

EFFICIENCY OF YOGIC PRACTICE ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE MALE HANDBALL PLAYERS

Dr. K. Mohan and Dr. C. Kaba Rosario***

**Assistant Professor, Vinayaka Mission's College of Physical Education, Seragapadi, Salem – 636 308*

***Principal, Vinayaka Mission's College of Physical Education, Seragapadi, Salem – 636 308.*

Abstract

The reason of the learn about was once to discover out the influence of yogic practice on physiological variables amongst college male handball players. To obtain the purpose of the study, thirty handball players have been randomly chosen from Vinayaka Mission's Research Foundation (Deemed to be University) Salem district, Tamil Nadu state, India. The age of subjects ranged from 18 to 25 years. The experimental group participated in the yogic practice for eight weeks, three days a week, one session per day. The control group maintained their each day activities things to do and no extraordinary coaching used to be given. The topics of the two groups had been tested on chosen variables prior and at once after the training period. The accumulated data had been analysed statistically through analysis of covariance (ANCOVA) to locate out the magnitude difference, if any between the groups. The 0.05 degree of self-confidence was once fixed to take a look at the level of magnitude difference, if any between groups. The result of the study to find out showed that there was massive differences exist between yogic practice group and control group. And additionally yogic practice group confirmed significant reduce on resting heart rate and improvement vital capacity level compared to control group.

Key Words: yogic practice, resting heart rate, vital capacity

Introduction

Yoga is an ancient discipline which aims at affecting the soul's union with a universal spirit through increased mental and physical control of the body. In India, the widely practiced ones are hatha yoga, raja yoga, jnana yoga, integral yoga, karma yoga, bhakti yoga, mantra yoga, kundalini yoga, sahaja yoga, laya yoga, and many more. Hatha yoga includes practice of asanas, pranayamas, and kriyas (purification techniques including breathing cleansing techniques and shatkarmas—six groups of purification practices). Around 900 BC, the ancient sage Patanjali evolved the eight stages of yoga which is called as ashtanga yoga. As such, integral yoga incorporates hatha yoga, meditation, and pranayama. In the Indian subcontinent, integral yoga is also known as yoga of transformation. Pranayama practices, stretches the lung tissue producing inhibitory signals from action of slowly adapting receptors and hyperpolarising currents. These inhibitory signals coming from cardio respiratory region involving vagi are believed to synchronize neural elements in the brain leading to changes in the autonomic nervous system; and a resultant condition characterized by reduced metabolism and parasympathetic dominance. Pranayama modified various inflatory and deflatory lung reflexes and interact with central neural element to bring new homeostasis in the body (Jerath et al 2006). Pranayama, Ashtanga yoga 's fourth limb, is an essential component of yoga training. In yoga tradition pranayama means "breathing control." Where breath is the source of a person's life. Pranayama can take

on very complex modes of respiration, but the essence of practice is slow and fast breathing (Bijlani 2004).

Methodology

Selection of Subjects

To obtain the purpose of the study, thirty male handball players have been randomly chosen from Vinayaka Mission's Research Foundation (Deemed to be University) Salem district, Tamil Nadu state, India. The age of subjects ranged from 18 to 25 years.

Selection of Variables

Keeping the feasibility criterion in mind, the researcher selected the following variables for the present study:

Independent variables:

Yogic practice

Dependent variables:

1. Resting heart rate
2. Vital capacity

Criterion Measures

1. Resting heart rate was taken by gently pressing over the radial artery for one minute by using stop watch.
2. Vital capacity was measured by Dry Spirometer & was recorded in millilitres.

