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EFFECT OF INTERVAL TRAINING AND CIRCUIT TRAINING ON EXPLOSIVE POWER AMONG HOCKEY PLAYERS



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ABSTRACT

The aim of the study was to find out the Effect of Interval training and Circuit training on Explosive power among Hockey Players. The investigator randomly selected 90 Hockey Players, who competed at inter collegiate level sports meets representing different colleges in Tirupati District. They were divided into three groups at random again consisting thirty subjects in each group and they were randomly assigned as experimental group I (Interval training) and Experimental group II (Circuit training) and control group. The experimental group underwent circuit training for eight weeks three days per week and a session on each day. It was measured by Vertical Jump test. The difference between the pre-test and post-test means were subjected to statistical treatment using ANCOVA, In all cases 0.05 level was fixed to test the hypothesis of the study, which was considered as an appropriate. It was concluded from the result of the study that there was a significant improvement ($p \leq 0.05$) due to Interval training and circuit training on Explosive power as compared to control group.

Keywords: Interval training, Circuit training & Explosive power.

INTRODUCTION

Fitness is defined as the ability to do athletic activities through good nutrition, exercise, and rest. The ability to operate is determined by the physical, mental, emotional, social, and spiritual components of fitness, all of which are interconnected and psychologically autonomous. This is referred to as overall fitness. The word circuit training refers to the organization of a workout rather than the type of activity performed.

‘Curiosity is the best Quality of a Good Researcher’

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It usually consists of a sequence of exercises or stations performed in rapid succession with little respite in between. Circuit routines enable athletes and coaches to design an infinite number of sessions and bring diversity to routine training programmes. Athletes can increase their strength and endurance through circuit training by increasing the repetitions of exercise at each station or by doing the needed frequencies of exercise in a shorter length of form. Athletes can gain strength and endurance by gradually decreasing the time it takes to complete the circuit if the work load is kept constant. The suitability of exercise for competitive training is defined exclusively as to how useful it is for development of performance in a given competitive event. Exercise must be suitable for developing the pre-requisites of performance necessary for competitive form of sports, in accordance with the demands of the performance structure over a long period. They must also steadily increase load tolerance, develop athletic performance itself in an optimum and stable way and bring about accelerated recovery.

DESIGN OF THE STUDY

The aim of the study was to find out the Effect of Interval training and Circuit training on Explosive power among Hockey Players. The investigator randomly selected 90 Hockey Players, who competed at inter collegiate level sports meets representing different colleges in Tirupati District were selected as subjects and the age of students were between 17 and 21 years. The selected subjects were randomly divided into three equal groups of thirty subjects each ($n = 30$). Experimental group I is assigned as Interval training and Experimental group II is assigned as circuit training Exercises and control group. During the training period, the experimental groups underwent their respective training programme for eight weeks 3 days per week. Control group (CG), who did not participate in any specific training. Explosive power was selected as dependent variable for this study. It was measured by Vertical Jump test. The collected data were statistically examined by analysis of covariance (ANCOVA). The confidence level was fixed at 0.05 levels, which is appropriate to the present study



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RESULTS AND DISCUSSIONS

Table No- I
Analysis of Covariance on Explosive Power of Interval training, Circuit training and Control Group

	INTERVAL TRAINING	CIRCUIT TRAINING	CONTROL GROUP	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	58.27	57.63	56.73	Between	35.62	2	17.81	0.55
				Within	2798.70	87	32.17	
Post Test Mean	66.27	63.63	57.27	Between	1284.69	2	642.344	16.44*
				Within	3398.70	87	39.07	
Adjusted Post Test Mean	65.78	63.57	57.82	Between	1001.51	2	500.76	20.36*
				Within	2115.64	86	24.60	
Mean Diff	8.00	6.00	0.53					

Table F-ratio at 0.05 level of confidence for 2 and 87 (df) = 3.10, 2 and 86 (df) 3.10.
 *Significant

As shown in Table I, the obtained pre test means on Explosive power on Interval Training group was 58.27, Circuit training group was 57.63 was and control group was 56.73. The obtained pre test F value was 0.55 and the required table F value was 3.16, which proved that there was no significant difference among initial scores of the subjects. The obtained post test means on Explosive power on Interval Training group was 66.27, Circuit training group was 63.63 was and control group was 57.27. The obtained post-test F value was 16.44* and the required table F value was 3.16, which proved that there was significant difference among post test scores of the subjects.

Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 20.36* was greater than the required value of 3.16 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe’s Confidence Interval test. The results were presented in Table II.

Table No-II
Scheffe’s Confidence Interval Test Scores on Explosive power

MEANS				Required C I
Interval Training Group	Circuit Training Group	Control Group	Mean Difference	
65.78	63.57		2.20	3.19
65.78		57.82	7.96*	3.19
	63.57	57.82	5.76*	3.19

* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Interval Training group and control group (MD: 7.96*). There was significant difference between circuit training group and control group (MD: 5.76*). There was no significant difference between treatment groups, namely, Interval Training group and circuit training group. (MD: 2.20).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure I.

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