

## **10. Effect of Yogic Practices with and Without Laughing Therapy on Selected Physiological Variable Among Middle Aged Diabetic Men**

**M. Veerabathiran**

*PhD Schola in Yoga,  
Centre for Yoga Studies,  
Annamalai University.*

**Dr. P. Senthil**

*Research Supervisor, Assistant Professor,  
Department of Physical Education,  
Annamalai University.*

### **Abstract:**

*The purpose of this study was to examine the effect of twelve weeks of yogic practices with and without laughing therapy on selected physiological variable such as resting heart rate of middle-aged diabetic men.*

*For these purposes, forty-five middle aged (45 to 55 years) men from Chennai took part in the study. Selected subjects were randomly assigned to yogic practices with laughing therapy (n=15), yogic practices without laughing therapy (n=15) and control (n=15) groups. The training regimen lasted for twelve weeks.*

*Before and after twelve weeks of yogic practices with and without laughing therapy, the subjects were tested on selected criterion variable using standard tests and procedures. Analysis of covariance was used to determine the significant difference existing between pretest and posttest on selected criterion variable. The analysis of data revealed that twelve weeks of yogic practices with and without laughing therapy had a significant impact on selected physiological variable such as resting heart rate of middle-aged diabetic men.*

### **Keywords:**

*Yogic practices, laughing therapy, Physiological Variables, heart rate.*

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### **10.1 Introduction:**

These days, maintaining the physical and mental health of children and adults is a growing issue in every culture. In addition to physical activity, emotional intelligence training and mental health are essential. This is where "yoga" comes in handy. Rather than being just a physical activity or breathing technique or a showcase for some sort of mystical or other supernatural force, yoga is a science of the future with a comprehensive viewpoint appropriate for today's forward-thinking culture.

Nowadays yoga is becoming popular due to numerous health benefits and every medical system being advised to practice yoga as additional therapy to attain better results.

It is believed that yoga activities will impact the psychomotor as well as physiological parameters even though they improve the majority of the fitness components. It appears from certain contemporary books that practicing yoga will strengthen all of the body's organs and physiological systems. Psychomotor skills, physiological processes, and the establishment and preservation of physical fitness are all significant fields of study that demand extensive research.

This study attempts to determine the impact of yoga practices along with and without laughing therapy on certain physiological characteristics of middle aged diabetic men by taking into account of the literature mentioned above.

### **10.2 Purpose of Study:**

The purpose of the study was to find out the effect of yogic practices with and without laughing therapy on selected physiological variable such as resting heart rate.

### **10.3 Hypothesis:**

It was predicted that yogic practices with and without laughing therapy of the experimental groups compared to the control group would cause notable variations in physiological variable resting heart rate among middle aged diabetic men.

#### **10.4 Review of Related Literature:**

Rameshkumar and Chandrasekaran (2015) investigated the effect of varied combinations of yogic practices on physiological variables of school boys of Kuwait aged 13-15. To achieve the purpose of this study a survey was conducted and 1000 students from Indian central school, Kuwait to find out the health-related fitness status. Among the group 183 students were reported low fitness. In that forty male students who are low in fitness were selected for the experimental study.

As per the records, their age ranged from 13 to 15 years. True randomized experimental group design has been employed with two groups, namely varied combinations of yogic practices group and control group with 20 students each. Resting heart rate, systolic blood pressure and diastolic blood pressure were the criterion variables for the present study. Group I underwent varied combinations of yogic practices viz, asanas, imaginary meditation followed by pranayama for a period of twelve weeks and no training was given to the control group. The two groups were statistically analyzed by using analysis of covariance (ANCOVA). The result of the study reveals that there was a significant improvement in the experimental group on selected variables when compared to the control group after the completion of twelve weeks of varied combinations of yogic practices.

