



Examining The Effect of Different Modes of Trainings on Selected Physiological Variables of Inter-Collegiate Men Football Players

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ABSTRACT

Aim of this study was to examining the effect of different modes of trainings on selected physiological variables of Inter-collegiate men Football players. The study was conducted on eighty men (n=60) Football players studying various Arts and Science Colleges Affiliated to University of Madras, Chennai, Tamilnadu, India, and who have participated in the inter collegiate Soccer tournaments during the academic year 2014-2015 were selected as subjects. The age of the subjects were ranged from 17 to 21 years. Among various training methods only Aerobic Training, Anaerobic Training and Football Skill training only selected for this study. The subjects were assigned at random into four groups of fifteen each (n=15). Group-I underwent Aerobic Training, Group-II underwent Anaerobic training, Group-III underwent Skill training and Group-IV acted as Control. All the three groups undergo their respective training for 12 weeks in addition to the regular training as per College curriculum. Among various Physiological variables only Resting Pulse Rate was selected as dependent variable. Resting Pulse Rate was measured through Radial Pulse Manuel method. The data was collected from all the groups prior to and post experimentation on Resting Pulse Rate was statistically analyzed by using Analysis of Covariance (ANCOVA). Hence, whenever the obtained f-ratio value was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of significance was fixed. The results of the study showed there was a significant differences among the selected groups, further the results showed, Skill training group was better than other groups on the development of Resting Pulse Rate.

KEYWORDS : Aerobic Training, Anaerobic Training, Skill Training, Resting Pulse Rate

INTRODUCTION

Human beings have consistently tried to run faster, jump higher, and exhibit greater strength, endurance and skill. We are naturally competitive and ambitious for excellence in athletic performances. As a result of practical experience, observation and scientific experimentation, old method of conditioning, though fascinating and rich in tradition, have been discarded and replaced by new methods based on insight and understanding. For centuries, this evaluation towards better methods of conditioning was slow, but in the recent years the dramatic changes that have taken place have brought about some outstanding results in performance (**Boucher and Malina, 1993**).

A sport in the present world has become extremely competitive. It is not the mere participation or practice that brings out victory to an individual. Therefore, sports life is affected by various factors, like Physiology, Biomechanics, Sports Training, Sports Medicine, Sociology and Psychology etcetera. Coaches, trainers, physical education personnel and doctors are doing their best to improve the performance of the players of their country. Athletes/players of all countries are also trying hard to bring laurels/medals for their countries in International competitions (**Ghuman and Dhillon, 2000**).

Aerobic exercise is a type of physical exercise that is done to improve the way the cardiovascular system works. It aims to make the system more efficient in the absorption and transportation of oxygen. There are many different types of aerobic exercise and these exercises are done for extended periods at a moderate intensity level.

The aerobics exercise is a system of acyclic exercises, which improves the capacity of cardiovascular functions, develops the toughness of muscles and the coordination of movement. A regular participation in aerobics exercise program, as in other endurance exercises, increases the capacity of cardiovascular system (**Asano, 2009**).

Anaerobic means 'without oxygen'. During anaerobic work, involving maximum effort, the body is working so hard that the demands for oxygen and full exceed the rate of supply and the muscles have to rely on the stored recovers of fuel. In this case waste product accumulate, the chief one being lactic acid. The muscles, being starved of oxygen, take the bodies into a state know as oxygen debt. The body's stored fuel soon runs out and activity ceases with pain.

METHODOLOGY

For this purpose sixty men (n=60) Football players studying various Arts and

Science Colleges Affiliated to University of Madras, Chennai, Tamilnadu, India, and who have participated in the inter collegiate Soccer tournaments during the academic year 2014-2015 were selected as subjects. The age of the subjects were ranged from 17 to 21 years. The subjects were assigned at random into four groups of fifteen each (n=15). Among various training methods only Aerobic Training, Anaerobic Training and Football Skill training only selected for this study. Group-I underwent Aerobic Training, Group-II underwent Anaerobic training, Group-III underwent Skill training and Group-IV acted as Control. All the three groups undergo their respective training for 12 weeks in addition to the regular training as per College curriculum. The dependent variable selected was Resting Pulse Rate and it was assessed by Radial Pulse Manuel method. The data collected from the experimental groups and control group on prior and after experimentation on selected variables were statistically examined by analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted post test means on selected criterion variables separately. Whenever they obtained f-ratio value in the simple effect was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of significance was fixed.

RESULTS AND DISCUSSION

The Analysis of covariance (ANCOVA) on Resting Pulse Rate of Aerobic Training, Anaerobic training, Skill training packages and Control group have been analyzed and presented in Table -I.

