Appendix

References dataset

The objectively assessed data used in the current analysis were collected as part of previous studies which were developed in 10 different countries (i.e., United Kingdom, Ireland, the Netherlands, Germany, Switzerland, Italy, Spain, the United States of America, Brazil, and Australia). The research groups that contributed to the current study were conveniently selected from recent publications (articles in peer-reviewed journals and abstracts presented at major respiratory congresses) using the SenseWear Armband to assess physical activity in patients with COPD.

The data from the United Kingdom (UK) were collected in three cities, Leicester, Liverpool and London. In Leicester, the data were collected as part of a randomized controlled trial to evaluate the effectiveness of a self-management program of activity coping and education for COPD delivered in primary care (ISRCTN35501175). Ethical approval for the study was granted by Leicestershire, Northamptonshire and Rutland Regional Ethics Committee (reference 07/H0408/114). Participants were assessed between September 2009 and September 2012 at University Hospitals of Leicester NHS Trust. In London, the data were collected as part of two studies: 1) a multicentre study aiming to investigate the compliance of patients with COPD with wearing an activity monitor, and the relationship between physical activity and clinical outcomes (participants were recruited between 2009 and 2011 at the Royal Brompton Hospital; ethical approval was given by the ethics/review board of this institution); and 2) a multicentre study aiming to evaluate the effect of aclidinium bromide on exercise endurance, hyperinflation, and dyspnoea at rest and during exercise in patients with moderate to severe COPD (NCT01471171; this study was approved by the Independent Ethics Committees at each site, which were previously detailed by Beeh et al.) [108]. In the latter study, participants were assessed between November 2011 and June 2012. In Liverpool, the data were collected between August 2009 and August 2010 at the University Hospital Aintree, as part of the Evaluation of COPD Longitudinally to Identify Predictive Surrogate Endpoints (ECLIPSE) study [159]. Ethical approval was granted by the ethics/review board of the University Hospital Aintree. Some of the participants and data from the UK were part of previous publications [160, 161, 162, 82], however there is no overlapping analysis.

The data from Ireland were collected in Dublin as part of a two-phase longitudinal study to examine the short term effects of pulmonary rehabilitation on standard measures and free-living physical activity in patients with COPD (NCT01530412). The study was approved by the Beaumont Hospital Ethics committee, reference numbers 07/10 and 07/48. Participants were assessed between June 2007 and July 2010 at the Beaumont Hospital. Some of the participants and data from Ireland were part of a previous report [48], however there is no overlapping analysis.

The data from the Netherlands were collected in two cities, Eindhoven and Horn. In Eindhoven, the data were collected between February 2010 and September 2011 at the Catharina Hospital, as part of a clinical trial to investigate the pathophysiologic mechanisms of osteoporosis in COPD (NCT01067248). Approval for the study was obtained from the Medical Ethical Committee of the Catharina Hospital (M09-1971). In Horn, the data were collected