Impact of soccer training on leg strength among coastal and Non costal soccer players

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Abstract **- The study was designed to investigate the Impact of Soccer Training on Leg Strength among Coastal and Non Costal Soccer Players. To achieve the purpose of the study forty male soccer players were selected as subjects and their ages ranged from 18 to 23 yrs. The coastal area soccer players were selected (n = 20) from St.Jude's college of Arts and Science, Thoothoor and non-costal area soccer players were selected (n = 20) from Nesamani Memorial college of Arts and Science, Marthandam, Kanniyakumarai district, Tamilnadu State. The duration of the training period was restricted to twelve weeks and the number of sessions per week was confined to three, which was considered adequate enough to cause changes in fitness abilities and striking skill performances of the soccer players. Leg Strength performances were assessed before and after the experimental period by using Leg lift with Dynamometer test. Two factor ANOVA was used to analyze the collected data. The results of this study showed that there was a significant difference between coastal and Non Coastal soccer players on leg strength.**

Key words: **Soccer, Leg Strength, Analysis of variance (ANOVA)**

Introduction

Soccer practitioners require many attributes to become successful players. These include cardiovascular fitness, muscle strength, endurance, flexibility, agility, coordination, skill and tactical knowledge. Few players possess 'natural ability' in all areas. Indeed, the vast majority of players undergo training programmes, in some or all attributes, to improve their ability on the field. The game of soccer is full of challenges and counter challenges between the contesting teams. Many unforeseen situations evolve during the game.

The most important factor of soccer is influenced by the stress of competitiveness in each conflicting situation. Performance of a team depends on the talents of the individual players and the understanding between the team mates and above all, the attitude of players towards the interest of the team. Opinions on coaching and methods of play may differ, but there should not be many differences about the qualities of a successful player. Good soccer mainly depends on the quality of players. (Sukumar Saha, 1996).Success in competitive sports depends largely on the athlete's skill and motivation.

Methodology

To achieve the purpose of the study forty male soccer players were selected as subjects and their ages ranged from 18 to 23 yrs. The coastal area soccer players were selected (n = 20) from St.Jude's college of Arts and Science, Thoothoor and non-costal area soccer players were selected (n = 20) from Nesamani Memorial college of Arts and Science, Marthandam, Kanniyakumarai district, Tamilnadu State. The duration of the training period was restricted to twelve weeks and the number of sessions per week was confined to three, which was considered adequate enough to cause changes in fitness abilities and striking skill performances of the soccer players. Leg Strength performances was assessed before and after the experimental period by using Leg lift with Dynamometer and kicking test respectively.

Analysis of Data and Results of the Study

LEG STRENGTH

The mean and standard deviation values on leg strength of coastal and non-coastal soccer players have been analyzed and presented in Table – I

Table – I

THE MEAN AND STANDARD DEVIATION ON LEG STRENGTH OF PRE AND POST TEST AMONG COASTAL AND NON-COASTAL SOCCER PLAYERS

Groups		Pre test	Post test	Combined
Coastal	Mean	94.70	97.75	96.23
	SD	1.78	1.33	
Non-coastal	Mean	93.55	95.40	94.48
	SD	1.28	1.67	
Combined		94.13	96.58	95.36

(Leg strength scores are expressed in Kilograms)

Table - II

TWO FACTOR ANOVA FOR LEG STRENGTH OF COASTAL AND NON-COASTAL SOCCER PLAYERS BEFORE AND AFTER THE SOCCER TRAINING

Source of variance	Sum of squares	df	Mean squares	Obtained 'F' ratio
A factor (Groups)	61.25	1	61.25	15.73*
B factor (Tests)	120.05	1	120.05	153.34*
A x B factor	7.20	1	7.20	9.197*

(Interaction) (Groups and Tests)				
Error	29.75	38	0.78	---

*Significant at .05 level of confidence. (Table values required for significance at .05 level of confidence with df 1 and 38 is 4.10).

The obtained F-ratio for factor B (different stages of test) is 153.34 (P>.05). The result of the study indicates that, significant difference exists among the paired means of factor B (pre test and post test) on leg strength.

The obtained 'F' ratio value of interaction A x B (groups x different tests) is 9.197 (P>.05). The result of the study indicates that, significant difference exists among the paired means of interaction A X B on leg strength. The result of the study indicates that significant difference exists in the interaction effect (between rows [groups] and column [tests]) on leg strength. This indicates that the soccer training caused significant improvement in leg strength for both coastal and non-coastal soccer players. This also indicates that before commencement of the soccer training and after the completion of the training there is an improvement difference in leg strength between coastal and non-coastal soccer players. Since the interaction was significant simple effect was applied.

Table - III
THE SIMPLE EFFECT SCORES OF GROUPS (ROWS) AND TESTS (COLUMNS) ON LEG STRENGTH

Source of variance	Sum of squares	df	Mean squares	Obtained 'F' ratio
Groups and pre test	13.23	1	13.23	16.96*
Groups and post test	91.82	1	91.82	117.72*
Tests and Group I	93.03	1	93.03	119.27*
Tests and Group II	13.7	1	13.7	17.56*
Error	29.75	38	0.78	--

* Significant at 0.05 level of confidence (table values required for significance at .05 level with df 1 and 38.is 4.10)

From table III they obtained F - ratio values for groups and pre-test was 16.96 (P>.05). The result of the study indicates that significant difference exists between the paired means of groups and pre-test, on leg strength. It is inferred from the results, that there would be a significant improvement in leg strength among coastal and non-coastal soccer players before the commencement of the training.

The obtained F-ratio value for groups and post-test was 117.72 (P>.05). The result of the study indicates that significant difference exists between the paired means of groups and post-test, on leg strength. It is inferred from the results that there would be a significant improvement in leg strength among coastal and non-coastal soccer players after the completion of the training.

The obtained F - ratio values for tests and group I (coastal) was 119.27 (P>.05). The result of the study indicates that significant difference exists between the paired means of group I (coastal) pre and post-test, on leg strength. It is inferred from the results that there would be a significant improvement in leg strength among group I (coastal) before the commencement and after the completion of the training.

The obtained F-ratio values for tests and group II (non-coastal) was 17.56 (P>.05). The result of the study indicates that significant difference exists between the paired means of group II (non-coastal) pre and post-test, on leg strength. It is inferred from the results that there would be a significant improvement in leg strength among group II (non-coastal) before the commencement and after the completion of the training. The result indicates that prior to the commencement of the training coastal soccer players shows better in leg strength compared to non-coastal players and after the twelve weeks of soccer training, leg strength significantly improved for coastal soccer players (3.0%) compared to coastal soccer players (1.98%).

The results shows that after the completion of twelve weeks of soccer training programme, the coastal soccer players developed leg strength ability significantly better than non-coastal soccer players.

CONCLUSIONS

Based on the result the following results were drawn. The results shows that there would be a significant improvement in leg strength among coastal and non-ccoastal soccer players after the completion of the training.

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