Effect of Selected Physical Fitness Training on Playing Ability of Soccer Player

Dr. Y. Santikumar Singh

Assistant Professor, Department of PESS. M.U., India

Abstract: *The pre-test mean value of experimental group for speed and endurance was 5.51and 4.32, and post-test mean value of experiment group was 4.84 and 6.14. The calculated 't' value of experimental group was found to be statistically significant as the value obtain was 2.38 and 5.28, whereas tabulated value was with 2.04 With 18 degree of freedom at 0.05 level of significance. In this discussion of hypothesis for experimental group, the hypothesis was accepted. The significance of difference between pre-test and post-test mean scores of control group with regard of Speed and Endurance test are shown. The pre-test mean of control group for speed and endurance was 6.69 and 3.91,post –test mean value of control group was 5.65 and 6.14,and 't' value was 0.38 and 1.28, which is lower than the tabulated value i.e. 2.04 Was not found to be statistically significant. In this discussion of hypothesis for control group, the hypothesis was rejected. No significant development in the control group was showed through the pairs 't' test whereas in experimental group there was significant effect on "Mc Donald soccer test" variables. There was significant effect on speed and endurance of Football players after six weeks continuous running training. Moreover, to have effectiveness on all the variables, longer training period might be essential with the same exercise.*

1. Introduction

Now a day sports has become a part and parcel of life. Millions of fans follow different sports events all over the world with an enthusiasm boarding on devoting. Many people participate in sports and game for all happiness, pleasure for health and fitness, increase participation in sports has resulted in competition which has become an important element of modern life. Competition provides the means by which one can show one's worth by competing successfully, for top level performance, it is very important for sports to select and nature a budding sports man as it is recognized by all that athlete must possess some inherent qualities which can be develop by means of systematized and scientific training.

It is fact that apart from other factors, the performance of an individual in any games and sports mainly dependent upon physical, physiological and psychological factors. Individual differ in physical abilities, mental abilities, physiological capacities and personality traits. The individuals not only differ from one another but also differ from one another abilities within their own self. It is said that human capabilities and capabilities are unlimited which seems to be true when we see unthinkable performance of world-class sprinter, middle and long distance runners thrower, swimmers and football etc.

One of the main objectives of physical education and training for improve physical education fitness, which is the capacity for physical activity and is referred to as the organic vigor or vitality. This vigor or vitality is demonstrated through physical performance. Therefore, in the performance of physical activity skill, sports and games we will have to take into consideration first the development of various components of physical fitness are strength, endurance, speed, agility, flexibility, co-ordinance, power, balance, reaction time and accuracy.

Football has become a very popular game in the world and is currently played in more than 260 countries are involved in FIFA. To make up the standard of the game further, there is a dire need of the professionals who thoroughly understand the game, are well familiar with the coaching process and are abreast with latest training means and method.

Almost all the nation plays the game for both enjoyment and competition. Modern soccer is a very fast by its nature; the spectators and the players enjoy the game of soccer with a great amount of merriment. It is a game of constant action and requires continuous adaptation to changing to changing situation by the team as a whole as well as by the individual players. Although it's a team game, there is ample room for players to display their brilliance through individual performance with the ball as well as through team play involving improvisation and tactical knowledge.

As a result, there is a constantly increasing demand for more knowledge and better training means to coach the game. Sports scientists, coaches and physical education teachers are charged with the responsibility of training and teaching their players soccer techniques and tactics to develop teams who perform at the maximum level of effectiveness.

Football is a strenuous contact Olympic team sports that places emphasis on running, sprinting, thro-in, kicking, dribbling. It's a team sports which require a high standard of preparation in order to complete ninety minute of competitively play and to achieve success. In this game movement patterns characterized as intermittent and change continuously in response to different offensive and defensive situation in which anthropometric characteristic and high level of muscle of strength, muscle power, endurance capacity are the most important factors that give a clear advantage for successful participation in elite level of football competition

2. Statement of the Problem

From the above surface literature and background, researcher was interest to study of fitness training of Football players. Thus, the problem was stated as "Effect of

selected Physical Fitness Training on Playing Ability of Soccer player".

