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Benefits of Yoga in Respiratory Diseases

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Abstract

Breathing sustains life, natural breathing brings happiness and keep healthy. It clears the mind and calms all the emotions hence it can helps in release of the vitalizing flow of energy within us. Air pollution is responsible for various respiratory diseases such as nasal allergy, asthma, chronic bronchitis and lung cancer. It has been found that Yoga has improved pulmonary parameters in several scientific studies, both in healthy as well as in diseased individuals. It helps in increase in vital capacity, tidal volume, FeV_1, Fev_1/FVC ratio, expiratory reserve volume, breath holding time and many other pulmonary parameters. These changes suggest a potential preventive and therapeutic role of yoga in pulmonary diseases.It is a method of learning which aims to attain the unity of mind, body and spirit through three main yoga steps includes exercise, breathing and meditation. Results of previous research studies report that many people with serious respiratory ailments have found a solution in yoga. It has been proventhattheyogic practices help in prevention, control as well as rehabilitation of many respiratory diseases. A vital scientific and therapeutic aspect of yoga is Pranayama. Few exercises of pranayama are like Anulomaviloma, Kapalbhati, Bhramari which are the components of yoga and are the best remedies which can be help to tackle respiratory illness caused by air pollution and other naturally occurring respiratory diseases.

Introduction

Breathing sustains life, natural breathing brings health and happiness. It clears the mind and calms all the emotions and helps in release of the vitalizing flow of energy within us. Every human society either is rural, urban, industrial or technologically advanced is affected extremely by air pollutions[1]. Severe air pollution affects human health and cause many diseases. A variety of air pollutants have been found, which causes many diseases like nasal allergy, sore throat wheezes, asthma, chronic bronchitis, allergies and lung cancer[2]. Increasing incidence of respiratory illness in modern times has triggered the studies that how yoga can help in handling and eliminating these problems. It has been found from the various studies that regular practice of yoga can prevent and cure respiratory illness. Respiratory diseases are a major health burden on the world population and are the leading causes of death worldwide. Lower respiratory infections such as pneumonia and tuberculosis, lung cancer and chronic obstructive pulmonary disease (COPD) accounted for 9.5 million deaths worldwide during 2008 and amounted to one-sixth of the global death burden. The World Health Organization (WHO) also estimated that these same four diseases accounted for one-tenth of the disability-adjusted life-years lost worldwide in 2008[3].India has an embarrassing world ranking in its respiratory disease prevalence and impact. According to latest WHO data, lung disease related deaths in India reached 1,061,863 or 11.97% of total deaths in 2014. The age adjusted death rate was 126.99 per 100,000 of population[4].It is suggested that Yoga with physical postures, breathing exercises, meditation and relaxation may play an important role in the complementary management of lower respiratory diseases. Results of Several emerging trials have supported its modulating effects on the pulmonary function in respiratory diseases[5].

Role of Yoga in Life

Yoga is a science which has been practiced in India over the thousands of years [6]. The word yoga is derived from the Sanskrit word 'Yuj' which means to join.Yoga practice mainly consists Asana (posture – a particular position of the body which helps to contribute the steadiness of body and mind). Pranayama (help to control the breathing in a superior and extraordinary way and to get maximum benefits and meditation which produces consistent physiological changes)[7].Yoga practice consists of the five-principle which

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includes proper relaxation, proper breathing, proper diet, positive thinking and meditation[8]. Yoga is an ancient science, which brings harmony in the body as well as in the mind also. Yoga comprises not only of asanas and pranayama for improving the skill of the body, but it also comprises of techniques which acts on the mind and emotions, and provides a complete philosophy for living. In recent times, medical fraternity is much attracted towards beneficial effects of yoga. Yoga aims to treat illness by improving health on all levels simultaneously and restoring the inner harmony. Ill health occurs if the total balance of perfect health is disturbed. Yoga contains elements that address problems at every level such as Asanas that relax and tone the muscles and massage the internal organs and Pranayama that slows breathing and regulates the flow of prana. Relaxation and meditation that act to calm the mind and emotions culturing to heal the spirit. The essence of yoga therapy is both preventive and curative and theregularpractice of yoga restores natural balance and harmony and also help in bringing positive good health to the whole body including physical, mental and spiritual health [9].

Role of Yoga in Respiratory Illness

Previous studies report that many people with serious respiratory ailments have found a better solution in yoga. As the mind is calmed the hyper reactivity that causes diseases such as bronchial asthma and nasal allergy is reduced. Yoga is considered to be a good exercise for maintaining proper health and also has a profound effect on the lung functions of the individuals. It is claimed that yogic practices help in prevention, control and rehabilitation of many respiratory diseases [10].

