

Interval Training's Influence on Changes in Selected Strength Parameters among College Kabaddi Players

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ABSTRACT

The purpose of the study was to investigate the effect of interval training on changes in selected strength parameters among college kabaddi players. It was hypothesized that there would be significant differences on selected strength parameters due to the effect of interval training among college kabaddi players. For the present study, 30 male college kabaddi players from Affiliated Colleges of Bharathidasan University in Tiruchirappalli jurisdiction, Tamilnadu, were selected at random and their age ranged from 18 to 25 years. For the present study, pre-test-post-test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group "A" and Group "B". Group "A" underwent interval training and Group "B" has not undergone any training. Explosive strength was assessed by standing long jump and muscular strength was assessed by push-up test. The data were collected before and after 12 weeks of training. The data were analyzed by applying analysis of covariance. The level of significance was set at 0.05. Interval training has a positive impact on college kabaddi players' explosive strength and muscular strength.

Keywords: Interval training, Motor, Explosive strength, Muscular strength, Kabaddi

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INTRODUCTION

The main point of interval training is that if the work rate or intensity is increased, while the work duration remains constant, the athlete's work capacity will increase to higher levels.^[1,2] Interval training is a type of progressive conditioning, in which the intensity of the activity, duration of each bout, number of bouts, time or type of rest periods between bouts, or order of the bouts are all varied.^[3] Interval training variables include the number of repetitions, effort duration, work intensity, and recovery duration.^[4,5] Interval training can also have a significant impact on strength and power development. So far, it has been assumed that interval workouts consist solely of running at various speeds. Kabaddi has grown in popularity all over the world.^[6,7] Kabaddi is both an offensive and defensive sport.^[7] The attack, in particular, is an individual effort, whereas defense is a collaborative effort. As a result, strength is an inseparable component of athletic performance and achievement. The greater a person's strength, the more likely player is to achieve a higher level of performance.^[7,8]

METHODOLOGY

The purpose of the study was to investigate the effect of interval training on changes in selected strength parameters among college kabaddi players. It was hypothesized that there would be significant differences on selected strength parameters due to the effect of interval training among college kabaddi players. For the present study, 30 male college kabaddi players from Affiliated Colleges of Bharathidasan University in Tiruchirappalli jurisdiction, Tamilnadu, were selected at random and their age ranged from 18 to 25 years. For the present study, pre-test-post-test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group "A" and Group "B". Group "A" underwent interval training and Group "B" has not undergone any training. Explosive strength was assessed by standing long jump and muscular strength was assessed by

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push-up test. The data were collected before and after 12 weeks of training. The data were analyzed by applying analysis of covariance (ANCOVA). The level of significance was set at 0.05.

RESULTS

Tables 1 and 2 present the results of the analysis of covariance between the experimental and control groups on selected strength parameters among college kabaddi players for pre-post-tests.

Table 1 revealed that the obtained "F" value of 61.09 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of explosive strength of college kabaddi players between experimental group and control group. The graphical representation of data is presented in Figure 1.

Table 2 revealed that the obtained "F" value of 20.20 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of muscular strength of college kabaddi players between the experimental group and control group. The graphical representation of data is presented in Figure 2.

Table 1: ANCOVA between experimental group and control group on explosive strength of college kabaddi players for pre, post, and adjusted test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre-test mean	1.07	1.11	BG	0.07	1	0.07	0.03
			WG	53.46	28	1.90	
Post-test mean	1.18	1.13	BG	163.03	1	163.03	61.22*
			WG	74.56	28	2.66	
Adjusted post-mean	1.18	1.13	BG	151.56	1	151.56	61.09*
			WG	66.98	27	2.48	

*Significant at 0.05 level. df: 1/27=4.21

Table 2: ANCOVA between experimental group and control group on muscular strength of college kabaddi players for pre, post, and adjusted test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre-test mean	14.33	13.87	BG	12.10	1	12.10	2.23
			WG	151.76	28	5.42	
Post-test mean	17.45	14.01	BG	261.89	1	261.89	33.09*
			WG	221.56	28	7.91	
Adjusted Post mean	17.42	14.00	BG	168.48	1	168.48	20.20*
			WG	225.12	27	8.33	