Objectives of the study
The main objective of the study was to find out the effect of selected fitness training of soccer player.

Hypothesis of the study
It was hypothesis that there was significance effect of training programme on the playing ability of soccer players.

Delimitation of the study
1) The study was delimited to Twenty (20) male players from the Manipur University, Canchipur who participated in the inter-college level of competition.
2) The age of the subjects were ranged between 18-25 years.
3) The test was conducted at the Manipuri University Campus field of Manipur.
4) Mc Donald Soccer test was administered to test skill ability of the players.

Limitations of the study
1) Other exercise and activities which may affect the result of this study were recognized as a limitation.
2) There is no control on the dietary habits and other off the training periods, were considered as the limitation of the study.
3) Any bias come from the subjects was also considered as the limitation of the study.

Definition of the terms

50 Meter Dash Test
Sprint or speed test can be performed over varying distances, depending on the factors being tested and the relevance to the sport. The 50 Meter Sprint is part of the International Physical Fitness Test.

Cooper 12- minute Run Test
The cooper 12 minute run is a popular maximal running test of aerobic fitness, in which participants try and cover as much distance as they can in 12 minutes.

Significant of DTUDY
The significant of the study was justified on the following points:
1) The result of this test may be detecting the speed and endurance of Football players.
2) This test may helps the teacher, coaches and players to know the effectiveness of speed and endurance of football players,
3) The present study may helpful to know how quick their speed and endurance increase.
4) This test may be helps the individual to know how good in speed and endurance level.

3. Methodology

Sources of data
For this purpose of study, 20 (twenty) male football players were selected from the Manipur University who has participated in the inter-college level of competition. Hence, those entire subjects were acted as the sources of data for this study.

Selection of subject
For these purpose of study, (20) male football players were selected randomly as subjects from Manipur University who has participated in the inter-college level competition. The subjects of age were range between 18 – 25 years.

Selection of test
To measure the endurance and speed by using the modified 50 meter run dash and 12 minutes continuous running, was selected as test administration.

Criterion measure
The criterion measures chosen for testing the hypothesis in this study was numerical score obtained from the physical efficiency index (PEI) modified test.

Administration of test

50 Meter Dash Test:
Sprint or speed test can be performed over varying distances, depending on the factors being tested and the relevance to the sport. The 50 Meter Sprint is part of the International Physical Fitness Test.

Purpose: To determine the speed and acceleration.

Equipments: Measuring Tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.

Procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go". The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and the participant should be encouraged to not slow down before crossing the finish line.

Scoring: Two trails are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and / or the finishing timing gate is triggered.

Cooper 12- minute Run Test
The cooper 12 minute run is a popular maximal running test of aerobic fitness, in which participants try and cover as much distance as they can in 12 minutes.

Purpose: To test aerobic fitness (the ability of the body to use oxygen to power it while running

Equipment required: flat oval or running track, marker cones, recording sheets, stop watch.

Procedure: Place markers as set intervals around the track to aid measuring the completed distance. Participants run for 12 minutes, and the total distance covered is recorded. Walking is allowed, though the participants must be encouraged to push themselves as hard as they can to maximize the distance covered.

Scoring: There are Cooper test norm tables for general guidelines for interpreting the results of this test for adults. There are also several equations that can be used to estimate VO_{2max} (in ml/kg/min) from the distance score (a formula for either kms or miles).

Design of the Study
The selected twenty (20) male football players were divided into two Groups as Experimental group and control group; each group consisting of ten (10) subjects. The Experimental groups was given five (5) days (Monday, Tuesday, Wednesday, Friday and Saturday) continuous running per week for the period of six (6) weeks respectively, and (Thursday and Sunday) were given rest. These administrators on the subjects of experimental group and control group before administering the selected training design to obtain data of initial test (Pre- training Test Score). The duration of the training period was 6 weeks (42 days). An experimental group was given (5) day' selected per week respectively. The control group was keep only Football practices without giving any specific selected training. The final post – test item was re-administered on Mc. Donald soccer test.

