

IMPACT OF SOCCER SPECIFIC CONDITIONING ON SELECTED FITNESS ELEMENTS OF MEN SOCCER PLAYERS

K.Nandhakumar^{#1} M.Rajashekar^{#2} K.Sivakumar^{#3} S.Rathinakamalan^{#4}

^{#1}PhD Scholar, ^{#2}Professor ^{#3}Associate Professor, ^{#4} Assistant Professor, Department of Physical Education, Annamalai University, Tamilnadu.

^{#2}mrsfootball@gmail.com ^{#3}shivameyy@gmail.com. ^{#4}footballkutty@gmail.com

ABSTRACT

The study was designed to investigate the impact of Soccer specific conditioning on selected fitness elements on men soccer players. Thirty men football players who participated in the university of Madras zone inter collegiate tournaments were selected as subjects and segregated into two groups of fifteen subjects each as experimental group and control group following random procedure. The experimental group underwent soccer conditioning over a period of twelve weeks where as control group did not participate in any of the training

except their regular play. Speed, Agility and flexibility were assessed before and after the experimental period by using 40yard sprint, T- test and sit and reach tests respectively. ANCOVA was used to analyze the collected data. The results of this study showed that there was a significant difference between experimental group and control group on speed, agility and flexibility.

Key words: Soccer, Speed, Agility, Flexibility, Analysis of Co variance (ANCOVA)

INTRODUCTION

Soccer players need a high level of fitness to cope with the physical demands of a game and to allow for their technical skills to be utilized throughout a match. Therefore, fitness training is an important part of the overall training programme. Common to all types of fitness training in soccer is that the exercise performed should resemble match-play as closely as possible. This is one of the main reasons why the majority of fitness training should be performed with a ball. Other advantages of conducting training as a drill or game are that the

players develop technical and tactical skills under conditions similar to those encountered during a match, and that this form of training usually provides greater motivation for the players compared to training without a ball.

Fitness training has to be multi factorial in order to cover the different aspects of physical performance in soccer. Thus, training can be divided into a number of components based on the different types of physical demands during a match. With appropriate training, performance of a player during a match can be increased and the risk of injury can be reduced. In

order to design an efficient training programme it is important to be aware of the different components of fitness training in soccer. Aerobic training increases the ability to exercise at an overall higher intensity during a match, and minimizes a decrease in technical performance induced by fatigue towards the end of a game. Anaerobic training elevates a player's potential to perform high-intensity exercise during a game. Muscle strength training, combined with technical training, improves a player's power output during explosive activities in a match. Fitness training should mainly be performed with a ball. This ensures that the specific muscles used within soccer are trained. Equally important is that players should develop their technical skills under conditions similar to those encountered during competition.

METHODOLOGY

To achieve the purpose of the study, thirty men football players from D.B Jain College, Thorapalkkam, Chennai, Tamilnadu were selected as subjects. Their age ranged between 19 and 25 years and they were divided into two equal groups of fifteen subjects each as experimental group and control group. The experimental group underwent soccer conditioning over a period of twelve weeks where as control group did not participate in any of the training except their regular play. The selected soccer fitness elements such as speed, agility and flexibility were assessed by using 40yard sprint, T test and sit and reach tests respectively. The collected data were statistically analyzed for significant difference, if any, by applying analysis of covariance (ANCOVA). In all cases 0.05 level was fixed as confidence interval to test the significance.

ANALYSIS OF DATA

Speed

The analysis of covariance on Speed of pre and post test scores of soccer conditioning group and control group have been analyzed and presented in Table I

Table - I

Analysis of Covariance on Speed of Soccer Conditioning and Control Groups

Test	SCG	Control	Source of variance	Sum of Squares	df	Mean squares	'F' ratio
Pretest Mean SD	5.70	5.77	Between	0.040	1	0.040	2.40
	0.141	0.116	Within	0.469	28	0.017	
Posttest Mean SD	5.34	5.72	Between	1.045	1	1.045	66.32*
	.124	.126	Within	0.441	28	0.016	
Adjusted Posttest Mean	5.37	5.68	Between	0.669	1	0.669	173.87*
			Within	0.104	27	0.004	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for degree of freedom 1 and 28 and 1 and 27 are 4.20 and 4.21 respectively)

The table-I, shows that the pre-test mean value of speed for soccer conditioning group and control group are 5.70 and 5.77 respectively. The obtained "F" ratio of 2.40 for pre – test scores which were less than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence. The post-test mean value of speed for soccer conditioning group and control group are 5.34 and 5.72 respectively. The obtained "F" ratio of 66.32 for post –test scores which were higher than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence. The adjusted post-test mean value of speed for soccer conditioning

and control group are 5.37 and 5.68 respectively. The obtained “F” ratio of 173.87 for adjusted post –test scores which were more than the required table value of 4.21 for significance with df 1 and 27 at 0.05 level of confidence.

The results of the study showed that there was a significant difference between the adjusted post test means of soccer conditioning group and control group on speed.

