



## EFFECTS OF YOGA PRACTICES ON BRONCHIAL ASTHMA

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### ABSTRACT

This paper is mainly paying attention on the Bronchial Asthma (BA), It is a general continual provocative illness of the airways of lungs characterized by variables and persistent symptoms reversible airflow stumbling block and bronchia-contraction. Today, ancient yoga is designed therapeutic technique for the illnesses. Throughout the course of its progress yoga is one of the best, genuine and capable health care system. All over the world. Yoga practice has been integrated as a part of the every day schedule. It is a drugless structure renowned for avoidance of illnesses and encouragement of health. At the present, Contemporary Medical System has grasped the necessity of yoga techniques in many diseases. The holistic method of yoga technique is being considered as a therapeutic in modern times. Hence several scientific studies have acknowledged the worth of yoga technique in managing different ailments. Based on the scientific assessments of yoga postures, breathing techniques and meditation, the clinician can wisely and efficiently recommend the amalgamation of several yoga techniques.

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### INTRODUCTION

Bronchial Asthma (BA) is one of the widespread constant seditious illness of lungs. Which is an significant structure of human body. It works as a preservative of the body. Bronchial Asthma is a illness of the human respiratory structure where the airways get narrowed, frequently in reaction to a "trigger" such as display to an allergen, cold air, exercise, or emotional stress. This contraction causes symptoms such as breathless, smallness of breath, chest stiffness, and coughing, which react to bronchodilators. Bronchial Asthma occurs in periodic arrange is called asthma attacks. Asthma is differentiated by periodic, reversible bronchia-spasm ensuing from enlarged receptiveness of the trachea-bronchial tree to numerous stimuli. Asthma attacks occurs in airways, which are the paths that carry air to lungs airflow is confined by thinning of airways. This thinning occurs due to irritation of the bronchial walls, which leads to swelling of the lining of the bronchi and to the secretion of mucus. During respiratory concern asthmatics use the accessory muscles of respiration. This fearing act makes breathing even more hard.

Bronchial asthma (BA) has such a broad range of affecting aspects and scientific appearance, based on the harness of symptoms, it is classified mild, intermittent, moderate and severe.

Some experimental categorization contain steroid-dependent, steroid resistant, complex and delicate asthma. characteristically, asthma grouped into Extrinsic and Intrinsic.

**Extrinsic:** Initiated by a type one hypersensitivity reaction induced by exposure to an extrinsic antigen.

**Intrinsic:** Initiated by diverse, non-immune mechanism including ingestion of aspirin, infections, changes in the weather, exercise, allergens and irritants in the environment. additional casual categories classify bronchial asthma according to the events that generate bronchia-constriction. These include recurrent, work out, medicine and occupational asthma and asthmatic bronchitis in smokers. Allergic bronchia-pulmonary asthma is partly an allergic effect to fungus that has inhabited the bronchial mucosa.

#### Signs and Symptoms

- Bronchial Asthma is typified by difficulty in breathing, wheezing and cough at night,
- Difficulty in expiration.
- stiffness of the chest/discomfort in the chest.
- Bronchial asthma attacks last from one to several hours.
- Severe attacks may affect the heart and circulatory system.
- Hypercarbia, acidosis and hypoxia is rare in Bronchial Asthma.

#### Patho-physiology

Bronchial Asthma causes thinning of airways and bronchia-spasm. Airway thinning process basically includes:

- Release of histamine.
- Bronchia-spasm.

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- Edematous bronchial mucosa.
- Raised bronchial secretions.
- Gases confined in alveoli and decreased ventilation.
- Coughing, shortness of breathing & wheezing.

Breathing of allergen quickly interact with mucosal mast cells results in increase of histamine and cysteinyl leukotrienes which leads to bronchia-spasm. Airflow is controlled by contraction of airways. This contraction occurs due to irritation of the bronchial walls, which leads to swelling of the bronchi and to the secretion of mucus. During respiratory distress asthmatics use the accessory muscles of respiration. This fearing act makes breathing more hard.

During Bronchial asthma occurrence, irritated airways react to environmental causes such as smoke, dust or pollen. This makes difficult for the air to move in and out of the lungs.

