Effect of Specific Abdominal Strength Training on Abdominal Strength Endurance of Football Players

Arjun Singh¹, Kapil Kumar Rana²
¹Assistant Professor, Department of Physical Education, Dr. RMLAU, Faizabad, U.P. (INDIA).
²Assistant Professor, Department of Physical Education, Dr. RMLAU, Faizabad, U.P. (INDIA).

ABSTRACT
The objective of the study was to find out the “Effect of Specific Abdominal Strength Endurance of Football Players. For the purpose of study forty male Football players who had participated in various competitions in Football at university and college level in Dr. R.M.L. Avadh University Faizabad, were selected. age ranged from 18-28 years of age. Abdominal Strength Endurance was selected as a Dependent Variable and Football Specific Strength Training was considered as Independent Variable. For the study pre test- post test randomized group design which consists of experimental group (n=20) was used. To test the Abdominal Strength Endurance of Football players, Abdominal Stages test was used. To find out the significant effect of Football Specific Core Stability Strength Training on Strength Endurance of Football Players, Analysis of Variance (ANOVA) was used. The level of significance was set at .05 level. The result reveals that the was significant (p>.05) Effect of Football specific stability Strength training of Abdominal Strength Endurance of Football players. Basic of the findings and within the limitation of the study it was noticed that practice of selected stability strength exercises helped to improve Abdominal Strength Endurance of Football players. Since Strength of the subjects of post test was found to be statistically significant since the obtained value was found to be higher than tabulated value.

Key Words: Strength Training, Abdominal Strength Endurance.

Introduction
Sports are as old as the human society and it enjoys a popular status than any other form of social activities in modern times. Since, time immemorial man has made a rapid progress in all walks of life and also in the field of sports. Scientific research and an investigation have revolutionized the standard of sports and more athletes are looking for high level of performance through quality training to excel at the highest level of the competition. Many factors have contributed towards the rapid improvement of sports performance. Direct assistance from various sports sciences have improved the sports excellence beyond expectations, still sports scientists are looking for new horizons for further improvement through scientific research and investigations. Significant research studies in the realm of exercise physiology and other allied sports science fields have paved the way for more refined and realistic training methods to give new heights to the unimaginable sporting performance. Since the game of Football
has changed its forms with the time. A Football player is one of the most professional players in the field of sports and games. At present cricket is played professionally in three deferent form and most of the players have to compete in the entire three category. This has put heavy Physical demands on the players. Similar development is seen in the game of Football also. New formats of the game were introduced that demoded a very scientific and well planed training schedule for the players so that they remain fit for the game for long time. 

Football is a game that would appear to require little muscular strength. Viewed from a distance, Football is such a seemingly gentle pursuit that the notion of strength training and exercises would seem to have a limited application. However, as with many sports that involve relatively lengthy periods of low activity punctuated by intervals of extreme muscular focus, Football is deceptively difficult and it also presents significant physical training challenges for the athlete, especially at an elite level.

Objective of the study
The objective of the study was to find out the "Specific ACSM Abdominal strength Training on Abdominal Strength Endurance of Football Players".

Methodology
Subjects : For the purpose of study forty male Football players who had participated in various competitions in Football at university and college level in Dr. R.M.L. Avadh University Faizabad were selected. Their age ranged from 18-28 years of age.

Variable : Abdominal strength Endurance was selected as a dependent Variable and Football Specific Strength Training was considered as Independent Variable.

Criterion Measure : To test the abdominal Strength Endurance of Football players, ACSM Abdominal strength test was used.

Experimental Design : For the present study pre test-post test randomized group design which consists of experimental group (n=20). The group served as experimental group on which treatment was assigned. The experimental group was assigned after the training post test was static compare to pre test. By the static ANOVA is used to significance difference between post test and Pre test performance of the experimental group.

Administration of test
The treatment was administered on experimental group for the period of seven weeks (42 days) while the control group underwent general and specific training of Football. Before the administration of Football specific strength training, the selected test was administered on the experimental to collect pre test data. After the completion of seven weeks of Football specific strength training again the same test was conducted to collect the post training data.

Statistical Analysis
To find out the significant effect of Specific Strength Training on Abdominal Strength Endurance of Football Players, Analysis of variance (ANOVA) was used. The level of significance was set at .05 level.
Results and findings or the study are given in table 1

<table>
<thead>
<tr>
<th>Sources of Variations</th>
<th>sum of square (s.s.)</th>
<th>Degree of Freedom (d.f.)</th>
<th>Mean of Square sum (m.s.s.)</th>
<th>F. Ratio Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between sample (BS)</td>
<td>555.06</td>
<td>1</td>
<td>5553.06</td>
<td>* 0.49</td>
</tr>
<tr>
<td>Within Sample (WS)</td>
<td>418.70</td>
<td>38</td>
<td>110.18</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level.

Table No. 1 revealed that the obtained "F" value of 0.49 was found to be low significant at 0.05 level. Since this value was found lower than the tabulated value 4.098 at 1,38 df.

**Results/Conclusions**

Based on the findings and within the limitation of the study it is noticed that practice of selected strength exercises helped to improve Abdominal Strength Endurance of Football Players. While comparing pre and posttest analysis of variance, following conclusion were drawn.

Abdominal Strength Endurance of the subjects of experiment group was found to be statistically no significant since the obtained "F" value 0.49 was found lower than the tabulated value 4.098 at 0.05 level of significance. In the experimental group, the post test is superior in compare of pre test on the base of there performance.

**Discussion**

Smoliga J.M. et al., (2007) studied on relationship between cycling mechanics and core stability and said improved core stability and endurance could promote greater alignment of the lower extremity injuries.

Willardson J.M. (2007) studied on core stability training applications to sports conditioning programs. Said that the during preseason and in-season mesocycles, free weight exercises performed while standing on a stable surface are recommended for increases in core strength and power. Free weight exercises performed in this manner are specific to the core stability requirements of sports-related skills due to moderate levels of instability and high levels of force production. Conversely, during postseason and off-season mesocycles, Swiss ball exercises involving isometric muscle actions, small loads, and long tension times are recommended for increases in core endurance. Furthermore, balance board and stability disc exercises, performed in conjunction with poly metric exercises, are recommended to improve Proprioceptive and reactive capabilities, which may reduce the likelihood of lower extremity injuries.

Chang-cheng Shih (2005) conducted a study on "The Effect on Junior High School Players: Core Muscle Fitness and Basic Motor Capability after an Eight Week Core Training Program." After examined on both the similarities and the differences on
core muscle fitness and basic motor capability. He said that it has proven that athletic abilities are directly related to deep and superficial core muscle fitness. As a conclusion, core training can help Junior high school students achieve better performance in both core muscle fitness and basic motor capability. Coaches and teachers are strongly encouraged to develop students core muscles to help proper growth in puberty and at the same time help prevent sport injuries.

Finally, results shows that the Participants who followed the treatment of specific abdominal strength training improve their Abdominal Strength Endurance than pre test performance.

References