Administration of Training
The training for the experimental group was administered at Football group as "Speed and Continuous running for endurance". The selected training programs were administered consecutively to the experimental group and control group as without any Training of Running. The training was give five (5) days in a week (Monday, Tuesday, Wednesday, Friday and Saturday) for the period of six (6) week training programme (Thursday and Sunday) were given rest. In this way, training programme was worked out for the experimental group only. The respective training was administered for the experimental groups and table of training programme are as follow:

Table 1: Training schedule of Continuous Running for experimental group
Weekly Training Programme

Day	Warming Up	Particular Need	Cooling Down
Day 1 Monday	15 minutes warm up	30 minutes continuous running	15 minutes cooling down
Day 2 Tuesday	15 minutes warm up	30 minutes continuous running	15 minutes cooling down
Day 3 Wednesday	15 minutes warm up	40 minutes continuous running	15 minutes cooling down
Day 4 Thursday	Rest	Rest	Rest
Day 5 Friday	15 minutes warm up	Speed running continuous for 20 minutes	10 minutes cooling down
Day 6 Saturday	15 minutes warm up	Speed running continuous for 20 minutes	10 minutes cooling down
Day 7 Sunday	Rest	Rest	Rest

Collection of Data
The data was collected on different sheet for each test. The score of trail were recorded and best was considering as raw score. Item were demonstrated and explained to the subject by the researcher. They had been giving a chance to all the practice and become familiar with the test and how exactly what to be done, the entire subject will be motivated to perform their best. The data was collected by using Mc Donald soccer test.

The collection of data was plain within the stipulation time and it was utilized in the afternoon.

Statistical Procedure
The researcher collects the necessary data in the specified scoring tables. To find out the cardio respiratory endurance of football players of Manipur University, the statistical techniques Pair 't' test was employed. The level of significant was set at 0.05. The result was analysed statistical technique and the basis of statistical result was administered.

Analysis of Data and Results of the Study
The main purpose of the study was compared with the study of Speed and Endurance of football players from experimental group and control group. The score were achieved as a result of application of McDoneld Soccer test was computerized. The statistically analysis of the data collected 20 players from experimental group (10) and the control group (10) of Manipur University, Canchipur. To analysis of the collection of data the following statistical techniques were used. Descriptive statistics mean and standard deviation were adopted and for testing the significant difference among the experimental group and control group pair t – test was employed for this study and the level of significant was set at 0.05.

Level of Significance
The level of significance set at 0.05. The result was analysed statistical and the basis of statistical result interpretation was administered.

4. Findings

The comparison between the pre-test and post-test stage of experimental and control group was statistically analysed using pair 't' test. The data pertaining to the experimental and control group of football players Manipur University are presented in tables 2.

The comparison of Mc Donald soccer test between pre-test and post-test scores for experimental and control group between footballs players are presented in table2.

Table 2: Comparison of Pre-Test and Post-Test Scores for Experimental (EG) of Speed Test.

Variables	Groups		N	Means	SD	SE	Df	't-Value
Speed Test (50 M Run)	EG	Pre-Test	10	5.51	0.44	0.66	18	2.38
		Post-Test	10	4.89	0.16	0.4		

Significant at 0.05 level
Tabulated value (18) = 2.04

In the above table-2, the significant of difference between pre-test and post-test mean scores of experimental group with regard of 50 meter dash speed test are shown. The pre-test mean value of experimental group was 5.51and post-test mean value was 4.89. The calculated 't' value of experimental group was found to be statistically significant as the value obtain was 2.38, whereas tabulated value was with 2.02 With 18 of freedom at 0.05 level of significant.