Role of yoga in COPD

According to the latest WHO estimates, there were 64 million people having COPD and 3 million people died of COPD in 2004. WHO predicts that COPD will become the third leading cause of death worldwide by 2030. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) management including the reduction in symptoms, complications, and exacerbations, improved exercise tolerance, improved health status, and reduced mortality.[11] Some of these goals can be achieved by initiating breathing exercises in these patients.[12] It is found that Yoga has been shown to be beneficial in patients having COPD.[13]Yoga also improves the diffusion capacity in this group.It has been found that helps in reducing the associated stress and anxiety and help in improving the quality of life.[14-17]

Role of yoga in Asthma

Asthma is characterized by reversible airway obstruction asthma is a common disease among children and most asthma-related deaths occur in low- and lower-middle income countries and about 300 million people are suffering from asthma globally[18,19]. About 10% of this asthma burden belongs to India.Exercise has shown to have beneficial effects in asthma patients[20]. Also improved Pulmonary function parameters in these patients, some clinical studies have shownthe significant improvement in PEFR, VC, FVC, FEV1, FEV/FEC %, MVV, ESR and absolute eosinophil count. The number of asthmatic attacks is also reduced. There is a reduction in rescue medication use, improvement was also found in symptom scores, exacerbations, spirometrical parameters with improved quality of life and good impact on antioxidant level. The reduction of medicines is earlier than that achieved with conventional treatment alone.Several studies have documented the use of yoga in relieve of pain, associated stress, anxiety and sleep disorders, both in patients and their caregivers. People with serious respiratory ailments have found a good solution in yoga. If the lungs are permanently damaged as in chronic bronchitis, yoga helps to improve mechanical efficiency of our breathing and make the most of our lung capacity. Yoga has effect on ventilator lung functions, which depend on compliance of lungs and thorax, airway resistance and strength of respiratory muscles. Yoga respiration (Pranayama) consists of very slow, deep breaths with sustained breath hold after each inspiration and expiration so it is considered as a method of breathing and chest expansion exercise. The Global Initiative for Asthma has also considered beutykoteqniue is helpful in decreasing asthma symptom score and improves pulmonary functions in asthma patients[21-33].

TB and Yoga Therapy

Tuberculosis is an epidemic disease, affecting approximately one-third of the world's population. It has been found that this particular condition is prevalent in men rather thanwomen it has been also found in the minorities, socially and economically lower classes.

Some of the important yoga poses are helpful in tuberculosis. Bhastrika (Bellows Breath), Kapalbhati (Cleansing Breath), Nadishodhan (Anulone- Vilome) are beneficial pranayamas for TB patients. Forward and backward bending movements, and stretching poses may also good. Yoga enhance the internal stamina and reduces the stress.

It has been shown that the positive findings like improved daily basic living skills, maintainance of personal hygiene, self-care, social-interpersonal activities, communication and self-discipline in the yoga group, yoga therapy will be added as a daily discipline which can improve their overall functioning. In Indian cultural environment patients suffering from TB can be more easily motivated for the yoga therapy and interiorize its beneficial effects [27].

Ultimate Effect of Yoga on Respiratory System

Yoga postures involve an isometric contraction which help to increase the skeletal muscle strength or improves the strength of inspiratory and expiratory muscles.[28]

In Kapalbhati – there occurs full use of diaphragm and abdominal muscles for breathing. It helps in removal of secretions from bronchial tree and helps in clearing up respiratory passages.[29]

In Nadi Shodhan pranayama, due to efficient use of abdominal and diaphragmatic muscles the respiratory apparatus gets emptied and filled more completely and efficiently.[34]

During pranayama there is slow and prolonged inspiration as well as expiration. This stretches elastin and collagen fibers of lung parenchyma and lungs inflated near to total lung capacity. This is a major physiological stimulus for release of lung surfactant into alveolar spaces which increases the lung compliance[35].

Due to lung inflation, there occurs release of prostaglandins which decreases bronchial smooth muscle tone[36].

Ultimately yoga with its calming effect on the mind can reduce and release emotional stresses thereby withdrawing the broncho-constrictor effect[37].

Conclusion

Chronic lower respiratory diseases remain incurable and impose tremendous suffering on people and society. There has been an explosion in clinical studies studying the pulmonary health benefits of yoga. The evidence based adjunctive therapeutic efficacy of yoga in COPD and asthma generated by these trials is persuasive. Yoga is easy to learn and 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.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. Regular yoga practice improves various pulmonary function tests and is beneficial to improve respiratory efficiency. Pranayama, a component of yoga is one of the best remedies which helps totackle the respiratory illness caused by the air pollution and other naturally occurring respiratory illness. The effect of these exercises can be best achieved when practiced at the start of each day. Pranayama when practiced in combination with asana and meditation help the body and the mind to meet every situation that arises in life from moment to moment

Conflict of interest

None

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