196 for significance with DF 2 and 28 at 0.05 level of confidence.

The post-test and S.D values of expiratory reserve volume for core with speed training control group were 2.56 ± 1.45 and 2.64 ± 1.99 respectively. The obtained ‘F’ ratio value of 6.15 for post-test score of core with speed training and control group on expiratory reserve volume was greater than the required table value of 4.196 for significance with DF 2 and 28 at 0.05 level of confidence.

The adjusted post-test mean value of expiratory reserve volume for core with speed training and control group were 2.54 ± 1.40 and 2.54 ± 1.65. The obtained ‘F’ ratio value of 6.15 for adjusted post-test score of core with speed training and control group on expiratory reserve volume was greater than the required table value of 4.196 for significance with DF 2 and 28 at 0.05 level of confidence.

The result of the study reveal that core with speed training group have better development of inspiratory reserve volume and expiratory reserve volume when compared with control group.

**References**


**Conclusions**

Within the limitations and delimitations of this study the following conclusions were drawn from the result.

1. It was concluded that there was significant development of inspiratory reserve volume and expiratory reserve volume among kabaddi players due to core with speed training.
2. The result of the study reveal that core with speed training group have better development of inspiratory reserve volume and expiratory reserve volume when compared with control group.