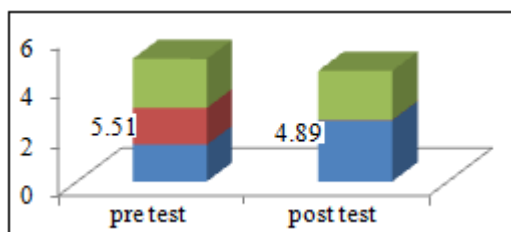The mean scores of pre-test and post- test on speed test was depicted graphically in Figure: 2.

Figure 2: Comparison of pre-test and post-test scores for Experimental Group on 50 meter dash run speed test.

Table 3: Comparision of Pre-Test Scores for Control Group of Speed Test

Variables	Groups		N	Means	SD	SE	Df	t-Value
Speed Test For (50 M Dash)	EG	Pre-Test	10	6.69	0.39	0.06	18	0.39
		Post-Test	10	5.65	0.32	0.05		

Significant at 0.05 level
Tabulated value (18) = 2.04

In the above table-3, the significant of difference between pre-test and post-test mean scores of control group with regard of speed test are shown. The pre-test mean of control group was 6.69, post-test mean value of control group was 5.65, and 't' value was 0.8,, which is lower than tne tabulated value i.e. 2.04 was not found to be statistically significant.

The mean scores of pre-test and post-test on speed test was depicted graphically in figure 3.

Figure 3: Comparison of pre-test and post-test scores for control group on speed and endurance test.

Table 4: Comparison of Pre-Test and Post-Test Scores for Experimental Group for Endurance Test

Variables	Groups		N	Means	SD	SE	Df	t-Value
Endurance Test	EG	Pre-Test	10	4.32	0.23	0.04	18	5.28
	EG	Post-Test	10	6.14	0.29	0.05		

Significant at 0.05 level
Tabulated value (18) = 2.04

In the above table 4, the significance difference between pre-test and post-test mean scores of experimental group with

regard of endurance test are shown. The pre-test mean value of experimental group was 4.32 and post-test mean value of experimental group was 6.14. The calculated't' value of the experimental group was found to be Significant as the value obtain was 5.28, whereas tabulated value was 2.04 with 18 degree of freedom at 0.05 level of significant.

The mean scores of pre-test and post-test on endurance was depicted graphically in figure: 4.
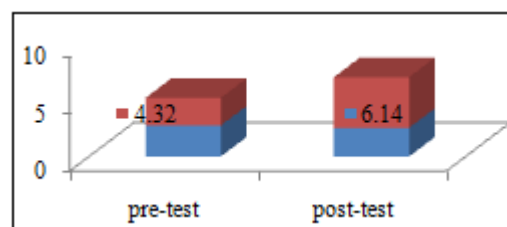

Figure 4: Comparison of pre-test and post-test scores for experimental group on endurance test

Table 5: Comparison of Pre-Test and Post-Test Scores for Control Group of Endurance Test

Variables	Groups		N	Means	SD	SE	df	t-Value
Endurance Test	CG	Pre-Test	10	3.91	0.16	0,04	18	1.84
		Post-Test	10	4.37	0.27	0.05		

Significant at 0.05 level
Tabulated value (18)= 2.04

In the above table-5, the significant of difference between pre-test and post-test mean scores of control group with regard of Endurance test are shown. The pre-test mean of control group was 3.91, post-test mean value of control group was 4.37, and 't' value was 1.84, which is lower than the tabulated value i.e. 2.04 was not found to be statistically significant.

