



## IMPACT OF YOGA AND PRANAYAM ON SENIOR CITIZENS: AN ANALYSIS ON LUNG CAPACITY

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### ABSTRACT:

The advantages of yoga for seniors are similarly as those for everybody: expanded muscle tone, balance (which is especially significant), strength, and improved state of mind. Through pranayama (breathing activities), lung limit is expanded. Yoga is basically a spiritual discipline dependent on an amazingly unpretentious science, which centers around bringing agreement among psyche and body. It is a craftsmanship and study of sound living. The word 'Yoga' is gotten from the Sanskrit root 'Yuj', signifying 'to join' or 'to burden' or 'to join together'. For the above investigation the legitimate strategy has been finished by the analyst. For this investigation the specialist picked the elderly folks individuals who consistently perform yoga activities of the old age home in Chandrapur district. In the wake of gathering the information, the information has been determined and dissected by factual strategies. The breathing limit was examined of the senior residents who consistently used to perform yoga practices and pranayam. The near investigation was done to break down the breathing limit of the senior residents routinely performing yoga and pranayam.

### KEYWORDS:

YOGA, PRANAYAM, BREATHING ACTIVITY, EXERCISE.

### INTRODUCTION:

In current yoga as exercise, it comprises of synchronizing the breath with developments between asanas, but on the other hand is an unmistakable breathing activity all alone, generally rehearsed after asanas. "Regular yoga practice makes mental lucidity and tranquility; expands body mindfulness; diminishes ongoing pressure designs; loosens up the psyche; focuses consideration; and hones fixation. The advantages of yoga for seniors are similarly as those for everybody: expanded muscle tone, balance (which is especially significant), strength, and improved state of mind. Through pranayama (breathing activities), lung limit is expanded. You can anticipate that your posture should improve and you may rest better. Yoga improves the flow and there is better perfusion of tissues. It builds the strength of respiratory muscles and decreases thoughtful reactivity in this manner assists with diminishing pressure and uneasiness. The breathing capacity was examined of the senior residents who routinely used to perform yoga practices and pranayam. The relative investigation was done to dissect the breathing limit of the senior residents regularly performing yoga and pranayam. The above investigation it found that the breathing limit determined second time was more than the breathing limit determined first time.

The act of Yoga is accepted to have begun with the actual day break of human advancement. The study of yoga has its source millennia prior, some time before the main religions or conviction frameworks were conceived. In the yogic legend, Shiva is viewed as the primary yogi or Adiyogi, and the principal Guru or Adi Guru. A few Thousand years prior, on the banks of the lake Kantisarovar in the Himalayas, Adiyogi emptied his

significant information into the unbelievable Saptarishis or "seven sages". The sages conveyed this ground-breaking yogic science to various pieces of the world, including Asia, the Middle East, Northern Africa and South America. Curiously, present day researchers have noted and wondered about the nearby equals found between antiquated societies across the globe.

### BREATHING CAPACITY

Gas trade during breath happens basically through dispersion. Dispersion is a cycle wherein transport is driven by a fixation slope. Gas particles move from an area of high focus to a locale of low fixation. Blood that is low in oxygen focus and high in carbon dioxide fixation goes through gas trade with air in the lungs. The air in the lungs has a higher centralization of oxygen than that of oxygen-drained blood and a lower grouping of carbon dioxide.

1. Tidal volume (image  $V_T$  or  $T_V$ ) is the lung volume addressing the ordinary volume of air dislodged between typical inward breath and exhalation when additional exertion isn't applied. In a sound, youthful human grown-up, flowing volume is roughly 500 mL for every motivation or 7 mL/kg of weight.
2. The inspiratory hold volume (IRV) is the extra measure of air that can be breathed in after a typical motivation (flowing volume).
3. Expiratory hold volume-

The extra measure of air that can be lapsed from the lungs by decided exertion after ordinary termination — look at inspiratory hold volume.

#### 4. Residual volume-

The volume of air actually staying in the lungs after the most persuasive lapse conceivable and summing normally to 60 to 100 cubic inches (980 to 1640 cubic centimeters) called lingering volume.

5. Inspiratory limit is the volume of air that can be roused following an ordinary, calm lapse and is equivalent to flowing volume + inspiratory save volume.

6. Expiratory limit is the maximal volume of air that can be breathed out after finished resting motivation. Expiratory limit is equivalent to the amount of flowing volume and expiratory hold volume.  $EC = VT + ERV$ .

