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The role of aerobic exercise in bronchial asthma: a review

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Abstract

Purpose of review: Asthma occurs as one of the most prevalent chronic disorders among children and adults in developed nations. Poor asthma control persists despite international treatment guidelines, resulting in frequent school and job absences, emergency room visits, and hospitalizations. Numerous asthmatic patients cite exercise as an asthma trigger, which likely results in exercise avoidance as a strategy of symptom control. Emerging evidence suggests that regular aerobic exercise may assist improve certain elements of asthma control. This article reviews on the effects of regular aerobic exercise on significant asthma-related outcomes, including symptoms, lung function, and quality of life.

Recent findings: Many Randomized Control Trial, systematic reviews and meta-analysis in recent years have found that regular exercise is safe for children and adults with asthma. Asthma symptoms and quality of life appear to benefit with aerobic exercise, although gains in lung function and airway hyper responsiveness have been less consistent.

Summary: Our review showed that frequent continuous moderate intensity aerobic exercise improved asthma symptoms and quality of life. Swimming or treadmill exercises are good possibilities.

Keywords: Aerobic Exercise, Physical Activity, Asthma; Pulmonary function.

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Introduction

Asthma is a complex disease with numerous clinical symptoms of variable severity. Asthmatic patients experience a steady and continuous loss in lung function throughout their lives, with the rate of impairment varied between persons [1]. There are 334 million individuals in the globe who suffer from asthma, and 17 million of those people live in India [2]. The majority of asthma patients respond favorably to treatment that is considered to be conventional. Uncontrolled asthma patients impose a larger strain on the healthcare system and necessitate a disproportionate amount of healthcare

spending to treat their disease. The optimal treatment for uncontrolled asthma remains unfulfilled.

Despite the fact that the majority of patients respond effectively to low-dose controller drugs like inhaled corticosteroids and long-acting β_2 -agonists, a fraction of patients remain uncontrolled despite using high-dose multiple-drug daily controller therapy. Large doses of corticosteroids might cause significant morbidity and high healthcare costs in these patients [3-6].

Almost half of adults in the United States who exercise regularly do not meet the federal physical activity guidelines for aerobic and muscle-strengthening activity (i.e., 2.5 hours of moderate intensity aerobic activity and muscle-strengthening activities on two or more days per week) despite the benefits of exercise being well-established [7]. In addition to improving cognition, regular exercise appears to lower anxiety levels and depressive symptoms in both adults and children. For children and adolescents, the most recent published US

guidelines recommend at least 1 hour per day of moderate-to-vigorous physical exercise, with the bulk of this time being spent on aerobic activity [8].

In addition to reducing corticosteroid use and improving physical fitness and health-related quality of life (HRQoL) [9, 10], exercise training has been advocated as an asthma treatment adjunct [11]. Aerobic exercise, on the other hand, has been shown to improve asthma symptoms and lung function in a number of trials. Controversy abounds despite the evident benefits of aerobic exercise for asthmatic patients [12, 13]. We perform a review to assess all of the information on the effects of aerobic exercise on pulmonary function and overall health and well-being in people with asthma.

Aerobics and its benefits

Exercise that increases the heart rate and oxygen consumption of the body. It aids in enhancing a person's physical fitness [14]. Aerobic exercise provides cardiovascular conditioning. The word "aerobic" literally translates to "with oxygen," which means that the amount of oxygen that can reach the muscles to assist them in burning fuel and moving around is controlled by the amount of breath that is taken in. many more benefits of aerobic exercises e.g. Reduces developing heart disease, Boosts levels of HDL, also known as the "good" cholesterol, contributes to improved regulation of blood sugar levels, helps with either the management of weight or the loss of weight, enhances the functioning of the lungs, reduces the heart rate while at rest [15].

Which aerobic exercises are helpful in people with asthma?

Asthma-friendly exercises include short bursts of activity. Low-impact activities are also recommended e.g., Walking, spinning, treadmill running, jogging [16], gardening, using an elliptical machine, cycling, swimming laps, rowing, because they don't put too much strain on your lungs, these workouts are less likely to trigger an attack of asthma symptoms. However, we are all unique. Consult your physician and pay close attention to your physical well-being.

Asthma sufferers are advised to engage in swimming as one of the primary form of exercise. Asthma-related symptoms are less likely to occur as a result of: warm, wet air, low exposure to pollen, fluid exerts strain on the lungs. Chlorinated pools, despite their many advantages, can induce problems in some people. If this is your first time swimming in a pool, proceed with caution.

Walking is yet another fantastic option because it is a low-intensity activity. Because this sort of exercise is easy on the body, it doesn't put as much strain on the respiratory system. If you want to have the most pleasant experience possible, you should only stroll outside when it is warm. Dry, chilly air might either bring on your symptoms or make them worse. Walk on a treadmill or an indoor track is another option for you.

Benefits of exercising with Asthma

Even if you suffer from asthma, you shouldn't completely rule out physical activity. Participating in consistent exercise is vital for controlling one's health, enhancing one's energy levels, and lowering one's chance of developing a chronic condition. If you already suffer from a chronic ailment, engaging in regular physical activity can help you better manage your condition.

This includes people who have asthma. Regular exercise, if prescribed by a physician, has the potential to treat asthma sufferers in the following ways:

- Enhancing your capacity to breathe
- Helping your heart and lungs receive more oxygen-rich blood
- Enhancing one's stamina and endurance
- Reducing inflammation in the airways
- Enhancing lung health as a whole

Asthma sufferers can benefit from exercising in addition to taking prescribed medicine.

Conclusion

Patients with asthma can safely participate in exercise training, and this activity ought to be suggested for the sake of general health and for the improvement of general respiratory health. Although additional research is required to determine the most effective forms of exercise and the precise effects on asthma pathophysiology, the data that is currently available indicate that the benefits of frequent routine exercise in patients who suffer from asthma far outweigh any potential risks. At every asthma appointment, an emphasis should be placed on providing direction on the health advantages of exercise related to asthma.

Conflict of interest

There is no conflict of interest.

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Ethical approval

Not applicable

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