*Significant at 0.05 level. df: 1/27=4.21

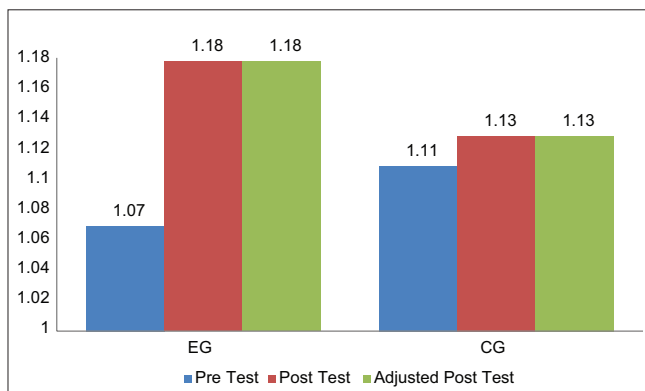


Figure 1: Comparisons of pre-test means, post-test means, and adjusted post-test means for the control group and experimental group in relation to explosive strength

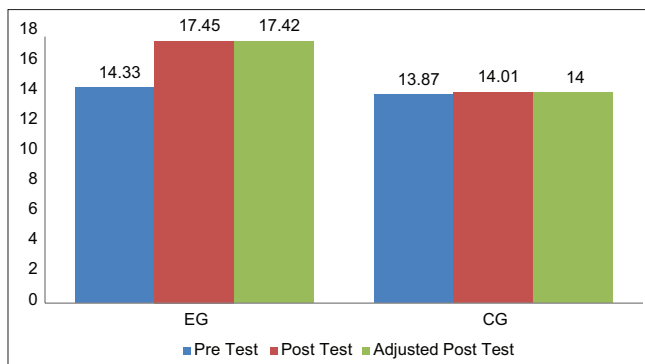


Figure 2: Comparisons of pre-test means, post-test means, and adjusted post-test means for the control group and experimental group in relation to muscular strength

DISCUSSIONS ON FINDINGS

In terms of strength metrics, such as explosive strength and muscular strength, the findings from the pre- and post-test (12 weeks) were shown to be considerably greater in the experimental group than in the control group. This is feasible because college kabaddi players may see a dramatic increase

in strength characteristics as a result of regular interval training. The results of this study show that 12-week interval training had a substantial influence on selected strength measures in college kabaddi players, such as explosive strength and muscular strength. As a result, the hypothesis previously established that an interval training program would have a significant influence on selected strength parameters, which was accepted.

CONCLUSION

1. Interval training has a positive impact on college kabaddi players' explosive strength and muscular strength.

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REFERENCES

1. Irandoust K, Taheri M. Effects of 8-week plyometric and strength training programs on selected physical fitness factors of elite kabaddi players. *Indian J Fundam Appl Life Sc* 2014;4:3942-8.
2. Knuttgen HG, Nordesjö LO, Ollander B, Saltin B. Physical conditioning through interval training with young male adults. *Med Sci Sports* 1973;5:220-6.
3. Faude O, Schnittker R, Schulte-Zurhausen R, Müller F, Meyer T. High intensity interval training vs. high-volume running training during pre-season conditioning in high-level youth football: A cross-over trial. *J Sports Sci* 2013;31:1441-50.
4. Bacon AP, Carter RE, Ogle EA, Joyner MJ. VO2max trainability and high intensity interval training in humans: A meta-analysis. *PLoS One* 2013;8:e73182.
5. Fajrin F, Kusnanik NW, Wijono V. Effects of high intensity interval training on increasing explosive power speed and agility. *J Phys Conf Ser* 2018;947:254-9.
6. Fagan CD, Doyle Baker PK. The effects of maximum strength and power training combined with plyometrics on athletic performance. *Med Sci Sports Exerc* 2000;32:24-7.
7. Rao C, Kabaddi V. *Native Indian Sports*. Patiala: NIS Publication; 1983.
8. Upadhyay V, Chowdhery A, Bhattacharyya M. Effect of high intensity interval training and slow, continuous training on VO2max of school going non-athlete males: A comparative study. *Br J Sports Med* 2010;44:i19.