Training Schedule

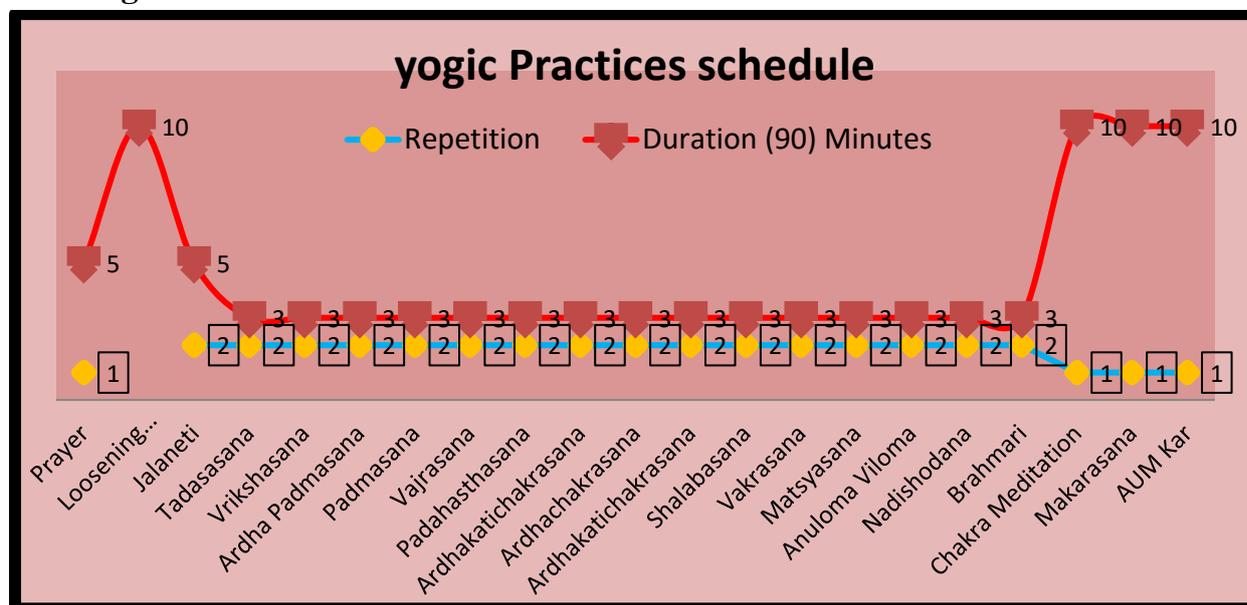


Figure-I: Yogic Practices Schedule

Statistical Procedure

The topics of the two groups had been tested on chosen variables prior and at once after the training period. The accumulated data had been analyzed statistically through analysis of covariance (ANCOVA) to locate out the magnitude difference, if any between the groups. The 0.05 degree of self-confidence was once fixed to take a look at the level of magnitude difference, if any between groups.

Result

TABLE – I
DESCRIPTIVE ANALYSIS OF PHYSIOLOGICAL VARIABLES AMONG
EXPERIMENTAL AND CONTROL GROUPS

S.No	Variables	Group	Pre-Test Mean	SD (±)	Post –Test Mean	SD (±)	Adjusted Mean
1	Resting heart rate	YPG	75.81	0.72	72.86	0.57	72.94
		CG	76.34	0.95	74.56	1.93	74.48
2	Vital capacity	YPG	3.52	0.13	3.67	0.04	3.67
		CG	3.47	0.04	3.53	0.10	3.53

YPG = yogic practice group

CG= Control group

The tables-I the pre, post-test means, standard deviations and adjusted means on resting heart rate and vital capacity of male handball players had been numerical presented. The evaluation of covariance on chosen variables of yogic practice group and manipulate group is introduced in table – II

TABLE – II
COMPUTATION OF ANALYSIS OF COVARIANCE ON
PHYSIOLOGICAL VARIABLES AMONG HANDBALL PLAYERS

S.No	Variables	Test	Sum of variance	Sum of squares	Df	Mean square	F ratio
1	Resting heart rate	Pre-test	B.G.	2.09	1	2.09	2.92
			W.G.	20.08	28	0.71	
		Post-test	B.G.	21.58	1	21.58	10.56*
			W.G.	57.19	28	2.04	
		Adjusted means	B.S.	16.05	1	16.05	7.82*
			W.S.	55.37	27	2.05	
2	Vital capacity	Pre-test	B.G.	0.02	1	0.02	2.30
			W.G.	0.28	28	0.01	
		Post-test	B.G.	0.13	1	0.13	20.37*
			W.G.	0.17	28	0.006	
		Adjusted means	B.S.	0.12	1	0.12	19.06*
			W.S.	0.17	27	0.007	