The airways of Bronchial asthma patients are hypersensitive to certain triggers. In response to exposure to these triggers, the bronchi contract into spasm. The airways react by narrowing when they become irritated This leads to difficulties in respiration.

### **Relevance of Yoga**

The role of yoga practice in Bronchial Asthma is properly documented now. Aim of the treatment in Bronchial Asthma should be prevent the bronchia-spasm and to attempt the triggering aspects.

Yoga practice is an ancient science originated in India and is seen to be the oldest science of personal and spiritual expansion in the world. Yoga practice, benefits the body, mind and spirit. Yoga practice includes postures, breathing practices and meditation deal with the physical body, due to their effect on the brain, and the mind. Yoga practice is a science of right living it works on all aspects of the human being: the physical, mental, emotional, psychic and spiritual. The word yoga means 'union' it is derived from the Sanskrit word 'yuj' which means 'to join' Man is a physical, mental and spiritual being.

Yoga practice enhances the body with cosmic energy. It helps to achievement of perfect equilibrium and harmony. It promotes self-healing. eliminates negativity and toxins from mind and body, boosts individual power, self-awareness, attention, focus and concentration.

Yoga practice decreases stiffness and strain by activating the parasympathetic nervous system. Yoga practice controls asthmatics attacks. It helps in increasing flexibility, toning of muscle and strength of body. Improves respiration, energy and vitality. Inner peace ensues after the practice of yoga postures yogic breathing it enables the practitioner to live life with purpose and direction.

It is due to irritation of the air passages in the lungs and affects the sensitivity of the nerve endings in the airways so they become easily irritated. Certain cells of the bronchial liner react to the presence of causing factors by releasing chemicals that increase the inflammation in the airways, making the bronchia-constriction even more severe.

### **Yoga Therapy**

The yoga practice applications in the treatment of Bronchial Asthma (BA) is very beneficial.

**Shatkriyas:** The kriyas like Kunjal, Vastra dhouti, Jananeti, Sutraneti and Kapalabhati are of immense use in bronchial asthma. These kriyas cleansing the nasal upper passage and respiratory tract, desensitizes the mucous membrane of the mucosa, reduce the hypersensitivity, and develops the deep internal awareness.

**Prayer:** Prayer is very important part of yoga and individual. It provides the calmness and positive vibrations for mind and body. Before and after yoga session is very worth.

**Suryanamaskara:** It increases total circulations of the body.

**Loosening practices:** Uccarana sthala tatha Visudhha chakra shuddi, Buddhi tatha driti shakti vikasak, Vaksha sthala shakti vikasaka -1 and 2.

**Yoga Postures:** Tadasana, Katichakrasana, Urdhwa hastottanasana, Gomukhasana, Ushtrasana, Vakrasana, Bhujangasana, Saevangasna, Sarala Matsyasana, and Shavasana. These asanas relax the tense muscles of the chest thus facilitate easy breathing and release energy blocks. Inverted postures help to drain the mucus from the lungs. However, though bronchial asthma is appears to be a close link between the digestive system and the respiratory system. This link is further confirmed by the fact that the kriyas like Kunjal and Vastradhouti, which primarily act on digestive system bears a significant role in the effective management of Bronchial asthma.

**Breathing practices Pranayama:** Full yogic breathing, Nadishodhana, Suryabhedana, Bhastrika and Bhramari pranayam. It brings deeper benefits than the simple mechanical effect of exercising the lungs. Lungs tissues, relax the chest muscles and energize the whole system. Nadishodhana pranayama has a calming effect, working with meditation to bring harmony and peace.

**Special Practice:** Guided relaxation technique.

**Meditation:** meditation on Breathing, Om Chanting and Om Meditation.

Yoga practice drained out mucus and increases the stamina of lungs, acquaint the patient to use the lungs properly, relaxes the tensed chest muscles, energy blocks are released, energy levels are raised and the body & mind are calmed and harmonized.

### **Avoidable practices**

However, the cooling pranayamas like Sitali and Sitkari should be avoided as these may provoke bronchia-constriction. The chandranadi pranayama also be avoided as this particular practice stimulates the parasympathetic nervous system, which may further aggravate the broncho-constriction.

