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Effects Of Aerobic Exercise On Breathing Factors Among Collegiate Students (Female)

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S.R.T.M. University Nanded.**Co-Investigator****Dr. D.D. Bachewar**Head, Dept. of Physical Education & Sports
VasantRaoNaikCollege,Nanded**Abstract**

The purpose of this study was to find out the effect of aerobic exercise on breathing factors on collegiate students. For this purpose twenty students age between 18- 28 years were selected. As subject from various departments from NSB collage nanded. Divided in two equal groups experimental and control group. For Experimental group given training (aerobic exercise) six days per week for nine week between 6:30 to 8:30 am. And control group did not practice during the period breathing factors such as tidal volume, inspiratory reserve volume and expiratory reserve volume was measured by using the spirometer (wet). The analysis of covariance (ancova) was used in study. The result of study indicated that the breathing factors –tidal volume, inspiratory and expiratory reserve volumes where significant increased for aerobic exercises on experimental group.

The result of the study was also showed that there was a significant difference experimental group and control group. It was concluded from the result of the study that the aerobic exercises practice is the better tool to alter beneficially on breathing factors or respiratory factors.

Introduction

Aerobic exercise is a type of physical exercise that is done to improve the way the cardiovascular system works. It aims to make the system more efficient in the absorption and transportation of oxygen. There are many different types of aerobic exercise and these exercises are done for extended periods at a moderate intensity level.

This type of exercise was developed by Kenneth H. Cooper M.D. who was an exercise physiologist. In 1970, Dr. Cooper resigned from the United States Air Force, with a rank of Lieutenant Colonel, to open his own clinic to study health and longevity. He has since written 18 books and is nicknamed “the father of aerobics.”

The term and concept of "aerobics" was introduced in 1968 by Dr. Kenneth Cooper. At 29, Cooper had a personal health crisis and realized he was overweight and inactive. He became an

avid exerciser and devoted his professional life to the relationship between cardiovascular fitness, and health and longevity. He founded The Cooper Institute and wrote 18 books on health and fitness.

The running craze from the 1970s is still going strong, with numerous marathons, 5- and 10-kilometer races and triathlons testing the limits of aerobic exercise. Group classes have evolved from simply aerobics to step aerobics, kickboxing, boot camp and indoor cycling. Aerobic training machine options now feature treadmills, stair climbers, elliptical trainers and a variety of indoor cycling options. Despite all of the messages and options, the Centers for Disease Control and Prevention states that only 35 percent of adults participate in an exercise program.

Aerobic exercise as "any activity that uses large muscle groups, can be maintained continuously, and is rhythmic in nature." It is a type of exercise that overloads the heart and lungs and causes them to work harder than at rest. The important idea behind aerobic exercise today, is to get up and get moving!! There are more activities than ever to choose from, whether it is a new activity or an old one. Find something you enjoy doing that keeps your heart rate elevated for a continuous time period and get moving to a healthier life.

Aerobic exercise is brisk exercise that promotes the circulation of oxygen through the blood and is associated with an increased rate of breathing. Examples include [running](#), [swimming](#), and bicycling.

Aerobic exercise can help you control your weight, reduce your risk of illness, strengthen your heart and boost your mood. Participating in regular aerobic exercise can also help you live longer. To enjoy these benefits, just choose the training method that fits with your lifestyle and try to do it 30 minutes each day.

Methods

This study under investigation involves the experimentations of the influence of aerobic exercises on selected respiratory factors as, tidal volume, inspiratory reserve volume and expiratory reserve volume among collegiate students. The study was confined to the students of N.S.B. College Nanded, MS. Total 20 subject were selected aged 18 to 28 years. The subjects divided two equal groups. Experimental group and Control group. For Experimental group given training (aerobic exercise) six days per week for nine week between 6:30 to 8:30 am. And control group did not practice during the period.

Various Aerobic Fitness Training Methods:

Continuous Training, Interval Training, Super-Circuit Training, Cross Training etc.

