



Effects of Concurrent and Complex Training on Playing Ability among Male Kabaddi Players

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Abstract

The purpose of the study was to determine the effect of concurrent training and complex training on playing ability among male kabaddi players. To achieve the purpose of the present study, thirty six kabaddi players from various colleges of Bharathiar University, Coimbatore were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of twelve kabaddi players each. The study was formulated as a true random group design, consisting of a pre-test and post-test. The group I underwent concurrent training, group II underwent complex training and group III acted as a control group. The two experimental groups were participated the training for a period of twelve weeks to find out the outcome of the training packages and the control group did not participated in any training programme. Playing ability was assessed by subjective rating by three experts. The variable to be used in the present study was collected from all subjects before they have to treat with the respective treatments. It was assumed as pre-test. After completion of treatment they were tested again as it was in the pre-test on all variables used in the present study. This test was assumed as post-test. Analysis of covariance (ANCOVA) was applied. Whenever the adjusted post-test means were found significant, the scheffe's post-hoc test was administer to find out the paired means difference. To test the obtained results on variables, level of significance 0.05 was chosen and considered as sufficient for the study. The concurrent training and complex training group produced significant improvement on playing ability.

Keywords: Concurrent Training, Complex Training, Playing ability, Kabaddi.

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Introduction

Concurrent strength and endurance training is undertaken by numerous athletes in various sports in an effort to achieve adaptations specific to both forms of training. Many competitive endurance athletes incorporate resistance training into their training in a hope to improve endurance performance. However, as previously mentioned adaptations to exercise are generally considered to be specific to the training type of stimulus (Nelson, 1990). Although, many adaptations are specific to the type of training, some changes that occur with resistance training could influence endurance performance, which include: muscle fibre transformations and muscle fibre (type-I) hypertrophy, which may alter fibre recruitment patterns and help prevent muscle fatigue, as less motor units need to be activated for the same work load (Bishop and Jenkins, 1999). analysed endurance performance in 21 female subjects over a 12-week programme of strength training. They found that strength training did not reduce endurance performance and may actually improve endurance capacity in the long term.

Runners and cyclists may improve endurance performance via a resistive weight training programme, due to increases in the size of type-I fibres, changes in type-II subtype ratios, and myofibril contractile properties. These changes may allow individuals to exercise longer at a given sub maximal work rate by reducing the force contribution from each active myofibre or by using fewer myofibres. In conjunction, the myofibre changes may also allow individuals to delay the recruitment of less efficient type-II fibres (Tanaka and Swensen, 1998).

Complex training as the execution of a resistance-training exercise using a heavy load (1-5RM) followed relatively quickly by the execution of a biomechanically similar plyometric exercise. Complex training alternates biomechanically similar high load weight training exercises with plyometric exercises, set for set in the same workout. An example of complex training would include performing a set of squats followed by a set of jump squats. As in the case of plyometric training, complex training appears to have its origins in Eastern Europe (Lloyd & Deutsch, 2008).

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Methodology

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Results

Table 1

Computation of Analysis of Covariance of Mean of Concurrent Training, Complex Training and Control Groups on Playing ability (CONTG, COMTG & CG)

	CONTG	COMTG	CG	Source of Variance	Sum of Squares	Df	Means Squares	F-ratio
Pre-Test Means	3.66	4.00	3.41	BG	2.056	2	1.028	1.01
				WG	33.583	33	1.018	
Post-Test Means	8.00	7.66	3.75	BG	134.056	2	67.028	96.52*
				WG	22.917	33	0.694	
Adjusted Post-Test Means	7.99	7.71	3.71	BG	132.843	2	66.422	95.55*
				WG	22.245	32	0.695	

Table I reveals that the indicated that the obtained 'F'-ratio for the pre-test means among the groups on playing ability were 7.99 for experimental group – I, 7.71 for experimental group – II and 3.71 for control group. The obtained 'F'-ratio 1.01 was lesser than the table 'F'-ratio 3.21. Hence the pre-test mean 'F'-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. The post-test means were 8.00 for experimental group – I, 7.66 for experimental group – II and 3.75 for control group. The obtained 'F'-ratio 96.52 was higher than the table 'F'-ratio 3.21. Hence the post-test mean 'F'-ratio was

significant at 0.05 level of confidence for the degree of freedom 2 and 42. The adjusted post-test means were 7.99 for experimental group – I, 7.71 experimental group – II and 3.71 for control group. The obtained 'F'-ratio 95.55 was higher than the table 'F'-ratio 3.22. Hence the adjusted post-test mean 'F'-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. It was concluded that there was a significant mean difference among concurrent training group, complex training group and control group, in developing playing ability of the kabaddi players.

