



P-ISSN: 2394-1685
E-ISSN: 2394-1693
Impact Factor (RJIIF): 5.38
IJPESH 2023; 10(2): 184-186
© 2023 IJPESH
www.kheljournal.com
Received: 21-01-2023
Accepted: 25-02-2023

K Padmapriya
Ph.D. (Part-time) Research
Scholar, Dharmamurthi Rao
Bahadur Calavala Cunnan
Chetty's Hindu College, Chennai,
Tamil Nadu, India

Dr. M Kulothungan
Director of Physical Education,
Dharmamurthi Rao Bahadur
Calavala Cunnan Chetty's Hindu
College, Chennai, Tamil Nadu,
India

Corresponding Author:
K Padmapriya
Ph.D. (Part-time) Research
Scholar, Dharmamurthi Rao
Bahadur Calavala Cunnan
Chetty's Hindu College, Chennai,
Tamil Nadu, India

International Journal of Physical Education, Sports and Health

Impact of small sided football training on strength endurance and coordination of football players

K Padmapriya and Dr. M Kulothungan

Abstract

The purpose of the study was to find out the effect of small sided football training (SSFT) on strength endurance and coordination of football players. To realize the purpose of the study twenty collegiate football players were selected from Soka Ikeda college of Arts & Science for Women, Chennai, Tamil Nadu. The selected subject age ranged between 17 to 23 years. Further they were classified at random in two equal groups of 10 (n=10) subjects each. Group - I (Experimental Group) underwent SSFT for thrice a week for six weeks of training programme, in the morning from 6.30 onwards and each section lasted 45 minutes to 60 minutes and the Group – II - acted as a control group (CG) they did not participate in any kind of training programme part from the daily activities. The selected criterion variables of strength endurance and coordination were measured by wall sit test and alternative hand wall toss test was used. The collected data were analysed statistically throughout analyze of covariance (ANCOVA) to find the significance difference. The results of the study showed that chosen variables such as strength endurance and coordination were significantly improved due to SSFT of football players.

Keywords: Small sided football training, strength endurance, coordination

Introduction

Small-sided games (SSGs) are played on reduced pitch areas, often using modified rules and involving a smaller number of players than traditional football. These games are less structured than traditional fitness training methods but are very popular training drills for players of all ages and levels. At present, there is relatively little information regarding how Small-sided games (SSGs) can best be used to improve physical capacities and technical or tactical skills in footballers. However, many prescriptive variables controlled by the coach can influence the exercise intensity during Small-sided games (SSGs). Coaches usually attempt to change the training stimulus in Small-sided games (SSGs) through altering the pitch area, player number, coach encouragement, training regimen (continuous vs interval training), rules and the use of goalkeepers. In general, it appears that Small-sided games (SSGs) exercise intensity is increased with the concurrent reduction in player number and increase in relative pitch area per player. However, the inverse relationship between the number of players in each Small-sided games (SSGs) and exercise intensity does not apply to the time-motion characteristics. Consistent coach encouragement can also increase training intensity, but most rule changes do not appear to strongly affect exercise intensity. The variation of exercise intensity measures are lower in smaller game formats (e.g. three vs three) and have acceptable reproducibility when the same game is repeated between different training sessions or within the same session. The variation in exercise intensity during Small-sided games (SSGs) can also be improved with consistent coach encouragement but it is still more variable than traditional generic training methods. Other studies have also shown that Small-sided games (SSGs) containing fewer players can exceed match intensity and elicit similar intensities to both long- and short-duration highintensity interval running. It also appears that fitness and football-specific performance can be improved equally with Small-sided games (SSGs) and generic training drills.

Small sided football games have been comprehensively utilized in training footballers worldwide and have indicated awesome adequacy in improving player execution (Hill-Haas, Dawson, Impellizzeri, & Coutts, 2011) [4].

For instance, it has been exposed that the specialized performance (Owen, Wong del, McKenna, & Dellal, 2011)^[5] and physical performance (Chaouachi *et al.*, 2014; Dellal, Varliette, Owen, Chirico, & Pialoux, 2012)^[1, 2] of footballers can be enhanced using small sided games based football training programmes. In the last two decades, extensive research has been published on physical and physiological response during Small sided games in football (Halouani, Chtourou, Gabbett, Chaouachi, & Chamari, 2014)^[3].

