

A Study on the Upshot of Bulgarian Bag Training on Core Strength and Shoulder Strength among Soccer Players

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Abstract

The intention of the present study was to find out the upshot of bulgarian bag training on core strength and shoulder strength among soccer players. Twenty (20) male soccer players were ranged from aged 21 to 24 years were randomly selected from Inter-department soccer players, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India. They selected subjects have been randomly divided into two equal groups namely Bulgarian bag training Group (BBTG) (N=10) and Control Group (CG) (N=10). Six weeks bulgarian bag training programme has been formulated to see the effectiveness of given training programme on core strength and shoulder strength of soccer players. The core strength and shoulder strength has been tested by 'plank test and push ups test' on before the training starts and after completion of six weeks bulgarian bag training programme. Significant improvement occur in core strength and shoulder strength has been found by analysing and comparing the pre-test and post-test score through paired sample 't' test and ANCOVA among the soccer players of BBTG and CG. So this study was concluded that six weeks of bulgarian bag training programme was shown effective in the improvement of core strength and shoulder strength among soccer players. However, the control group had not shown any significant positive changes on core strength and shoulder strength while because they were not engaged to participated in to any specific training programme apart from their routine works.

Keywords: Bulgarian Bag Training, Core Strength, Shoulder Strength, Soccer Players

Introduction

Training is a systematic process of repetitive, progressive exercise or work involving learning process and acclimatization [1]. Sports is a human activity that involves specific administration, organization and an historical background of rules which define the object and limit the pattern of human behavior; it involves competition or challenge and a definite outcome primarily determined by physical skill [2]. Sports training are characterized by a continuous control and regulation. Systematic nature of the training process is reflected adequately by the fact that the various means and methods, load dynamics, training tasks etcetera are all planned in order to achieve short- or long-term goals, keeping in view the interrelations of various training elements, cyclic nature of performance developments and long-term goal of sports training [3].

The Bulgarian bag also known as the Bulgarian training bag is crescent-shaped exercise equipment used in strength training, plyometric weight training, cardiovascular and general physical fitness. The bags are made of leather or canvas and filled with sand; they weight from 11 pounds (5.0 kg) to 50 pounds (23 kg) and have flexible handles to allow for both upper and lower body training, and for building grip strength [4]. The Bulgarian bag training strengthens and increases the muscular endurance of one grip, wrists, arms, shoulders, back, legs, rotational muscles and core musculature and improves overall shoulder and joint mobility as well as coordination and balance [5].

Soccer is a high level performance sport where all bio motor skills are affected that requires aerobic and anaerobic strength and that includes physical performance such as "agility, balance, speed, strength and

power". It is one of those rare games which demands not only speed but agility, strength, power and endurance along with skill. A person who plays soccer will be called as soccer players [6].

Core strength refers to the muscular ability to strength the spine through contractile forces and intra-abdominal pressure, actively controlling spine stability through co activation of the trunk muscles [7]. Shoulder strength is the ability of the shoulder muscles to overcome resistance or to act against resistance [8].

Methods and Materials

This research stays in quantitative research, although in terms of the method used in this research, it is a quasi-experimental research. Based on data analysis using quantitative analysis, the intervention group was assessed by providing the kind of exercise in the form of bulgarian bag training to raise the ability of the core strength and shoulder strength among soccer players. The samples in this study were all male soccer players and their age were ranged from 21 to 24 years were randomly selected from Inter-department soccer players, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu, India. The selected subjects have been randomly divided into two equal groups namely Bulgarian bag training Group (BBTG) (N=10) and Control Group (CG) (N=10). Six weeks bulgarian bag training programme has been formulated to see the effectiveness of given training programme on core strength and shoulder strength of soccer players.

Bulgarian Bag Training Protocol

The BBTG followed a unique six-week bulgarian bag training protocol formed by the investigator of this study. Training sessions were conducted three alternative days a week and period of each session was 40-50 minutes in regular. Before going for session the subjects are asked to do general full-body warm-up for 10-15 minutes to lubricate their joints, raise their body temperature and heart rate, and prime their muscles for action. All exercises had done for 8-12 reps of each movement to complete one set. The rest between sets were given approximately 60 to 90 seconds. Exercises were executed as group training and supervised by an investigator with the help of his supervisor and coach. The protocol was primarily composed of training for the Bulgarian bag halos, weighted rotation swings, lateral arm throws, swing to squats, get-up & sit-up, press up, clean and press, power snatch. Before the training programme the trainer demonstrated each activity using verbal and visual instructions to facilitate the correct position and movement.

Statistical Analysis

Significant improvement occurs in core strength and shoulder strength has been found by analysing and comparing the pre-test and post-test score through paired sample 't' test and to find out the difference exists between both groups were analysed through one way ANCOVA at the level of significance at 0.05. The collected data were statistically analysing with use of SPSS 17.1 trail version.

