



# Short-term and long-term effect of a high-intensity pulmonary rehabilitation programme in obese patients with asthma: a randomised controlled trial

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**Short-term pulmonary rehabilitation programme with high intensity interval training and internet self-management programme is feasible and improves asthma control, aerobic capacity and body weight in suboptimally controlled obese patients with asthma** <http://bit.ly/2mT8A9r>

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## ABSTRACT

**Objective:** To determine the short-term and long-term effects of a high intensity pulmonary rehabilitation programme on asthma control, body composition, lung function and exercise capacity in obese asthma patients.

**Methods:** Patients with obesity (body mass index (BMI)  $\geq 30$  kg·m<sup>-2</sup>) and suboptimal controlled asthma (Asthma Control Questionnaire (ACQ)  $\geq 0.75$ ) were randomly assigned to a 3-month pulmonary rehabilitation programme (PR only), pulmonary rehabilitation programme with the use of an internet based self-management support programme (PR+SMS) or usual care. The pulmonary rehabilitation programme included high-intensity interval training, nutritional intervention and psychological group sessions. Patients in the usual care group were advised to lose weight and to exercise. The primary outcome was the difference of change of ACQ between PR only and PR+SMS after 3 months. Total follow-up was 12 months.

**Results:** 34 patients were included in the study (14 PR only, nine PR+SMS, 11 control). Compared with patients in usual care, patients in the PR only group had a significant reduction in BMI and significant improvements in asthma control, exercise capacity and aerobic capacity after 3 months. These improvements persisted during 12 months of follow-up. No difference in ACQ between PR+SMS and PR

only groups was observed. However, users of the SMS programme had a significantly lower BMI after 12 months compared with subjects in the PR only group.

**Conclusion:** A high-intensity pulmonary rehabilitation programme provides sustained improvements in asthma control, body composition and exercise capacity in obese asthmatics that are not optimally controlled and, therefore, should be considered in the treatment of these patients.