

“YOGA THERAPY TO IMPROVE LUNG FUNCTIONS”

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Introduction

Health is the greatest asset in human life. Disease exists when health does not. Good health results from right diet, adequate exercise and a mind, which is stress free. The dramatic changes in our life style, sedentary way of working, wrong dietary habits, lack of exercise, smoking and alcoholism leading to many psychological and psychosomatic problems.

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 measured in the treatment of various respiratory disorders as various practices like Kriyās, Āsana, Prāṇāyāma, Meditation and Relaxation techniques. This helps to relief the bronco-constriction, strengthens the lungs and improves the lung capacity and thus effectively used in the management of respiratory disorders. This study was an attempt to know the effect of selected Yogic practices on Lung Function Tests.

Maharṣi Patañjali systematized yoga in the form of aphorisms. They are known as Pātañjala Yoga Sutras. He mentions about the mind stuff (*Citta vṛittis*), their affect on individual's health and to overcome from that. He also explains the eight limb yoga to reach Samādhi, i.e. Yama, Niyama, Āsana, Prāṇāyāma, Pratyahāra, Dhāraṇa, Dhyāna, Samādhi.

Vyādhi styāna saṁścaya pramāda ālasya avirati bhrāntidarśana ālabdhabhūmikatva anavasthitatvāni cittavikṣepāṇ te antarāyāṇ
//PYS I-30//

Sadvidya

Disease, mental laziness, doubt, lack of enthusiasm, lethargy clinging to sense enjoyments, false perception, non-attaining concentration and falling away from the state when obtained-are the obstructing distractions.

Dukha-daurmanasya-aṅgamejayatvaś wāsapraś wāsa-vikṣepa sahabhuvah.//PYS I-31//

Grief, mental distress, tremor of the body, irregular breathing accompanies non-retention of concentration.

Yogāṅgāmuṣṭhānāt asuddhikṣaye jñānadīptiṅ āvivekakhyāteṅ // PYS II-28//

By the practice of the different parts of yoga the impurities being destroyed, knowledge becomes effulgent up to discrimination.

Hikkaś vāsoścha kāśascaś irah karyākṣivedanaḥ/

Bhavanti vividha rogaḥ pavanasya prakoptaḥ//H.P II-17//

Several diseases like hiccup, asthma, cough and pain in the head, ear and the eyes, develop from a disorder of Pavana.

Kasaś vāsa pleeha kuṣṭam kapharoga ca vimṣatiḥ/

Dhauti karmaprabhaveṇa prayantyeva na sam ayaḥ//H.P II-25//

As a result of performing Dhauti, asthma, diseases of the spleen and the skin and the twenty varieties of disease caused by excess of phlegm undoubtedly get cured.

Satkarmaṇaś odhanam ca āsanena bhavedrḍān

Mudrayā sthīrata caiva pratyāhāreGa dhīratā//G.S I-10//

The *Satkarmas* purify the body; *Āsana* strengthen (it), *Mudrā* brings about steadiness; *Pratyāhāra* results in calmness.

Sama dośa samāgniśca, sama dhātu malakriyaḥ, /

prasnātmendriya manaḥ, svastha ityabhidheyate//SS 15-48//

Health is a state in the dynamic balance of *tridoshas*, *Dhātu* and *Mala* is maintained, the metabolism is at optimum level and soul, mind and sense organs assume sublime position.

Materials and Methods

The present study entitled “Yoga therapy to improve Lung Functions” was conducted to assess the effect of selected yogic practices on the subjects suffering from respiratory problems in workshop workers of Mandovi Motors Pvt. Ltd, Mangalore. The subjects were randomly divided into two groups namely Experimental and Control. After taking a detail case-history of each individual, the Control group continued with normal lifestyle whereas the Experimental group was subjected to a set of seventeen yogic practices, which were introduced gradually and practiced six days per week. This practical session utilized a standard sequence of selected *Āsanas*, *Prāṇāyāmas*, *Mudras* and Relaxation Techniques. Appropriate precautions were taken for patients with other complications.

