

A Study On The Impact Of Yogic Chandrayana Vrata On Improving Pulmonary Function And Quality Of Life

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Abstract:

Background: yoga improved lung functions in numerous studies. Yoga involves isometric contraction and improves skeletal muscle strength. Yoga training improves the strength of Expiratory as well as Inspiratory muscles.

Aim: The present study is planned to find the effect of Traditional chandrayana Vrata and yoga therapy on improves pulmonary functions in healthy individual students.

Materials and Methods: 20 subjects were selected for the study. Consent form has been taken from them. Present study has been conducted in the department of human consciousness and yogic sciences, Mangalore University. They have been given yoga therapy for 90 min daily for one month. Forced Vital Capacity (FVC), Forced Expiratory Volume (FEV1) and Lung age are measured before & after yoga training.

Results: Mean, standard deviation, student paired't' test was used to analyze the study. The results could best depicted that, there is significant improvement at a level of significance $p < 0.05$ in FVC from the mean 2.45 to 2.86 with a significant p value 0.0038, for FEV1 from 2.20 to 2.76 at $p = 0.0044$, Lung age from 54.2222 to 41.1111 at $p = 9.18E-05$. Compared to Experimental group, the Control group has not shown any such significant changes after the study.

Discussion and Conclusion: There is a statistically significant increase in all the above mentioned pulmonary functions following yoga therapy and chandrayana diet. Yogic practice can be advocated to improve pulmonary functions in healthy individuals and hence to prevent respiratory diseases in future.

Keywords: Forced Vital Capacity (FVC), Forced Expiratory Volume (FEV1) and Lung age Pulmonary Functions, Yoga Therapy, Chandrayana Vrata.

Introduction:

Health is the greatest asset in human life and one should cherish it with utmost care, let he may succumb to disease. Each and every individual in this world aspire to lead a normal, happy and healthy life.

Every human society, be it rural or urban, industrial or technologically advanced, is affected extremely by pollution of the air.

Atmospheric pollution due to the increase in the concentration of gases other than oxygen in the air is responsible for various respiratory illnesses like, dust allergy, Cough, Cold, Noses block, Abnormal breath, Asthma, COPD [Chronic Obstructive Pulmonary Disease]. And Psychogenic [E.g. anxiety], Emotional imbalance and

Excretion are the triggering factors for the Lung Function disturbances.

Breathing sustains life, but natural breathing brings health and happiness. It clears the mind and calms all the emotions and releases the vitalizing flow of energy within us. Many people with serious respiratory ailments have found a solution in Yoga. As the mind is calmed the hyper reactivity that causes diseases such as bronchial asthma and nasal allergy is reduced. Pranayama, an important aspect of Yoga, helps in strengthening the immune system, so chronic infections are less. According to the Indian concept the root cause of Respiratory diseases is accumulated impurities in the lung area. The purification of body along with sensory organs which are the parts of mind can be achieved by adopting proper tapas. There are many ancient, traditional forms of tapas. One of the most ancient tapas is known as Chandrayana Vrata.

Increasing incidence of respiratory illness in modern times has triggered studies of how yoga can help in handling this problem. Various studies have revealed that regular practice of Yoga can prevent and cure respiratory illness. Yoga is used as preventive, promotive and curative measure in the treatment of various respiratory disorders as various practices like Kriyas, Āsanas, Prāṇāyāmas, Meditation and Relaxation techniques. This helps to relieve the broncho-constriction, strengthens the lungs, improves the lung capacity and thus effectively used in the management of respiratory functions, hence here is a small effort to study the effect of Chandrayana Vrata and Yoga practices on improving pulmonary function and quality of life.

Objectives of the study

To find out the impact of selected yogic practices and Chandrayana Vrata on Lung Functions.

Hypotheses

It is hypothesised that the yogic practices and Chandrayana Vrata will have a significant impact in the improvement of lung functioning.

Null Hypotheses:

There is no significant difference between pre and post Lung Function Tests.

