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AMPLIFYING SPORTS PERFORMANCE THROUGH VARIED SPORTS TRAINING CAPSULES ON SELECTED PHYSIOLOGICAL PARAMETERS AMONG COLLEGE LEVEL BASKETBALL PLAYERS

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Abstract

The present study was designed to find out the outcomes of varied sports training methods on selected Physiological parameters among college level basketball players. To attain the purpose, forty five (N=45) men basketball players were selected as subjects. The subjects were divided at random into three groups of fifteen each (n=15). Group-I underwent Plyometric Training, Group-II underwent Intermittent Training and Group III acted as control. The experimental groups underwent the respective training for a period of 12 weeks (3 days/week), whereas the control remained neutral, Physiological parameters such as Resting Pulse Rate and Breath Holding Time were selected, and it was assessed before and after the training period. Data were collected and statistically analyzed using ANCOVA. Scheffe's post hoc test was applied to determine the significant difference between the paired means. In all the cases 0.05 level of significance was fixed. The resulting data revealed that 12 weeks of Plyometric Training group and Intermittent Training group were found to be benefitted in improving the Resting Pulse Rate and Breath Holding Time among basketball players when compared to control. It is predominantly effective in Intermittent Training group than Plyometric Training group.

Keywords: Intermittent Training, Plyometric Training, Resting Pulse Rate and Breath Holding Time

INTRODUCTION

The word training means different things in different fields. In sports the word training is generally understood to be synonym of doing exercise. In a narrow sense training is physical exercise for the improvement of performance. Training involves constructing an exercise programme to develop an athlete for a particular event. This increasing skill and energy capacities are equal consideration (Singh, 1991).Plyometrics is the term now applied to exercises that have their roots in Europe, where they were first known simply as jump training. Interest in this jump training increased during the early 1970s as East European athletes emerged as powers on the world sport scene. As the Eastern bloc countries began to produce superior athletes in such sports as track and field, gymnastics and weight lifting the mystique

of their success began to center on their training methods.

Plyometric training can take many forms, including jump training for the lower extremities and medicine ball exercises for the upper extremities. Jump training exercises were classified according to the relative demands they placed on the athlete. All the exercises are progressive in nature, with a range of low to high intensity in each type of exercise. The classification of exercises is jumps in place; standing jumps; multiple hops and jumps, bounding, box drills and depth jumps (Ebben, 2007).Intermittent exercises of various types are best known where they have been employed as components to endurance sports. Disciplines such as distance running, road cycling racing, and mountain biking require the body to produce the energy necessary for physical performance through the aerobic energy system, which primarily utilizes stores of carbohydrate products, in the form of glycogen reduced, as energy is required, to the sugar glucose. To generate energy, the body through the cardiovascular system transports oxygen and other nutrients essential for muscle function. The greater the ability of the heart to pump blood volume to the muscles, the more efficient the production of energy and the removal of wastes such as carbon dioxide will be (Sim et al., 2015).

METHODOLOGY

The study was conducted on forty five (N=45) men basketball players who served as subjects. The Subjects were randomly assigned equally into three groups. Group-I underwent Plyometric Training, Group-II underwent Intermittent Training and Group III acted as control. The experimental groups underwent the respective training for a period of 12 weeks (3 days/week), whereas the control remain as normal with regular routine life. Among the various Physiological parameters only Resting Pulse Rate and Breath Holding Time were selected as dependent variables. Resting Pulse Rate and Breath Holding Time was assessed Manual method. All the three groups were tested on selected Resting Pulse Rate and Breath Holding Time were analyzed before and after the training period.

ANALYSIS OF THE DATA

The data collected from the experimental groups and control group on prior and after experimentation on selected variables were statistically examined by analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted post test means on selected criterion variables separately. Whenever they obtained f-ratio value in the simple effect was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of significance was fixed. The Analysis of covariance (ANCOVA) on Resting Pulse Rate and Breath Holding Time of Experimental Groups and Control group have been analyzed and presented in Table -1.

