

IMPACT OF MOBILITY TRAINING ON SELECTED PHYSICAL VARIABLES AMONG SOCCER PLAYERS

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ABSTRACT

Mobility training involves exercise, which aim to stretch muscles and their connective tissues. Mobility is strength through the natural range of motion of the joint. This strength and flexibility in and around the joint form the base from which powerful, athletic movements can begin. The purpose of the study, 24 male college soccer players were selected as subjects at randomly from the Department of Physical Education and Sports, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu State and the subject age ranged from of 22 to 25 years were chosen as subject and they are divided into two groups each group ten subjects, Group I underwent mobility training for three alternative days per week and each session lasted for an hour for six week and Group II acted as control group they did not participate in any special training apart from their regular curriculum oriented activities.. The following variables were selected as criterion variables such as (Leg Strength and Core Strength). The data were collected at prior and immediately after the training programme for each criterion variables. Dependent 't' test and Analysis of Covariance (ANCOVA) was applied to analyses all the data. In all the case, 0.05 level of confidence was fixed to test the significance. The result of the study there was a significant improvement on leg strength and core strength among soccer players on mobility training

Key words: Soccer, Mobility Training, Leg Strength and Core Strength

INTRODUCTION

The game of soccer is both an art and science. It involves techniques of running, passing, kicking, tackling, blocking, heading, juggling and dribbling. Often all these activities have to be performed at great speed. You must execute skilled movements under generalized conditions of restricted space, limited time, physical and mental fatigue, and opposing players. You must be able to run several miles during a game, mostly at sprint like speed and respond quickly to a variety of rapidly changing situations during play. Finally, you need a thorough understanding of individual, group and team tactics. Your ability to meet all these challenges determines how well you perform on the soccer field [Luxbacher, 1996].

Individual training adaptations in response to chronic exposure to physical exercise are related to athletes' individual physical fitness level and the magnitude (i.e., intensity and duration) of the prescribed training load [Impellizzeri, F.M., Rampinini, E., Coutts, A.J., Sassi, A. and Marcora, S.M. 2004].

Soccer as it is played today is a physical activity that requires a high level of conditioning in addition to proficient technical and tactical skills. The game can be characterized as a predominant aerobic exercise combined with frequent intermittent short intense actions with a high rate of the anaerobic energy turnover. Reports of match analyses revealed that elite soccer players generally cover 9,500–12,000 m during a 90-minute game [Ekblom, B, 1986].

Physical fitness is ability to carry out daily task with vigour and alertness, without fatigue and with ample energy to leisure time pursuits and to meet unforeseen emergencies. It is generally acknowledge that there are five basic components of physical fitness [Garden Jackson, 1985].

Mobility training involves exercise, which aim to stretch muscles and their connective tissues. It is muscle and the tissues which surround and attach muscle to bone that the limit the range of movement of the various joint action which facilitate the running and hurdling action. The activities which stretch these muscles are often referred to as stretching, flexibility or suppleness excises, and the aim of each exercise being to stretch to the range of movement, often referred to as the potion .And to seek to improve the range by

stretching at and beyond this point. . Mobility training is best undertaken in a warm environment, which usually means indoors in our climate [Brooks, T., & Cressey, E 2013].

Purpose of the Study

The Purpose of the present study was to find out the impact of mobility training on selected physical variables among soccer players.

METHODOLOGY

The purpose of the study, 24 male college soccer players were selected as subjects at randomly from the Department of Physical Education and Sports, Manonmaniam Sundaranar University, Tirunelveli, Tamilnadu State and the subject age ranged from of 22 to 25 years were chosen as subject and they are divided into two groups each group ten subjects, Group I underwent mobility training for three alternative days per week and each session lasted for an hour for six week and Group II acted as control group they did not participate in any special training apart from their regular curriculum oriented activities. The following variables were selected as criterion variables such as leg strength and core strength. Leg strength was assessed by 'wall sit test' and core strength was assessed by 'plank test'. The data were collected at prior and immediately after the training programme for each criterion variables. Dependent 't' test and Analysis of Covariance (ANCOVA) was applied to analyses all the data. In all the case, 0.05 level of confidence was fixed to test the significance.

