for prognostic and therapeutic purposes. Nevertheless, such profiles often do not describe treatable traits, focus on complex physiological/pulmonary measures which are frequently not available across settings, lack validation and/or their stability over time is unknown. **Objectives:** To identify profiles and their treatable traits based on simple and meaningful measures; to develop and validate a profile decision tree; and to explore profiles' stability over time in people with COPD. **Methods:** An observational, prospective study was conducted with people with COPD. Clinical characteristics, lung function, symptoms, impact of the disease (COPD assessment test–CAT), health-related quality of life, physical activity, lower-limb muscle strength and functional status were collected cross-sectionally and a subsample was followed-up monthly over six months. A principal component analysis and a clustering procedure with k-medoids were applied to identify profiles. Pulmonary and extrapulmonary (i.e., physical, symptoms and health status, and behavioural/life-style risk factors) treatable traits were identified in each profile based on the established cut-offs for each measure available in the literature. The decision tree was developed with 70% and validated with 30% of the sample, cross-sectionally. Agreement between the profile predicted by the decision tree and the profile defined by the clustering procedure was determined using Cohen's Kappa. Stability was explored over time with a stability score defined as the percentage ratio between the number of timepoints that a participant was classified in the same profile (most frequent profile for that participant) and the total number of timepoints (i.e., 6). **Results:** 352 people with COPD (67.4 ± 9.9 years; 78.1% male; FEV1 = 56.2 ± 20.6% predicted) participated and 90 (67.6 ± 8.9 years; 85.6% male; FEV1 = 52.1 ± 19.9% predicted) were followed-up. Four profiles were identified with distinct treatable traits. The decision tree was composed by the CAT, age and FEV1% predicted and had an agreement of 71.7% (Cohen's Kappa = 0.62, p < 0.001) with the actual profiles. 48.9% of participants remained in the same profile whilst 51.1% moved between two (47.8%) and three (3.3%) profiles over time. The overall stability of profiles was 86.8 ± 15%. **Conclusions:** Profiles and treatable traits can be identified in people with COPD with simple and meaningful measures possibly available even in minimal-resource settings. Regular assessments are recommended as people with COPD may change profile over time and hence their needs of personalised treatment.

Keywords: *Clinical phenotypes. Profiles. Clusters. Treatable traits. Decision tree. COPD.*

CO 043. EFFECTIVENESS OF UNSUPERVISED PHYSICAL ACTIVITY INTERVENTIONS IN PEOPLE WITH COPD: A SYSTEMATIC REVIEW AND META-ANALYSIS

C. Paixão, V. Rocha, D. Brooks, A. Marques

Lab3R - Laboratório de Investigação e Reabilitação Respiratória, Escola Superior de Saúde da Universidade de Aveiro (ESSUA), Aveiro, Portugal; iBiMED - Instituto de Biomedicina, Universidade de Aveiro, Aveiro, Portugal; Departmento de Ciências Médicas, Universidade de Aveiro.

Introduction: Physical inactivity has been associated with poor health outcomes in people with chronic obstructive pulmonary dis-

