

## Impact of Mantra Yoga and Hatha Yoga Practices on Inspiratory Reserve Volume Among Middle Aged Women

**Dr. G. Radhakrishnan,**

*Director of Physical Education,*

*Sir Theagaraya College,*

*Chennai, Tamil Nadu, India*

### Abstract

The study's goal is to find out how middle-aged women's inspiratory reserve volume is affected by hatha and mantra yoga sessions. The study was limited to thirty middle-aged women in order to fulfill its objectives. The subjects, who were exclusively between the ages of 30 and 45, were selected from the vicinity of Sir Theagaraya College in Chennai, Tamil Nadu, India. The participants were split into two groups: the control group and the group that did both hatha and mantra yoga. Each group was limited to 15 participants. The training groups were limited to taking part in the program five days a week for a total of twelve weeks. An expirograph was used to measure the chosen dependent variable, inspiratory reserve volume, both before and after training. The paired "t" test was used to analyze the four groups' evaluated data. The magnitude (%) of the changes was also computed. The pre and post data for the four groups were computed using ANCOVA statistics in order to eliminate the early mean difference. A 0.05 level of confidence was established. The inspiratory reserve volume of middle-aged women was significantly improved as a result of the effects of hatha and mantra yoga; nevertheless, the development of middle-aged women's inspiratory reserve volume.

**Keywords:** Mantra yoga and hatha yoga practices, Middle aged women and Inspiratory reserve volume

### I.INTRODUCTION

The stage of maturity that comes just before old age sets in is known as middle age. However, middle age is a very arbitrary age range that varies widely from person to person. The progressive deterioration of physical capabilities and the realization of death are the main physiological and psychological changes that

middle-aged people go through. Haṭha yoga developed in the 20th century, with a special emphasis on asanas, or bodily postures, and gained popularity as a kind of physical training globally. The term "yoga" is now commonly used to refer to this contemporary style of yoga.

In medieval hatha yoga books, asanas were said to offer both physical and spiritual benefits. More recently, research has shown that they enhance strength, flexibility, and balance; they also lessen stress and its associated disorders; and they especially help to alleviate certain illnesses including diabetes and asthma. A mantra, or "akshar" as it is known in Sanskrit, is a collection of sound vibrations that influence the mental and psychological plane. It is possible to see how sound waves interact to affect the physical plane, particularly the brain. Omkar and Gayatri mantra chanting have been shown to influence the brain wave emission patterns in electroencephalograms (EEGs).

Mantra chanting may be utilized to efficiently alleviate tension and its aftereffects, relax muscles, and have a calming impact on the nervous system. The quantity of air that a person may forcibly inhale following a typical tidal volume inspiration is known as the inspiratory reserve volume.

## **Methodology**

The study was limited to thirty middle-aged women in order to fulfill its objectives. The subjects, who were exclusively between the ages of 30 and 45, were selected from the vicinity of Sir Theagaraya College in Chennai, Tamil Nadu, India. The participants were split into two groups: the control group and the group that did both hatha and mantra yoga. Each group was limited to 15 participants. The training group may only take part in the program for a total of twelve weeks, five days a week. An expirograph was used to measure the chosen dependent variable, inspiratory reserve volume, both before and after training. The assessed data of the four group's was analyzed through paired 't' test. Additionally, magnitude (%) of changes was also calculated. To abolish the early mean disparity, the four group's data (pre&post) were calculated through ANCOVA statistics. The confidence level 0.05 was set.

## **Training Programme**

Group I of the trial engaged in hatha and mantra yoga, while Group II served as the control. Over the course of a 12-week training program, the training groups engaged in a range of activities. Following the first measurements, the experimental group's individuals were given a specifically created training program. Over the course of twelve weeks, the training sessions were held five days a week, Monday through Friday. With the exception of the warm-up and warm-down, each experimental session lasted 30 to 45 minutes. Experienced instructors oversaw the

training sessions. In a week, the experimental group trained five times. Over the course of the 12 weeks, the sessions were gradually organized to grow in intensity. The training intensity was increased progressively from first week to proceeding week. The frequency of training was five in a week. The duration of warm-up and warm-down were fixed at ten minutes respectively.

### Statistical Technique

To determine if there were any significant differences between the pre and post-tests, the inspiratory reserve volume data from the experimental and control groups was statistically examined using the paired "t" test. Additionally, a percentage of changes was computed to determine how the experimental treatment affected a few chosen dependent variables. Analysis of Covariance was used to statistically examine the data gathered from the four groups both before and after the experiment (ANCOVA). The significance threshold for each instance was set at the 0.05 level of confidence. The inspiratory reserve volume of middle-aged women was statistically examined and shown in table 1.