ANALYSIS OF DATA

1. Leg Strength

Table I
Summary of Mean and Dependent 't'-test for the Pre and Post Tests on Leg Strength of Experimental Group and Control Group

Tests		Pre Test	Post Test	't' - Value
Experimental group	Mean	43.21	58.31	23.67*
	SD	8.46	16.25	
Control Group	Mean	40.14	40.86	0.47
	SD	2.17	2.89	

*Significant at .05 level. The table value required for 0.05 level of significance with df 11 is 2.20.

The table 1 shows that the pre-test mean value of experimental group and control group are 43.21 and 40.14 respectively and the post test means are 58.31 and 40.86 respectively. The obtained dependent t-ratio values between the pre and post test means of experimental group and control group are 23.67 and 0.47 respectively. The table value required for significant difference with df 1 and 11 at 0.05 level is 2.20. Since, the obtained 't' ratio value of experimental group are greater than the table value, it is understood that experimental group had significantly improved the leg strength. However, the control group has not improved significantly. The 'obtained t' value is less than the table value, as they were not subjected to any specific training.

The analysis of covariance on leg strength of experimental group and control group have been analysed and presented in Table 2.

Table II
Analysis of Covariance on Leg Strength of Experimental Group and Control Group

Adjusted Post Test Means		Source of Variance	Sum of Square	Df	Means Square	F-ratio
Experimen tal Group	Control Group					
57.19	40.78	Between	3926.12	1	3926.12	33.23*
		With in	2481.15	21	118.15	

*Significant at .05 level. The table value required for significance at 0.05 level with df 1 and 21 is 4.32.

Table 2 shows that the adjusted post test means of experimental group and control groups are 57.19 and 40.78 respectively. The obtained F-ratio value is 33.23 which is greater than the table value 4.32 with df 1 and 21 required for significance at 0.05 level. Since the value of F-ratio is greater than the table value, it indicates that there is a significant difference among the adjusted post-test means of experimental group and control groups.

The mean values of experimental group and control group on leg strength were graphically represented in the figure 1.

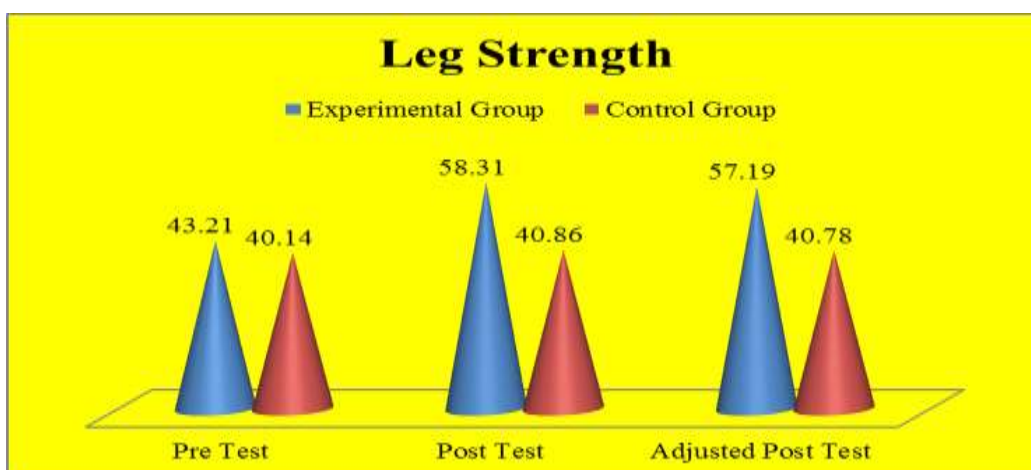


Chart 1: Mean Values and Adjusted Post Mean Values of Experimental and Control Groups on Leg Strength

2. Core Strength

Table III

Summary of Mean and Dependent 't'-test for the Pre and Post Tests on Core Strength of Experimental Group and Control Group

Tests		Pre Test	Post Test	't' - Value
Experimental group Group	Mean	36.42	53.46	43.67*
	SD	2.98	5.11	
Control Group	Mean	36.01	36.25	1.53
	SD	2.71	2.73	