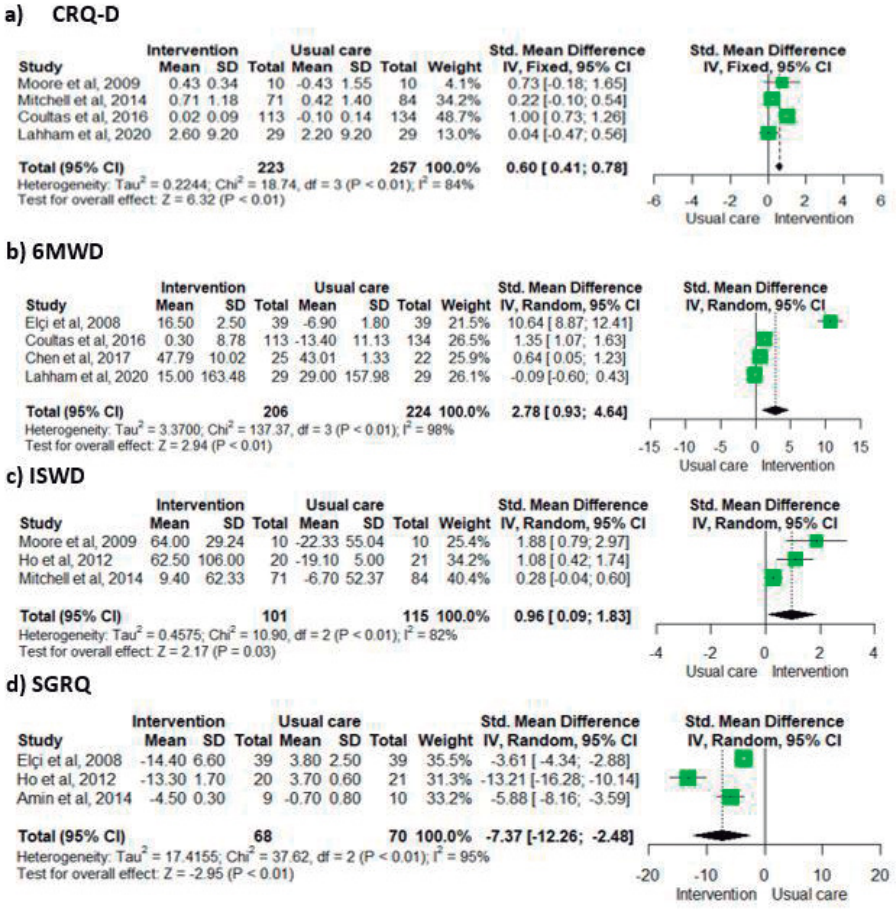

Fig. 1 - Forest plots illustrating the effect of unsupervised PA intervention in: a) Chronic Respiratory Questionnaire – dyspnea domain (CRQ-D), b) 6-minute walk distance (6MWD), c) incremental shuttle walk distance (ISWD), and d) St. George's respiratory questionnaire (SGRQ) total score, in comparison to usual care. Weights are from random-effects.

Figure CO 043A

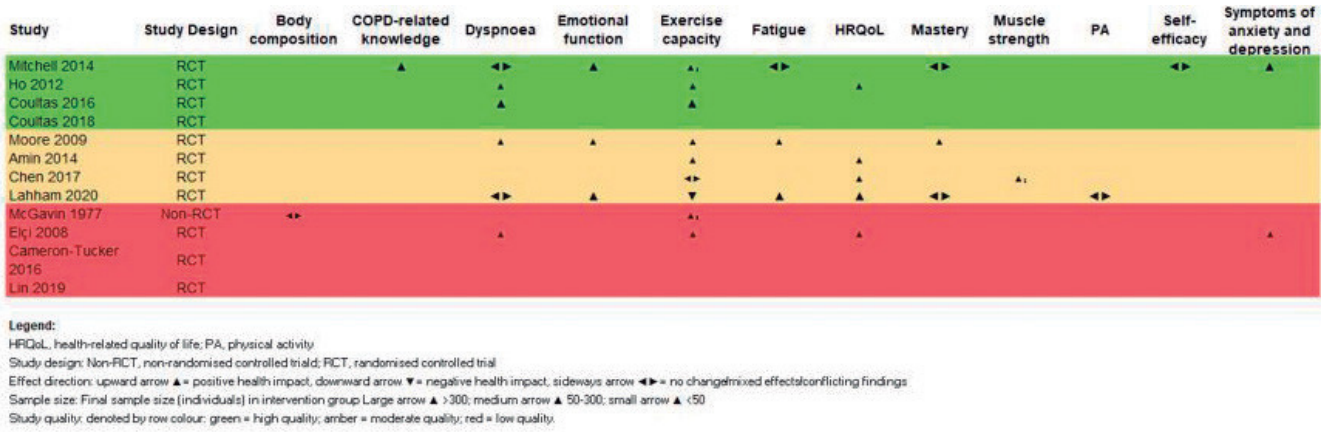

Fig. 2 – Effect direction plot of unsupervised physical activity interventions in people with chronic obstructive pulmonary disease.