Agility

The analysis of covariance on agility of pre and post test scores of soccer conditioning group and control group have been analysed and presented in Table II

Table - II

Analysis of Covariance on Agility of Soccer Conditioning and Control Groups

Test	SCG	Control	Source of Variance	Sum of Squares	df	Mean Squares	‘F’ ratio
Pretest Mean SD	11.66	11.76	Between	.065	1	.065	2.10
	.171	.180	Within	.869	28	.031	
Posttest Mean SD	11.18	11.72	Between	2.241	1	2.241	77.16*
	.156	.183	Within	.813	28	.029	
Adjusted Posttest Mean	11.21	11.68	Between	1.547	1	1.547	174.01*
			Within	.240	27	.009	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for degree of freedom 1 and 28 and 1 and 27 are 4.20 and 4.21 respectively)

The table-II, shows that the pre-test mean value of agility for soccer conditioning group and control group are 11.66 and 11.76 respectively. The obtained “F” ratio of 2.10 for pre –test scores which were less than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence. The post-test mean value of agility for soccer conditioning group and control group are 11.18 and 11.72 respectively. The obtained “F” ratio

of 77.16 for post –test scores which were higher than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence. The adjusted post-test mean value of agility for soccer conditioning group and control group are 11.21 and 11.68 respectively. The obtained “F” ratio of 174.01 for adjusted post –test scores which were more than the required table value of 4.21 for significance with df 1 and 27 at 0.05 level of confidence.

The results of the study showed that there was a significant difference between the adjusted post test means of soccer conditioning group and control group on agility.

Table - III

Analysis of Covariance on Flexibility of Soccer Conditioning and Control Groups

Test	SCG	Control	Source of Variance	Sum of Squares	df	Mean Squares	‘F’ ratio
Pretest Mean SD	18.42	18.28	Between	0.147	1	0.147	2.59
	0.251	0.224	Within	1.588	28	0.057	
Posttest Mean SD	18.61	18.31	Between	0.666	1	0.666	12.54*
	0.232	0.228	Within	1.48	28	0.053	
Adjusted Posttest Mean	18.54	18.37	Between	0.192	1	0.192	50.83*
			Within	0.102	27	0.004	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for degree of freedom 1 and 28 and 1 and 27 are 4.20 and 4.21 respectively)

The table-III, shows that the pre-test mean value of flexibility for soccer conditioning group and control group are 18.42 and 18.28 respectively. The obtained “F” ratio of 2.59 for pre –test scores which were less than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence. The post-test mean value of flexibility for soccer conditioning group and control group are 18.61 and 18.31 respectively. The obtained “F” ratio

of 12.54 for post –test scores which were higher than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence. The adjusted post-test mean value of flexibility for soccer conditioning group and control group are 18.54 and 18.37 respectively. The obtained “F” ratio of 50.83 for adjusted post –test scores which were more than the required table value of 4.21 for significance with df 1 and 27 at 0.05 level of confidence.

The results of the study showed that there was a significant difference between the adjusted post test means of soccer conditioning group and control group on flexibility.

RESULTS AND DISCUSSION

There was a significant difference existed between soccer specific conditioning group and control group due to twelve weeks of experimental training on speed, agility and flexibility.

In high performance sports it has been well documented that the maximum benefits are achieved when the training stimuli are similar to competitive demands (Bompa, 1983). In order to reproduce the physical, technical and tactical requirements of real match play coaches often use soccer specific conditioning in their training programs. **Hill-Haas et al., 2009 and Balsom, 2000**; The intensity of these soccer-specific training drills with the ball can be affected or manipulated to provide different physical, technical and tactical responses by several factors.

References

- [Aguar M, Botelho G, Lago C, Maças V, Sampaio J.](#) (2012) A review on the effects of soccer small-sided games. [Jurnal of Human Kinetics](#). Vol:33:PP:103-13.
- [Hill-Haas SV, Dawson B, Impellizzeri FM, Coutts AJ.](#) (2011) Physiology of small-sided games training in football: a systematic review. [Sports Medicicne](#). Vol: 41; No:3:PP:199-220.
- [Brandes M, Heitmann A, Müller L.](#) (2012) Physical responses of different small-sided game formats in elite

youth soccer players. [Journal of Strength and Conditioning Research](#). Vol:26, No:5; PP:1353-60..

[Ngo JK, Tsui MC, Smith AW, Carling C, Chan GS, Wong del P.](#) (2012) The effects of man-marking on work intensity in small-sided soccer games. [Journal Sports Science & Medicine](#). Vol: 11; No:1;PP:109-14.

[Fradua L, Zubillaga A, Caro O, Iván Fernández-García A, Ruiz-Ruiz C, Tenga A.](#) (2013) Designing smallsided games for training tactical aspects in soccer: extrapolating pitch sizes from full-size professional matches. [Journal of Sports Sciences](#). ;Vol:31, No:6; PP-573-81.

Communication Address

Dr.M.Rajashekar
176/32, Amma Illam
Annainagar
Sadagopa nagar back side,
CHIDAMBARAM-608001
Tamilnadu-India
919443402564