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Scientific Evidences of Power of Yoga



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ABSTRACT

Asthma is a heterogeneous disease, usually characterized by chronic airway inflammation. It is defined by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that vary over time and in intensity, together with variable expiratory airflow limitation. Asthma is a common chronic inflammatory airway disorder. All over the world, Asthma is one of the most common chronic diseases worldwide with an estimated 300 million affected individuals. India has an estimated 30 million asthmatics. This review article enlightens the power of yoga and describing its beneficial and scientifically proven impact in the patients. Yoga improves all aspects of our health, including the physical, mental, emotional, social, and spiritual components. At the physical level, it induces equilibrium of the autonomic nervous system, with a tendency toward parasympathetic dominance rather than stress-induced sympathetic dominance.



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INTRODUCTION

Asthma attacks all age groups but often starts in childhood. It is a disease characterized by recurrent attacks of breathlessness and wheezing, which vary in severity and frequency from person to person. In an individual, they may occur from hour to hour and day to day. This condition is due to inflammation of the air passages in the lungs and affects the sensitivity of the nerve endings in the airways so they become easily irritated. In an attack, the lining of the passages swell causing the airways to narrow and reducing the flow of air in and out of the lungs. Asthma cannot be cured but could be controlled. The strongest risk factors for developing asthma are exposure, especially in infancy, to indoor allergens (such as domestic mites in bedding, carpets and stuffed furniture, cats and cockroaches) and a family history of asthma or allergy.

Exposure to tobacco smoke and exposure to chemical irritants in the workplace are additional risk factors. Other risk factors include certain drugs (aspirin and other non-steroid anti-inflammatory drugs), low birth weight and respiratory infection. The weather (cold air), extreme emotional expression and physical exercise can exacerbate asthma. The Global Asthma Report 2018 has defined all the major issues related to prevention and management of asthma, including access to essential medicines, national strategies, and policy. It is an excellent tool for advocacy purposes in all countries suggesting concrete actions for all stakeholders. Asthma kills around 1000 people every day and affects as many as 339 million people - and prevalence is rising. Low- and middle-income countries disproportionately suffer the most severe cases.

Yoga is an ancient science that uses postures and breathing techniques to increase lung's airflow, air capacity and stamina and reduce stress. The word yoga is originated from "yuj dhatu" in Sanskrit literature which means to join or together the mind, body and spirit. [1,2,3] The aim of yoga for health is to bring balance into the body physically, mentally and emotionally. By connecting to ourselves through the breath, we can bring our bodies from a state of "dis-ease" to a place of health.[4,5] Yoga is an antidote for stress, and a potentially powerful complement to live a healthy balanced life. Meditation and relaxation techniques help to reduce stress, regulate breathing patterns and also improve lung functions and reduce the frequency and intensity of asthma.[6,7,8]

Yoga is originated from ancient India and remains an important aspect of India's diverse culture. Yoga includes such common components as breathing exercises (pranayama), postures (asanas), and meditation (dhyana).^[9] It is difficult to know exactly how many types of yoga are being practiced around the world, as different combinations of and variations in components could represent a 'new' type of yoga. To our knowledge, types of yoga include, but are not limited to, the following: Aerial yoga, Ananda yoga, Anusara yoga, Ashtanga (or Astanga) yoga, Bhakti yoga, Bikram yoga (hot yoga), Chair yoga, Forrest yoga, Hatha yoga, ISHTA (Integral Science of Hatha and Tantric Arts), Iyengar yoga, Jivamukti yoga, Jnana yoga, Kali Ray TriYoga, Karma yoga, Kripalu, Kriya yoga, Kundalini yoga, Mantra yoga, Moksha, Power yoga, Prenatal yoga, Purna yoga (integral yoga), Raja yoga, Restorative yoga, Sahaja yoga, Satyananda yoga, Sivananda yoga, Stand-up paddle yoga, Svaroopaa yoga, Swara yoga, Tibetan yoga, Viniyoga yoga, Vinyasa yoga, and White Lotus yoga. There seems to be no estimate of the proportion of each type of yoga taught by practitioners worldwide. The common goal of yoga practitioners is to seek to attain a perfect integration of body, mind, and spirit.^[10,11,12]

Aadiyogi lord Shiva was the first guru (teacher) of yoga who taught the mystery secret of yoga to Goddess Parvati. After that, Saptrishis were acknowledged by the mystery of yoga to spread it on the earth. Hiranyagarbh was the founder of yoga on the earth. In the Modern age, Maharishi Patanjali was the father of Yoga. Some of the modern yoga gurus were **Aadi Shankaracharya, Jananeshwar, Matsyendranath, Gorakshnath, Sri Ramkrishna, Sri Vivekanand and Swami Shivanand.**

The *Yoga Sūtras of Patañjali* are a collection of 196 Indian sutras (aphorisms) on the theory and practice of yoga. The *Yoga Sutras* were compiled prior to 400 CE by Sage Patanjali who synthesized and organized knowledge about yoga from older traditions.^[13,14,15] The *Yoga Sūtras of Patañjali* was the most translated ancient Indian text in the medieval era, having been translated into about forty Indian languages and two non-Indian languages:

Patanjali begins his treatise by stating the purpose of his book in the first sutra, followed by defining the word "yoga" in his second sutra of Book 1:^[16]