*Significant at 0.05 level of confidences

(The table values required for significance at 0.05 level of confidence for 1 & 28 and 1 & 27 are 4.20 and 4.21 respectively).

In the table the outcomes of analysis of covariance on resting heart rate and vital capacity. The got 'F' ratio of 2.92 and 2.30 for Pre-test potential was once less than the table value of 4.20 for df 1 and 28 required for value at 0.05 degree of confidence on resting heart rate and vital capacity. The got 'F' ratio of 10.56 and 20.37 for post-test mean used to be higher than the table value of 4.20 for df 1 and 28 required for value at 0.05 degree of confidence on resting heart rate and vital capacity. The obtained 'F' ratio of 7.82 and 19.06 for adjusted post-test potential was increased than the table value of 4.21 for df 1 and 27 required for importance at 0.05 degree of confidence on resting heart rate and vital capacity.

The result of the study to find out about indicated that there was once a great difference amongst the adjusted post-test means of yogic practice group and manipulate group on resting heart rate and vital capacity. And additionally yogic practice team showed significant enhancement on resting heart rate and vital capacity in contrast to control group.

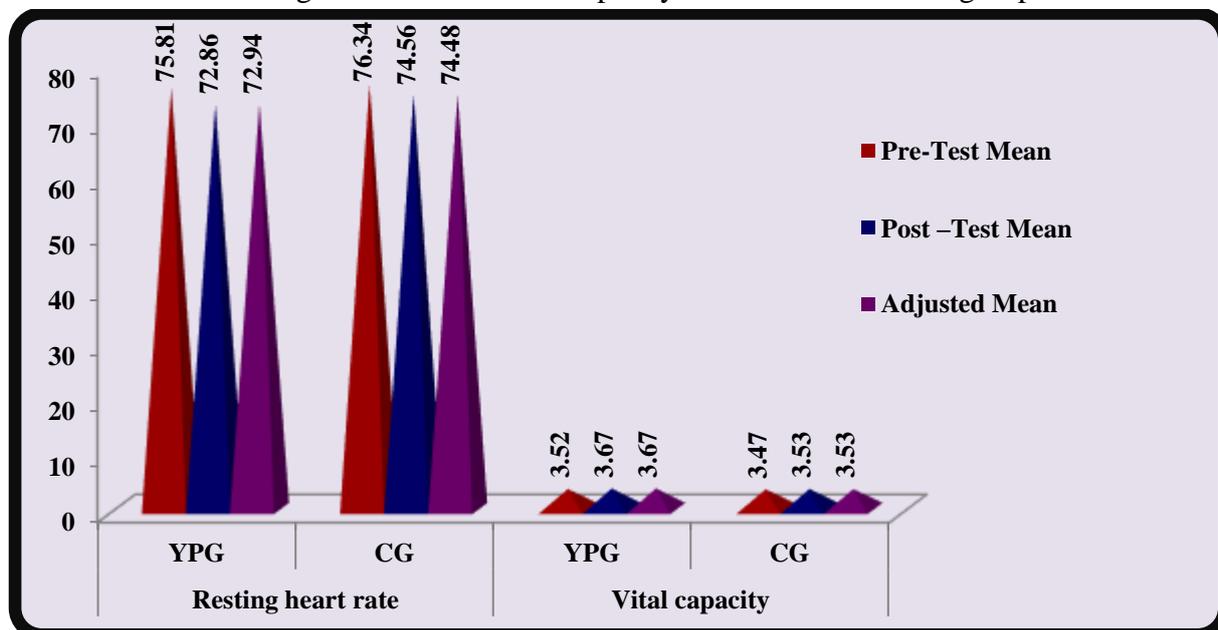


Figure-II The pre, post and adjusted mean values of resting heart rate and vital capacity of both experimental and control groups are graphically represented in the figure-II.