The mean scores of pre-test and post-test on endurance test was depicted graphically.
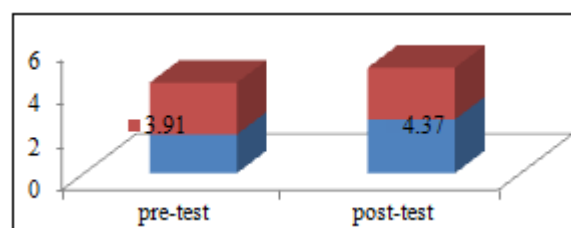

Figure 5: Comparison of pre-test and post-test score for control group (CG) on Endurance test

5. Discussion of the Finding

On the basis of the finding and it was concluded that Experimental group footballers of Manipur University has shown the significant effect on speed and endurance compared with the control group footballers of Manipur University Canchipur. In finding, the significance of difference between pre-test and post-test mean scores of experimental group with regard of Speed and Endurance are shown. The pre-test mean value of experimental group for speed was 5.51 and post-test mean value of experimental group was 4.89, and the pre-test mean value of experimental group for endurance was 4.32 and post-test mean value for

experimental group was 6.14. The calculated 't' value of experimental group was found to be statistically significant as the value obtain was 2.38 and 5.28. whereas tabulated value was with 2.04 with 18 degree of freedom at 0.05 level of significant, the significant of difference between pre-test and post-test mean scores of control group with regard of speed and endurance test are shown. The pre-test mean of control group for speed and endurance was 6.69 and 3.91, and the 't' value was 0.39 and 1.84, which is lower than the tabulated value i.e. 2.04 was not found to be statistically significant.

Discussion of Hypothesis

Originally, it was hypothesized that there were significant effect on Speed and Endurance for Experimental group. In the finding, the significance of difference between pre-test and post-test mean scores of experimental group with regard of Speed and Endurance Test are shown.

The pre-test mean value of experimental group for speed and endurance was 5.51 and 4.32 and post-test mean value of experimental group for was 4.49 and 6.14. The calculated 't' value of experimental group was found to be statistically significant as the value obtain was 2.38 and 5.28, whereas tabulated value was with 2.04 with 18 degree of freedom at 0.05 level of significant. In this discussion of hypothesis for experimental group, the hypothesis was accepted.

The significant of difference between pre-test and post-test mean scores of control group with regard Speed and Endurance Test are shown. The pre-test mean for control group was 6.69 and 3.91, post-test mean value of control group was 5.65 and 4.37, and the 't' value was o.34 and 1.84, which is lower than the tabulated value i.e. 2.04 was not found to be statistically significant. In this discussion of hypothesis for control group, the hypothesis was rejected.

6. Conclusion and Recommendation

6.1 Conclusion

Within the limitations of the present study, the following conclusions were drawn:

The pre-test mean value of experimental group for speed and endurance was 5.51and 4.32, and post-test mean value of experiment group was 4.84 and 6.14. The calculated 't' value of experimental group was found to be statistically significant as the value obtain was 2.38 and 5.28, whereas tabulated value was with 2.04 With 18 degree of freedom at 0.05 level of significance. In this discussion of hypothesis for experimental group, the hypothesis was accepted.

The significance of difference between pre-test and post-test mean scores of control group with regard of Speed and Endurance test are shown. The pre-test mean of control group for speed and endurance was 6.69 and 3.91,post –test mean value of control group was 5.65 and 6.14,and 't' value was 0.38 and 1.28, which is lower than the tabulated value i.e. 2.04 Was not found to be statistically significant. In this discussion of hypothesis for control group, the hypothesis was rejected.

No significant development in the control group was showed through the pairs 't' test whereas in experimental group there was significant effect on "Mc Donald soccer test" variables.

There was significant effect on speed and endurance of Football players after six weeks continuous running training.

Moreover, to have effectiveness on all the variables, longer training period might be essential with the same exercise.

6.2 Recommendations

Based on the results obtained from the study, the following recommendations were made:
1) It was recommended that to have better effect on speed and endurance, the continuous running exercise was also one of the effective training means to be employed in the football players.
2) The same types of training schedule might be planned for longer duration of training programme to get better improvement in the football players.
3) It was also recommended that a similar study might be repeated by selecting subject of different age, sex and level of achievement other than those employed in the present study.
4) It was recommended that similar study may be conducted on a large population for the other parts of the country.
5) From findings of the study it is also recommended that a study may be carried out with other players.

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