

27431

Methods to assess free-living physical activities intensity in COPD: a systematic review

COPD, Physical activity, Monitoring

P. F. Sobral Rebelo¹, M. Tavares², M. Santos², D. Brooks³, A. Marques¹

¹Lab3R – Respiratory Research and Rehabilitation Laboratory, School of Health Sciences, University of Aveiro (ESSUA); iBiMED – Institute of Biomedicine, Department of Medical Sciences, University of Aveiro - Aveiro (Portugal), ²School of Health Sciences, University of Aveiro (ESSUA) - Aveiro (Portugal), ³School of Rehabilitation Science, McMaster University, Hamilton, ON, Canada; West Park Healthcare Centre, Toronto, ON, Canada - Hamilton (Canada)

Measuring physical activities-related intensity is fundamental to provide adequate recommendations for physical activity (PA) in people with COPD. This systematic review aimed to study which outcomes, outcome measures and instruments have been used to assess free-living PAs intensity in COPD.

A systematic search was conducted in May 2020 on PubMed, Scopus, Web of Science, Cochrane Library and EBSCO and updated until January 2021. Original studies on stable COPD, assessing free-living PAs intensity (single types of leisure, occupation, home, or transport PAs performed at participants' own pace) were included. Abstracts, case studies and studies on the intensity of pulmonary rehabilitation or breathing interventions were excluded.

Thirty-nine studies, enrolling 1196 people with COPD (66 years, 64% men, 49%FEV1pp) were included. The most assessed free-living PA was activities of daily living. Twelve outcomes, forty-four outcome measures and twenty instruments were identified. Dyspnoea with the Borg scale 0-10; cardiac output, via heart rate (HR), measured with HR monitors; and pulmonary gas exchange, especially oxygen consumption, measured with portable gas analysers were the most frequently used methods.

Several outcomes, outcome measures and instruments have been used to assess free-living PAs intensity. Future studies exploring the advantages/disadvantages of the different methods are warranted to provide worldwide recommendations on how to assess free-living PAs related intensity in COPD.