Table -I
ANALYSIS OF COVARIANCE ON RESTING PULSE RATE OF AEROBIC TRAINING, ANAEROBIC TRAINING, SKILL TRAINING PACKAGES AND CONTROL GROUP

Adjusted Post-test Means				Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
Aerobic Training Group (I)	Anaerobic Training Group (II)	Skill Training Group (III)	Control Group (IV)					
72.19	72.99	72.10	74.99	Between With in	80.91 24.95	3 55	26.97 0.45	59.44*

*** Significant at .05 level of confidence**
(Resting Pulse Rate Scores in Numbers)
(The table value required for Significance at 0.05 level with df 3 and 55 is 2.77)

Table-I shows that the adjusted post test mean value of Resting Pulse Rate for Aerobic Training group, Anaerobic training group, Skill training group and Control group are 72.19, 72.99, 72.10 and 74.99 respectively. The obtained F-ratio of 59.44 for adjusted post test mean is more than the table value of 2.77 for df 3 and 55 required for significant at 0.05 level of confidence.

The results of the study indicate that there are significant differences among the adjusted post test means of Aerobic Training group, Anaerobic training group, Skill training group and Control group on the development of Resting Pulse Rate.

To determine which of the paired means had a significant difference, the Scheffe's test was applied as Post hoc test and the results are presented in Table-II.

**TABLE – II
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON RESTING PULSE RATE**

Adjusted Post-test Means				Mean Difference	Confidence Interval
Aerobic Training Group (I)	Anaerobic Training Group (II)	Skill Training Group (III)	Control Group (IV)		
72.19	72.99			0.80*	0.42
72.19		72.10		0.09	0.42
72.19			74.99	2.80*	0.42
	72.99	72.10		0.89*	0.42
	72.99		74.99	2.00*	0.42
		72.10	74.99	2.89*	0.42

*** Significant at 0.05 level of confidence**

Table-II shows that the adjusted post test mean difference on Aerobic Training group and Anaerobic Training group, Aerobic Training group and Skill Training group, Anaerobic Training group and Control group, Skill training group and Control group, are 0.80, 2.80, 0.89, 2.00 and 2.89 respectively. The values are greater than the confidence interval 0.42, which shows significant differences at 0.05 level of confidence. The mean difference between Aerobic Training group and Control group was 0.09. The value was lesser than the confidence interval 0.42, which shows significant differences at 0.05 level of confidence.

It may be concluded from the results of the study that there is a significant difference in Resting Pulse Rate between the adjusted post test means of Aerobic Training group and Anaerobic Training group, Aerobic Training group and Skill Training group, Anaerobic Training group and Skill training group, Anaerobic Training group and Control group, Skill training group and Control group. However, the improvements of Muscular Endurance were significantly higher for Skill Training group than Aerobic Training group, Anaerobic Training group and Control group. The results showed the Aerobic Training group and Control group, found there is no significant difference in Resting Pulse Rate.

It may be concluded that Skill Training group is better than Aerobic Training group, Anaerobic Training group and Control group in improving Resting Pulse Rate.

The adjusted post test mean values of Aerobic Training group, Anaerobic training group, Skill training group and Control group on Resting Pulse Rate are graphically represented in the Figure -I.

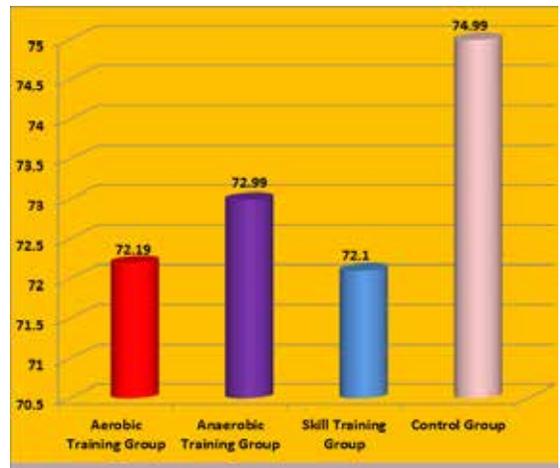


Figure: I The adjusted post test mean values of Aerobic Training group, Anaerobic training group, Skill training group and Control group on Resting Pulse Rate

CONCLUSION

The Experimental groups namely, Aerobic Training group, Anaerobic Training group and Skill training group had significantly improved in Resting Pulse Rate.

Significant differences in achievement were found among Aerobic Training group, Anaerobic Training group and Skill training group on selected criterion variables such as Resting Pulse Rate.

Skill training group was found better than Aerobic training group and Anaerobic training group on the development of Resting Pulse Rate.

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