Table – 1
Values of Analysis of Covariance for Experimental Groups and Control Group on Resting Pulse Rate and Breath Holding Time

Certain Variables	Adjusted Post test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
	Plyometric Training Group – (I)	Intermittent Training Group – (II)	Control Group – (III)					
Resting Pulse Rate	72.89	72.09	75.01	Between With in	67.85 17.20	2 41	33.92 0.42	80.86*
Breath Holding Time	31.64	33.75	28.88	Between With in	178.97 30.89	2 41	89.49 0.75	118.77*

**** Significant at.05 level of confidence***
(The table value required for Significance at .05 level with df 2 and 41 is 3.23)

Table-1 shows that the adjusted post test mean value of Resting Pulse Rate and Breath Holding Time for Plyometric Training, Intermittent Training and Control Group, are 72.89, 72.09, 75.01, 31.64, 33.75 and 28.88 respectively. The obtained F-ratio of 80.86 and 118.77 for the adjusted post test mean is more than the table value of 3.23 for df 2 and 41 required for significance at 0.05 level of confidence. The

Table 2 shows that the adjusted post test mean difference Resting Pulse Rate and Breath Holding Time on Plyometric Training group and Intermittent Training group, Plyometric Training group and Control group, Intermittent Training group and Control group are 0.80, 2.12, 2.92, 6.24, 6.02 and 12.26 respectively, these values are greater than the confidence interval value 0. 60 and 0.81 which shows significant differences at 0.05 level of confidence. It may be concluded from the results of the study that there is a significant difference in results of the study indicate that there are significant differences among the adjusted post test means of Experimental Groups and Control Group on the significant increase of Resting Pulse Rate and Breath Holding Time. To determine which of the paired means had a significant difference, Scheffe's test was applied as Post hoc test and the results are presented in Table 2.

Resting Pulse Rate and Breath Holding Time between the adjusted post test means of Plyometric Training group and Intermittent Training group, Plyometric Training group and Control group, Intermittent Training group and Control group. However, the improvement in Resting Pulse Rate and Breath Holding Time was significantly decreased for Intermittent Training group than Plyometric Training group and Control Group. It may be concluded that the Intermittent Training group is better than the other Plyometric Training group in

improving Resting Pulse Rate and Breath Holding Time.

The adjusted post test means values of experimental groups and control group on Resting Pulse Rate and Breath Holding Time are graphically represented in the Figure-1 and Figure-2.

Table - 2
The Scheffe's test for the differences between the adjusted post tests paired means on Resting Pulse Rate and Breath Holding Time

Certain Variables	Adjusted Post test Means			Mean Difference	Confidence Interval
	Plyometric Training Group – (I)	Intermittent Training Group – (II)	Control Group – (III)		
Resting Pulse Rate	72.89	72.09		0.80*	0.60
	72.89		75.01	2.12*	0.60
		72.09	75.01	2.92*	0.60
Breath Holding Time	31.64	33.75		6.24*	0.81
	31.64		28.88	6.02*	0.81
		33.75	28.88	12.26*	0.81

**** Significant at.05 level of confidence***

FIGURE-1
BAR DIAGRAM ON ORDERED ADJUSTED MEANS OF RESTING PULSE RATE

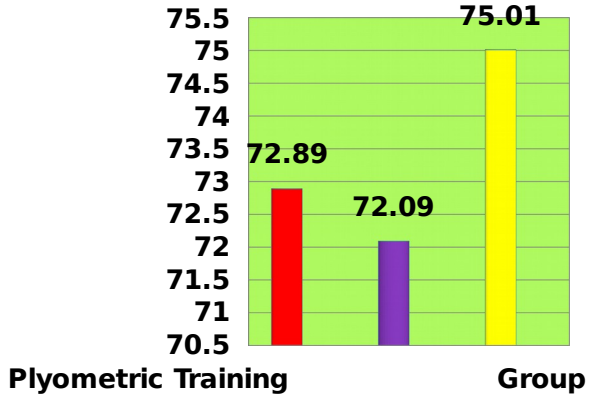
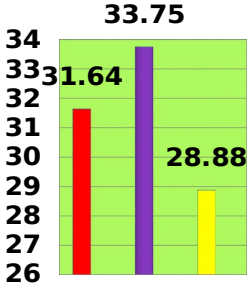


FIGURE-2
BAR DIAGRAM ON ORDERED ADJUSTED MEANS OF BREATH HOLDING TIME



CONCLUSION

From the analysis of the data, the following conclusions were drawn. Significant differences in achievement were found between Plyometric Training group, Intermittent Training group and Control group in the selected criterion variables such as Resting Pulse Rate and Breath Holding Time. The Experimental groups namely, Plyometric Training and Intermittent Training group had significantly improved in Physiological Fitness variables such as Resting Pulse Rate and Breath Holding Time. The Intermittent Training was found to be better than the Plyometric Training group in increasing Resting Pulse Rate and Breath Holding Time.

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