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Clinical Investigations

Long-Term Efficacy of Pulmonary Rehabilitation in Patients with Occupational Respiratory Diseases

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Key Words

- Pulmonary rehabilitation
- Occupational respiratory disease
- Physical performance
- Psychosocial factors
- Dyspnea

Abstract

Background: Pulmonary rehabilitation is a well-recognized treatment option in chronic obstructive lung disease improving exercise performance, respiratory symptoms and quality of life. In occupational respiratory diseases, which can be rather cost-intensive due to the compensation needs, very little information is available. **Objectives:** This study aims at the evaluation of the usefulness of pulmonary rehabilitation in patients with occupational respiratory diseases, partly involving complex alterations of lung function and of the sustainability of effects. **Methods:** We studied 263 patients with occupational respiratory diseases (asthma, silicosis, asbestosis, chronic obstructive pulmonary disease) using a 4-week inpatient rehabilitation program and follow-up examinations 3 and 12 months later. The outcomes evaluated were lung function, 6-min walking distance (6MWD), maximum exercise capacity (W_{max}), skeletal muscle strength, respiratory symptoms, exacerbations and associated medical consultations, quality of life (SF-36, SGRQ), anxiety/depression (HADS) and Medical Research Council and Baseline and Transition Dyspnea Index scores. **Results:** Compared to baseline, there were significant ($p < 0.05$) improvements in 6MWD, W_{max} and muscle strength immediately after rehabilitation, and these were maintained over 12 months ($p < 0.05$). Effects were less pronounced in asbestosis. Overall, a significant reduction in the rate of exacerbations by 35%, antibiotic therapy by 27% and use of health care services by 17% occurred within 12 months after rehabilitation. No changes were seen in the questionnaire outcomes. **Conclusions:** Pulmonary rehabilitation is effective even in the complex settings of occupational respiratory diseases, providing sustained improvement of functional capacity and reducing health care utilization.

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