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AFFLUENCE OF AEROBIC INTERVAL RUNNING ON SELECTED MOTOR FITNESS VARIABLES AMONG COLLEGE MEN FOOTBALL PLAYERS

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Abstract:

The purpose of the study was designed to examine the effect of aerobic interval running on cardio respiratory endurance and strength endurance among college men football players. For the study, thirty college men Football players studying in RNS First Grade College, Bengaluru, Karnataka, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent aerobic interval running for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables, namely cardio respiratory endurance and strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables namely cardio respiratory endurance and strength endurance by using leg lift with dynamometer and bend knee sit ups at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate. The results of the study showed that there was a significant difference between aerobic interval running group and control group on cardio respiratory endurance and strength endurance. And also, it was found that there was a significant improvement on selected criterion variables such as cardio respiratory endurance and strength endurance due to aerobic interval running.

Introduction:

Aerobic interval running is a type of training that involves alternating between periods of high-intensity running and low-intensity recovery periods. This type of training is commonly used to improve cardiovascular fitness, endurance, and overall athletic performance. Motor fitness variables refer to various aspects of physical fitness related to movement and coordination. These variables can include agility, balance, coordination, speed, power, and reaction time.

Aerobic interval running can enhance cardiovascular endurance, which is beneficial for overall motor fitness as it allows individuals to sustain physical activity for longer durations without experiencing fatigue. Interval running involves bursts of high-intensity sprints followed by recovery periods. This type of training can improve speed and agility, which are essential components of motor fitness, particularly in sports that require quick movements and changes in direction.

Interval running can help improve reaction time, especially if the training involves drills that require rapid responses to stimuli. This is crucial for athletes participating in sports that demand quick decision-making and reflexes. While interval running primarily focuses on cardiovascular endurance and speed, it can indirectly contribute to better balance and coordination by engaging various muscle groups and improving overall body awareness. Interval running can also contribute to the development of power, which is essential for explosive movements such as jumping and sprinting. This can have a positive impact on motor fitness variables related to strength and power output.

Incorporating aerobic interval running into a training regimen can positively influence various motor fitness variables, leading to improved athletic performance and overall physical well-being. However, it's essential to design training programs tailored to individual needs and goals while considering factors such as fitness level, age, and specific sport requirements. Additionally, incorporating a variety of exercises and training modalities can help target different aspects of motor fitness for comprehensive development.

Methodology:

The purpose of the study was designed to examine the effect of aerobic interval running on cardio respiratory endurance and strength endurance among college men football players. For the study, thirty college men Football players studying in RNS First Grade College, Bengaluru, Karnataka, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent aerobic interval running for three days per week for twelve weeks. Group II acted as control who did

not undergo any special training programme apart from their regular physical education programme. The following variables, namely cardio respiratory endurance and strength endurance were selected as criterion variables. All the subjects of the two groups were tested on selected dependent variables namely cardio respiratory endurance and strength endurance by using leg lift with dynamometer and bend knee sit ups at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference if any among the groups. The .05 level of confidence was fixed as the level of significance to test the 'F' ratio obtained by the analysis of covariance, which was considered appropriate.

Analysis of the Data:

Cardio Respiratory Endurance:

The analysis of covariance on cardio respiratory endurance of the pre and post test scores of aerobic interval running group and control group have been analyzed and presented in table 1.

Table 1: Analysis of Covariance of the Data on Cardio Respiratory Endurance of Pre and Post Tests Scores of Aerobic Interval Running and Control Groups

Test	Aerobic Interval Running Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	1382.00	1370.00	Between	1080.00	1	1080.00	0.52
S.D.	43.85	33.51	Within	58640.00	28	2094.29	
Post Test							
Mean	1452.00	1379.33	Between	39603.33	1	39603.33	12.50*
S.D.	44.57	46.40	Within	88736.67	28	3169.17	
Adjusted Post Test							
Mean	1446.98	1384.35	Between	28887.96	1	28887.96	96.04*
			Within	8121.71	27	300.80	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table 1 shows that the adjusted post-test means of aerobic interval running group and control group are 1446.98 and 1384.35 respectively. The obtained "F" ratio of 96.04 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on cardio respiratory endurance.

The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobic interval running group and control group on cardio respiratory endurance.

Strength Endurance:

The analysis of covariance on strength endurance of the pre and post test scores of aerobic interval running group and control group have been analyzed and presented in table 2.

Table 2: Analysis of Covariance of the Data on Strength Endurance of Pre and Post Tests Scores of Aerobic Interval Running and Control Groups

Test	Aerobic Interval Running Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	36.53	36.80	Between	0.53	1	0.53	0.18
S.D.	1.71	2.43	Within	84.13	28	3.00	
Post Test							
Mean	44.80	36.93	Between	464.13	1	464.13	22.05*
S.D.	1.64	1.57	Within	589.47	28	21.05	
Adjusted Post Test							
Mean	44.92	36.81	Between	490.42	1	490.42	244.63*
			Within	54.13	27	2.00	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively).

The table 2 shows that the adjusted post-test means of aerobic interval running group and control group are 44.92 and 36.81 respectively. The obtained "F" ratio of 244.63 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on strength endurance.

The results of the study indicated that there was a significant difference between the adjusted post-test means of aerobic interval running group and control group on strength endurance.

Conclusions:

- There was a significant difference between aerobic interval running group and control group on cardio respiratory endurance and strength endurance.
- And also, it was found that there was a significant improvement on selected criterion variables such as cardio respiratory endurance and strength endurance due to aerobic interval running.

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