Table 1

Analysis Of Covariance Of Experimental Group And Control Group

Variable Name	Group Name	Experimental Group	Control group	'F' Ratio
Tidal Volume(ltr)	Pre-test mean±S.D.	0.430 ± 0.013	0.432 ± 0.015	0.0015
	Post-test Mean±S.D.	0.473 ± 0.014	0.440 ± 0.014	12.26*
	Adj. post-Test mean	0.472	0.441	20.13*
Inspiratory Reserve Volume (ltr)	Pre-test mean±S.D.	2.631 ± 0.031	2.622 ± 0.013	0.584*
	Post-test Mean±S.D.	2.712 ± 0.013	2.624 ± 0.007	24.96*
	Adj. post-Test mean	2.885	2.632	37.98
Expiratory Reserve Volumes (ltr)	Pre-test mean±S.D.	1.073 ± 0.133	1.071 ± 0.137	0.056
	Post-test Mean±S.D.	1.369 ± 0.017	1.058 ± 0.0124	22.81*
	Adj. post-Test mean	1.389	1.052	31.45*

*significant at 0.05 level of confidence. (The value for significant at 0.05 with df 1 and 18 and 1 and 17 are 4.41 and 4.43 respectively).

RESULTS

The above table shows that the pre, post and adjusted post-test mean of Experimental group on tidal volume, were. Group (n=10) and Control group (n=10). The Experimental group practiced aerobic exercises weekly six days i.e. Monday to Saturday, between 6:30 to 8:30 a.m., for a period of nine week, which was considered adequate to indicate changes on selected criteria variables. Breathing factors Tidal volume, IRV, ERV measured by Wet spirometer. The analysis of covariance (ANCOVA) was applied to find out the difference in each criterion variables. The level of significance to test was fixed at 0.05 level of confidence.

Results of The Study

The data selected criterion variables before and after the Experimental and Control groups were analysed and presented in table-I.

0.430 ± 0.013 , 0.473 ± 0.014 and 0.472 and control group were 0.432 ± 0.015 , 0.440 ± 0.014 and 0.441 respectively. The adjusted post-test mean 'F' ratio of 20.13 shows that there was a significant increase in tidal volume after the aerobic exercises practice period.

The Pre, Post and Adjusted post-test means of experimental group on inspiratory reserve volume, were 2.63 ± 0.031 , 2.712 ± 0.013 and 2.885 and control group were 2.622 ± 0.013 , 2.624 ± 0.007 and 2.632 respectively. The adjusted post-test mean 'F' ratio of 37.98 shows that there was a significant increase in inspiratory reserve volume after aerobic exercises practice period.

The Pre, Post and Adjusted post-test means of experimental group on expiratory reserve volume were 1.073 ± 0.133 , 1.369 ± 0.017 and 1.389 and control group were, 1.071 ± 0.137 , 1.058 ± 0.0124 and 1.052 respectively. The adjusted post-test mean 'F' ratio of 31.45 shows that there was a significant increase in expiratory reserve volume after the aerobic exercises practice period.

Conclusion

It was concluded from the result of the study, the selected criterion variable such as, Tidal Volume, IRV, ERV was improved significantly after the aerobic exercise practice period.

When compared with the control group, the aerobic exercises practiced group has significantly differed in selected criterion variables, such as Tidal Volume, inspiratory reserve volumes and expiratory reserve volumes.

References:

- Liu-Ambrose, T. Eng, JJ. [and] Boyd, LA. [et al] (2010). Promotion of the mind through exercise (PROMoTE): a proof-of-concept randomized controlled trial of aerobic exercise training in older adults with vascular cognitive impairment. BMC Neurology, 2010, Vol.10 (14).
- Stein PN, et al. "Effects of aerobic and nonaerobic exercise on depression and self-concept". Psychology Department, Monroe Hall, Hofstra University, Hempstead, NY 11550. 1992 Feb; 74(1):79-89.

- MacMahon JR, et.Al. “Physical and psychological effects of aerobic exercise in boys with learning disabilities”. J Dev Behav Pediatr. 1987 Oct;8(5):274-7.
- Ross Arena, PhD.,et. Al.,” The Clinical Significance of Aerobic Exercise Testing and Prescription: From Apparently Healthy to Confirmed Cardiovascular Disease.” American Journal of Lifestyle Medicine . Authors and Disclosures. Posted: 12/01/2008; Am J Lifestyle Med. 2008;2(6):519-536. © 2008 Sage Publications, Inc.
- Catherine L. Davis, et.Al, “Effects of Aerobic Exercise on Overweight Children’s Cognitive Functioning.” A Randomized Controlled Trial. Res Q Exerc Sport. Author manuscript; available in PMC 2009 March 30. Res Q Exerc Sport. 2007 December; 78(5): 510–519.
- Kennedy MM et. al., “Effect of exercise intensity on mood in step aerobics”. J Sports Med Phys Fitness. 1997 Sep;37(3):200-4.