Patial et al., (2019) assessed the effect of yogic exercises on the psycho-physiological components of the adolescent fencers. Total sixty male fencing players (n=60) belonging to Pune (Maharashtra, India), having age ranged from 14 –18 years were selected randomly. All the subjects were further divided equally into two groups i.e. Group –A and Group B. Pre and post-test selected psychological viz. concentration & mood states and physiological variables viz.

systolic blood pressure, diastolic blood pressure, heart rate & vital capacity were evaluated after 8 weeks of yoga exercises and fencing training for group A fencers and only fencing training for group B fencers. Result shows that the training intervention of yoga practices had statistically significant effects on selected psychological and physiological components. Further, yoga practices play vital role in improving psychological and physiological components of the Fencing players.

## **10.5 Methodology:**

### **10.5.1 Subjects and Variables:**

For this study, forty-five middle aged men in the age group of 45 to 55 years were selected, with their consent.

The selected subjects were randomly assigned to both the yogic practices with and without laughing therapy and control groups of 15 each.

The selected criterion variables such as resting heart rate was assessed by sphygmomanometer before and after the yogic practices.

### **10.5.2 Training Protocol:**

The experimental groups underwent the yogic practices with and without laughing therapy five days a week for twelve weeks.

The yogic exercises with laughing therapy included in this training program were Prayer, Loosening exercises, Asanas, Pranayama, Meditation and laughing therapy and the yogic practices without laughing therapy included in the training program were Prayer, Loosening exercises, Asanas, Pranayama, Meditation.

The training program was conducted during the morning sessions between 5.30 and 6.30 am. The subjects performed each asana four to six times and the duration of each repetition is one to three minutes.

### **10.5.3 Experimental Design and Statistical Procedure:**

The experimental design used for the present investigation was a random group design involving forty-five subjects. Analysis of covariance (ANCOVA) was used as a statistical technique to determine the significant difference, if any, existing between pretest and posttest data on selected dependent variables. The level of significance was accepted at 0.05 level.

## 10.6 Results and Discussions:

The Analysis of Co variance on selected physiological variable before and after twelve weeks of yogic practices with and without laughing is presented in Table 1.10.

**Table 10.1: ANCOVA Results on Resting Heart Rate of Middle-Aged Diabetic Men Belongs to Yogic Practices with and without Laughing Therapy and Control Groups**

Adjusted Mean Value	Yogic Practices with Laughing Therapy Group (YPLTG)	Yogic Practices Group (YPG)	Control Group (CG)	S o V	SS	df	Mean square	Derived 'F' Result
Adjusted values (Post test)	70.947	72.467	73.853	B	62.499	2	31.249	26.306*
				G				
				W	48.705	41	1.188	

*\*Significant (.05 level) (For df 2 & 41 Table value is 3.226)*

The yogic practices with laughing therapy group (YPLTG), yogic practices group (YPG) and control (CG) group's resultant ANCOVA statistics results recognized that the adjusted (posttest) mean (70.947, 72.467 & 73.853).

Data on resting heart rate of middle-aged diabetic men be different to the highest degree as the established adjusted 'F' value 26.306 is more to mandatory table value 3.226 (for *df* 2&41).

The applied post hoc test conclusion on resting heart rate of yogic practices with laughing therapy group (YPLTG),

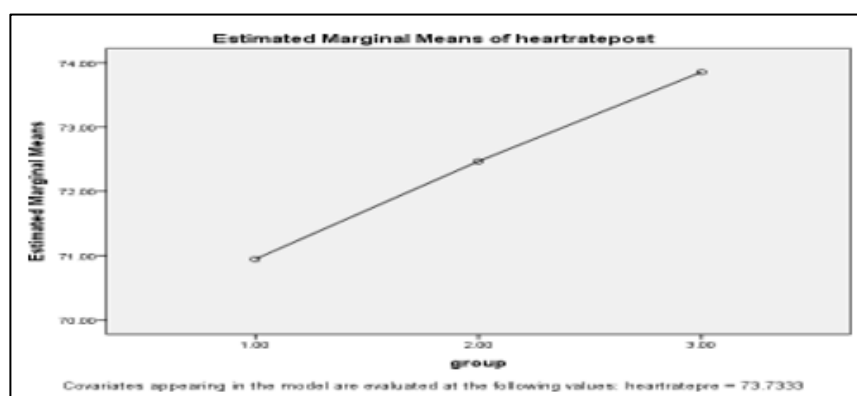
Yogic practices group (YPG) and control (CG) group participants are shown in detail in table 10.2.

