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Impact of Soccer Training on Leg Strength and Endurance of Soccer Players

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Abstract

The purpose of the study was to analyze the impact of soccer training on leg strength and endurance of soccer players. To achieve the purpose of the study, thirty female students selected from various classes and department of Raja Sarafoji College, Thanjavur, Tamilnadu, were radomely selected as subjects. The age, ranged from 17 to 22 years. The selected subjects were randomly assigned into two equal groups of 15 subjects each. Soccer training group – I and control group – II. The collected data analyzed by the analysis of covariance (ANCOVA) were applied to find out the significant difference among the two groups. The obtained values were tested for significant at 0.05 levels. leg strength and endurance.

Keywords: Specific Training Programme, Physical, Physiological, Kabaddi Players.

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Introduction

A number of effective football fitness training drills can be applied to the average person to get into great physical shape. Football is one of the sports that require the athlete to be fit in all areas. Strength, speed, agility and stamina are all qualities and abilities that a football player must possess. As such, football training drills are designed to get the football player in optimal shape. The training regimes of footballers must therefore reflect this need for good acceleration and maximum speed. Apor (1998) suggests, in making fitness recommendations for footballers; that players need to develop the musculature of a sprinter. These motor tasks are obviously very valuable. However, this study used a training program that targeted maximum strength with heavy resistances. Although this type of training is a proven method for enhancing sprint speed and jumping power, it is also difficult to include in the regular training program of a football team, because the recovery required after heavy resistance training might interfere with the regular competitions during the season.

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Sports science and modern technology has had a major effect on football training over the decade. Many teams have become much more analytical about their players' work rate in games, and also in training, by introducing tools such as game analysis and heart rate monitors, in order to gain an accurate understanding of the physical demands of players in games. The structure and training methods in football throughout the season have also changed significantly and the period of pre-season training has seen some of the biggest and most significant changes, due to the importance of ensuring that players starting the season are in the best possible shape, and the need to maintain their fitness throughout the season.

Methodology

The purpose of the study was to analyze the impact of soccer training on leg strength and endurance of soccer players. To achieve the purpose of the study, thirty female students selected from various classes and department of Raja Sarafoji College, Thanjavur, Tamilnadu, were radomely selected as subjects. The age, ranged from 17 to 22 years. The selected subjects were randomly assigned into two equal groups of 15 subjects each. Soccer training group – I and control group – II. The collected data analyzed by the analysis of covariance (ANCOVA) were applied to find out the significant difference among the two groups. The obtained values were tested for significant at 0.05 levels.

Results

Leg Strength

The data collected before and after the experimental period on leg strength of soccer training and control groups were analysed and presented in table – 1.

Table 1

Analysis of covariance on leg strength of soccer training and control groups

	Soccer Training Group	Control Group	SoV	Sum of Squares	df	Mean squares	'F' ratio
Pre test Mean SD	101.33	100.33	B	4.80	1	4.80	0.058
	10.96	6.76	W	2323.06	28	82.96	
Post test Mean SD	128.20	101.46	B	5360.03	1	5360.03	151.27*
	5.99	5.91	W	992.13	28	35.43	
Adjusted Post test Mean	128.23	101.43	B	5373.36	1	5373.36	148.24*
			W	978.68	27	36.24	

