ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Effect of Complex Training on Selected Physical Fitness Variables of Men Kabaddi Players

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Received 22nd November 2016, Accepted 28th December 2016

Abstract

The purpose of this study was to find out the effect of complex training on selected physical fitness variables among college men kabaddi players. To achieve the purpose of the present study, thirty men Kabaddi players from Ganesar College of Arts & Science, Pudukkottai, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen subjects each. Pre test was conducted for all the subjects on selected physical fitness variables. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group and Control Group in an equivalent manner. Experimental Group was exposed to complex training and Control Group underwent no training. The duration of experimental period was 12 weeks. After the experimental treatment, all the thirty subjects were tested on their selected endurance components. This final test scores formed as post test scores of the subjects. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study. In all cases 0.05 level of significance was fixed to test hypotheses. It was observed that the twelve weeks of complex training have significantly improved the selected physical fitness variables of kabaddi players.

Keywords: Complex Training, Physical Fitness, Kabaddi.

Introduction

The term training is widely used in sports. But there is some disagreement among coaches and sports scientists regarding the meaning of the word. Some experts understood that sports that sports training is basically doing physical exercise. For performing these physical exercise, the factors essentials are sports equipment and implements, verbal instructions, means of recovery, means of assessment of performance capacity, nutrition, psychological means etc., further advanced training of sports persons significantly supported by several sports science like sports medicine, sports psychology, sports nutrition, physiotherapy, sports physiology, biomechanics and other allied sciences (Fleck, 1999). Complex training, one of the most advanced forms of sports training, integrates strength training, plyometrics, and sport-specific movement. It consists of an intense strength exercise followed by a plyometric exercise. Complex training activates and works the nervous system and fast twitch muscle fibers simultaneously. The strength exercise activates the fast twitch muscle fibers (responsible for explosive power). The plyometric movement stresses those muscle fibers that have been activated by the strength training movement. During this activated state, the muscles have a tremendous ability to adapt. This form of intense training can teach slow twitch muscle fibers to perform like fast twitch fibers. Complex training, one of the most advanced forms of sports training, integrates strength training, plyometrics, and sport-specific movement. It consists of an intense strength exercise followed by a plyometric exercise. Complex training is a workout comprising of a resistance exercise followed by a matched plyometric exercise.

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Methodology

The purpose of this study was to find out the effect of complex training on selected physical fitness variables among college men kabaddi players. To achieve the purpose of the present study, thirty men Kabaddi players from Ganesar College of Arts & Science, Pudukkottai, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) were randomly assigned to two equal groups of fifteen subjects each. Pre test was conducted for all the subjects on selected physical fitness variables. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group and Control Group in an equivalent manner. Experimental Group was exposed to complex training and Control Group underwent no training. The duration

of experimental period was 12 weeks. After the experimental treatment, all the thirty subjects were tested on their selected endurance components. This final test scores formed as post test scores of the subjects. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study. In all cases 0.05 level of significance was fixed to test hypotheses.

Results

The descriptive measures and the results of analysis of covariance on the criterion measures were given in the following tables.

Table I. Computation of mean and analysis of covariance agility of experimental and control groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	11.48	11.49	BG	0.001	1	0.001	0.02
			WG	0.33	28	0.01	
Post Test Mean	11.09	11.55	BG	1.61	1	1.61	108.57*
			WG	0.41	28	0.01	
Adjusted Post Mean	11.09	11.55	BG	1.61	1	1.61	108.88*
			WG	0.40	27	0.01	

* Significant at 0.05 level

Table value for df 1, 28 was 4.20, df 1, 27 was 4.21

The above table indicates the adjusted mean value on agility of experimental and control groups were 11.09 and 11.55 respectively. The obtained F-ratio of 108.88 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on agility. The above table also indicates that both pre and post test means of experimental and control groups differ significantly. The pre, post and adjusted mean values of agility of both experimental and control groups are graphically represented in the figure-I.

Figure II. Shows the mean values on agility of complex training and control groups

