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EFFECTS OF AEROBIC AND CIRCUIT TRAINING ON FLEXIBILITY AMONG FOOTBALL PLAYERS

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Abstract:

The purpose of the study was to find out the effects of aerobic training and circuit on flexibility of men football players. To achieve this purpose of the study, sixty football players from Tamilnadu Physical Education and Sports University, Chennai were tested. They were divided into three equal groups of each twenty subjects. The group I aerobic training group, group II circuit training group conducted test for three days per week for twelve weeks and group III acted as control. The flexibility was assessed by sit and reach in centimeters. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme as pre and post test selection. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases .05 level of confidence was fixed to test the significance, which was considered as appropriate. The results of the study revealed that there was an improvement as per selected criterion variables namely flexibility with respect to aerobic training and circuit training.

Key Words: Aerobic, Circuit, Flexibility, Football.

Introduction:

In the last few decades sports have gained tremendous popularity all over the globe. The popularity of sports is still increasing at a fast pace and this happy trends is likely to continue in the future also. Performance sports aim at high sports performance and for that the physical and physique and psychic capacities of sportsmen are developed to extreme limits. Physical fitness is now defined as body's ability to do functions effectively and effectively in work and leisure activities, to be healthy, to resist hypo kinetic diseases, and to meet emergency situations. Physical fitness is the capacity of the heart, blood vessels, lungs and muscles to function at optimum efficiency. "Aerobics" basically means living or working with oxygen. Aerobics or endurance exercises are those in which large muscle groups are used in rhythmic repetitive fashion for prolonged periods of time which has a positive impact on football players. (Guo, 2018).

Methodology:

The purpose of the study was to find out the effects of aerobic training and circuit on flexibility of men football players. To achieve this purpose of the study, sixty football players from Tamilnadu Physical Education and Sports University, Chennai were tested. They were divided into three equal groups of each twenty subjects. The group I aerobic training group, group II circuit training group conducted test for three days per week for twelve weeks and group III acted as control. The flexibility was assessed by sit and reach in centimeters. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme as pre and post test selection. Analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the groups on each selected criterion variables separately. In all the cases .05 level of confidence was fixed to test the significance, which was considered as appropriate. During the training period, the subjects were selected at random and were into three groups. Group I aerobic training, group II circuit training programme, for three days per week for twelve weeks. The data was collected from three groups at prior to and after completion of the training period on selected criterion variables were statistically examined for significant difference if any, by applying analysis of covariance (ANCOVA). The Scheffe's post hoc test was also applied to know the significant difference between groups. The obtained 'F' ratio was also significant. In all cases .05 level of confidence was utilized to test the significance.

Results:

Table 1: Analysis of Covariance of the Data on Flexibility of Pre and Post Tests Scores of Aerobic Training Group, Circuit Training Group and Control Group

	Aerobics	Circuit	Control	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained F
Pre Test Mean	10.45	10.50	10.40	Between	0.10	2	0.05	0.06
				Within	46.75	57	0.82	
Post Test Mean	11.65	12.15	10.65	Between	23.33	2	11.67	11.95*
				Within	55.65	57	0.98	

Adjusted Post Test Mean	11.67	12.11	10.69	Between	20.92	2	10.46	23.58*
				Within	24.84	56	0.44	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 57 and 2 and 56 are 3.16 and 3.17 respectively).

Table 1 shows that the pre-test means on flexibility of aerobic training group, circuit training group and control group are 10.45, 10.50 and 10.40 respectively. The obtained 'F' ratio value 0.06 is less than the required table value 3.16 for 2 and 57 at .05 level of confidence on flexibility. The post-test means on flexibility of aerobic training group, circuit training group and control group are 11.65, 12.15 and 10.65 respectively. This obtained 'F' ratio value 11.95 is greater than the required table value 3.16 for 2 and 57 at .05 level of confidence on flexibility. The adjusted post-test means on flexibility of aerobic training group, circuit training group and control group are 11.67, 12.11 and 10.69 respectively. This obtained 'F' ratio value 11.48 for adjusted post-test is greater than the required table value 3.17 for 1 and 56 at .05 level of confidence on flexibility. The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobic training group, circuit training group and control group on flexibility. Since, three groups were compared, whenever the obtained 'F' ratio for adjusted post test was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table 2.

Table 2: The Scheffe's Test for the Differences between Paired Means on Flexibility

Means			**Mean Difference**	**Required CI**
Aerobics	**Circuit**	**Control**		
11.67	12.11	-	0.44	0.53
11.67	-	10.69	0.98*	0.53
-	12.11	10.69	1.42*	0.53

* Significant at 0.05 level of confidence

The table 2 shows that the mean difference values between aerobic training group and Circuit training group, aerobic training group and control group, Circuit training group and control group, 0.44, 0.98 and 1.42 respectively on flexibility. The CI value was 0.53 significance. The results of this study showed that there was a significant difference between aerobic training group and control group, Circuit training group and control group on flexibility.

Conclusions:

- It was concluded that aerobic exercises and circuit groups were significantly improved flexibility of the college men.
- It was concluded that aerobic exercises and circuit practice groups were significantly reduced anxiety of the college men.

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