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EFFECT OF AEROBIC TRAINING WITH AND WITHOUT MASSAGE MANIPULATION ON SPEED PARAMETER OF COLLEGE MEN PLAYERS

Physical Education

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ABSTRACT

The purpose of the study was to find out the effect of aerobic training with and without massage manipulation of speed parameter of college men players. For this purpose, forty five (N=45) men students who participated in Anna University intercollegiate tournament during the year 2015-2016, were selected randomly as subjects. They were divided into three equal groups of fifteen (n=15), namely Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group, and group III (Control group) that did not involve in any training. The training period was limited to ten days per week for twelve weeks. The dependent variable selected for this study was Speed, and it was assessed by 30 meters run test. All the subjects were tested prior to and immediately after the experimental period on the selected dependent variable. The collected data were analyzed by using dependent 't'-test to find out significant improvements. Analysis of covariance (ANCOVA) was used to determine the differences, if any, among the adjusted post-test means. Whenever 'F'-ratio for adjusted post-test mean was found to be significant, the Scheffe's test was applied as post-hoc test to determine the paired mean differences. The level of significance was fixed at 0.05 level of confidence for all the cases. The results of the study showed all the experimental groups namely, aerobic training with massage group and aerobic training without massage group had significantly improved in Speed. Further the study showed aerobic training with massage group is better than other groups.

Introduction

Energy is derived aerobically when oxygen is utilized to metabolize substrates derived from food and liberate energy. A sports event is termed aerobic when the majority of the energy needed is derived aerobically. Examples of such large muscle group rhythmic activities as walking, goggling, rowing, cycling, dancing, boxing and swimming. Events are usually greater than 90 s in duration. In aerobic training, the activity should be performed continuously for a minimum of fifteen to twenty minutes at a level of 70% to 90% of maximal heart rate for a minimum of three training sessions (Elena, 2012).

Aerobic training will force a boxer to breathe quickly and more deeply. The mayo clinic states the aerobic training maximizes the amount of oxygen in the blood. Boxer who develops high lactic acid tolerance will be able to consistently throw punches throughout a fight maintaining their speed and power. His tolerance to lactic acid will also allow a boxer to recover more fully in the intervals between rounds.

Sports massage does have some aims in common with other forms of massage and it is especially important to have a thorough understanding of anatomy and physiology, in particular the muscular and skeletal systems. By understanding these systems and the effects of exercise, we may also appreciate how massage may benefit the sports person and becomes an integral part of the athlete's training programme. Athletes who are looking to improve performance and increase their competitive edge do so by adopting a training schedule to enhance their skill, strength, stamina, suppleness and speed. The degree to which they develop and utilize these qualities will depend on other factors such as the level of competition, the sport played, and possibly their position in a team. However, no matter which sport, the aim is nearly always to increase the level of training and thereby subject the body to gradual and controlled overuse (Arabaci, 2008).

Methodology

The study was conducted on forty five (N=45) men students who participated in Anna University intercollegiate tournament during the year 2015-2016, were selected randomly as subjects. They were divided into three equal groups of fifteen (n=15), namely Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group, and group III (Control group) that did not involve in any training. The training period was limited to ten days per week for twelve weeks. The dependent variable selected for this study was Speed, and it was assessed by 30 meters run test.

Results and Discussion

The data collected from the experimental groups and control group 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. The level of significance was fixed at 0.05 level of confidence to test the 'f' ratio obtained by analysis of covariance on selected criterion variables.

The analysis of covariance on Speed of the pre, post and adjusted test scores of Continuous Training with mental training, Continuous Training without mental training and Control group, have been analyzed and presented in table - I.

