Indo American Journal of Multidisciplinary Research and Review
ISSN: 2581 - 6292 / Website: www.iajmrr.com

EFFECT OF CIRCUIT TRAINING ON CARDIO RESPIRATORY ENDURANCE AMONG HOCKEY PLAYERS

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Cite This Article: Dr. M. Sathish & Dr. K. Rajeshkumar, "Effect of Circuit Training on Cardio Respiratory Endurance among Hockey Players", Indo American Journal of Multidisciplinary Research and Review, Volume 2, Issue 2, Page Number 37-38, 2018.
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Abstract:

The purpose of the study was to find out the effect of circuit training on cardio respiratory endurance among hockey players. To achieve the purpose of the present study, thirty hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into two equal groups at random. The subjects were divided into two equal groups of fifteen players each. Group I acted as Experimental Group (circuit training) and Group II acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences. In all cases 0.05 level of significance was fixed to test hypotheses. The experimental group had achieved significant improvement on cardio respiratory endurance than the control group.

Key Words: Circuit Training, Cardio respiratory Endurance.

Introduction:

Circuit training is an effective organizational form of doing physical exercises for improving all physical fitness components. Before and after training, the initial and final tests were conducted for the variables such as speed, agility, power, co-ordination, static balance and dynamic balance for the experimental and control groups. Circuit training was given for eight weeks for alternate days. The study showed that the skill related fitness components such as speed, agility, coordination, power, static balance and dynamic balance were significantly improved due to circuit training among college men soccer players. The maximum improvement attained at the sixth week of training. The problem in many cases has been the system of circuit or weight training employed and the fears of the possible side effects of strength training on speed, endurance, flexibility and so on. Circuit training is a new method of conditioning in the esteemed sports field. It is a method of physical conditioning that employs both weight training and conditioning exercises. The unique contribution to sports training called the circuit training has come to us from England. It aims at developed the heart core of basic fitness. It is based on very extensive study and research by the sport and physical condition department (Kumar & Kumar, 2005).

Methodology:

The purpose of the study was to find out the effect of circuit training on cardio respiratory endurance among hockey players. To achieve the purpose of the present study, thirty hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into two equal groups at random. The subjects were divided into two equal groups of fifteen players each. Group I acted as Experimental Group (circuit training) and Group II acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences. In all cases 0.05 level of significance was fixed to test hypotheses.

Results and Discussion:

Table 1: Computation of Mean and Analysis of Covariance of Cardio respiratory Endurance of Experimental and Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	DF	Mean Square	F
Pre Test Mean	116.93	118.13	BG	10.80	1	10.80	0.23
			WG	1284.66	28	45.88	
Post Test Mean	102.53	117.20	BG	1613.33	1	1613.33	27.14*
			WG	1664.13	28	59.43	
Adjusted Post Mean	102.98	116.75	BG	1407.52	1	1407.52	41.07*
			WG	925.47	27	34.27	

* Significant at 0.05 level

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

The above table indicates the adjusted mean value of cardio respiratory endurance of experimental and control groups were 102.98 and 116.75 respectively. The obtained F-ratio of 41.07 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 cardio respiratory endurance. The above table also indicates that both pre and post test means of experimental and control groups also differ significantly.

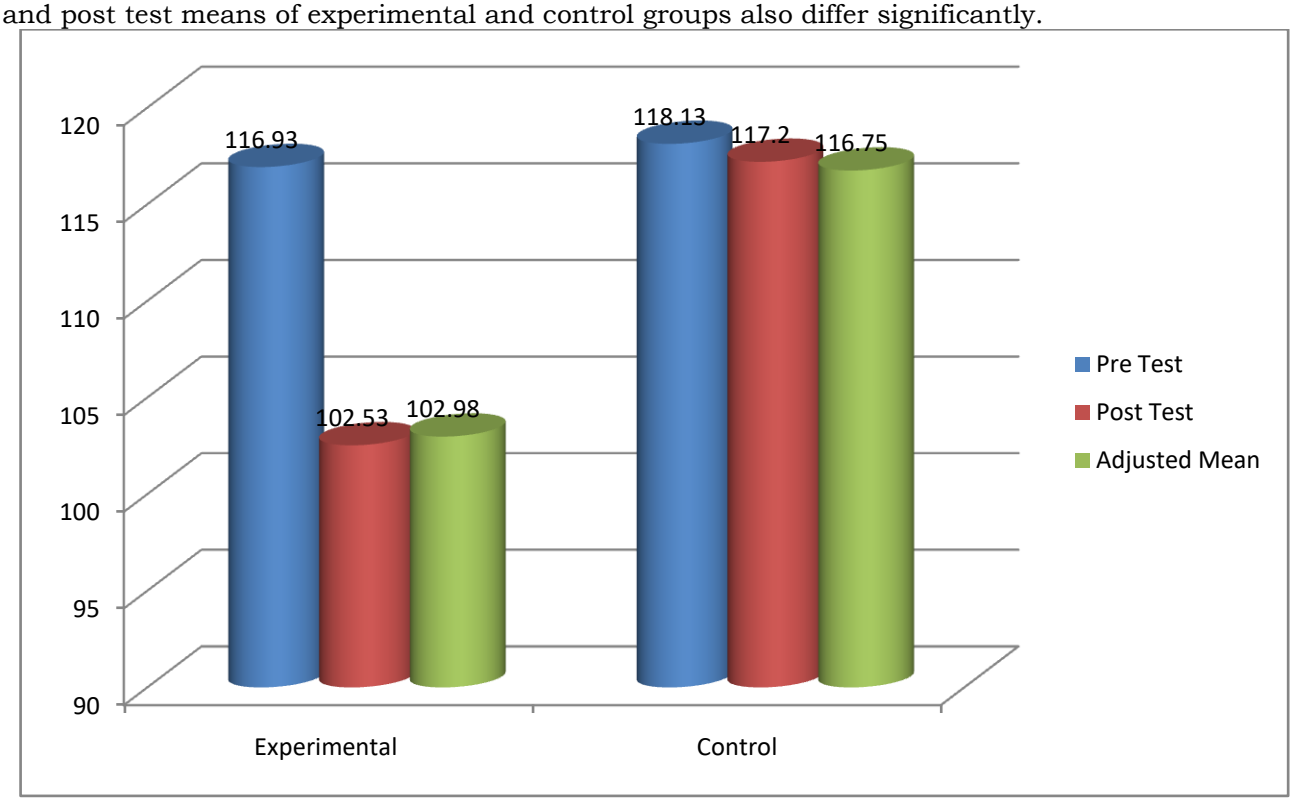

Figure 1

Conclusion:

The experimental group had achieved significant improvement on cardio respiratory endurance than the control group.

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