*Significant at .05 level. The table value required for 0.05 level of significance with df 11 is 2.20

The table 3 shows that the pre-test mean value of experimental group and control group are 36.42 and 36.01 respectively and the post test means are 53.46 and 36.25 respectively. The obtained dependent t-ratio values between the pre and post test means of experimental group and control group are 43.67 and 1.53 respectively. The table value required for significant difference with df 1 and 11 at 0.05 level is 2.20. Since, the obtained 't' ratio value of experimental group are greater than the table value, it is understood that experimental group had significantly improved the core strength. However, the control group has not improved significantly. The 'obtained t' value is less than the table value, as they were not subjected to any specific training.

The analysis of covariance on core strength of experimental group and control group have been analysed and presented in Table 4.

Table IV
Analysis of Covariance on Core Strength of Experimental Group and Control Group

Adjusted Post Test Means		Source of Variance	Sum of Square	Df	Means Square	F-ratio
Experimental Group	Control Group					
54.62	36.29	Between	67.52	1	67.52	40.19*
		With in	35.28	21	1.68	

*Significant at .05 level. The table value required for significance at 0.05 level with df 1 and 21 is 4.32.

Table 4 shows that the adjusted post test means of experimental group and control groups are 54.62 and 36.29 respectively. The obtained F-ratio value is 40.19 which is greater than the table value 4.32 with df 1 and 21 required for significance at 0.05 level. Since the value of F-ratio is greater than the table value, it indicates that there is a significant difference among the adjusted post-test means of experimental group and control groups.

The mean values of experimental group and control group on core strength were graphically represented in the figure 2.

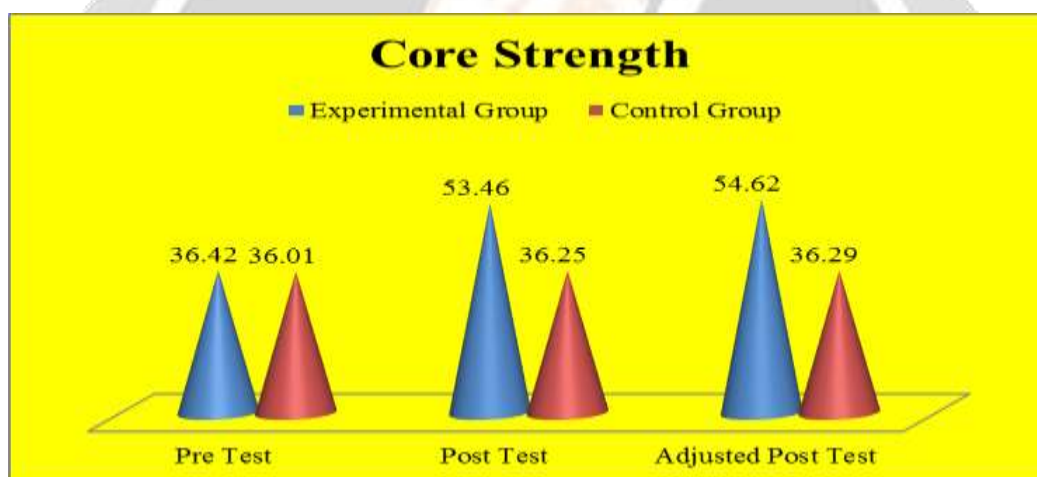


Chart 2: Mean Values and Adjusted Post Mean Values of Experimental and Control Groups on Core Strength

DISCUSSION AND FINDING

The results of the study indicated that the experimental group namely mobility training group had significantly improved in the selected dependent variables such as Leg Strength and Core Strength. It is also found that the improvement effected on Leg Strength and Core Strength by mobility training group was greater than Control Group. Mobility training programme showed better sea-level performance in floor aerobic practices according to researcher **Friedmann-Bette B (2008)**.

CONCLUSIONS

On the basis of the interpretation of the data, the following conclusions were drawn,

1. There was a significant improvement takes place on physical variables such, leg strength and core strength due to six weeks of mobility training program.
2. There was a significant difference exists between experimental and control groups on leg strength and core strength.

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