Table 2

The Scheffe's Test for the Differences between the Adjusted Post Test Means on Playing ability

Adjusted Post-test means			Mean Difference	Required CI
Concurrent Training	Complex Training	Control Group		
7.99	7.71	---	0.28	0.87
7.99	---	3.71	4.28*	
---	7.71	3.71	4.00*	

* Significant at 0.05 level of confidence

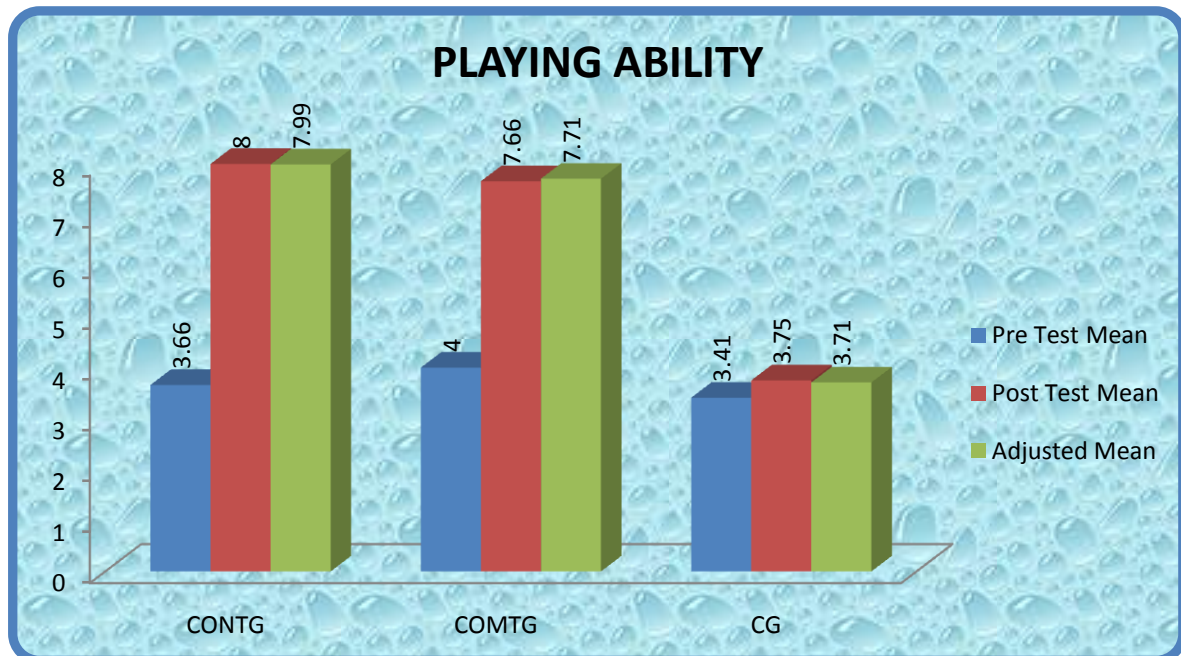
Table II shows the post hoc analysis obtained on adjusted post test means. The mean difference required for the confidential interval to be significant

was 1.87. It was observed that the concurrent training group significantly improved playing ability better than the control group. The complex training group

significantly improved playing ability better than the control group.

Figure 1

Adjusted Post Test Differences of the Concurrent Training, Complex Training and Control Groups on Playing ability (CONTG, COMTG & CG)



Conclusions

1. The concurrent training group produced significant improvement on playing ability.
2. The complex training group produced significant improvement on playing ability.
3. In the control group the variable was failed to reach the significant level.

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