TABLE – I ANALYSIS OF COVARIANCE OF THE DATA ON SPEED OF PRE, POST AND ADJUSTED SCORES OF EXPERIMENTAL GROUPS AND CONTROL GROUP

Test	Aerobic Training with Massage Manipulation Group	Aerobic Training without Massage Manipulation Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-Test Mean SD	4.63 ±0.29	4.51 ±0.26	4.51 ±0.26	Between Groups	0.15	2	0.08	1.05
				Within Groups	3.02	42	0.07	
Post-Test Mean SD	4.13 ±0.30	4.22 ±0.24	4.52 ±0.29	Between Groups	1.25	2	0.62	8.08*
				Within Groups	3.25	42	0.08	
Adjusted Post-Test Mean	4.04	4.26	4.56	Between Sets	1.94	2	0.97	243.83*
				Within Sets	0.16	42	0.004	

**** Significant at 0.05 level of confidence***
Table value for df (2, 42) at 0.05 level = 3.22 Table value for df (2, 41) at 0.05 level = 3.23

The table-I shows that the pre-test mean & standard deviation values on Speed of Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group and control group are 4.63, 4.51 & 4.51 and ±0.29, ±0.26 & ±0.26 respectively. The obtained 'F' ratio of 1.05 for pre-test scores is less than the table value of 3.22 for df 2 and 42 required for significance at 0.05 level of confidence on Speed.

The post test mean & standard deviation values on Speed of Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group and control group are 4.13, 4.22 & 4.52 and ±0.30, ±0.24, & ±0.29 respectively. The obtained 'F' ratio of 8.08 for post-test scores is greater than the table value of 3.22 for df 2 and 42 required for significance at 0.05 level of confidence.

The adjusted post-test means on Speed of Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group and control group are 4.04, 4.26 and 4.56 respectively. The obtained 'F' ratio of 243.83 for adjusted post-test mean is greater than the table value of 3.23 for df 2 and 41 required for significance at 0.05 level of confidence on Speed.

The results of the study indicated that there is a significant difference between the adjusted post-test means of Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group and control group on Speed.

Since, three groups are compared, whenever the obtained 'F' ratio for adjusted post test is find to be significant, the Scheffe's test is used to find out the paired mean difference and it is presented in table-II.

TABLE – II SCHEFFE'S TEST FOR THE DIFFERENCE BETWEEN PAIRED MEANS ON SPEED

Aerobic Training with Massage Manipulation Group	Aerobic Training without Massage Manipulation Group	Control Group	Mean Difference	Confident Interval Value
4.04	4.26	---	0.22*	0.06
4.04	---	4.56	0.52*	
---	4.26	4.56	0.30*	

**Significant at 0.05 level of confidence.*

The table-II shows that the mean difference values of Aerobic Training with Massage Manipulation group and Aerobic Training without Massage Manipulation group, Aerobic Training with Massage Manipulation group and Control group and Aerobic Training without Massage Manipulation group and Control group are 0.22, 0.52 and 0.30 respectively, which are greater than the confidence interval value of 0.06 on Speed at 0.05 level of confidence. The results of the study showed that there is a significant difference between Aerobic Training with Massage Manipulation group and Aerobic Training without Massage Manipulation group, Aerobic Training with Massage Manipulation group and Control group and Aerobic Training without Massage Manipulation group and Control group.

The above data also reveals that Aerobic Training with Massage Manipulation group had shown better performance in performance in Speed.

The pre, post and adjusted mean values of Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group and Control group on Speed are graphically represented in the Figure -I.

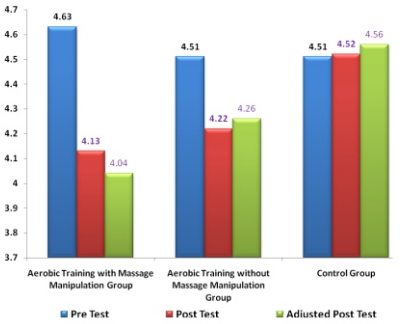

Figure: I The pre, post and adjusted mean values of Aerobic Training with Massage Manipulation group, Aerobic Training without Massage Manipulation group and Control group on Speed

Conclusion

From the analysis of the data, the following conclusions were drawn.

1. It is concluded that Aerobic Training with Massage Manipulation Group and Aerobic Training without Massage Manipulation Group have significantly improve speed of the college students.

2. Aerobic Training with Massage Manipulation Group is showed better performance than Aerobic Training without Massage Manipulation Group and control group.

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