Materials And Methods

The present study entitled “Role of Traditional Chandrayana Vrata and Yoga Therapy on Improving Pulmonary Function and Quality Of Life” was conducted to assess the effect of yogic practices on the subjects suffering allergies and respiratory problems in Students and Faculties of Mangalore University, Mangalore, Karnataka. 20 subjects will be selected for the proposed study. The subjects were randomly divided into one Experimental and one Control group, after taking a detail case-history of each individual and they were comparatively new to yogic practices. The Control group continued with normal lifestyle only. The Experimental group was subjected to an experimental treatment in which a set of seventeen yogic practices and Chandrayana Diet were performed on one month from full moon to next full moon. This practical session utilized a standard sequence of selected Āsanas, Prāṇāyāmas, Meditation and Relaxation Techniques, Chandrayana Diet and taking appropriate precautions for patients with Hypertension or back pain.

Parameters:

FVC- (Forced Vital Capacity) this measures the amount of air you can exhale with force after you inhale as deeply as possible.

FEV1- (Forced Expiratory Volume) this measures the amount of air you can exhale

with force in one breath. The amount of air you exhale may be measured at 1 second (FEV1), 2 seconds (FEV2), or 3 seconds (FEV3). FEV1 divided by FVC can also be determined, it is FEV1/FVC.

Lung Age:It's possible for a young person with lung damage to have lungs 'older' than their real age.

Treatments:

- **Yogic interventions:**

Following yogic techniques will be administered slowly and with proper care. Yogic technique will be taught gradually according to the condition of the subjects. Swastikasana, Vajrasana, Suptavajrasana, Simhasana, Tadasana I, Katiparivartasana, Trikonasana, Parshvakonasana, Purvottanasana, Pavnarmuktasana, Bhujangasana, Shalabasana, Dhanurasana, Vakrasana, Marichasana, Janushirshasana, Baddhakonasana, Upavistakonasana, Bharadwajasana, Jatharaparivartasana, Uttanapadasana, Ujjayi, Anuloma-viloma, Bhastrika, Bahya Kumbhaka, Shavasana I, Shavasana II.

- **Chandrayana Diet plan:**

Considering the sedentary life style of the subjects a diet providing 1900 calories approximately was taken as a standard.

Care was taken to include all the necessary ingredients required by the body in adequate to maintain health. The diet was planned considering the tastes and eating habits of the subjects. The diet consisted of strictly vegetarian food stuff naturally low in calories, very low in fat and high in nutrition and Fiber. These are a high volume food that fill the stomach and gives one the feeling of satiety. Protein depletion was avoided the green gram juice regularly.

The intake of food was reduced by approximately 126 calories each day for the next 15 days. On the 15th day, all subjects observed complete fast. Some of them who felt weakness were allowed to drink tender coconut water; very minimum yogic practices were done on that day. The diet was then increased by 126 calories each day to reach the normal diet of 1900 calories a day. The daily diet regimen was given to the subjects one day earlier.

Results:

It is evident from the above result that all the 10 patients responded to the treatment shows the positive improvement. Hence it is proved that “Yogic practices and chandrayana vrata have a significant impact in the improvement of lung functioning.”

Statistical Analysis:

A Paired “t” test was applied for each parameter and found out the value of the subjects.

Result of Statistical Analysis of Experimental Group:

Sl no	Parameter	Mean		SD		‘t’ Stat	‘p’ Value	Significance
		Before	After	Before	After			
1.	FVC	2.45	2.86	0.1060	0.1119	-3.5298	0.0038	HS
2.	FEV1	2.20	2.76	0.2626	0.2081	-3.4303	0.0044	HS
3.	Lung Age	54.22	41.11	149.44	46.36	6.5229	9.18E-05	HS

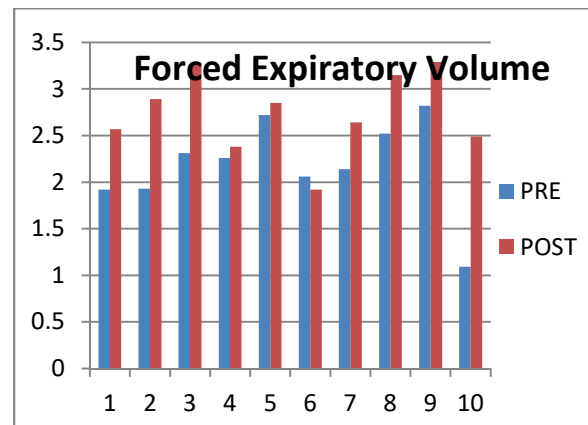
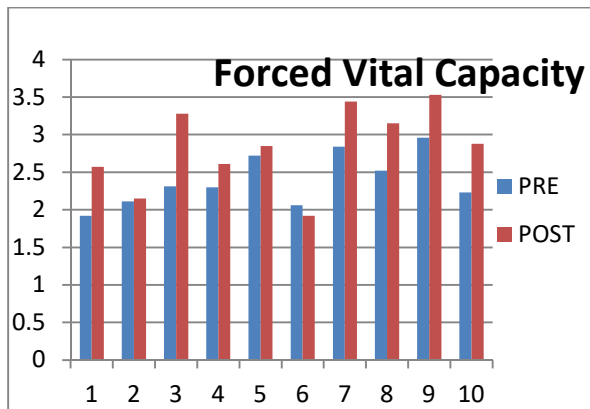
HS - Highly Significant