Methodology

To realize the purpose of the study twenty collegiate football players were selected from Soka Ikeda College of Arts & Science for Women, Chennai, Tamil Nadu. The selected subject age ranged between 17 to 23 years. Further they were classified at random in two equal groups of ten (n=10) subjects each. Group - I (Experimental Group) underwent SSFT for thrice a week for six weeks of training programme, in the morning from 6.30 onwards and each section lasted 45 minutes to 60 minutes and the Group – II - acted as a control group (CG) they did not participate in any kind of training programme part from the daily activities. The selected criterion variables of strength endurance and coordination were measured by wall sit test and alternative hand wall toss test was used.

Training programme

During the training period the experimental group underwent their training programmes for thrice a week for 6 weeks. In addition to their daily routine activities as per the schedule. The duration of training was planned 45min to 60min, that is from 6.30am onwards on Mondays, Wednesdays and Fridays. All the subjects involved in this study were carefully monitored throughout the training programme intensity of the experimental training was based on difficulty of the exercise, sets, repetitions and recovery time. The training session consist of 15min warm up in the beginning, recreation 10min, 20min drill and games and last 15min cool down include stretching exercise and discussion.

Statistical technique

The collected data were analysed statistically throughout analyze of covariance (ANCOVA) to find the significance difference.

Analysis of data

The data collected prior and after the experimental periods on strength endurance and coordination of Experimental Group (Group-I) and Control Group (Group – II) were analysed and presented in table – I & II. The level of significance was fixed at 0.05 level of confidence to test the 'F' ratio obtained by analysis of covariance.

Table 1: Analysis of covariance for pre and post data on strength endurance

Test	Experimental group (SSFT)	Control group (CG)	Source of variance	Sum of squares	df	Mean square	F
Pre-test mean	15.50	15.20	Between	0.45	1	0.45	0.37
			Within	22.1	18	1.23	
Post-test mean	19.30	15.20	Between	84.05	1	84.05	50.94*
			Within	29.70	18	1.65	
Adjusted mean	19.17	15.33	Between	72.28	1	72.28	93.14*
			Within	13.19	17	0.78	

*Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level of confidence with df 1 and 18 and 1 and 17 were 4.41 and 4.45 respectively).

The pre, post and adjusted means on strength endurance were presented through line diagram for better understanding of the

results of this study in Figure-1.

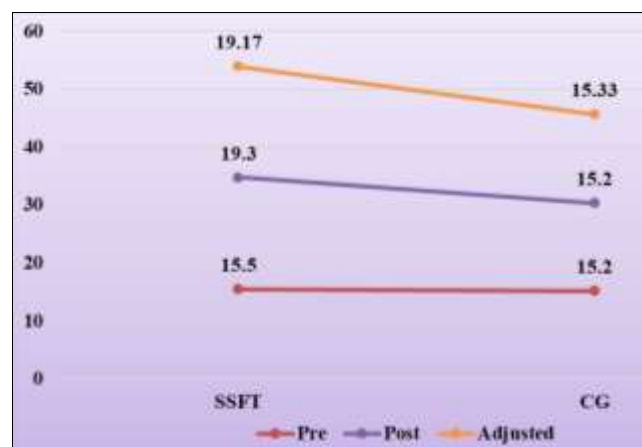


Fig 1: Pre, post and adjusted post test differences of the small sided football training and control groups on strength endurance

Discussion on findings of strength endurance

The Obtained F value on pre-test scores 0.37 was lesser than the required F value of 4.41 to be significant at 0.05 level. This proved that there was no significant difference between the groups at initial stage and the randomization at the begin stage was equal. The post- test scores analysis proved that there was significant difference between the groups as the gained F value at 50.94 was greater than the required F value

at 4.41. This proved that the differences between the post-test mean at the subjects were significant. Taking into consideration the pre and post test scores among the groups, adjusted mean scores were calculated and subjected to statistical treatment. The obtained F value at 93.14 was greater than the required F value at 4.45. This proved that there was Significant differences among the means due to Small Sided Football Training (SSFT) on strength endurance