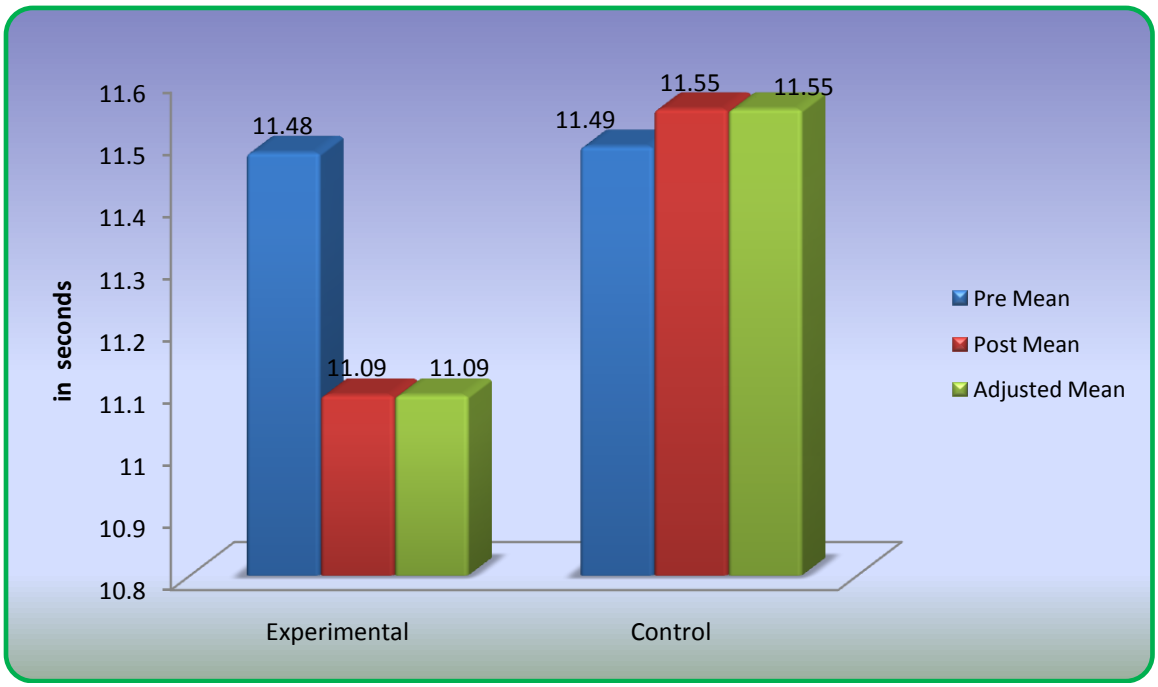


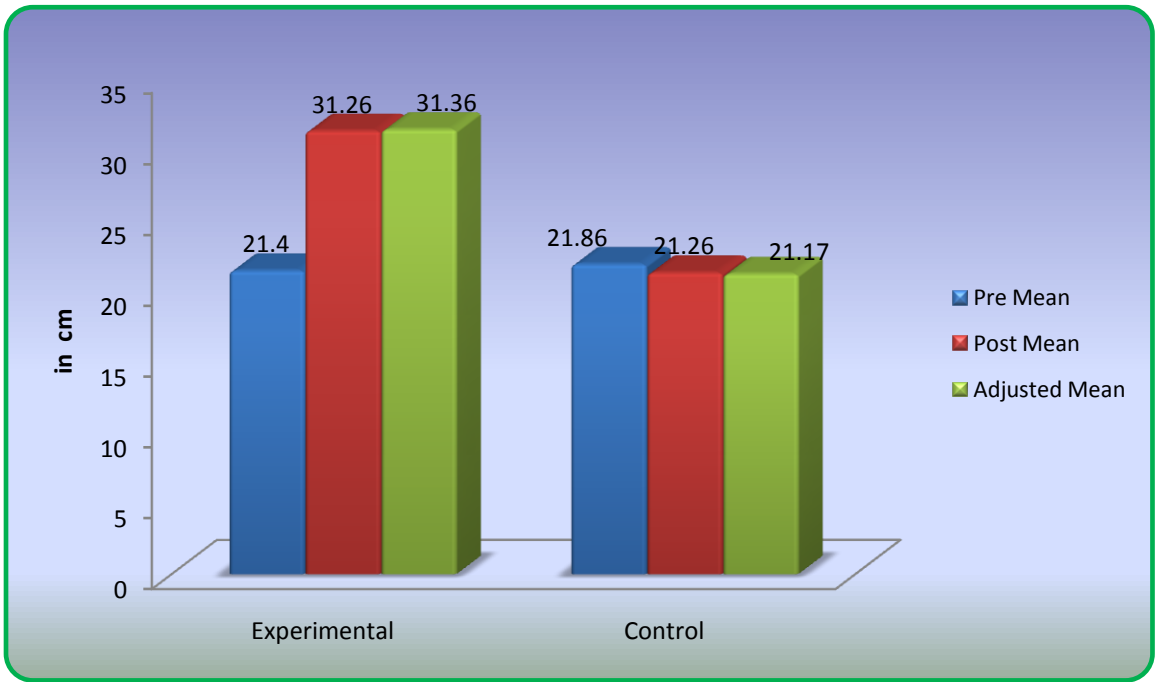
Table II. Computation of mean and analysis of covariance on flexibility of experimental and control groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	21.40	21.86	BG	1.63	1	1.63	0.37
			WG	123.33	28	4.40	
Post Test Mean	31.26	21.26	BG	750.00	1	750.00	116.75*
			WG	179.86	28	6.42	
Adjusted Post Mean	31.36	21.17	BG	768.43	1	768.43	129.95*
			WG	159.65	27	5.91	

* Significant at 0.05 level
Table value for df 1, 28 was 4.20, df 1, 27 was 4.21

The above table indicates the adjusted mean value of flexibility of experimental and control groups were 31.36 and 21.17 respectively. The obtained F-ratio of 129.95 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on flexibility. The above table also indicates that both pre and post test means of experimental and control groups also differ significantly. The pre, post and adjusted mean values of flexibility of both control and experimental groups are graphically represented in the figure-II.

Figure II. Shows the mean values on flexibility of complex training and control groups



Conclusion

It was observed that the twelve weeks of complex training have significantly improved the selected physical fitness variables of kabaddi players.

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