Result of Statistical Analysis of Control group:

Sl no	Parameter	Mean		SD		‘t’ Stat	‘p’ Value	Significance
		Before	After	Before	After			
1.	FVC	2.79	2.65	0.8467	1.0321	1.0495	0.1622	NS
2.	FEV1	2.66	2.55	0.8444	0.9122	1.3612	0.1052	NS
3.	Lung Age	54.22	55.35	149.44	132.77	-1.3926	0.1006	NS

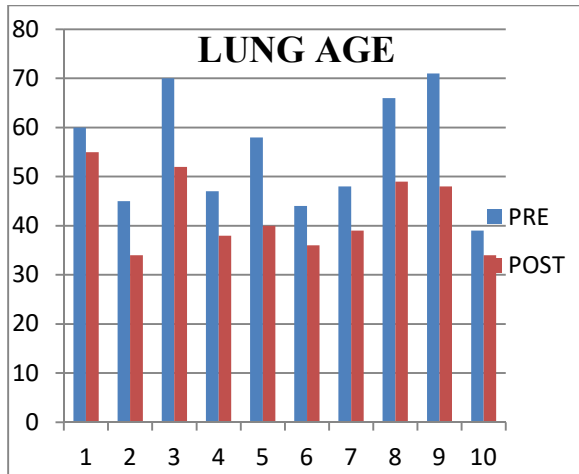
NS - Non-Significant.

Graphical Representation of Values of Different Variables of Experimental group of FVC

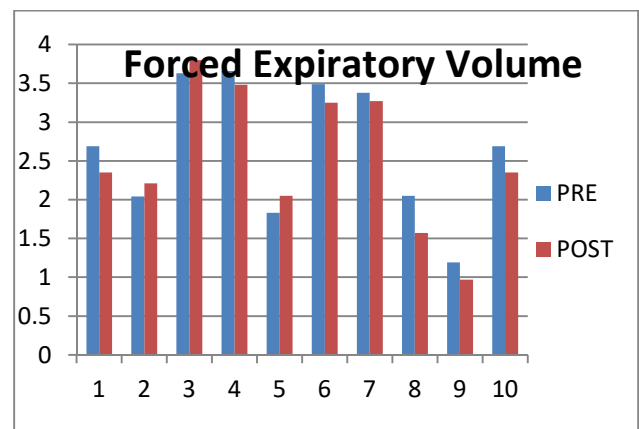
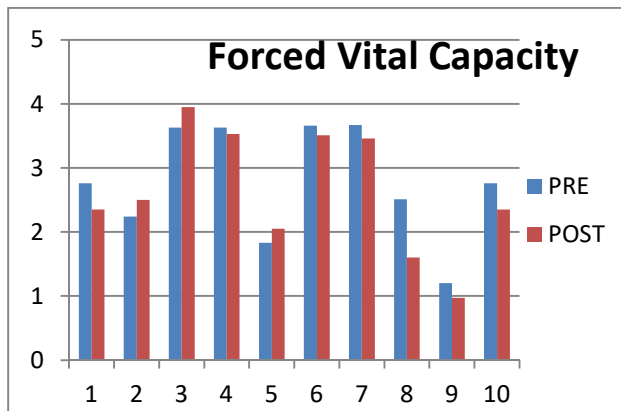


