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Study of yoga practice impact on selected physiological parameters among middle aged adults

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Abstract
The study was to investigate the application of 20-weeks yoga practice on selected physiological parameters among middle aged men adults. Total N=25 (twenty-five) middle aged healthy and fit men participated from Bhavani Nagar, T.B. Vara, Srungavarapu kota, Vizianagaram Dt, A.P and their age period ranged from 40 years to 49 years as per subject's school records. The participated middle age men treated with yoga for duration of 20-weeks, five sessions in a week and 90-minutes each session. The measurement of physiological parameters namely vital capacity and resting pulse rate scores was collected through spirometer (In liters) and Manual time taken [radial of the wrist] (In numbers) before and after the completion of specific training. The collected scores were analyzed through paired 't' test and level of significant was restricted at 0.05 levels. The study resulted that twenty weeks of yoga practice found effective for significant improvement in vital capacity and resting pulse rate of middle-aged men adults.

Keywords: Yoga, physiological, vital capacity, resting pulse rate and spirometer

Introduction

In Vedic Sanskrit the meaning of word yoga is "to add", "to joint'. Yoga is ancient and eternal. Lord Shiva is the first yoga guru and goddess Parvati is the first disciple. According to Patanjali yoga is the cessation of the thought-waves of the mind. Physical benefits of yoga increase in cardiovascular system and respiration efficiency enhance immune system, weight control, sleep improvement, decrease pain, muscle tone, flexibility and balance. Types of yoga are action, emotion, will and wisdom.

Vital capacity is the maximum amount of air an adult can expel from their lungs after a maximum inhalation. A spirometer instrument is used to test vital capacity. Low vital capacity is a sign of lung diseases. Resting pulse rate (RPR) refers number of time heart beats per minute while at rest. RPR indicator of cardiovascular health and fitness level. A lower RPR often indicate better cardiovascular fitness.

Statement of the Research Problem

To evaluate the "Study of yoga practice impact on selected physiological parameters among middle aged men adults".

Objectives of this research study

1. To investigate the 20-weeks influence of yoga practice impact on vital capacity performance among middle aged men adults.
2. To investigate the 20-weeks influence of yoga practice impact on resting pulse rate among middle aged men adults.

Research Hypothesis

- There will be a significant enhancement in score of vital capacity of middle-aged men adults after the twenty weeks impact of yoga practice when compared between pretest and post test scores.
- There will be a significant reduction in score of resting pulse rate of middle-aged men adults after the twenty weeks impact of yoga practice when compared between pretest and post test scores.

Methodology

The study was to investigate the application of 20-weeks yoga practice on selected physiological parameters among middle aged men adults. Total N=25 (twenty-five) middle aged healthy and fit men participated from Bhavani Nagar, T.B. Vara, Srungavarapu kota, Vizianagaram Dt, A.P and their age period ranged from 40 years to 49 years as per subject's school records. The participated middle age men treated with yoga for duration of 20-weeks, five sessions in a week and 90-minutes each session. The measurement of physiological parameters namely vital capacity and resting pulse rate scores was collected through spirometer (In liters) and Manual time taken [radial of the wrist] (In numbers) before and after the completion of specific training. The collected scores were analyzed through paired 't' test and level of significant was restricted at 0.05 levels.

Table 1: Descriptive statistics of mean, standard deviation and calculated paired 't 'test values vital capacity and resting pulse rate of the middle age men adults

Training Groups	Pre-test		Post test		't' Ratio
	Mean	SD	Mean	SD	
Vital Capacity	2.983	0.553	3.304	0.497	6.286*
Resting pulse rate	54.120	2.758	50.040	1.859	9.129*

Table 't' book value at 0.05 level (df) 24 = 2.064, * Significant & NS: Not Significant)

In table-I shows the pretest mean values on the vital capacity and resting pulse rate are 2.983 and 54.120 respectively. Posttest mean values on the vital capacity and resting pulse rate are 3.304 and 50.040. The calculate 't' ratio values are 6.286 and 9.129 and the corresponding table 't' value at 0.05 confidence level degree of freedom book value at 24 is 2.064. Comparison of pretest and post test scores as for 't' ratio numbers are greater than tabular value

Therefore statistical analysis noted significant changes occurred in paired sample t-test.