**Table 10.2 Scheffe’s Test Results on Resting Heart Rate of Middle-Aged Diabetic Men Belongs to Yogic Practices with and without Laughing Therapy and Control Groups**

Adjusted Post Test Means			DM	CI
Yogic Practices with Laughing Therapy Group (YPLTG)	Yogic Practices Group (YPG)	Control Group (CG)		
70.947	72.467	73.853	1.520*	1.011
70.947	72.467	73.853	2.907*	1.011
70.947	72.467	73.853	1.387*	1.011

\*Significant (.05 level)

The calculated post hoc (Scheffe’s) test result confirms that, because of yogic practices with laughing therapy group (YPLTG) and yogic practices group (YPG) the chosen middle aged diabetic men’s resting heart rate decreased considerably, because the variation in means (2.907 & 1.387) are superior to the value of 1.011(CI value). Though, yogic practices with laughing therapy (YPLTG) were superior to yogic practices (YPG) alone in decreasing resting heart rate. The yogic actices with laughing therapy group (YPLTG), yogic practices group (YPG) and control (CG) group’s before and after treatment (pre&post) data on resting heart rate is graphically displayed in figure-10.1.



**Figure 10.1: Before and After Treatment (Pre & Post) Data on Resting Heart Rate of Yogic Practices with Laughing Therapy (YPLTG), Yogic Practices (YPG) and Control (CG) Group’s Middle Aged Diabetic Men**

### **10.7 Discussion:**

Based on statistical analysis of data it was concluded that twelve weeks of yogic practices with and without laughing therapy caused significant improvement in Resting Heart rate among middle aged diabetic men. The results are in agreement with the results of the previous research findings.

Yoga dramatically lowers blood pressure both diastolic and systolic (Selvamurthy et al., 1998; Damodaran et al., 2002; McCaffrey, Ruknui, Hatthakit & Kasetsoomboon, 2005). It also lowers heart rate.

Also, Yoga training was reported to significantly lower mean stress ratings, blood pressure, and heart rate by McCaffrey and colleagues (2005).

### **10.8 Conclusion:**

The result of this study demonstrated that yogic practices with and without laughing therapy have a significant impact on resting heart rate of middle-aged diabetic men. Hence it is suggested that it is essential to know that the optimum level of physiological parameters which will have better cardiovascular health. The circumstances may demand to improve the cardiovascular parameters. Depending upon the requirement, every yoga practitioner, yoga therapists and different medical system practitioner can incorporate yoga into daily activities to achieve the goal.

### **10.9 Conflict of Interests:**

Author declares that there is no conflict of interest.

### **10.10 References:**

1. Harinath, *etal.*, (2004). Effects of Hatha Yoga and Omkar Meditation on Cardiorespiratory Performance, Psychologic Profile, and Melatonin Secretion, *Journal of Alternative and Complementary Medicine*, 10(2): 261-268.
2. Charlotte, (1982). *Guidelines for Yogic Practices*, Lonavala: Medha Publication, 1.

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3. Gore M.M., (1987). “Effect of Yogic Training on Neuro Muscular Efficiency in Normal and Stressful Conditions”, *Yoga Mimamsa*, 26: 3, 4, (24, p. 13.
4. Hewitt, James., (1985). *The Complete Yoga Book*, London: Rider and Company, 20.
5. Sahu, R.J., Gharote, M.L., (1985). “Effect of Short-term Yogic Practices on the Perception of the Third Dimension – A Pilot Study”, *Yoga- Mimamsa*, 24:2, pp. 11, 12.