7. Vital limit is the greatest measure of air an individual can oust from the lungs after a most extreme inward breath. It is equivalent to the amount of inspiratory hold volume, flowing volume, and expiratory save volume. It is around equivalent to Forced Vital Capacity.

8. Total lung limit is the volume of air present in the chest after full motivation. The absolute lung limit (TLC), around 6,000 mL, is the greatest measure of air that can fill the lungs ( $TLC = TV + IRV + ERV + RV$ ).

### PRANAYAM

Yoga breathing activities, otherwise called pranayama, are a significant piece of a creating yoga practice. Pranayama is one of the Eight Limbs of Yoga referred to by The Yoga Sutras of Patanjali, which implies that it was viewed as a necessary advance on the way to edification. Prana implies energy, breath, or life power. Figuring out how to direct and control prana in the body has for quite some time been viewed as a vital part of yoga. As a fundamental substantial capacity, breathing is a compulsory demonstration. In spite of the fact that we can't handle whether we inhale, we can, somewhat, control the way that we relax. Activities in breath control, like breath maintenance and purposeful techniques inward breath and exhalation for explicit mental and actual advantages are at the center of pranayama practice.

### PRANAYAMA EXERCISES

Three-Part Breath - Dirga Pranayama: A decent breathing activity for fledglings. Doing three-section breath shows you how to fill and discharge the lungs totally, which is significant on the grounds that you're likely not used to utilizing your full lung capacity.<sup>2</sup> It's likewise a pleasant method to change into your yoga meeting.

Equal Breathing - Sama Vritti Pranayama: Taking long, profound, moderate breaths relaxingly affects the body. Carrying your complete consideration to keeping your inward breaths and exhalations a similar length consumes your psyche, offering it a much need reprieve from its typical murmur of action.

Alternate Nostril Breathing - Nadi Sodhana: In nadi sodhana, you close off one nostril, breathing out and breathing in through the open way prior to exchanging sides.<sup>2</sup> This brings you into balance by clearing the energy channels on the two sides of the body.

Cooling Breath - Shitali Pranyama: A basic breath, ideal for a hot day or when the body is warm in the wake of rehearsing yoga stances.

Ocean Breath - Ujjayi Pranayama: Ujjayi breath is truly fascinating in light of the fact that it acts to quiet the thoughtful sensory system simultaneously as it helps your oxygen utilization. It is the essential breath utilized in vinyasa yoga since it is adequately incredible to help an overwhelming stream.

- Lion's Breath - Simhasana: Lion's breath delivers the strain in your face and causes you brush off some steam.<sup>2</sup> You can do it whenever during a yoga practice.

### SURVEY OF LITERATURE

Jadhav Kamal<sup>21</sup> examined the effect on breathing constraint of the understudies by giving them energetic and anaerobic exercises. He parceled understudies in three social occasions however he saw that there was a qualification in breathing constraint of two get-togethers.

Lee SW, Mancuso CA, Charlson ME. Imminent investigation of new members locally based psyche body preparing program. *J Gen Intern Med.* 2004;19(7):760-5. Tracking down: A 3-month yoga program improved psychological wellness scores and other personal satisfaction measures. Yoga Type: Dahn-hak. 1) extending practices for enormous muscle gatherings and shoulders, neck, hips, back, and knees, 2) stances are held for "energy amassing 3) 5-to 10-minute reflection proposed to encourage "energy mindfulness", 4) redundancy of the huge muscle bunch stretches. Yoga Frequency/Duration: 1-hour class offered 2-to-3 times each week for a very long time.

Uebelacker LA, Epstein-Lubow G, Gaudiano, BA. Hatha. Yoga for discouragement: basic survey of the proof for adequacy, conceivable instruments of activity, and headings for future examination. *J Psychiatr Pract.* 2010;16:22-33. FINDING: A survey of eight clinical preliminaries showed the yoga may help treat sadness. Note: Methodological worries with most trials. Yoga Type: Some asana-zeroed in, some contemplation focused. Yoga Frequency/Duration: Varied long from 3 days to 12 weeks and in power from day by day to once each week.

Birdee GS, Legedza, AT, Saper RB. Attributes of yoga clients: aftereffects of a public study. *J Gen Intern Med.* 2008;23(10):1653-1658. A public overview of yoga clients demonstrated it to be useful for generally speaking wellbeing and prosperity, emotional wellness, and musculoskeletal conditions. Yoga Type: N/A. Yoga Frequency/Duration: Self-report that individual had rehearsed yoga during recent months (and not kendo or qi gong)

Woolery A, Myers H, Sternlieb B, Zeltzer L. A yoga intercession for youthful grown-ups with raised side effects of despondency. *Modify Ther Health Med.* 2004;10(2):60-63. A 5-week program of yoga showed decreases in misery and nervousness among youthful adults. Yoga Type: Iyengar. Yoga Frequency/Duration: Two

1-hour classes each week for 5 weeks.

