



Effect of Aerobic Anaerobic and Skill Training Packages on Dribbling Performance of University Men Soccer Players

G. Radhakrishnan

Ph.D. Research Scholar & Director of Physical Education, Sir Theagaraya College, Chennai - 600 021.

Dr. R. Desingurajan

Director of Physical Education(SG), Department of Physical Education, D. B. Jain College, Thorapakkam, Chennai -600 091

ABSTRACT

The purpose of this study was to find out the effect of aerobic anaerobic and skill training packages on Dribbling performance of University men Soccer players. The study was conducted on eighty men(n=60) Soccer 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 2011-2012 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 twenty each (n=20). 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 Dribbling and it was assessed by Mor-Christian General Soccer ability test. The data collected from the three groups prior to and post experimentation on Dribbling 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 .05 level of significance was fixed. The results of the study suggest Skill training group was better than other groups on the development of Dribbling.

KEYWORDS: Training, Anaerobic Training, Skill Training, Dribbling

INTRODUCTION

Aerobic exercise (also known as cardio) is physical exercise of relatively low intensity that depends primarily on the aerobic energy-generating process. Aerobic literally means "living in air", and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism. Generally, light-to-moderate intensity activities that are sufficiently supported by aerobic metabolism can be performed for extended periods of time (Sharon et al 2007).

Aerobic exercise and fitness can be contrasted with anaerobic exercise, of which strength training and short-distance running are the most salient examples. The two types of exercise differ by the duration and intensity of muscular contractions involved, as well as by how energy is generated within the muscle.

In most conditions, anaerobic exercise is accompanied by aerobic exercises because the less efficient anaerobic metabolism must supplement the aerobic system due to energy demands that exceed the aerobic system's capacity. What is generally called aerobic exercise might be better termed "solely aerobic", because it is designed to be low-intensity enough not to generate lactate via pyruvate fermentation, so that all carbohydrate is aerobically turned into energy.

Aerobic capacity describes the functional capacity of the cardiorespiratory system, (the heart, lungs and blood vessels). Aerobic capacity is defined as the maximum amount of oxygen the body can use during a specified period, usually during intense exercise. It is a function both of cardiorespiratory performance and the maximum ability to remove and utilize oxygen from circulating blood. To measure maximal aerobic capacity, an exercise physiologist or physician will perform a VO₂ max test, in which a subject will undergo progressively more strenuous exercise on a treadmill, from an easy walk through to exhaustion. The individual is typically connected to a respirometer to measure oxygen consumption, and the speed is increased incrementally over a fixed duration of time. The higher the measured cardiorespiratory endurance level, the more oxygen has been transported to and used by exercising muscles, and the higher the level of intensity at which the individual can exercise. More simply stated, the higher the aerobic capacity, the higher the level of aerobic fitness. The Cooper and multi-stage fitness tests can also be used to assess functional aerobic capacity for particular jobs or activities.

The word 'anaerobic' literally means without oxygen. Anaerobic exercise means you're working at such a high level of intensity, that the cardiovascular system can't deliver oxygen to the muscles fast enough. Because muscles need oxygen to continue exercising, anaerobic exercises

only last for short periods of time. Athletes often incorporate anaerobic training into their routines to increase performance, but regular exercisers can also benefit from this type of training.

METHODOLOGY

The purpose of this study was to find out the effect of aerobic anaerobic and skill training packages on Dribbling performance of University men Soccer players. The study was conducted on eighty men(n=80) Soccer 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 2011-2012 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 twenty each (n=20). 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 Dribbling and it was assessed by Mor-Christian General Soccer ability 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 .05 level of significance was fixed.

RESULTS AND DISCUSSION

The Analysis of covariance (ANCOVA) on Dribbling of Aerobic Training, Anaerobic training, Skill training packages and Control group have been analyzed and presented in Table -1.

Table -1
ANALYSIS OF COVARIANCE ON DRIBBLING 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)					
8.38	8.21	7.98	8.74	Between With in	5.93 0.41	3 75	1.98 0.01	364.58*

* Significant at.05 level of confidence
(Dribbling Scores in Seconds)

(The table value required for Significance at .05 level with df 3 and 75 is 2.73)

Table I shows that the adjusted post test mean value of Dribbling for Aerobic Training group, Anaerobic training group, Skill training group and Control group are 8.38, 8.21, 7.98 and 8.74 respectively. The obtained F-ratio of 364.58 for adjusted post test mean is more than the table value of 2.73 for df 3 and 75 required for significant at .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 Dribbling.

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 DRIBBLING**

Adjusted Post-test means				Mean Difference	Confidence Interval
Aerobic Training Group (I)	Anaerobic Training Group (II)	Skill Training Group (III)	Control Group (IV)		
8.38	8.21			0.17*	0.09
8.38		7.98		0.40*	0.09
8.38			8.74	0.36*	0.09
	8.21	7.98		0.23*	0.09
	8.21		8.74	0.53*	0.09
		7.98	8.74	0.76*	0.09

*** Significant at.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 0.17, 0.40, 0.36, 0.23, 0.53 and 0.76 respectively. The values are greater

than the confidence interval value 0.09, which shows significant differences at .05 level of confidence.

It may be concluded from the results of the study that there is a significant difference in Dribbling 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 Dribbling 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 Dribbling.

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



CONCLUSION

1. The experimental groups namely, Aerobic Training group, Anaerobic Training group and Skill training group had significantly improved in dribbling.
2. Significant differences in achievement were found among Aerobic Training group, Anaerobic Training group and Skill training group on selected criterion variables such as Dribbling.

REFERENCES

Retrieved from Merriam-Webster Medical dictionary definition | Medbo, JI; Mohn, Tabata, Bahr, Vaage, Sejersted (January 1988). "Anaerobic capacity determined by maximal accumulated O2 deficit". *Journal of Applied Physiology* 64 (1): 50–60. | Sharon A. Plowman; Denise L. Smith (June 2007). *Exercise Physiology for Health, Fitness, and Performance*. Lippincott Williams & Wilkins. p. 61. |