



ISSN: 2456-0057
IJPNE 2017; 2(1): 29-31
© 2017 IJPESH
www.journalofsports.com
Received: 09-11-2016
Accepted: 10-12-2016

Dr. RS Suma
Assistant Professor,
Department of Physical
Education, Bharathiar
University, Coimbatore,
Tamil Nadu India

Effect of yogic practice and aerobic training on selected physiological variables among college women

Dr. RS Suma

Abstract

The purpose of the study was to find out the impact of yogic practice and aerobic training on selected physiological variables such as heart rate and breath holding time of the college women students. For the purpose of the study thirty women students were selected randomly from age group between 18-22 years. They were divided into three equal groups namely, control group, Experimental group I (Yogic practice group), Experimental group II (Aerobic training group). For statistical interpretation Analysis of Co-variance used and 0.05 level of confidence was fixed in all cases. The resting heart rate and breath holding time were selected physiological variables for the study.

Keywords: Yogic practice, aerobic training, physiological variables, college women

Introduction

Yogic practice: Yoga provides a holistic approach in dealing with Respiratory problems by improving one's physical, mental and spiritual health. The Respiratory system is one of the most vital systems in the body. It is composed of the lungs, the bronchial tube, the nose, and the air passages (larynx, pharynx, and trachea). It is mainly responsible in supplying oxygen and getting rid of carbon di oxide in the body. Oxygen is our life source and lack in the supply of oxygen in the body could mean death. The oxygen which is provided by our Respiratory system is used by the hundred –billion cells that compose our body, especially the Brain. Among the diseases that affect the Respiratory system are Asthma, Bronchitis, Cold and Respiratory Allergies. Yoga does not only help in managing Respiratory Ailments but also some of the emotional and physical factors that causes or aggravates and the body, and help you achieve a positive outlook towards life. Having a positive attitude also eliminates negative emotions that can trigger or aggravate difficulty in breathing.

Aerobic Training: The mechanics of aerobic exercise require that oxygen be brought in by the lungs and transferred to the blood vessels. Oxygen rich blood is then pumped by the heart to the muscles. The muscles utilize oxygen for muscle contraction. Through routine aerobic activity, the body becomes more efficient at processing oxygen. Examples of aerobic activity include running, jogging, biking, rowing, and walking. Aerobic training is beneficial for increases blood oxygen level, decreases blood pressure decreases resting heart and also increases cardio-respiratory and cardiovascular system outputs.

Methodology

The objectives of the study was to find out the impact of Yogic practice and Aerobic training on selected physiological variables such as Heart rate and Breath holding time of the college women students. For the purpose of the study thirty students were selected randomly from B.V.N. College of Arts and Science, Kolar, Karnataka. They belong to the age group between 18-22 years. They were divided into three groups namely, Control group, Experimental group I (Yogic practice group). Experimental group II (Aerobic training group) and they were exposed to training for the period of 6weeks. Control group was not given any experimental treatment. The pre-test and post-test and adjusted post hoc tests were analyzed by Analysis of Co-variance (ANACOVA). In all the cases 0.05 was fixed as a level of significance which was an appropriate.

Correspondence

Dr. RS Suma
Assistant Professor,
Department of Physical
Education, Bharathiar
University, Coimbatore,
Tamil Nadu India

Table 1: Training Programme

Control group	Experimental group I	Experimental group II
Initial Measurement	Initial Measurement	Initial Measurement
There is no Yogic practice or Aerobic training. Normal activity	Pranayama Selected asanas Meditation	Cardiovascular exercise mode Intensity of 1 to 3 weeks 30% to 50% Intensity of 4 to 6 weeks 50% to 70%
Final Measurement	Final Measurement	Final Measurement

Results

Table 2: Computation Analysis of Covariance of Pretest and Posttest Mean of Pulse Rate Scores of Control Group, Yogic Practice Group and Aerobic Training Group (Scores in seconds)

	Control group	Experimental group I	Experimental group II	Sources of variance	Sum of squares	Df	Mean square	'F' ratio
Pretest	75.0	75.1	75.1	Between	0.07	2	0.035	0.0083
				Within	113.8	27	4.23	
Posttest	75.1	69.3	67.3	Between	328.9	2	164.45	30.74
				Within	144.47	27	5.35	

Table 3: Scheffe's Post Hoc Test

Adjusted Posttest means			Mean Differences	Confidence Interval
Control group	Experimental group I	Experimental group II		
75.1	69.3		5.8	5.2
75.1		67.3	7.8	
	69.3	67.3	2.0	

Table II shows that Analysis of Co variance of resting pulse rate indicator that the resultant F ratio of 0.0083 was not significant the difference in case of the pretest mean indications that initial mean difference among the group were not significant. The posttest means of entire three groups yielded an F ratio of 30.74 and the difference between the adjusted posttest mean 5.2 for the three groups were found significant as the tabulated ratio being 3.35.

