Aerobic exercise seems to curb asthma severity and improves quality of life

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Children with asthma use inhalers to relieve some of their symptoms, which include coughing, wheezing, chest tightness and shortness of breath. Credit: Tradimus / Wikimedia commons / CC BY-SA 3.0

Aerobic exercise seems to curb the severity of asthma symptoms and improves quality of life, finds a small study published online in the journal *Thorax*.

It should be routinely added to the drug treatment of moderate to severe

asthma, suggest the researchers, who point out that people with asthma often avoid exercise for fear of triggering symptoms.

Exercise has been recommended in the past for asthma patients, because it improves physical fitness, overall quality of life, and reduces the need for inhalers. But it has not been clear whether the pros outweigh the cons.

The researchers therefore compared the impact of aerobic training and breathing exercises on the severity of symptoms in 58 people with moderate to severe asthma.

All the participants, who were aged between 20 and 59, were randomly assigned to either a 30 minute yoga breathing exercise twice a week for 12 weeks, or the breathing exercise plus a 35 minute indoor treadmill session twice weekly for 3 months.

Their bronchial hyperresponsiveness, or BHR for short, was tested at the beginning and end of the three month monitoring period. BHR indicates the speed of airway constriction and inflammation, a hallmark of asthma.

Levels of proteins (cytokines) generated during the inflammatory response and of IgE, an antibody produced by the body to tackle potentially harmful substances or antigens, were also assessed before and after the trial.

Participants were asked to keep a symptom diary and record their use of inhalers, any unscheduled medical consultations, requirement for emergency care, or hospital admission prompted by their asthma. And they filled in a validated quality of life questionnaire for asthma.

Forty three people (21 in the breathing group and 22 in the breathing

plus aerobic exercise group) completed the study.

At the start of the study, among those who were able to take the BHR test, two people were classified as borderline hyperresponsive; five were classified as mildly hyperresponsive; and 29 were deemed to be moderately to severely hyperresponsive.

At the end of the study, BHR had fallen in those in the aerobic exercise group in one doubling dose of histamine, which means they were able to tolerate twice the level of trigger factor before symptoms developed. But BHR did not change in those just given the breathing exercises.

Levels of some cytokines also fell significantly among those in the aerobic exercise group, while the number of symptom free days increased. And bouts of worsening symptoms were fewer than in the breathing group.

Quality of life score rose significantly in 15 people in the aerobic exercise group, while maximum oxygen intake and aerobic power increased.

The effects were most noticeable in those with higher levels of systemic inflammation and poorer symptom control to begin with.

"These results suggest that adding exercise as an adjunct therapy to pharmacological treatment could improve the main features of asthma," conclude the researchers.

More information: Aerobic training decrease bronchial hyperresponsiveness and systemic inflammation in patients with moderate or severe asthma: a randomised controlled trial, DOI: 10.1136/thoraxjnl-2014-206070

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