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Effect of one hour soccer play on selected motor fitness components among College level boys

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Abstract

Soccer play helps students to build and maintain healthy bone, muscles, and joint. It also help, students lean muscle and reduce fat. It will provide lots of fun, increase self-esteem, decreases depression and anxiety. The study analyzed the effectiveness of eight weeks of one hour soccer play program on selected Motor fitness variables of college boys. 19-23 year old 30 college students from different department in Pondicherry University, Kalapet, Puducherry were selected for the study, and were randomly and equally divided into control group and experimental group. The experimental group had to undergo one hour soccer play program. Total duration was for eight weeks with six days per week. The data pertaining to the motor fitness variables were analyzed by Paired 't' test to determine the difference between initial and final mean scores of experimental and control groups. The findings of the study indicate that one hour soccer play program has a significant effect on college boy's speed, muscular power, abdominal strength and balance.

Keywords: Speed, Muscular Power, Abdominal Strength, Balance, Soccer.

1. Introduction

Exercise and physical activity are daily parts of most people's lives. We become physically active when we get out of food, walk, and climb stairs at work or college, run to catch a bus or train, and participate in sports and games. We need such kind of physical fitness for surviving the daily lives such as walking, running, etc. Ever since we are students, we have been directed to participate in organized physical activity or exercises and have learned how to enjoy participation in games related activity^[6]. Exercises are a vital part of our sports participation, and those of us who play organized sports, or participate in recreational activities. Medical related research now informs us that exercises is not only a recreation pursuit, but also essential to the health and well-being of our mind and bodies^[10].

Soccer or simply football is a team sport played between two teams each consisting of eleven players. It is a ball game played on a rectangular ground (football field) field with a goal at each end. The object of the game is to score by maneuvering the spheroid ball into the opposing goal. Other than the goalkeepers, players may not use their hands or arms to propel the ball in general play. The winner of the match is the team that has scored most goals at the end of the match. The sport is known by many names throughout the English-speaking world, although football is the most common. Other names, such as association football and soccer, are often used to distinguish the game from other codes of football, since the word football may be used to refer to several quite different games football is played at a professional level all over the world, and millions of people regularly go to football stadia to follow their favorite team, whilst billions more avidly watch the game on television. A very large number of people also play football at an amateur level. Its simple rules and minimal equipment requirements have no doubt aided its spread and growth in popularity in many parts of the world football evokes great passions and plays an important role in the life of individual fans, local communities, and even nations; it is therefore the most popular sport in the world. Because of this it is often dubbed the world's favorite pastime^[2, 5, 11].

Physical activity is a broad term that encompasses all forms of muscle movement. These movements can range from sports to lifestyle activities. Furthermore, exercises can be defined as physical activity that is planned, structured movement of the body designed to enhance physical fitness. Regimented or purposeful exercises consist of a program that includes twenty to sixty minute of activity at least three to five days a week. Some examples of this type of

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activity include walking, running, cycling, or swimming. The need to improve the physical fitness of youth has promoted the development of new and creative new approaches that provide an opportunity for all boys and girls to participate in regular health full physical activity. Exercises may be classified in one of two categories, anaerobic and aerobic, depending on where energy is derived from. Anaerobic exercises do not require oxygen for energy. This is due to the intensity and duration of anaerobic events, which typically are high intensity and last only a few seconds to a minute or two. Aerobic exercises they should need oxygen for energy production. In case of plying soccer is the bust example for aerobic activity because of the duration of play more than 30 minutes [1, 3, 4, 9].

1.1 Statement of the Problem

The purpose of the study was to find out the effect of one hour soccer play on motor fitness components among College level boys.

1.2 Hypothesis

It was hypothesized that there would be significant difference in selected motor fitness components due to playing soccer among University boys.

2. Methods and materials

2.1 Selection of subjects

Thirty boys from different department in Pondicherry University, Kalapet, Puducherry were selected as subjects at random and their age was between nineteen to twenty-three. They were divided in to two equal groups at random basis. The first group was the control group and second was the experimental group.

2.2 Experimental design

The study was formulated as a true random group design consisting of pre-test and post-test random group design. The subjects [n=30] were randomly assigned into two equal groups of fifteen boys each. The control group was assigned as group I and experimental as group II. Both the group was subjected to pre-test prior to the experimental treatment. Group II was given an experimental treatment of one hour soccer play for a period of eight weeks. The group I was restricted in participating in the experimental treatment. The training programmed included the pre and post-test sessions. The selected students for the experimental group were given one hour soccer play for six days in a week for only one hour evening up to eight weeks.

2.3 Variables and tests

The following motor fitness elements were selected as variables for this study. The related tests to assess the motor fitness elements have also been indicated.

Table 1

Variables	Tests
Speed	50 meter dash
Muscular Power	standing broad jump
Abdominal Strength	bent knee sit up
Balance	stork stand

2.4 Instrument reliability

Stopwatches, measuring steel tapes and clapper or whistle used for these test were considered reliable as they were procured from reputed firms and were being used for research purpose. Further, these instruments were calibrated in standard units. To determine the reliability of the instrument, measurement on each of the [variables] test were recorded five times under similar conditions using the same instrument. Hence they were accepted as reliable and precise for purpose of this study.

2.5 Subject reliability

To determine the subject reliability ten subjects were selected at random. The motor fitness test were conducted and recorded twice under similar condition by the investigator, these test were repeated on subsequent days the same order. In order to get full co-operation from the subjects, they were oriented as follows; the method of performing the test items of motor fitness components such as speed, muscular power, abdominal strength and balance were demonstrated and explained to the subjects. Before conducting the test, the test items were demonstrated by the researcher.

