RESEARCH PAPER | Physical Education | Volume : 6 | Issue : 6 | June 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

Effect of Aerobic Anaerobic and Skill Training on selected Endurance Parameters of Inter-collegiate Men Football Players

KEYWORDS: Aerobic Training, Anaerobic Training, Skill Training, Muscular Endurance

Dr.M. Pari
Director of Physical Education, S.I.V.E.T College, Velachery Main Road, Gowrivakkam, Chennai- 600 073

G. Radhakrishnan
Director of Physical Education, Sir Theagaraya College, Chennai - 600 021.

ABSTRACT *The purpose of this study was to find out the effect of aerobic anaerobic and skill training packages on selected Endurance parameters 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 Madras University College, 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). 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 8 weeks in addition to the regular training as per College curriculum. Among various Endurance parameters, Muscular Endurance only was selected as dependent variable and it was assessed by Bent Knee Sit-up test. The data was collected from the four groups prior to and post experimentation on Muscular Endurance 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 Muscular Endurance.*

INTRODUCTION

The word "training" means different things in different fields. In sports the word "training" is generally understood to be synonym of doing exercise. In a narrow sense training is physical exercise for the improvement of performance. Training involves constructing an exercise programme to develop an athlete for a particular event. This increasing skill and energy capacities need equal consideration **(*Singh, 1991*).**

Training is the main component and the basic form of preparing the athlete for higher level of performance. It is a systematically planned preparation with the help of the exercise which realizes the main factors of influencing athlete's progress. The content of training includes all the basic types of preparation of the sportsmen such as physical, technical, tactical and psychological. Through systematic training the athletes "fitness level" and his acquisition of vital knowledge and skill are improved.

Aerobic exercise does require oxygen for energy. This is observed during exercise that is less intense but of longer duration. This energy system is primarily used during events lasting longer than several minutes, such as a two-mile run or the Tour de France bicycle race. The potential does exist that one can use both systems, as in soccer, where a match requires ninety minutes of continual activity with short intense bursts of effort.

Anaerobic exercise is exercise intense enough to trigger anaerobic metabolism. It is used by athletes in non-endurance sports to promote strength, speed and power and by body builders to build muscle mass. Muscle energy systems trained using anaerobic exercise develop differently compared to aerobic exercise, leading to greater performance in short duration, high intensity activities, which last from mere seconds up to about 2 minutes ***(Medbo et al., 1988).***

METHODOLOGY

The purpose of this study was to find out the effect of aerobic anaerobic and skill training packages on selected Endurance parameters of Inter-collegiate men Football players. The study was conducted on sixty men(n=60) Football players studying various Arts and Science Colleges Affiliated to Madras University College, 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). 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 8 weeks in addition to the regular training as per College curriculum. The dependent variable selected was Muscular Endurance and it was assessed by Bent Knee Sit-up test.

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 Muscular Endurance of Aerobic Training, Anaerobic training, Skill training packages and Control group have been analyzed and presented in Table -I.

Volume : 6 | Issue : 6 | June 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

Table –I
ANALYSIS OF COVARIANCE ON MUSCULAR ENDURANCE 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)					
33.81	37.68	39.96	28.81	Between With in	1071.09 251.00	3 55	357.03 4.56	78.23*

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

Table-I shows that the adjusted post test mean value of Muscular Endurance for Aerobic Training group, Anaerobic training group, Skill training group and Control group are 33.81, 37.68, 39.96 and 28.81 respectively. The obtained F-ratio of 78.23 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 Muscular Endurance.

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 MUSCULAR ENDURANCE

Adjusted Post-test Means				Mean Difference	Confidence Interval
Aerobic Training Group (I)	Anaerobic Training Group (II)	Skill Training Group (III)	Control Group (IV)		
33.81	37.68			3.87*	1.33
33.81		39.96		6.15*	1.33
33.81			28.81	5.00*	1.33
	37.68	39.96		2.28*	1.33
	37.68		28.81	8.87*	1.33
		39.96	28.81	11.15*	1.33

*** 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, Aerobic Training group and Control group, Anaerobic Training group and Skill training group, Anaerobic Training group and Control group, Skill training group and Control group, are 3.87, 6.15, 5.00, 2.28, 8.87 and 11.15 respectively. The values are greater than the confidence interval 1.33, 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 Muscular Endurance between the adjusted post test means of Aerobic Training group and Anaerobic Training group, Aerobic Training group and Skill Training group, Aerobic Training group and Control 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.

It may be concluded that Skill Training group is better than Aerobic Training group, Anaerobic Training group and Control group in improving Muscular Endurance.

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

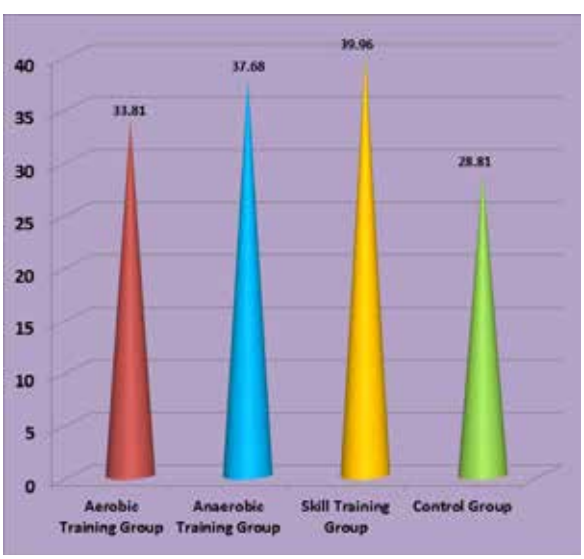

Figure: I The adjusted post test mean values of Aerobic Training group, Anaerobic training group, Skill training group and Control group on Muscular Endurance

CONCLUSION

The Experimental groups namely, Aerobic Training group, Anaerobic Training group and Skill training group had significantly improved in Muscular Endurance.

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

Volume : 6 | Issue : 6 | June 2016 | ISSN - 2249-555X | IF : 3.919 | IC Value : 74.50

Skill training group was found better than Aerobic training group and Anaerobic training group on the development of Muscular Endurance.

REFERENCES

1. Medbo, JI, Mohn, Tabata, Bahr, Vaage, Sejersted (1988). "Anaerobic capacity determined by maximal accumulated O2 deficit". ***Journal of Applied Physiology,*** January, 64 (1): 50–60.
2. Singh, Hardayal(1991), ***Science of Sports Training,*** New Delhi, D.V.S. Publications.