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PHYSICAL EDUCATION

EFFECT OF SOCCER SPECIFIC CONDITIONING ON SPEED AGILITY AND DRIBBLING ABILITIES OF COASTAL ADOLESCENT SOCCER PLAYERS

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Abstract

The study was designed to investigate the effect of Soccer specific conditioning on speed, agility and dribbling abilities of coastal adolescent soccer players. Thirty adolescent soccer players who were studying in the coastal area at Government Regional Fisheries Technical School, Tanur of Malappuram district, Kerala state 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 specific conditioning over a period of twelve weeks at coastal area where as control group did not participate in any of the training except their regular play. Speed, Agility and dribbling abilities were assessed before and after the experimental period by using 50yard sprint, T- test and dribbling tests respectively. ANCOVA was used to analyze the collected data. The results of this study showed that there was a significant improvement on speed, agility and dribbling abilities of adolescent soccer players due to the effect of Soccer Specific conditioning.

Keywords: Soccer, Speed, Agility, Dribbling, Analysis of Co variance (ANCOVA).

INTRODUCTION

The ability to execute skilled movement patterns efficiently and effectively is the most important aspect of soccer performance and players must apply cognitive, perceptual and motor skills to rapidly changing situations. Soccer is the premier participation and spectator sport in the world. FIFA, the world governing body, estimates that there are 265 million active players globally (FIFA, 2006) while a cumulative television audience of 32 billion watched the 2006 World Cup Finals tournament held in Germany (FIFA, 2006). Thus, due to its increasing popularity, as well as the amount of financial interest in the game, soccer is one of the most extensively researched intermittent team sports. Indeed, there are plenty of subject areas that have benefitted from scientific knowledge gained from soccer including the natural and physical sciences, medicine and social sciences (Reilly, 1996). Within the domain of exercise science, much of the soccer research has been based on gathering match analysis data (Reilly & Thomas, 1976) or evaluating the physiological demands on players during training and match play (Bangsbo, 1994). Soccer is a complex sport, requiring the repetition of many disparate actions, and several tests are currently being used to assess the physical prowess of players.

In soccer, there are demands imposed on soccer players in terms of fitness readiness requirements to produce power, explosiveness, speed, agility, balance, body stability, flexibility and an adequate level of endurance (Bloomfield, J.2007). Maintaining a high level of these components throughout the season is necessary for achieving consistent high-quality performance, while the basis for these individual components of players is built during youth.

METHODOLOGY

To achieve the purpose of the study, thirty adolescent football players from Government Regional Fisheries Technical School, Tanur of Malappuram district of Kerala state were selected as subjects. Their age ranged between 15 and 18 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 dribbling abilities were assessed by using 50 yards sprint, T test and dribbling 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	SSCG	Control Group	**Source of variance**	**Sum of Squares**	**Df**	**Mean squares**	**'F' ratio**
Pretest Mean	5.70	5.77	Between	0.040	1	0.040	2.40
SD	0.141	0.116	Within	0.469	28	0.017	
Posttest Mean	5.34	5.72	Between	1.045	1	1.045	66.32*
SD	.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	**SSCG**	**Control Group**	**Source of Variance**	**Sum of Squares**	**Df**	**Mean Squares**	**'F' ratio**
Pretest Mean	11.66	11.76	Between	.065	1	.065	2.10
SD	.171	.180	Within	.869	28	.031	
Posttest Mean	11.18	11.72	Between	2.241	1	2.241	77.16*
SD	.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 DRIBBLING OF SOCCER CONDITIONING AND CONTROL GROUPS

Test	SSCG	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	'F' ratio
Pretest Mean	18.43	18.29	Between	0.146	1	0.146	2.58
SD	0.250	0.223	Within	1.588	28	0.056	
Posttest Mean	18.60	18.30	Between	0.666	1	0.666	12.53*
SD	0.231	0.228	Within	1.47	28	0.053	
Adjusted Posttest Mean	18.54	18.37	Between	0.192	1	0.192	50.82*
			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 dribbling.

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 dribbling abilities of adolescent football players.

Speed and agility in team sports represent complex psychomotor skills (Verchoshansky, 1996). They involve moving the body as rapidly as possible, but agility has the added dimension of changing direction. Speed is classically defined as the shortest time required for an object to move along a fixed distance, which is the same as velocity, but without specifying the direction (Harman & Garhammer, 2008).

In order to reproduce the physical, technical and tactical requirements of real match play coaches often use soccer specific conditioning in their training programs. 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.

CONCLUSIONS

The results of this study showed that there was a significant improvement on speed, agility and dribbling abilities of adolescent soccer players due to the effect of Soccer Specific conditioning. Hence, it is suggested that the Coaches and Trainers may include this type of training Protocol in their programme in order to improve the soccer performance of the Players.

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