**Table – 1**  
**Paired't' Test Results and % of Changes on Inspiratory reserve volume**  
**of Chosen Two Group's**

Group	Test	N	Mean	SD	DM	't' - ratio	%
<b>Mantra Yoga and Hatha Yoga Practices Group</b>	Pre	15	2.52	1.24	0.24	13.47*	8.7
	Post	15	2.76	1.21			
<b>Control</b>	Pre	15	2.51	1.26	0.01	0.56	0.39
	Post	15	2.52	1.24			

Table value for df 14 is 2.15(\*significant)

Since the "t" values of the hatha yoga and mantra yoga practices (13.47) group were higher than the table value (df14=2.15), there is a significant difference between the pre and post values of the two training groups. Following a 12-week course of therapy, the inspiratory reserve volume of the group that practiced hatha yoga and mantra yoga (8.7) increased significantly. The inspiratory reserve volume performance of two groups was examined using ANCOVA statistics, and the results are shown in table 2.

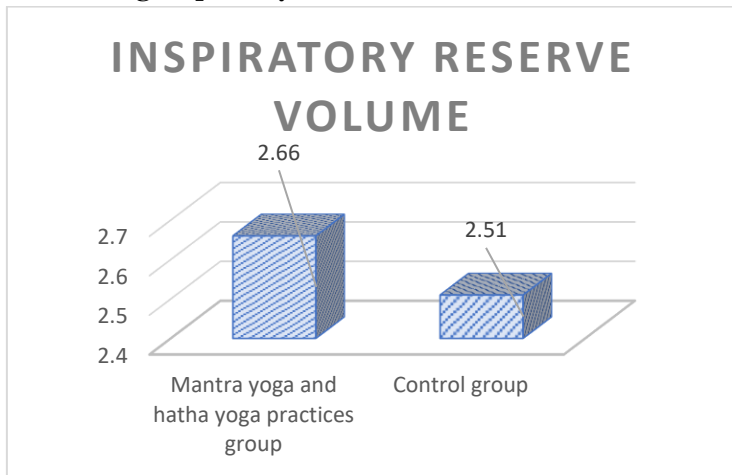
**Table – 2**  
**ANCOVA Statistics Output on Inspiratory reserve volume**  
**Performance of Chosen Two Group's**

	Experimental	Control	SoV	SS	df	MS	'F' ratio
Adjusted Mean	2.66	2.51	B	26.04	1	6.25	11.02*
			W	6.12	27	0.178	

(Table value for df 1 and 27 is 4.210) \*Significant (.05 level)

The ANCOVA result proved that the adjusted final means mantra yoga and hatha yoga practices (2.66) and control group (2.51) on inspiratory reserve volume of two groups significantly differs, as the derived 'F' value (11.02) is better than the required value (df 1 and 27 is 4.210).

**Figure – I**  
**Chart Showing inspiratory reserve volume of Chosen Two Groups**



## Discussion

The inspiratory reserve volume of middle-aged women was positively impacted by twelve weeks of hatha and mantra yoga. When compared to the control group, the group that practiced hatha and mantra yoga saw an increase in their inspiratory reserve volume. According to studies by Havesepian et al. (2013) and Shyamkarthick et al. (2014), there was a significant increase in inspiratory reserve volume following the mantra and hatha yoga practice program. Furthermore, the test findings indicate that the experimental and control groups differed significantly.

## II.CONCLUSION

The inspiratory reserve volume of the middle-aged women in the group was significantly increased as a result of the 8.7% impact of hatha yoga and mantra yoga. The results of this study demonstrate that hatha and mantra yoga can be effective training methods for improving several attributes of middle-aged women.

## III.REFERENCES

1. Hovsepien, V., Marandi, S. M., Kelishadi, R., & Zahed, A. (2013). A comparison between yoga and aerobic training effects on pulmonary function tests and physical fitness parameters. *Pakistan Journal of Medical Sciences*. 29:1, 2013.p 317-320.
2. Shyam Karthik, P., Chandrasekhar, M., Ambareesha, K., & Nikhil, C. (2014). Effect of pranayama and suryanamaskar on pulmonary functions in medical students. *Journal of Clinical and Diagnostic Research*. 8:12, 2014.p 4-6.
3. Plowman Sharon A. and Denise L. Smith, Exercise Physiology for Health, Fitness, and Performance, Philadelphia: Lippincott Williams & Wilkins, October 2011.
4. Samsudeen, S.Kalidasan, R.(2007), influence of game specific field training and yogic practices on physical, physiological, psychological and performance variables among college level cricketers, paper presented at the international conference on “metabolic syndrome in Yoga and Naturopathy” Alagappa University, Karaikudi.
5. Saraswati, Swami Satyananda, Asana Pranayama Mudraa Bandha, Varanasi: Bharagava Bushan Press, 1999.
6. Sharma, V., Trakroo, M., Subramaniam, V., Sahai, A., Bhavanani, A., & Rajajeyakumar, M. (2013). Effect of fast and slow pranayama on perceived stress and cardiovascular parameters in young health-care students. *International Journal of Yoga*. 6:2, 2013.p 104-110.