The following parameters are considered for the study.

FVC- Forced Vital Capacity, **FEV1-** Forced Expiratory Volume, **FEV1/FVC**,

SVC- Slow Vital Capacity, **ERV-** Expiratory Reserve Volume, **IRV-** Inspiratory Reserve Volume, **MVV-** Maximum Voluntary Ventilation

The following yogic practices were administered for the Experimental group.

Asanas:

Svastikāsana, Vajrāsana, Supta-Vajrāsana, Tā āsana-I, Tādāsana-II, Trikoṇāsana, Pārśvakoṇāsana, Pūrvottānāsana, Pavanamuktāsana, Bhujangāsana, Śalabhāsana, Dhanurāsana, Vagrāsana, Marīcāsana-I, Marīcāsana-III, Viparītakaraṇi, Uttānapādāsana.

Pranayamas:

Ujjāyī, Anuloma-Viloma, Bhastrikā

Relaxation Techniques:

śavasana-I, śavasana-II

Results:

All the subjects under study were tested before and after 40days of yoga training which consisted of 60 minutes of practice in a day. The result shows an overall improvement in FVC, FEV1, ERV and MVV in

Experimental group. But not such significant improvement had shown in case of **Control group.** Some of the subjects in the **Experimental group** were reduced their dose of bronco dilators. It shows that **functioning of Lungs and overall health has improved in the Experimental group** compared to the **Control group.** Therefore, in general we can analyze the result as follows:

- ◆ As far as **Forced Vital Capacity (FVC)**, is concerned, 13 out of 13 subjects of **Experimental group** showed an **improvement in FVC.**
- ◆ **Maximum Voluntary Ventilation (MVV)**, which measures the **greatest amount of air one can breathe in and out during one minute, has improved tremendously in Experimental group.**
- ◆ **Spirometric-interpretation has shown**
 1. **One subject recovered from Severe Early Small Airway Obstruction to normal and Chronic Obstructive Pulmonary Disease (COPD) severity from very severe stage to the normal limits.**
 2. **Five subjects of Early Small Airway Obstruction recovered to normal after yoga therapy from severe stage.**

DISCUSSION

The **Yogic approach** now has a **strong foundation in psychoneuroimmunology**, and is particularly relevant to a disorder of lung functions, which is characterized by **deranged immune function.** The results of the **present study** allow a few **fairly firm conclusions.** Significant, steady and progressive improvement in key **objective variables** such as **FVC and FEV1** only in the **experimental group** indicates the efficacy of **yoga.**

This is further substantiated by the **significantly greater improvement in quality of life** in the **experimental group** than in the **control group.** Another possible explanation for the role of **yoga** in improving the functioning of **Lungs** and in reducing the **mast cell degranulation** could be based on the **frictional stress** from air flowing through **narrowed airways** damaging the **airway mucosa** and thereby **perpetuating airway**

inflammation and airway obstruction. At high air flow rates, high values of the frictional stress could damage the airway wall, especially during episodes of cough, and particularly when the mucosa is inflamed and friable as it is in asthmatic patients. The slow and gentle breathing in some of the *Prāṇāyāma* may reverse the process by reducing the frictional stress, and thereby stabilizing the mast cell degranulation. The yogic practices will remove the excess phlegm, cleanses the nerve channels, purifies the blood stream, and regenerates the liver, spleen and pancreas.

Conclusion :

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

1. Yogic treatment will work efficiently to improve the functioning of the lungs.
2. It can work as a therapeutic tool for the disorders of the lungs.

It is evident from the above result that “The yogic practices will have a significant impact in the improvement of lung functions.” But the variation of the rate of success could be depended on the regularity of the practice, lifestyle, dietary change and the chronicity of the disease. Thus, we can say that Yoga therapy is fully fruitful for those who adhere to the regular practice.

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