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YOGA IS A POWERFUL WEAPON IN DEFEATING ASTHMA

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ABSTRACT

Asthma is a serious public health problem throughout the world, affecting the people of all ages. It is a chronic inflammatory disorder of the airways. The chronic inflammation causes an associated increase in airway hyper-responsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing at night or in the early morning. Yoga has been now considered as one of the best complementary and alternative therapy. There are so many studies are carrying on different diseases in which yoga has put great impact. This review article shows a therapeutic aspect of yoga in defeating asthma if it is used as an adjunct therapy with standard medical therapy. It doesn't improve spirometric indices of the asthmatics while it improves the quality of life of the patients too. Thus it can be say that yoga is a powerful weapon in defeating asthma.

KEYWORDS: Adjunct; asthma; hyper-responsiveness; therapeutic; spirometric.

INTRODUCTION

Asthma is a serious public health problem throughout the world, affecting the people of all ages. It is a pulmonary disease characterized by reversible airway obstruction, airway inflammation and increased airway responsiveness to a variety of stimuli. This results in recurrent attacks of dyspnoea, cough and expectoration of tenacious mucoid sputum. A prolonged expiration phase with generalized wheezing and musical rales is as common as in eosinophilia. Different types of genetic and environmental factors are responsible in the pathogenesis of asthma. Asthma is one of the most discomforting of respiratory ailments, known to affect around 5% of the World's population. The prevalence of Asthma is approximately 300 million cases all over the world and India alone has about 15-20 million asthmatic patients.[1,2]

Todays, the life is very busy and nobody has the time for its fitness and health. Scientific studies have shown that yoga as one of the best alternative therapy to control asthma. Yoga is an ancient science that uses postures and breathing techniques (Pranayama) to increase lung's airflow, air capacity and stamina and reduces stress.[3] Simple meditation and relaxation techniques help to reduce stress, regulate breathing patterns and also improve lung functions. It reduces the frequency and intensity of asthma as well as to decrease medication use. Consistent practice of yoga postures and pranayama increases the lung's airflow, air capacity stamina and efficiency.[4]

Pathogenesis of Asthma

The fundamental problem in asthma appears to be immunological: young children in the early stages of asthma show signs of excessive inflammation in their airways. Epidemiological findings give clues as to the pathogenesis: the incidence of asthma seems to be increasing worldwide, and asthma is now very much more common in affluent countries.

The Beta Adrenergic Theory of Asthma (1968) described the blockage of Beta-2 receptors of pulmonary smooth muscle cells cause asthma.[5] In 1995 Szentivanyi A and colleagues demonstrated that IgE blocks beta-2 receptors.[6] Since overproduction of IgE is central to all atopic diseases, this was a watershed moment in the world of allergy.[7] An immune complex allergic reaction may also be implicated in the pathogenesis of bronchial asthma, particularly where antigens derived from fungi such as A. fumigatus, are implicated. Acute attacks of asthma may be caused by drugs such as aspirin and by exposure to chemical substances in the electronics, plastics and other industries.

Pathophysiology of asthma

Asthma is an inflammatory disorder of the airways, which involves several inflammatory cells and multiple mediators that result in characteristic pathophysiological. [8, 9] It is an airway disease that can be classified physiologically as a variable and partially reversible obstruction to air flow, and pathologically with overdeveloped mucus glands, airway thickening due to scarring and inflammation, and bronchoconstriction, the narrowing of the airways in the lungs due to the tightening of surrounding smooth muscle. Bronchial inflammation also causes narrowing due to edema and swelling caused by an immune response to allergens.

Yoga- A 3,000 year old tradition, yoga, is now regarded in the Western world as a holistic approach to health and is classified by the National Institutes of Health as a form of Complementary and Alternative Medicine.[10] The word "yoga" comes from a Sanskrit root "yuj" which means union, or yoke, to join, and to direct and concentrate one's attention.[11] Regular practice of yoga promotes strength, endurance, flexibility and facilitates characteristics of friendliness, compassion, and greater self-control, while cultivating a sense of calmness and well-being.[12] Sustained practice also leads to important outcomes such as changes in life perspective, self-awareness and an improved sense of energy to live life fully and with genuine enjoyment.[13] The practice of yoga produces a physiological state opposite to that of the flight-or-fight stress response and with that interruption in the stress response, a sense of balance and union between the mind and body can be achieved.[14] Now, yoga has been considered a best complementary and alternative medicine by the National Institutes of Health. The exhalation is an important technique in managing asthma and reducing frequency and intensity of asthma attacks.

Yoga and Asthma Findings- Yoga accumulates mind, body and energy, improves the quality of life of people.[15,16] One of the review articles enlightened the current status of yoga research and indicated scientific recognition of yoga as a complementary medicinal practice and its incorporation in integrative medicinal approaches.[17]

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 and concluded significant improvement in bio- chemical profile of asthmatics in the yoga group, superoxide dismutase activity also improved in yoga group than the controls.[18 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.[19]

Pranayama nadishodhan and kapalbhati showed a significant result on forced ventilation capacity (FVC), maximum voluntary ventilation (MVV) and peak expiratory flow rate (PEFR).[20] 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.[21] 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.[22]

In a study of the effect of yoga on asthmatic patients concluded that most of the subjects in the yoga group, showed a decreased number of day attacks per week and night attacks per month as compared to the control group. They also concluded a significant improvement in peak expiratory flow rate (PEFR). Yoga group showed 66.7 % reduction in the use of salbutamol puff and 58.3 % salbutamol tablets while control group showed only a reduction of 16.6% in the use of puff.[23]

A study reported the significant change in FEV_1 and PEFR in the yoga group after the regular practice of yoga for an 8 week of study period from the baseline, the frequency of rescue medication use significantly decreased over the study period in yoga group and control groups. But the decrease was achieved relatively earlier and was more marked in the yoga group than in the control group. This study supported the efficacy of yoga in the management of bronchial asthma.[24]

In a Randomized controlled study of 53 patients of asthma 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.[25] A study done on 570 asthma patients, the yoga group showed significant improvement in PEFR after the regular practice of yogasanas. It was a long- term efficacy of the integrated approach of yoga therapy in which patients was followed up for 3- 54 months.[26]

CONCLUSION

Yoga is one of the complementary medicines which put a great impact on human body. There are more evidences in favor of yoga practices but it should be remember that yoga alone cannot be used as a treatment modality. It is an alternative and complementary method to improve asthma. Finding of this review suggests that the regular practice of yoga can improve psychosocial factors, quality of life, pulmonary functions and the symptom score in asthma patients. Global Initiative for Asthma (GINA) has also considered breathing technique (Beutyko) as an adjuvant therapy for the better management of asthma. Yoga is an effective tool in the management of asthma and more scientific studies are

required in this area to utilize the maximum benefit from this ancient magical science.

Conflict of interest
(If present, give more details): None

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