Discussion of findings

The results of the study indicate that the experimental team which underwent yogic practice team had confirmed considerable improvement on resting heart rate and vital capacity level in contrast to control group. The control crew did not exhibit great enhancement on resting heart rate and vital capacity. The past studies on selected resting heart rate and vital capacity reveals of Yokesh (2019), Ranjith and Yoga (2019), Kasirajan and Mariappan (2019), Viswanathan Mohan (2019), Vishnu Raj (2017), Mukesh Kumar et al (2015) & Liu et la (2014),

Conclusion

It was observed that the eight weeks of yogic practice group have significant reduce on resting heart rate and improvement on vital capacity of handball players.

References

1. Bijlani, R.L. (2004). The Yogic Practices: Asanas, Pranayamas and Kriyas. In: Bijlani RL, editor. *Understanding Medical Physiology*, 3 rd ed. New Delhi-India: *Jaypee Brothers Medical publishers*, Chapter 17.3, p. 883-5.
2. Jerath, R.J., Edry, V.A., Barnes, V.A., & Jerath, V. (2006). Physiology of long pranayamic breathing: Neural respiratory elements may provide a mechanism that explains how slow breathing shifts the autonomic nervous system. *Med Hypotheses*, 67(5), 66–71.
3. Johnson, P., and Anjaneyulu, M. (2014). Effects of Practicing Yogasanas and Physical Training on Selected Physiological Variables. *International Journal of Physical Education, Fitness and Sports Register*, 3(1), DOI: <https://doi.org/10.26524/14117>.

4. Kasirajan, A. & Mariappan, S. (2019). Effects of yogic practices on physical variable among school level handball players. *International Journal of Physiology, Nutrition and Physical Education*, 4(2): 309-311
5. Liu, X., Pan, L., Hu, Q., Dong, W., Yan, J., & Dong, L. (2014). Effects of yoga training in patients with chronic obstructive pulmonary disease: a systematic review and meta-analysis. *Journal Of Thoracic Disease*, 6(6), 795-802. doi:10.3978/j.issn.2072-1439.2014.06.05.
6. Mukesh Kumar Mishra, Ajay Kumar Pandey, Shivendra Dubey. (2015). Effect of eight weeks yogic training on selected physiological variables. *International Journal of Physical Education, Sports and Health*, 1(3), 50-52
7. Ranjith. V. P. & Yoga, P. (2019). Effect of yogic practice on resting pulse rate among college men handball players. *Indian Journal of Applied Research*, 9(1), 2249-555X.
8. Vishnu Raj, R. (2017). Effect of yogic practices on physical and physiological parameters of inter-collegiate Male handball players. *International Journal of Yoga, Physiotherapy and Physical Education*, 2(5): 5-7.
9. Viswanathan, S., & Mohan, K. (2019). Effect of yogic practice on selected pulmonary function test among male hockey players. *International Journal of Multidisciplinary Research and Modern Education*, 2 (1), 2454 – 6119.
10. Yokesh, T.P (2019). Effect of yogic practices on blood pressure among university level players. *Journal of Xi'an University of Architecture & Technology*, 11 (11), 1006-7930.
11. Yokesh, T.P. & Chandrasekaran, K. (2011). Effect of yogic practice and aerobic exercise on selected physical and physiological variables among overweight school boys. *International Journal of Current Research*. 3 (9), 103-106.
12. Yokesh, T.P. & Chandrasekaran, K. (2011). Effect of yogic practice on selected physical fitness among overweighted school boys. *Recent Research in Science and Technology*, 3 (9).