Discussion and Findings

1. From table II, there is a significant difference in heart for the Yogic practice group and Aerobic training group. F ratio of 30.74 was significant at the level of 0.05. The

mean difference of pulse rate between Yogic practice and Aerobic training was 2.00.

- The Aerobic training group (7.8) has high mean difference than the Yogic practice group (5.8) on the pulse rate because during the Aerobic training the heart rate and blood pumping capacity were high than the Yogic training.
- The oxygen consumption which carried to the working muscles was increases while doing Aerobics training.
- Aerobic training group had slow and rhythmic heart. So the heart was decreased due to the efficient cardiac muscles.

Table 4: Computation Analysis of Co- Variance of Pretest and Posttest Mean of Breath Holding Time Scores of Control Group, Yogic Practice Group and Aerobic Training Group (Scores In Seconds).

Test	Control group	Experimental group I	Experimental group II	Sources of variance	Sum of squares	Df	Mean square	'F' ratio
Pretest	53.10	53.70	54.70	Between	13.067	2	6.53	0.29
				Within	617.100	27	22.86	
Posttest	53.50	59.40	58.40	Between	199.40	2	99.70	5.25
				Within	513.30	27	19.01	

Table 5: Scheffe's Post Hoc Test

Adjusted posttest means			Mean Differences	Confidence Interval
Control group	Experimental group I	Experimental group II		
53.50	59.40		5.9	3.93
53.50		58.40	4.9	
	59.40	58.40	1.0	

Table IV shows that analysis of co-variance for breath holding time indicator that the resultant F ratio of 0.29 was not significant differences in case of the pretest mean indications that initial mean differences among the group were not significant. The posttest means of the entire three groups yielded and f ratio of 5.25 and the differences between the adjusted final mean 3.93 for three groups were found significant as the Tabulated F ratio being 3.35.

Discussion and Findings

- From table II there is a significant difference in Breath holding time for Yogic practice group and Aerobic training group. F ratio of 5.25 significant at level of 0.05. the mean difference of Breath holding time between Yogic practice and Aerobic training was 0.75. The Yogic practice group (5.9) has high mean difference than the Aerobic training group (4.9) on Breath holding time.
- Due to the systematic practice of pranayama, the

elasticity and surface tension of alveoli were greatly increased by the maintain phase (kumbhaka) and increases the elastic recoil of the respiratory muscles.

3. During the practice of pranayama the edges of the diaphragm contract flattening it down its domed position and causing the abdomen to swell. This type of diaphragmatic breathing is the most efficient as it uses the least energy and enables the most absorption of oxygen. This oxygen circulating around the body.
4. Pranayama improves an efficiency of breathing to reduce the rate of breathing and increases the depth.
5. So, the Yogic training group can significantly perform the Breath holding time than the Aerobic training group.

Conclusion

The control group did not have any improvement in Heart rate and Breath holding time, because there is no training method was followed. The pretest result indicates there is no significant difference before training among the groups. After the training period compared with Control group the posttest result indicates significant difference of Yogic practice group and Aerobic training group. Aerobic training and Yogic practice have positive effects on Respiratory and Cardio vascular systems such as Heart rate and Breath holding time. Regular physical activity has many wonderful benefits for people of all ages. It reduces risk of many chronic diseases such as heart disease, high blood pressure and high blood cholesterol.

References

1. Bouchard, shepart, Stephens G. The consensus statement: Physical activity, fitness and health. Campagian, IL: Human kinetics. 1991.
2. Coox MH. Exercise training programs and Cardio respiratory adaptations, *Clim Sports Med.* 1991; 10(1):19-32.
3. Taimina IK. the Science of Yoga, Chennai, Theosophical publishing house. 1999.
4. Wilmore, Jack H, Costil, David L. Physiology of Sports and exercise, Champagin: Human Kinetics. 1994.