Table 2: Analysis of covariance for pre and post data on coordination

Test	Experimental Group (SSFT)	Control Group (CG)	Source of variance	Sum of Squares	df	Mean square	F
Pre-test Mean	16.7	16.4	Between	0.45	1	0.45	0.36
			Within	22.5	18	1.25	
Post-test Mean	20.3	16.6	Between	68.45	1	68.450	84.97*
			Within	14.5	18	0.81	
Adjusted Mean	20.21	16.68	Between	61.18	1	61.19	137.7*
			Within	7.5	17	0.44	

*Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level of confidence with df 1 and 18 and 1 and 17 were 4.41 and 4.45 respectively).

The pre, post and adjusted means on coordination were presented through bar diagram for better understanding of the results of this study in Figure-2.

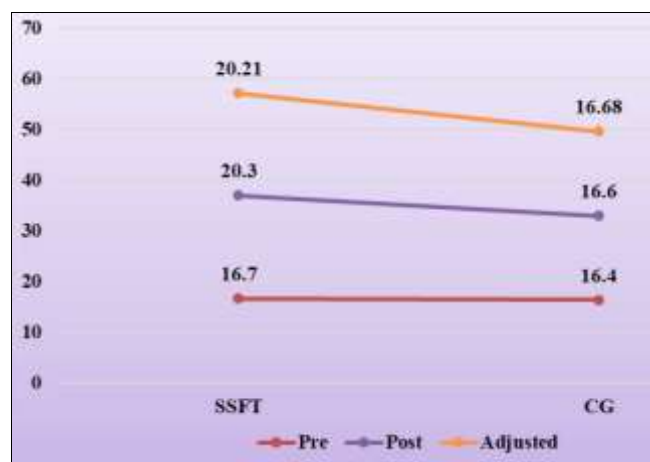


Fig 2: Pre, post and adjusted post test differences of the small sided football training and control groups on strength endurance

Discussion on findings of coordination

The obtained F value on pre-test scores 0.36 was lesser than the required F value of 4.41 to be significant at 0.05 level. This proved that there was no significant difference between the groups at initial stage and the randomization at the initial stage was equal. The post- test scores analysis proved that there was significant difference between the groups as the gained F value at 84.97 was greater than the required F value at 4.41. This proved that the differences between the post-test mean at the subjects were significant. Taking into consideration the pre and post test scores among the groups, adjusted mean scores were calculated and subjected to statistical treatment. The obtained F value at 137.7 was greater than the required F value at 4.45. This proved that there was Significant differences among the means due to Small Sided Football Training (SSFT) on coordination.

Conclusion

The results of the study concluded that six weeks of small sided football games training significantly improved Strength endurance and coordination of collegiate football players.

Reference

1. Chaouachi A, Chtara M, Hammami R, Chtara H, Turki O, Castagna C. Multidirectional sprints and small-sided games training effect on agility and change of direction abilities in youth soccer. *Journal of Strength and Conditioning Research*. 2014;28(11):3121-3127.
2. Dellal A, Varliette C, Owen A, Chirico EN, Pialoux V. Smallsided games versus interval training in amateur soccer players: Effects on the aerobic capacity and the ability to perform intermittent exercises with changes of

direction. *Journal of Strength and Conditioning Research*. 2012;26(10):2712–2720.

3. Halouani J, Chtourou H, Gabbett T, Chaouachi A, Chamari K. Small-sided games in team sports training: A brief review. *Journal of Strength and Conditioning Research*. 2014;28(12):3594-3618.
4. Hill-Haas SV, Dawson B, Impellizzeri FM, Coutts AJ. Physiology of small-sided games training in football: A systematic review. *Sports Medicine*. 2011;41(3):199-220.
5. Owen AL, Wong del P, McKenna M, Dellal A. Heart rate responses and technical comparison between small- vs. large-sided games in elite professional soccer. *Journal of Strength and Conditioning Research*. 2011;25(8):2104-2110.