The vital capacity and resting pulse rate of pretest and post test results presented in bar diagram figure: 1and 2

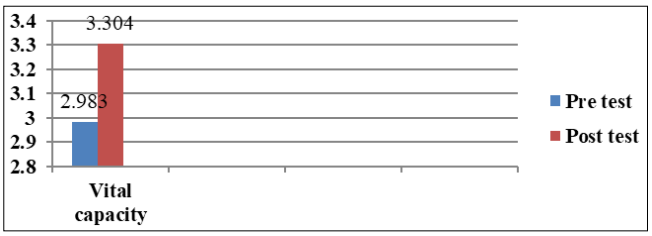

Fig 1 The pretest and posttest mean values of vital capacity presented in bar diagram

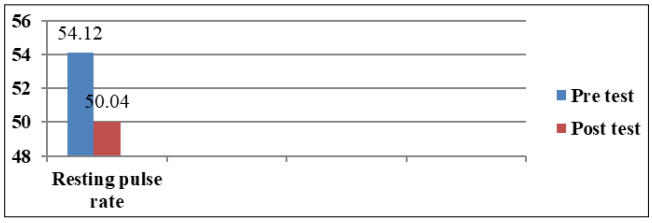

Fig 2 The pretest and posttest mean values of resting pulse rate presented in bar diagram

Discussion on Hypothesis

- The first hypotheses stated that there will be a significant enhancement in score of vital capacity of middle-aged men adults after the twenty weeks impact of yoga practice when compared between pretest and post test scores. The statistical analysis proved that yoga practice significantly increased vital capacity post scores. Hence research first hypothesis accepted.
- The second hypotheses stated that that there will be a significant reduction in score of resting pulse rate of middle-aged men adults after the twenty weeks impact of yoga practice when compared between pretest and post test scores. The statistical analysis proved that yoga practice significantly decreased the resting pulse rate post scores. Hence research second hypothesis accepted.

Discussion and Findings

The impact of 20-weeks of yoga practice enhanced the vital capacity and decreased resting pulse rate scores of middle-aged men adults. The referred study results on vital capacity and resting pulse rate are Reema *et al*., (2024) [1] study concluded that yoga exercises led to increase in lungs volumes and vital capacity in students. Prem *et al*., (2022) [2] study declared that combined practice of asana and pranayama produce significant improvement on vital capacity among young healthy volunteers. Murugesan (2023) [3] analysis shows that ten weeks of yoga intervention significantly increased the vital capacity of the selected subjects. Jeevabharath (2025) [4] found that yoga breathing practice is helpful for improvement on vital capacity among players. Neha *et al*., (2020) [5] Regular practice of yoga bring to reduce the chances of cardiovascular diseases and reduction in pulse rate. Rajeswari *et al*., (2024) [6] concluded that 30-minutes yoga session daily significantly reduce resting pulse rate. Sneha and Haninder (2025) [7] regular practice of yoga for 6-month resulted significant reduction in heart rate.

Conclusions

On the bases of result author concluded that yoga practice is useful to middle age adult for keeping themselves physically and mentally fit. Hence, yoga practice significantly increased the lungs vital capacity by decreasing resting pulse rate. Therefore, author recommended to every citizen to practice latest one-hour yoga practice for achieving active lifestyle.

References

1. Reema Joshi, Manish Rathi, Komal Preet Kaur. Effect of yoga exercises on lung volumes, vital capacity, attention span in school going students, Physiotherapy Quarterly,2024:32(4):25–28.
2. Prem Balaguru1, Selvakumar S, Divya R. Effect of pranayama training on vital capacity, respiratory pressures, respiratory endurance of young healthy volunteers, National Journal of Physiology, Pharmacy Pharmacology, 2022, 12(2).
3. Murugesan R. Effect of Ten Weeks of Yoga Intervention on Vital Capacity among Pondicherry University Community College Students, International Journal for Research in Applied Science Engineering Technology, 2023,11(12).
4. Jeevabharath M, Selvaraja C, Suriya P. Effect of yogic breathing practices on vital capacity among basketball players, International Journal of Creative Research Thoughts, 2025, 13(4).
5. Neha H Pandya, Toral Goswami, Trivedi RS. Effect of yoga on pulse rate blood pressure, Indian Journal of Clinical Anatomy Physiology,2020:7(1):12–15.
6. Rajeswari P, Sajja Madhuri, Rajani R. Effect of Yoga on Resting Heart Rate Blood Pressure: A Controlled Physiological Study, European journal of cardiovascular medicine, 2024, 14(1).
7. Sneha K, Haninder Sonu. Effect of practicing yoga for 6 months on heart rate blood pressure its clinical significance, European journal of cardiovascular medicine, 2025, 15(7).