Experimental group of Lung age

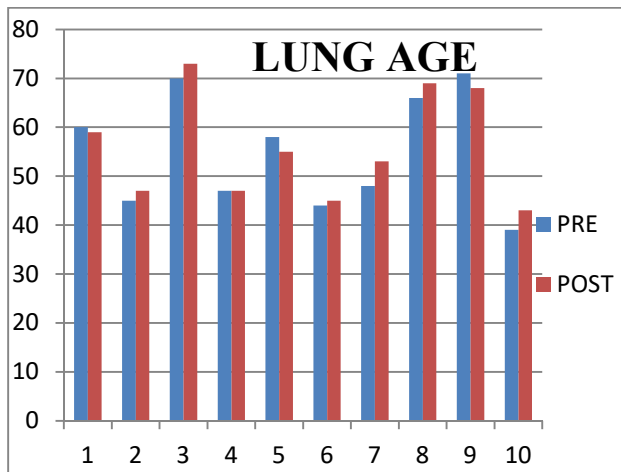
Experimental group of FEV



Graphical Representation of Values of Different Variables of Control group of FVC.



Control group of FEV



Control group of Lung age

Discussion

The various practices administered under the omnibus title 'yoga' cover a wide spectrum. This is inevitable because yoga is not a system of medicine; it is a way of life, the implications of which go beyond health and disease.¹ this approach now has a strong foundation in psycho-neuro-immunology, and is particularly relevant to a disorder of lung functions, which is characterized by deranged immune function.

The present study reveals that the concerned variables of Lung Function Test have been rationalized in terms of the hypotheses that the Experimental group will outperform the control group due to 30 days of yogic interventions. The results could best depicted that, there is significant improvement at a level of significance $p < 0.05$ in FVC from the mean 2.45 to 2.86 with a significant p value 0.0038, for FEV1 from 2.20 to 2.76 at $p = 0.0044$, Lung age from 54.2222 to 41.1111 at $p = 9.18E-05$. Compared to Experimental group, the Control group has not shown any such significant changes after the study. The Experimental group has been benefited more in terms of various variables are concerned. The rationale for the yogic treatment could be offered in the following manner.

The present study is an attempt with the Digital Spirometer, Helios 401, to get an accuracy and reliable data for the investigation into the mechanism by which yoga helps for the healthy functioning of Lungs. Although it has not succeeded in throwing much light in that direction so, many more similar studies in the future would be justified. Although there are several studies available on the efficacy of yoga in bronchial asthma and several other diseases, studies have to reach a critical mass before they can influence practice. Further, it would help to integrate mind-body approaches like yoga into the practice of scientific medicine if the trials not only show that these approaches work, but also how they work in terms of measurable basic mechanisms.

Conclusion:

The result obtained from the present study can be concluded as below:

Yogic treatment will work efficiently to improve the functioning of lungs.

Yoga can work as a therapeutic tool for the disorders of the lungs.

Selected Yogic Practices and chandrayana vrata administered in a more controlled set up under strict vigilance can yield better results.

Reference:

1. Vidyarani et al "The effect of selected yogic practices with chandrayana vrata-a type of austerity on the body parameters" 2003.
2. Udayakumara K et al "Acceleration of result of yoga by the practice of a tapas-Chandrayana Vrata"2005
3. Shenoy Ramachandra K et al "The effect of selected yogic practices with Chandrayana Vrata on the body parameters", 2009.
4. Dr.K.krishna sharma and Rangappa, The Assessment of Chandrayana Vrata and Yogic practices on Obese Women. International Journal of Yoga and Allied Sciences, Vol.8, Issue: 1 P.P.No. 42-47.
5. Vivekananda Swami.:Raja Yoga, Patanjala Yoga Sutra; Advaita Ashrama publications, August 2011, 39 Edition, page no. 212
6. Annapoorna, K and Vasanthlaxmi, K Effects of yoga therapy on obesity and quality of life in women: A longitudinal study. International Journal of Yoga and Allied Sciences, 2 (1). pp. 17-23. ISSN 2278 – 5159

7. Caturvarga Cintamani by Hemadri; .2-part II; Vratakanda 27 the Adhyaya, Chaukamba publications, Sanskrit Sanstana, Varanasi, page No -787.
8. Dr.K.krishna sharma and Rangappa, The Effect of Yoga Therapy to Control Body Weight and Body Mass Index of the Obese Women. International Journal of Research and Analytical Reviews, Vol. 5, Issue: 4, P.P No: 738-743.