



Design of pulmonary rehabilitation during acute exacerbations of COPD

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European Respiratory Journal 2018 52: PA3834; DOI: 10.1183/13993003.congress-2018.PA3834

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Abstract

Pulmonary rehabilitation (PR) has well-established benefits for the management of stable chronic obstructive pulmonary disease (COPD). However, its role during acute exacerbations of COPD (AECOPD) has been controversial, which may be related with the variety of designs used. This study aimed to identify the most effective design to deliver PR during AECOPD.

PubMed, Scopus, Web of Science, EBSCO and Cochrane were searched. Two independent reviewers assessed the quality of studies using the Delphi List. Comprehensive meta-analysis was used to calculate the individual and pooled effect sizes (ES).

35 randomized controlled trials were included. Most studies were conducted in an inpatient setting (19/35) and started the intervention 24-48h after admission (7/35). Most used components were aerobic training (21/35), breathing techniques (21/35), strength training (19/35) and education (19/35). Studies that combined breathing techniques with exercise training had larger effects (ES=1.3, 95%Confidence Interval (CI) 1.1-1.5) than exercise only (ES=0.4, 95%CI 0.1-0.7) in exercise capacity (Fig. 1).

A large variety of designs has been used to delivery PR during AECOPD. The addition of breathing techniques in the management of AECOPD seems to be more effective than just exercise training in improving patients' exercise capacity. Studies assessing other outcomes and aspects of design are needed to establish recommendations for PR during AECOPD.

Footnotes