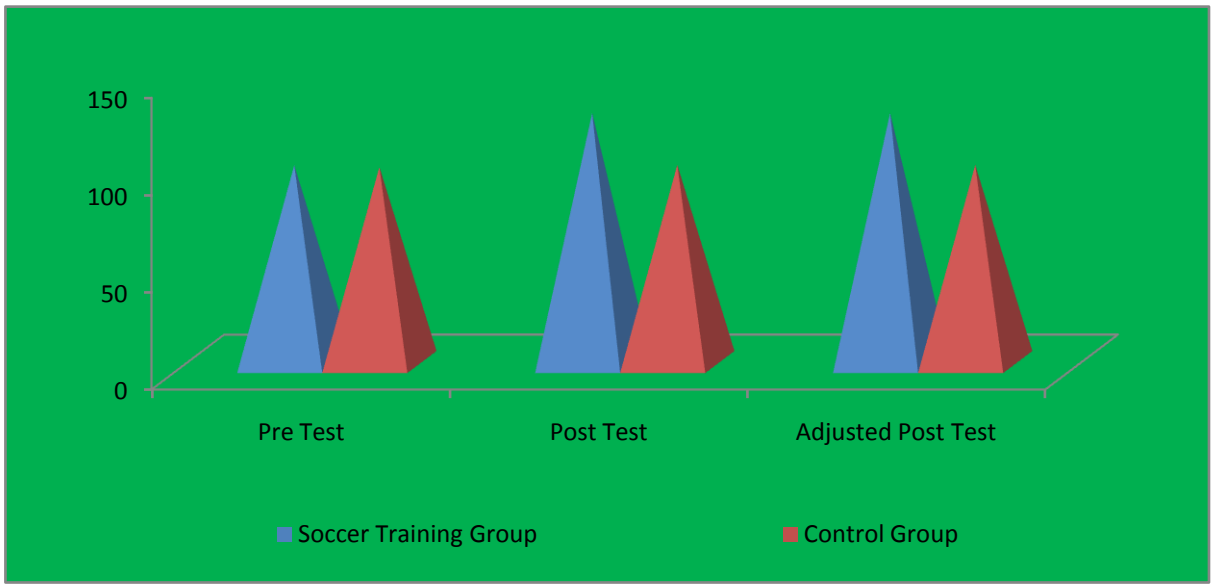
(The required table value for significance at 0.05 level of confidence with degrees of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20.)

*Significant at .05 level of confidence

Table – 1 shows that the pre-test means and standard deviation on leg strength of soccer training and control groups are 101.33 ± 10.96 and 100.33 ± 6.76 respectively. The obtained 'F' ratio value is 0.058 of leg strength was lesser than the required table value of 4.20 for the degrees of freedom 1 and 28 at 0.05 level of confidence. The post-test means and standard deviation on leg strength of soccer training and control groups are 128.20 ± 5.99 and 101.46 ± 5.91 respectively. The obtained 'F' ratio value is 151.27 of leg strength was greater than the required table value of 4.20 for the degrees of freedom 1 and 28 at 0.05 level of confidence. The adjusted post-test means on leg strength of soccer training and control groups are 128.23 and 101.43 respectively. The obtained 'F' ratio value is 148.24 of leg strength was greater than the required table value of 4.21 for the degrees of freedom 1 and 27 at 0.05 level of confidence. Hence it was concluded that due to the effect of twelve weeks of soccer training the leg strength of the subjects was significantly improved.

Figure I

Pyramid diagram of the data on leg strength of experimental and control groups (Unit - Kg)



Endurance

The data collected before and after the experimental period on endurance of soccer training and control groups were analysed and presented in table – 2.

Table 2
Analysis of covariance on endurance of soccer training and control groups

	Soccer Training Group	Control Group	SoV	Sum of Squares	df	Mean squares	'F' ratio
Pre test Mean	2410.66	2376.66	B	8670.00	1	8670.00	0.25
SD	186.52	183.71	W	959626.66	28	34272.38	
Post test Mean	2994.66	2394.00	B	2706003.33	1	2706003.33	68.05*
SD	213.40	184.34	W	1113333.33	28	39761.90	
Adjusted Post test Mean	2989.98	2398.00	B	2598730.43	1	2598730.43	67.44*
			W	1040400.31	27	38533.34	

(The required table value for significance at 0.05 level of confidence with degrees of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20.)
*Significant at .05 level of confidence

Table – 2 shows that the pre-test means and standard deviation on endurance of soccer training and control groups are 2410.66 ± 186.52 and 2376.66 ± 183.71 respectively. The obtained 'F' ratio value is 0.25 of endurance was lesser than the required table value of 4.20 for the degrees of freedom 1 and 28 at 0.05 level of confidence. The post-test means and standard deviation on endurance of soccer training and control groups are 2994.66 ± 213.40 and 2394.00 ± 184.34 respectively. The obtained 'F' ratio value is 68.05 of endurance was greater than the required table value of 4.20 for the degrees of freedom 1 and 28 at 0.05 level of confidence. The adjusted post-test means on endurance of soccer training and control groups are 2989.98 and 2398.00 respectively. The obtained 'F' ratio value is 67.44 of endurance was greater than the required table value of 4.21 for the degrees of freedom 1 and 27 at 0.05 level of confidence. Hence it was concluded that due to the effect of twelve weeks of soccer training the endurance of the subjects was significantly improved.

Figure II
Pyramid diagram of the data on endurance of experimental and control groups (Unit – Meters)

Conclusion

It was concluded that the selected criterion variables such as leg strength and endurance were significant difference between soccer training group and control group of soccer players.

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