

Data extraction was performed by all authors manually and transcribed to an excel spreadsheet. A brief risk of bias assessment was conducted at the same time using the COSMIN taxonomy: Measurement Properties of Outcome Measurement Instruments.<sup>1</sup>

**Results** 16 articles (249 screened) were included (table 1). N=2271 patients. Most studies (10/16) were moderate risk of bias. Overall there was weak-strong correlations for the included tests with a gold standard  $r=0.38-0.85$ . There were few reported issues with feasibility or safety of the tests. However all tests were supervised in a clinical setting. The test that correlated highest with gold standard was the 4MGS with the ISWT ( $r=0.78$ ) and with the 6MWT ( $r=0.85$ ).

**Discussion** The 4MGS correlates highest with gold standard measures of exercise tolerance. However it may be difficult to standardise in a remote assessment or prescribe exercise from. Clinicians should strive for face-to-face standardised exercise tests where possible to be able to guide exercise prescription.

## REFERENCE

1. Mokkink LB, de Vet HCW, Prinsen CAC, Patrick DL, Alonso J, Bouter LM, *et al*. COSMIN risk of bias checklist for systematic reviews of patient-reported outcome measures. *Qual Life Res* 2018 May;27(5):1171–9.

## P77 PSYCHOLOGICAL FACTORS INFLUENCING PATIENT ACTIVATION IN HEALTH-COACHING PROGRAMMES IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE. A SYSTEMATIC REVIEW AND NARRATIVE SYNTHESIS

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**Introduction** Chronic obstructive pulmonary disease (COPD) requires effective strategies to support the humanistic and economic challenges involved in managing the complex symptom burden experienced by people living with COPD. Health coaching aims to achieve collaboration between patients and healthcare professionals to enhance patient activation with health-promoting behaviours. This review aimed to identify psychological factors that positively influence the implementation of health-coaching programmes in COPD thus providing insight into how health-coaching can enhance patient activation and improve outcomes in COPD care.

**Methods** A comprehensive systematic search of the literature was performed using multiple electronic databases: AMED, CINAHL, EMBASE, EMCARE, Medline, PsychINFO and PubMed from 2009–2019. Studies of any research design reporting qualitative or quantitative data investigating the influence of patient psychological factors in health-coaching in COPD were included. Study quality was assessed using the Critical Appraisal Skills Programme and AXIS critical appraisal tools. An integrative thematic analysis approach was used to synthesise data from eligible studies and summarise findings.

**Results** A total of 682 abstracts were screened and 48 full-text articles reviewed. Fourteen studies including seven qualitative and seven cross-sectional studies met the criteria for inclusion. The heterogeneity of the results made pooling and meta-analysis difficult although several valuable themes emerged from the integrative analysis. The qualitative datasets included a total of 244 patients and demonstrated two crucial themes in patients being activated with health-coaching programmes: the desire to maintain independence in activities of daily living

and the need to have ownership of their disease. The cross-sectional studies included 2674 participants and highlighted fundamental characteristics associated with low activation for health-coaching: increased levels of anxiety and depression and a negative illness perception.

**Conclusions** This systematic review triangulated rich in-depth perspectives along with associations between psychological factors and patient activation during health-coaching in COPD. The holistic understanding of these identified factors provides an opportunity to optimise the efficacy of health-coaching in clinical practice, particularly given the intricacies of human nature and the complexity of health-coaching interventions.

## P78 SMALL AIRWAYS RESPONSE TO BRONCHODILATOR IN ASTHMA AND COPD: A SYSTEMATIC REVIEW

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**Introduction and Objectives** The airways response to bronchodilators (BDR) has been used as a test to diagnose asthma and to differentiate it from other obstructive pulmonary diseases. The main outcome in assessing BDR is FEV<sub>1</sub>, mainly a large airway measure. Measures of small airways are not included in everyday practice for BDR testing, although evidence suggests small airways dysfunction is found in asthma and COPD patients. This systematic review assessed the current evidence on small airways response to short-acting inhaled bronchodilators in asthma and COPD.

**Methods** The protocol was registered in PROSPERO (CRD42020164140). Electronic medical databases (EMBASE and Medline) were searched using related keywords. Abstracts and full texts were screened independently by two reviewers. Studies that reported the change of physiological small airways function (spirometric, oscillometry, multiple breath washout) and FEV<sub>1</sub> were included. The revised Cochrane risk of bias tool for RCT and the NIH quality assessment tool for cohort and cross-sectional studies were used to evaluate the studies.

**Results** Of 934 articles identified from the databases search, 13 met the inclusion criteria, with asthma (n=10) and COPD (n=3) patient studies. A total of 1110 participants were included; 911 were asthmatic, 90 COPD and, 109 were controls. Heterogeneity between studies was noted in the (1) diagnostic criteria for asthma or COPD, (2) agreed criteria for demonstrating BDR using standard spirometry, (3) methods used to deliver aerosolised medications and, (4) included measures of small airways function. Using spirometry, MMEF showed higher percentage of change (5.3–47%) in asthma and (3.6–25%) COPD, than FEV<sub>1</sub> which was (3.9–32%) in asthma and (2.8–16.3%) COPD [Abstract P78 figure 1]. The contrary was noted in severe asthma patients. Using oscillometry, BDR was observed with total resistance change of (R5) in asthma patients (-0.16 kPa/L/s) and between (-9.0— -22.4 kPa/L/s) in COPD patients.

**Conclusions** Small airways function appears to change following BDR, but currently studies are too heterogeneous to recommend their inclusion in clinical practice. More research is needed to form a consensus on how to assess BDR in general and in small airways in specific, and whether this adds utility to the diagnosis and management of airway disease patients.