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Effect of aerobic exercise training on asthma in adults: a systematic review and meta-analysis

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In this meta-analysis, aerobic exercise training improves asthma control and lung function in adults with asthma. The results provide valuable information for healthcare professionals when providing advice regarding exercise training for asthma patients. https://bit.ly/2VrsQMv

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ABSTRACT

Objective: To evaluate the effect of aerobic exercise training on asthma control, lung function and airway inflammation in adults with asthma.

Design: Systematic review and meta-analysis.

Methods: Randomised controlled trials investigating the effect of ⩾8 weeks of aerobic exercise training on outcomes for asthma control, lung function and airway inflammation in adults with asthma were eligible for study. MEDLINE, Embase, CINAHL, PEDro and the Cochrane Central Register of Controlled Trials (CENTRAL) were searched up to April 3, 2019. Risk of bias was assessed using the Cochrane Risk of Bias Tool.

Results: We included 11 studies with a total of 543 adults with asthma. Participants' mean (range) age was 36.5 (22–54) years; 74.8% of participants were female and the mean (range) body mass index was 27.6 (23.2–38.1) kg·m^{-2}. Interventions had a median (range) duration of 12 (8–12) weeks and included walking, jogging, spinning, treadmill running and other unspecified exercise training programmes. Exercise training improved asthma control with a standard mean difference (SMD) of −0.48 (−0.81–−0.16). Lung function slightly increased with an SMD of −0.36 (−0.72–0.00) in favour of exercise training. Exercise training had no apparent effect on markers of airway inflammation (SMD −0.03 (−0.41–0.36)).

Conclusions: In adults with asthma, aerobic exercise training has potential to improve asthma control and lung function, but not airway inflammation.