Figure CO 043B

ease (COPD), being a risk factor for hospitalisations due to acute exacerbations and early mortality. Therefore, improving physical activity (PA) levels in this population is imperative. Despite the unequivocal benefits of PA in people with COPD, most studies focused on supervised interventions. Evidence about the effectiveness of unsupervised PA interventions in this population is still scarce. Thus, this study aimed to identify and synthesise the effects of unsupervised PA interventions in people with COPD.
Methods: A systematic search was conducted on the Cochrane Library, PubMed, Scopus, Web of science and EBSCOhost databases. Randomised controlled trials and quasi-experimental studies comparing unsupervised PA with usual care, were included. Two independent reviewers screened studies, extracted data and assessed the quality of evidence using the Quality Assessment Tool for Quantitative Studies. Inter-rater agreement analysis was assessed using Cohen's kappa to explore the consistency of the quality assessment. Meta-analysis was conducted using RStudio to assess the effects of unsupervised PA in dyspnoea (Chronic Respiratory Disease questionnaire – dyspnoea [CRQ-D]), exercise capacity (6-minute walk distance [6MWD] and incremental shuttle walk distance [ISWD]) and health-related quality of life (St. George's Respiratory Questionnaire [SGRQ]). The effect direction plot was also performed to synthesise results.
Results: Twelve studies assessing 14 outcomes with 44 measurement tools in 919 participants with COPD (68 years; 59.8% male, FEV1 63.3% predicted) were included. Four studies were rated as strong, four as moderate and four as weak quality. Inter-rater agreement was substantial (Cohen's Kappa = 0.73; 95%CI = 0.40-1.07; percentage of agreement = 83.3%). Most interventions were conducted at home with daily-4x/week sessions for 8-12 weeks. Walking was the most used intervention. Meta-analysis showed significant results for the experimental group in dyspnoea (CRQ-D [ES = 0.60, 95%CI 0.41-0.78]), exercise capacity (6MWD [ES = 2.78, 95%CI 0.93-4.64] and ISWD [ES = 0.96, 95%CI 0.09-1.83]) and health-related quality of life (SGRQ [ES = -7.37, 95%CI -12.26-2.48]) (fig. 1). Using the effect direction plot, our findings also showed that unsupervised PA interventions seem to be effective improving COPD-related knowledge, emotional function, fatigue, muscle strength and symptoms of anxiety and depression (fig. 2). None to minor adverse events and a high adherence rate to such interventions were found.
Conclusions: Walking was the most common unsupervised PA intervention in people with COPD. Unsupervised PA interventions seem to be effective reducing dyspnoea and improving exercise capacity, health-related quality of life, COPD-related knowledge, emotional function, fatigue, muscle strength and symptoms of anxiety and depression in this population. Nevertheless, its application is still limited and high heterogeneity among interventions was observed. Further studies, with robust methodologies, are needed to confirm our results and establish recommendations.

Keywords: *COPD. Physical activity. Unsupervised. Systematic review. Meta-analysis.*

CO 044. EFFECTS OF A PROGRAM OF TELEMONITORING AT COPD

M.I. Luz, R. Costa, F. Rodrigues

Hospital Prof. Doutor Fernando Fonseca.

Introduction: Chronic diseases are one of the biggest challenges for healthcare systems in Europe. Telemonitoring has revolutionized health systems. It allowed patients to self-manage the disease and improve the responsiveness of health systems. COPD is a chronic respiratory disease, but it is increasingly assumed to be a multisystem disease in which comorbidities play an important role, translating into a growing morbidity and mortality only surpassed by cardiovascular diseases.
Objectives: To reduce exacerbations and use health services for patients with COPD in order to improve their quality of life and reduce socioeconomic costs, through a viable, simple to use and accessible method.
Methods: The Hospital Prof. Doctor Fernando Fonseca, participates in a telemonitoring project, which involves 8 patients with COPD (at least 2 exacerbations in the last year) since July 2020. A local team was created that includes 2 doctors from the Pulmonology Service who work together with the Company of Telemonitoring, Hopecare. The monitoring devices, available to patients with wireless technology, and the monitoring platform allow the automatic transmission, with minimal intervention from patients or caregivers, of the data (tensiometer, heart rate oximeter, axillary thermometer) necessary for patient follow-up.
Results: The Project started in July 2020 with the inclusion of the first patients. Selected 8 patients with COPD (7 men and 1 woman) with a mean age of 75 years (51-80), all D-GOLD class with mean post-BD FEV1: 32.8% (30-50%); all patients with home respiratory care. Between 12 July 2020 and 31 May 2021, 1813 measurements were received. 467 alerts triggered. Comparing the occurrences in a period similar to the previous year, there was a reduction of 50% of consultations (30 to 15) and 83% (23 to 4) of admissions. There was 1 death among one of the program's users.