### **Review of Literature and Research studies**

Nagarathna, R. and Nagendra, H.R. (1985) concluded Yoga for bronchial asthma<sup>[1]</sup>: a controlled study-fifty three patients with asthma underwent training for 15 days an integrated set of Yoga exercises, including breathing exercises, suryanamaskar, Yogasana, Pranayama, and meditation practice for 65 minutes daily. They were then compared with a control group of 53 patients with asthma matched for age, sex and type and severity of asthma, who continued to take their usual drugs. There was a significantly greater improvement in the group who practiced Yoga in the weekly number of attacks of asthma, scores for drug treatment, and peak flow rate. This

study shows the efficacy of Yoga in the long term management of bronchial asthma.

Sodhi C., Singh S. and Dandona P.K.[2009], done a research on “ A study of the effect of Yoga training on pulmonary functions in patients with bronchial asthma”<sup>[2]</sup>. The study contains the following. The role of yoga breathing exercises, as a adjunct treatment for Bronchial asthma is well recognized. One hundred twenty patients of asthma were A (randomized into two groups i.e., Group yoga training group) and Group B (control group). Each group included sixty patients. Pulmonary tests were performed on all the patients at baseline, after 4 weeks then after 8 weeks. Majority of the subjects in the two groups had mild disease (34 patients in Group A and 32 in Group B). Group A subjects showed statistically significant increasing trend ( $P < 0.01$ ) in % predicted peak expiratory flow rate (PEFR), forced expiratory volume in the second (FEV1), forced vital capacity (FVC), forced mild expiratory flow in 0.25-0.75 seconds (FEF25-75) and FEV1/FVC% ratio at 4 weeks as compared to Group B. thus, yoga breathing exercises used adjunctively with pharmacological treatment significantly Pulmonary function improve in patients with bronchial asthma. Breathing techniques. Yogic cleansing techniques such as neti kriya (warm saline nasal wash) remove excessive mucous secretions, decrease inflammation, and reduce bronchial hypersensitivity thereby increasing provocation threshold while Kapalbhathi<sup>[3]</sup> (a Yogic breathing technique), through forceful exhalations, improves the capacity to exhale against resistance (Satyaprabha 2001).

Numerous studies have given evidence of the beneficial effects of Yoga in patients of respiratory conditions. Most of these studies show equivocal evidence for improvement in lung function<sup>[4,5,6,7,8]</sup> (Birkel and Edgren 2000, Fluge *et al* 1994, Jain *et al* 1991, Khanam *et al* 1996, Nagarathna and Nagendra 1986), Makwana *et al* 1988), decreased medication<sup>[9]</sup> score (Cooper *et al* 2003, Vedanthan *et al* 1998), improvement in quality of life and mood<sup>[10]</sup> (Manocha *et al* 2002) and decrease symptomatology<sup>[11,12,13]</sup> (Cooper *et al* 2003, Singh 1987, Tandon 1978). Studies have also shown decrease in airway reactivity (Manocha *et al* 2002, Singh 1987), decreased sympathetic reactivity (Khanam *et al* 1996), additive effect of Yoga with medications<sup>[14]</sup> (Fluge *et al* 1994, Vempati *et al* 2009) and sustained benefits with regular practice and practice for a longer duration<sup>[15]</sup> (Nagendra and Nagarathna 1986). Most of these studies are proof of concept and outcome studies and evidence regarding the mechanism of action of Yoga intervention is still lacking. The concepts of this holistic and integrated mindful yoga program have been elaborated in earlier studies<sup>[16]</sup> (Goyeche *et al* 1982, Nagarathna and Nagendra 1985). This integrated Yoga module which is a combination of breathing exercises, asanas, kriyas, pranayama, meditation and relaxation has shown improved pulmonary function, decreased symptomatology<sup>[17]</sup>, (Makwana *et al* 1988) reduced medication score in the long run and decrease in duration of acute asthma episodes.

