



Enhancement of Isolated, Concurrent, Resistance and Plyometric Training on Speed Endurance Among College Level Court Game Players

KEYWORDS

Concurrent Training, Resistance Training, Plyometric Training Speed Endurance

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ABSTRACT

Aim of the study was to find out the effect of Concurrent, Resistance and Plyometric Training on Speed Endurance among college level court game player. To attain the purpose forty five (N=40) court games players (Volleyball & Basketball) studying in Yadava College Madurai, Tamilnadu were selected as subjects during the academic year 2012-2013. They were randomly divided into four groups of 10 each, Group I underwent Concurrent Training, Group II underwent Resistance Training, Group III underwent Plyometric Training and Group-IV acted as Control. The Experimental groups underwent the respective training for eight weeks duration. Among various Speed parameters only Speed Endurance was selected as a dependent variable, and it was assessed by 150 meters run test. The data obtained from the experimental groups and control groups before and after the experimental period were statistically analyzed with Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, the Scheffe's test was applied as post-hoc test to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases. Speed Endurance showed significant difference among the groups, further the results suggested that Concurrent training was showed better performance when compare to other experimental and control group.

INTRODUCTION

In today's age of scientific knowledge man is making rapid progress in all walks of life and it is true in the area of games and sports. Also scientific knowledge has revolutionaries the standards of human performance in sports disciplines. The athletes are now trained on scientific lines and using highly sophisticated technology for top performance in their specific sports, with minimum expenditure of energy and time (Jothi, 2010).

So as to have the utmost efficiency, consistent improvement and balanced abilities, a sportsperson must participate in year round conditioning programs. For that they must put their bodies under a certain amount of stress to increase physical capabilities.

Concurrent training is types of training (for example, aerobic training and strength training) carried out during the same training session or within a few hours of one another. Concurrent training sessions need to be well designed to maximize the beneficial effects of each type of training and to minimize interference.

Today, most weight training systems in use are based on variation, of the De Lorne method. If properly carried out weight training may improve speed, explosive power, strength and endurance.

Circuit weight training is one of the effective means to improve all round physical and cardiovascular fitness, whereas, plyometric training is one of the most effective methods for improving explosive power as stated by Fleck and Kraemer (2004).

Although, plyometric training has received much attention recently, it had been a part of the training of athletes in a variety of sports for years. It is used in conjunction with other power development methods in a complete training programme to bridge the gap between maximum strength and explosive power. Scientific research has given us a fundamental understanding of the elastic properties of muscle

and its training ability (Jothi, 2010).

METHODOLOGY

For this purpose forty five (N=40) court games players (Volleyball & Basketball) studying in Yadava College Madurai, Tamilnadu were selected as subjects during the academic year 2012-2013. They were randomly divided into four groups of 10 each, Group I underwent Concurrent Training, Group II underwent Resistance Training, Group III underwent Plyometric Training and Group-IV acted as Control. The Experimental groups underwent the respective training for eight weeks duration. Among various speed parameters only Speed Endurance was selected as a dependent variable, and it was assessed by 150 meters run test (Seagrave, 1996).

RESULTS AND DISCUSSION

The data collected from the Experimental groups and Control group 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. Scheffe's test was applied as post-hoc test to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases.

Table - 1 Values of Analysis of Covariance for Experimental Groups on Speed Endurance

Dependent Variable	Adjusted Post test Means				Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
	Concurrent Training Group (I)	Resistance Training Group (II)	Plyometric Training Group (III)	Control Group (IV)					
Speed Endurance	7.36	6.97	7.08	6.94	Between With in	1.07 0.10	3 35	0.36 0.01	130.61*

* Significant at.05 level of confidence

(The table value required for Significance at 0 .05 level with df 3 and 35 is 2.87)

Table-1 shows that the adjusted post test mean value of Speed Endurance for Concurrent training, Resistance training, Plyometric training and control group are 7.36, 6.97, 7.08 and 6.94 respectively. The obtained F-ratio 130.61 for the adjusted post test mean is more than the table value 2.87 for df 3 and 35 required for significance at 0.05 level of confidence.

The results of the study indicate that there are significant differences among the adjusted post test means of Experimental Groups on the increase of Speed Endurance.

To determine which of the paired means had a significant difference, Scheffe's test was applied as Post hoc test and the results are presented in Table 2.

Table - 2
The Scheffe's test for the differences between the adjusted post tests paired means on Speed Endurance

Dependent Variables	Adjusted Post test Means				Mean Difference	Confidence Interval
	Concurrent Training Group (I)	Resistance Training Group (II)	Plyometric Training Group (III)	Control Group (IV)		
Speed Endurance	7.36	6.97	--	--	0.39*	0.31
	7.36	--	7.08	--	0.28	0.31
	7.36	--	--	6.94	0.42*	0.31
	--	6.97	7.08	--	0.11	0.31
	--	6.97	--	6.94	0.03	0.31
	--	--	7.08	6.94	0.14	0.31

* Significant at.05 level of confidence

Table 2 shows that the adjusted post test mean difference of Speed Endurance on Concurrent Training group and Resistance training group, Concurrent training group and Control group, are 0.39 and 0.42 respectively, these values are greater than the confidence interval value 0.31, which shows significant differences at 0.05 level of confidence.

The adjusted post test mean difference between Concurrent training group and Plyometric training group, Resistance training group and Plyometric training group, Resistance training group and Control group and Plyometric training group and Control groups are 0.28, 0.1, 0.03 and 0.14 respectively and they are lesser than the confidence interval value 0.31, which shows insignificant differences at 0.05 level of confidence.

It may be concluded from the results of the study that there is a significant difference in Speed Endurance between the adjusted post test means of Concurrent Training group and Resistance training group, Concurrent training group and Control group.

Further the results of the study concluded that there is no significant difference in Speed Endurance between Concurrent training group and Plyometric training group, Resistance training group and Plyometric training group, Resistance training group and Control group and Plyometric training group and Control groups.

It may be concluded that the Concurrent training group is better than the other Experimental groups in increasing Speed Endurance.

The adjusted post test mean value of Experimental groups on Speed Endurance is graphically represented in the Figure -1.

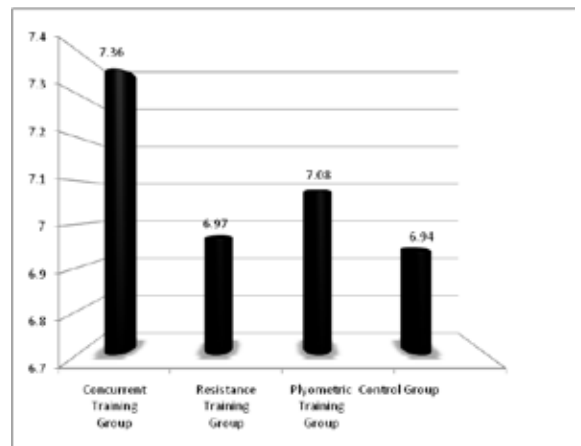


Figure-1:The Adjusted Post Tests Mean values of Experimental Groups on Speed Endurance

CONCLUSION

From the analysis of the data, the following conclusions were drawn.

1. The experimental groups namely, Concurrent training, Resistance training and Plyometric training had significantly improved in Speed Endurance.
2. The Concurrent training was found to be better than the Concurrent training, Resistance training in increase Speed Endurance.

REFERENCE

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