

Effect of Aerobic Interval Training on Selected Physiological Variables among College Men players

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Abstract

The purpose of the study was to investigate the effect of aerobic interval training on physiological variables among college men players. To achieve the purpose of this study, thirty college men players from Arts and science college Kuhrha, were randomly selected as subjects. As per the records, their age ranged from 18 to 27 years. Anaerobic power was assessed using Margaria Kalamen Anaerobic Power test and body composition was calculated using Body Mass Index. True randomized experimental group design has been employed with two groups, namely imagery group and control group with 15 subjects each. Group I participated their treatments for a period of twelve weeks and no training were given to the control group. The two groups were statistically analysed by using analysis of covariance (ANCOVA). The findings of the present study have strongly indicates that aerobic interval training of twelve weeks have significant effect on physiological variables i.e. anaerobic power and BMI of college men players. Hence the hypothesis earlier set that aerobic interval training programme would have been significant effect on physiological variables in light of the same the hypothesis was accepted.

Keywords: Aerobic Interval Training, Anaerobic power, BMI, College Men Players.

Introduction:

Interval training is a type of physical training that involves a series of low- to high-intensity exercise workouts interspersed with rest or relief periods. The high-intensity periods are typically at or close to anaerobic exercise, while the recovery periods involve activity of lower intensity. Varying the intensity of effort exercises the heart muscle, providing a cardiovascular workout, improving aerobic capacity and permitting the person to exercise for longer and/or more intense levels. Aerobic interval training is a simple way to increase caloric burn during a workout and easily enhance weight loss efforts, without tacking on any extra time spent in the gym. This method of training involves methodically weaving a short, extra intense burst of exercise intermittently throughout a regular cardio workout routine. This technique causes the body to burn calories at a higher rate than it would during a workout consisting of a constant, steady pace.

Methodology:

The purpose of the study was to investigate the effect of aerobic interval training on physiological variables among college men players. To achieve the purpose of this study, thirty college men players from Arts and science college Kuhrha,

were randomly selected as subjects. As per the records, their age ranged from 18 to 27 years. Anaerobic power was assessed using Margaria Kalamen Anaerobic Power test and body composition was calculated using Body Mass Index. True randomized experimental group design has been employed with two groups, namely imagery group and control group with 15 subjects each. Group I participated their treatments for a period of twelve weeks and no training were given to the control group.

Statistical Technique

The data collected from the two groups prior to and post experimentation were statistically analyzed to find out the significant difference if any, by applying the analysis of covariance (ANCOVA). In all the cases statistical significance was fixed at 0.05 levels.

Results and Discussion:

The detailed procedure of analysis of data and interpretation were given below,

Table I.

Summary of Descriptive Statistics on Physiological variables among College men players

Experimental Group					Control Group						
S. No	Variables	Pre	SD (±)	Post	SD (±)	Adjusted Mean	Pre	SD (±)	Post	SD (±)	Adjusted Mean
01	Anaerobic power	12.025	1.25	14.305	1.47	143.051	12.0435	1.352	12.514	1.221	121.044
02	BMI	24.22	1.14	22.314	1.35	22.13	24.31	0.96	24.12	1.13	24.14

The table I show that the pre and post test means and standard deviation of two groups on physiological variables of college men players.

Variables

Table II.

Analysis of Variance of Pre Test Scores on Physiological variables among College men players

S.NO	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
01	Anaerobic power	BG	0.15	1	0.15	0.04
		WG	93.45	28	3.33	
02	BMI	BG	10.71	1	10.71	1.38
		WG	217.16	28	7.75	

*P < 0.05 Table F, df (1,28) (0.05) = 4.19

In table II, the results of analysis of variance of pre test scores on anaerobic power (0.04) and BMI (1.38) were lesser than the table value of 4.19 indicating that it was not significant for the degrees of freedom (1,28) at 0.05 level of confidence indicating that the random sampling was successful.

In table III, the results of analysis of variance of post test scores on anaerobic power (45.21) and BMI (98.11) were greater than the table value of 4.19 indicating that it was not significant for the degrees of freedom (1,28) at 0.05 level of confidence.

Table III.

Analysis of Variance of Post Test Scores on Physiological variables among College men players

Sl. No	Variable	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Anaerobic power	BG	244.03	1	244.03	45.21*
		WG	151.13	28	5.39	
2		BG	874.80	1	874.8	98.11*
		WG	249.66	28	8.91	

* P < 0.05 Table F, df (1,28) (0.05) = 4.19

Table IV.

Analysis of Covariance of Adjusted post test scores on Physiological variables among College men players

Sl. No	Variable	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Anaerobic power	BG	274.83	1	274.83	49.73*
		WG	149.21	27	5.52	
2		BG	853.28	1	853.28	85.34*
		WG	269.95	27	9.99	

* P < 0.05 Table F, df (1,27) (0.05) = 4.21

In table IV, the results of analysis of covariance of adjusted post test scores anaerobic power (49.73) and BMI (85.34) were greater than the table value of 4.21 indicating that it was not significant for the degrees of freedom (1,27) at 0.05 level of confidence.

In case of physiological variables i.e. anaerobic power and BMI the results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group. The findings of the present study have strongly indicates that aerobic interval training of twelve weeks have significant effect on physiological variables i.e. anaerobic power and BMI of college men players. Hence the hypothesis earlier set that

aerobic interval training programme would have been significant effect on physiological variables in light of the same the hypothesis was accepted.

Conclusions

In the light of the study undertaken with certain limitations imposed by the experimental conditions, the following conclusion was drawn. The result of the study reveals that there was a significant improvement in the experimental group on selected variables when compared to the control group after the completion of twelve weeks of imagery training.

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