**METHODOLOGY**

When researcher used to research about any topic, it needs to have proper direction over it. When there occurs any kind of problem then to direct the research properly and face the problem it needs to concentrate on the direction and proper way of research. For this it is important to collect the proper data for research. Statistical methods were used in this study to analyze the data. After this the values were calculated and Mean and S.D. were calculated and from this 'T' ratio was also calculated. After the calculation the researcher concluded the study.

**FORMULAE:**

$$\text{Mean} = \frac{\text{Sum of terms}}{\text{Number of terms}}$$

$$\text{Standard Deviation}$$

$$= n-1 \sum_{i=1}^n (x_i - \bar{x})^2$$

**SELECTION OF TOPIC**

For this study the researcher chose the old people who regularly perform yoga exercises of old age home in Chandrapur District.

**SOURCES OF DATA**

For the above the study the researcher had data collection through old people.

**COLLECTION OF DATA**

The researcher collected the data of through old people who regularly performed the yoga exercises. The age of the old people were 50 to 60 from them researcher chose 44 senior citizens randomly.

**ANALYSIS**

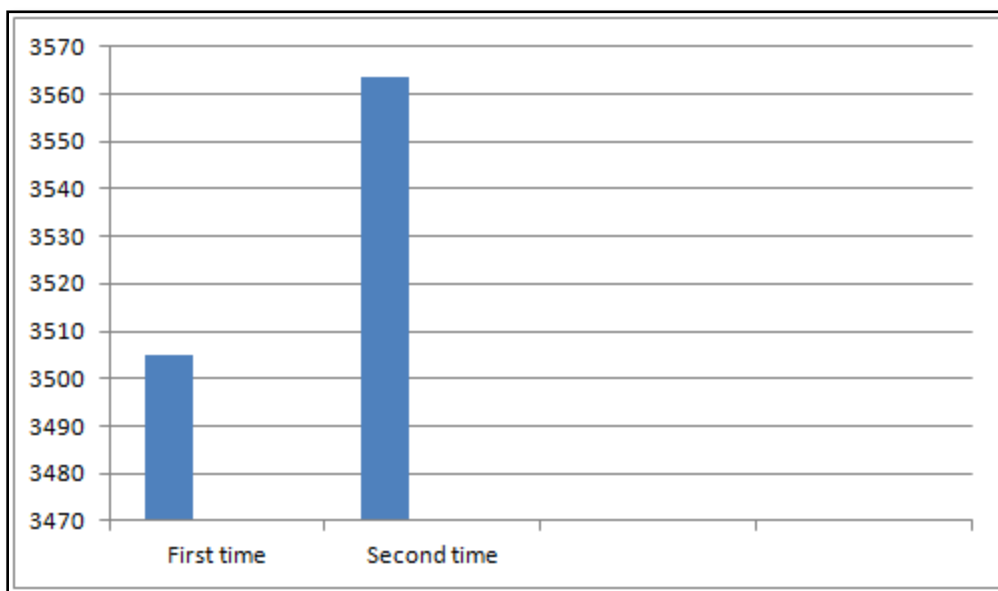
The researcher analyzed the Mean, S.D. and 'T' ratio of the senior citizens and studied their breathing capacity.

Sr. No	Vital Capacity	Mean	S.D.	Mean Difference	'T' Ratio
1	First time Calculated Breathing Capacity	3505	749.07	58.75	0.24
2	Second time Calculated Breathing Capacity	3563.75	1350.19		

From the above table, it examined that first time the Mean of the breathing capacity of the senior citizens were 3505 and second time the Mean of their breathing capacity were 3563.75 hence the Mean difference were 58.75. Similarly the the S.D. of senior citizens first time were 749.07 and

second time it was 1350.19 and hence 't' ratio was 0.24. Hence the table shows that the breathing capacity of senior citizens second time were more than it calculated first time.

**GRAPHICAL REPRESENTATION**



**CONCLUSION**

The breathing capacity was examined of the senior residents who routinely used to perform yoga practices and pranayam. The relative investigation was done to dissect the breathing limit of the senior residents regularly performing yoga and pranayam. The above investigation it

found that the breathing limit determined second time was more than the breathing limit determined first time.

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