Analysis of Data

Table-1

Means and Paired Sample-'t' Test for the Pre and Post Tests on Core Strength and Shoulder Strength of BBTG and CG

| Criterion variables | Test | BBTG | CG |
|--------------------------------|-----------|---------------|-------|
| Core Strength (seconds) | Pre test | 68.29 | 67.51 |
| | Post test | 85.61 | 68.93 |
| | 't'-test | 11.28* | 1.47 |
| Shoulder Strength (numbers) | Pre test | 31.46 | 32.11 |
| | Post test | 44.08 | 32.59 |
| | 't'-test | 6.22* | 1.05 |

*Significant at .05 level. (Table value required for significance at .05 level for 't'-test with df 9 is 2.26)

The table-1 shows that the pre-test mean value of BBTG and CG on core strength and shoulder strength were 68.29 & 67.51 and 31.46 & 32.11 respectively. The post test mean value of BBTG and CG on

core strength and shoulder strength were 85.61 & 68.93 and 44.08 & 32.59 respectively. The obtained paired sample t-ratio values between the pre and post-test means of BBTG and CG were 11.28 & 1.47 and 6.22 & 1.05 respectively. The required table value for significant difference with df 9 at 0.05 level is 2.26. From the above table the paired sample t-test value of core strength and shoulder strength between pre and post-tests means of BBTG was greater than the table value 2.26 with df 9 at .05 level of confidence, it was concluded that the BBTG had significant improvement in the core strength and shoulder strength when compared to CG.

Table-2

Computation of Mean and Analysis of Covariance Core strength and Shoulder strength of BBTG and CG

| Adjusted Post Mean | BBTG | CG | Source of Variance | Sum of Squares | Df | Mean Square | F |
|--------------------|-------|-------|--------------------|----------------|----|-------------|--------|
| Core Strength | 85.73 | 68.91 | BG | 307.98 | 1 | 307.98 | 29.11* |
| | | | WG | 179.86 | 17 | 10.58 | |
| Shoulder Strength | 44.12 | 32.64 | BG | 68.74 | 1 | 68.74 | 16.09* |
| | | | WG | 72.59 | 17 | 4.27 | |

* Significant at 0.05 level. Table value for df 1, 17 was 4.45

Table-2 shows that the adjusted post-test means values on core strength and shoulder strength of BBTG and CG are 85.73 & 68.91 and 44.12 & 32.64. The obtained f- ratio of adjusted post-test mean value was 29.11 & 16.09 which was greater than the required table value 4.45 with df 1 and 17 required for significance at 0.05 level of confidence. The results of the study indicated that there was a significant mean difference exist between the adjusted post-test means of BBTG and CG on core strength and shoulder strength.

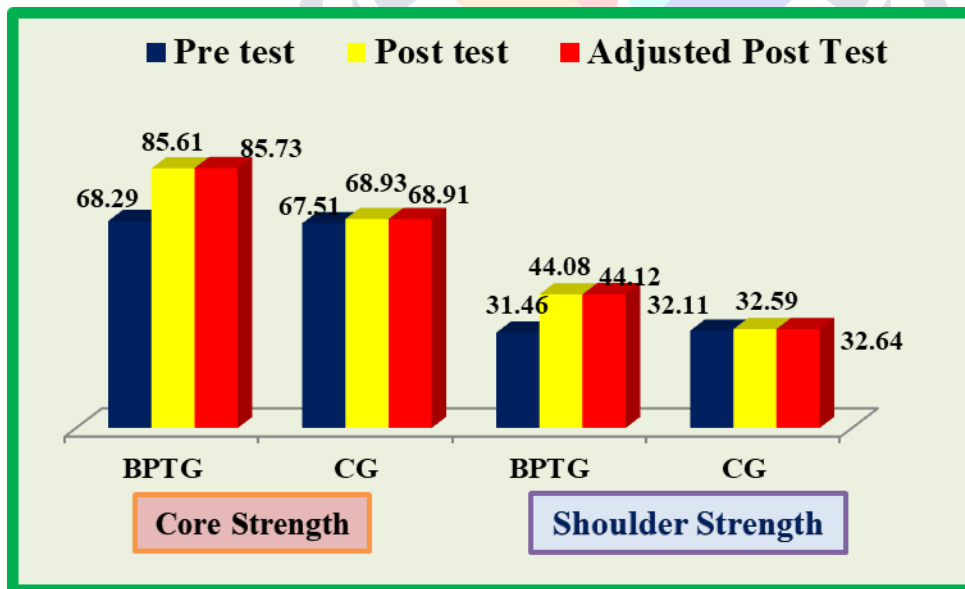


Figure-1 shows that the mean values of pre, post and adjusted post tests on core strength and shoulder strength of BBTG and CG.

Discussion on Findings

The present study was to found statistically significant improvement on core strength and shoulder strength, which showed that positive impact of bulgarian bag training among soccer players. The following findings as same as my study such as El-Deeb, (2017) investigated the effect of Bulgarian bag exercises on certain physical variables and performance level of pivot players in Basketball. These results have to be taken into account by instructors in order to better understand and implicated of these concepts for technical effects of training. Vairavasundaram & Palanisamy, (2015) investigated the effect of Bulgarian bag training on selected physical variables among Handball players. The results of the study showed that there were

significant differences exist between Bulgarian bag training and control group. Bulgarian bag training group showed significant improvement on level of leg explosive power, muscular strength and flexibility, when compared to control group. Vairavasundaram & Palanisamy, (2015) investigated the impact of Bulgarian bag training on selected physical physiological variables namely vital capacity, maximum strength and balance among inter collegiate Handball players. The results of the study showed that there were significant level differences exist between Bulgarian bag training and control group. Bulgarian bag training group showed significant improvement on vital capacity, maximum strength and balance, when compared to control group.

Conclusions

There was significant improvement on core strength and shoulder strength due to the impact of bulgarian bag training practices among soccer players. There were significant differences exist between BBTG and CG on core strength and shoulder strength. However, the control group had not shown any significant improvement on any of the selected variables.

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