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Outcome measures used in pulmonary rehabilitation of Acute Exacerbation of COPD

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Article

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Abstract

Pulmonary rehabilitation (PR) may be beneficial in acute exacerbations of chronic obstructive pulmonary disease (AECOPD), however conflicting results on its effectiveness have been reported. The large variety of measures used or their lack of adequate measurement properties may be in the basis of this controversy. This study systematically identified patient reported (PROM) and surrogate outcome measures used in PR of AECOPD, that can be easily applied in community practice, and revise their measurement properties.

Pubmed, Web of Science, Scopus, Medline and CINAHL were searched. Two independent reviewers assessed the quality of studies and the measurement properties of the measures, using the COSMIN criteria.

37 studies were included that used 23 PROM and 18 surrogate outcome measures. The most used measures were the modified Borg scale (n=14/37) and 6-minute walk test (n=21/37). Measurement properties were described for 22 PROM and 7 surrogate outcome measures. Quality of studies was poor (n=2) or excellent (n=2) for internal consistency, fair (n=2) for test-retest reliability, poor (n=6) or fair (n=6) for criterion validity, excellent (n=2) for structural validity, poor (n=15), fair (n=7) or good (n=1) for construct validity, and poor (n=15) or fair (n=8) for responsiveness. Quality of the measurement properties was generally indeterminate. The PROM with more robust measurement properties was the COPD assessment test. No conclusions can be drawn regarding surrogate outcome measures.

A variety of outcome measures have been used however, studies on their measurement properties are lacking. Future studies should follow the COSMIN standards to ensure quality and enable comparisons between studies/measures.