योगश्चित्तवृत्तिनिरोधः॥२॥

yogaś citta-vṛtti-nirodhah

— *Yoga Sutras 1.2*

This terse definition hinges on the meaning of three Sanskrit terms. I. K. Taimni translates it as "Yoga is the inhibition (*nirodhaḥ*) of the modifications (*vṛtti*) of the mind (*citta*)".^[17] Swami Vivekananda translates the sutra as "Yoga is restraining the mind-stuff (*Citta*) from taking various forms (*Vrittis*)."^[18] Edwin Bryant states that, to Patanjali, "Yoga essentially consists of meditative practices culminating in attaining a state of consciousness free from all modes of active or discursive thought, and of eventually attaining a state where consciousness is unaware of any object external to itself, that is, is only aware of its own nature as consciousness unmixed with any other object."^[19,20] Patanjali defines yoga as having eight components (अष्टाङ्ग *aṣṭ āṅga*, "eight limbs"): "The eight limbs of yoga are yama (abstinences), niyama (observances), asana (yoga postures), pranayama (breath control), pratyahara (withdrawal of the senses), dharana (concentration), dhyana (meditation) and samadhi (absorption)."^[21]

Presently, Baba Ramdev is known as Indian Yoga Guru. He worked too much in the field of yoga and enlightened among the people not only in India but also in abroad. After that Honb'le Prime Minister of India, Mr. Narendra Modi proposed the idea of International Yoga Day during his speech at The United Nations General Assembly (UNGA), on 27 September 2014. Therefore, International yoga Day is being celebrated since 2015 on every 21st June.

SCIENTIFIC EVIDENCES OF POWER OF YOGA

The first case controlled study was done on 53 asthmatic patients incorporating a holistic program of asana, pranayama and meditation for two weeks, the yoga group had fewer weekly asthma attacks, improved breathing and better response to their medication.^[22] Another study done on 570 asthma patients, the yoga group showed significant improvement in PEFV after the regular practice of yogasanas. It was a long- term efficacy of the integrated approach of yoga therapy in which patients were followed up for 3- 54 months.^[23]

22 patients with mild asthma in a randomised, double blind, placebo controlled crossover trial. For two week periods the patients breathed either through pink city lung exerciser or through a matched placebo device. There was a significant improvement in airway reactivity.^[24] A randomized controlled trial has shown that the practice of *Sahaja Yoga* does have limited beneficial effects on asthma. *Sahaja Yoga* is a traditional system of meditation based on *Yogic* principles which may be used for therapeutic purposes.^[25]

The *Yogic* practices including *Pranayama* on asthmatic patients reported a significant degree of relaxation, positive attitude toward asthma and exercise tolerance. The study also showed a tendency toward lesser usage of beta-adrenergic inhalers.^[26] In a randomized controlled trial, there was a significant improvement found in pulmonary functions, AQLQ scores in both groups, but the improvement was more in *Yoga* group.^[27]

Another study concluded that yoga practice can be advocated for improvement of respiratory efficacy as well as an alternative therapy or as adjunct to conventional therapy in respiratory diseases.^[28] A randomized controlled study of 60 patients reported that lung functions improved significantly in the patients of the yoga group after two months of the yoga practice from the baseline. *Pranayama* and yoga breathing are used to increase respiratory stamina, relax the chest muscles, expand the lungs, raise energy levels, and calm the body.^[29]

A randomized controlled study on 241 patients of mild to moderate persistent chronic bronchial asthma (121 patients of the yoga group and 120 patients of the control group) patients concluded significant improvement in biochemical profile of asthmatics in the yoga group, superoxide dismutase activity also improved in yoga group than the controls.^[30] They also reported that asthma symptom scores decreased significantly after the practice of asanas, pranayama and meditation for the period of 6-month practice in the yoga group in comparison to controls.^[31] Study concluded that the yoga group got significantly better improvement in spirometric variables. About 55% decrease was found in rescue inhaled medication use in yoga group in comparison to controls. It also concluded that quality of life of yoga group also improved in *yoga* group. There were significant improvements found in all the subdomains of AQLQ at 3rd month and at 6th month in comparison to “the control group.”^[32,33,34] One of the randomized controlled studies done on asthma patients reported that yoga group got significant improvement in the proportion of Superoxide dismutase, Glutathione and Catalase in yoga group than controls.^[35]

There are so many studies carrying out on different diseases in which yoga has great impact. Yoga is not an alternative and complementary method, its therapeutic aspect boosts the power of patient while defeating asthma, if it is used as an adjunct therapy with standard medical therapy.^[36,37] Yoga is easy to learn, practice and is almost free and extremely safe. Yoga is ideally suited for India as a complementary modality in the management of lower respiratory disorders.^[38,39] Asthma is a chronic disease that cannot be cured but medicine and lifestyle changes can help to control the symptoms of disease.^[40,41] The ultimate goal of yoga is to find

perfection in life. By integrating yoga into our life, we begin with the awareness of ourselves in our present condition and then use the potentials within us to reach a higher awareness in life.

CONCLUSION

Acute asthma is a life threatening condition. If it is diagnosed and treated properly, deaths could be avoided. Optimum inhaled therapy, regular use of preventive therapy and avoidance of triggers can prevent acute severe Asthma. If community follows four dimensions of yoga i.e, lifestyle, yoga, pranayama and meditation, health can be achieved easily.

CONFLICT OF INTEREST

(If present, give more details): None

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