2.6 Statistical techniques

The data collected from the two groups on the selected variables was statistically examined using paired t-ratio. As highly precise sophisticated instruments were not used in this study for testing purpose, the level of significance was fixed at 0.05 level of confidence. The ‘t’ ratio analyzing with the help of SPSS software.

3. Results

To find out the ‘t’ ratio the obtained data analyzed by using paired ‘t’ test. The level of significance was set at 0.05 level of confidence which was adequate for the purpose of the study, because the research process adopted did not involve highly sophisticated equipment’s demanding the application of stringent levels of significance. The SPSS software was used to find out the significant paired mean differences.

Table 1: Mean comparison of Experimental Group and control group on selected variables

Variables	Experimental group				Control group				t- ratio	
	Pre-test		Post-test		Pre-test		Post-test		Exp. Group	Cont. group
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Speed	7.47	0.47	7.16	0.30	7.54	0.49	7.54	0.49	2.611*	.292
Muscular Power	2.20	0.26	2.37	0.26	2.18	0.25	2.21	0.25	6.513*	1.522
Abdominal Strength	28.26	3.69	34.60	4.62	26.26	2.63	27.60	3.33	12.12*	2.115
Balance	4.06	2.37	10.00	2.20	3.06	1.66	4.00	1.60	11.90*	2.053

* Significant at the 0.05 level of confidence (t.05 (14) =2.145

It is evident from table-II there was a significant difference between the pre and post- test performance of experimental group on selected physical fitness variables, since the calculated 't' values 2.611 (Speed), 6.513 (Muscular Power),

12.12 (Abdominal Strength) and 11.90 (Balance) are higher than tabulated 't' value of 2.145 at 0.05 level of significance with 14 degrees of freedom. There are no significant differences in the control group.

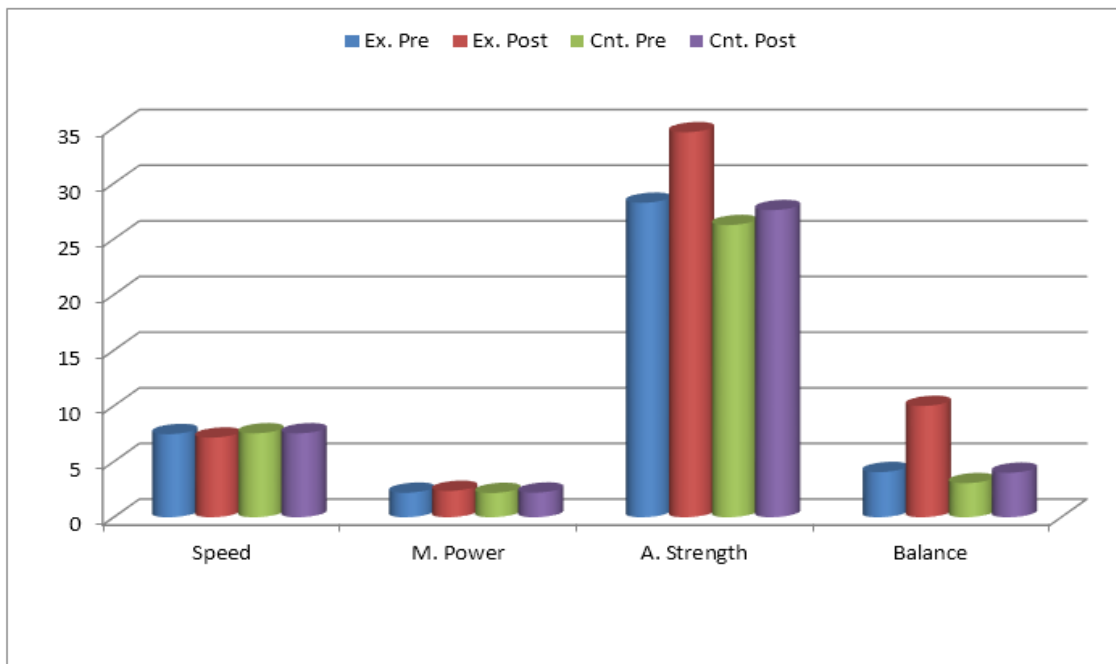


Fig 1: Pre and post- test mean scores of experimental group and Control Group

4. Discussion

On the basis of the study and the statistical analysis, it was found that eight weeks of one hour soccer play program brought significant changes on selected motor fitness variables of college boys. The result shows that there was significant improvement in speed, muscular power, abdominal strength, and balance after the training session. The subject's had enthusiastically participated in the training program since they found the training to be interesting due to the freshness of the training, they did which was different from the usual routine ensured their whole hearted participation leading to the improvement in the selected motor fitness variables. The result of the study showed that the one hour soccer play program improved the motor fitness components of the subjects. The control group did not show much a significant improvement on speed. The previous investigators have reported significant increase in the physical variables such as speed, muscular power, abdominal strength, and balance. The finding of the present study regarding these variables are in agreement with the findings of Katis. A and Kellis. E (2009), Sedano. S *et al.*, (March 2011) and Jovanovic. M *et al.*, (March 2011) [7, 8, 12].

5. Conclusions

On the basis of the results and within the limitations of the study, it was concluded that eight weeks of one hour soccer play program improved the selected motor fitness variables namely speed, muscular power, abdominal strength, and balance of college boys. However, additional research documenting is greatly needed.

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