The System of yoga is one of the efficient system of treatment for Respiratory System Disorders<sup>[18]</sup>. By regular practice of yoga in our daily life that will keep us away from all the disease. One must have patience, punctuality, Presence of Mind in their practice is very essential. (Siddappa Naragatti May 2019) Minimum Breathing, Asanas, Relaxation, Meditation must be include in our daily routine. Kriyas Must

be done once in a week. These are all the minimum capsules of Respiratory System Disorders.

## CONCLUSION

In nutshell Yoga the efficient technique of treatment for Bronchial Asthma. Through the practice of yoga decrease in broncho-constriction, yoga improves the quality of life and reduces need of medication in bronchial asthma more effective than conventional treatment alone. Improves the pulmonary function. Yoga brings about a genuine improvement in physical capabilities.

## References

1. Nagarathna R, Nagendra HR. Yoga for bronchial asthma: a controlled study. *BMJ* 1985;291:1077-79.
2. Sodhi, C., Singh, S., & Dandona, P. K. (2009). A study of the effect of yoga training on pulmonary functions in patients with bronchial asthma. *Indian J Physiol Pharmacol*, 53(2), 169-174.
3. Satyaprabha TN, Murthy H, Murthy BTC. Efficacy of Naturopathy and Yoga in bronchial asthma - a self controlled matched scientific study. *IJPP* 2001;45:80-6.
4. Birkel DA, Edgren L. Hathayoga: improved vital capacity of college students. *Altern Ther Health Med* 2000; 6:55-63.
5. Fluge T, Richter J, Fabel H, Zysno E, Weller E, Wagner TO. Long-term effects of breathing exercises and yoga in patients with bronchial asthma. *Pneumologie* 1994; 48:484-490.
6. Jain SC, Rai L, Valecha A, Jha UK, Bhatnagar SO, Ram K. Effect of Yoga training on exercise tolerance in adolescents with childhood asthma. *J Asthma* 1991; 28:437-442.
7. Khanam AA, Sachdeva U, Guleria R, Deepak KK. Study of pulmonary and autonomic functions of asthma patients after yoga training. *Indian J Physiol Pharmacol* 1996;40:318-324.
8. Nagendra HR, Nagarathna R. An integrated approach of Yoga therapy for bronchial asthma: a 3-54-month prospective study. *J Asthma* 1986; 23:123-127.
9. Vedanthan PK, Kesavalu LN, Murthy KC, Duvall K, Hall MJ, Baker S, et al. Clinical study of Yoga techniques in university students with asthma: a controlled study. *Allergy Asthma Proc* 1998; 19:3-9.
10. Manocha R, Marks GB, Kenchington P, Peters D, Salome CM. Sahajayoga in the management of moderate to severe asthma: a randomised controlled trial. *Thorax* 2002; 57:110-115
11. Cooper S, Osborne J, Newton S, Harrison V, Thompson Coon J, Lewis S, et al. Effect of two breathing exercises (Buteyko and pranayama) in asthma: a randomised controlled trial. *Thorax* 2003; 58:674-679.
12. Singh V. Effect of respiratory exercises on asthma. The Pink City lung exerciser. *Journal of Asthma* 1987; 24: 355-59.
13. Tandon MK. Adjunct treatment with Yoga in chronic severe airways obstruction. *Thorax* 1978;33:514-517.
14. Vempati R, Bijlani RL, Deepak KK. The efficacy of a comprehensive lifestyle modification programme based on Yoga in the management of bronchial asthma: a randomized controlled trial. *BMC Pulm Med* 2009; 9:37.

15. Nagendra HR, Nagarathna R. An integrated approach of Yoga therapy for bronchial asthma: a 3-54-month prospective study. *J Asthma* 1986; 23:123-127.
16. Goyeche JR, Abo Y, Ikemi Y. Asthma: the Yoga perspective. Part II: Yoga therapy in the treatment of asthma. *J Asthma*. 1982; 19(3):189-201.
17. Makwana K, Khirwadkar N, Gupta HC. Effect of short term yoga practice on ventilatory function tests. *Indian J Physiol Pharmacol*. 1988; 32:202-208.
18. Siddappa Naragatti, Management of Respiratory System Disorders Through the System of Yoga *International Journal of Emerging Technologies and Innovative Research*, ISSN:2349-5162, Vol.6, Issue 5, page no.493-496, May-2019.

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