
between May 2009 and September 2009 at CIRO+, a Center of Expertise for Chronic Organ Failure, as part of the ECLIPSE study.² Ethical approval was granted by the Stichting Therapeutische Evaluatie Geneesmiddelen (STEG/METC). Some of the participants and data from the Netherlands were part of previous publications [82, 162, 163], however there is no overlapping analysis.

The data from Germany were collected in different cities. In Grosshansdorf, the data were collected as part of an ongoing prospective observational study aiming to examine the role of extra-pulmonary effects of COPD [164, 44, 165]. The study was approved by the local ethics committee of Schleswig-Holstein (Germany). Participants included were recruited between 2008 and 2009 at the Pulmonary Research Institute at Lung Clinic Grosshansdorf. A multicenter study aiming to evaluate the effect of acclidinium bromide on exercise endurance, hyperinflation, and dyspnoea at rest and during exercise in patients with moderate to severe COPD (NCT01471171) also contributed to the German database. Ethical approval was granted by the Independent Ethics Committees at each site, which were previously detailed by Beeh et al.¹ In this study, participants were recruited in Wiesbaden, Hamburg, Berlin, Lübeck, Hannover, Grosshansdorf, and Frankfurt, and assessed between November 2011 and June 2012. Some of the participants and data from Germany were part of previous publications [159, 108, 160, 164, 44, 165, 166], however there is no overlapping analysis.

The data from Switzerland were collected in two cities, Basel and Zurich. In Basel, the data were collected between July 2011 and January 2012 at the University Hospital Basel, as part of a cross-sectional study aiming to examine the independent association of objectively measured daily physical activity and functional capacity with health-related quality of life in patients with COPD. Ethical approval was granted by the Ethics Committee of Basel (EKBB, 163/11). In Zurich, the data were collected between January 2010 and August 2011 in patients with COPD referred to the Pulmonary Division, University Hospital of Zurich, as part of a study which aimed to investigate if simple tests commonly used in clinical practice could accurately predict daily physical activity in COPD [167]. The study was approved by the Research Ethics Committee of the University Hospital of Zurich, Switzerland (EK-1734). Some of the participants and data from Switzerland were part of a previous report [167, 168, 84], however there is no overlapping analysis.

The data from Italy were collected in Pisa, in the Cardio-Thoracic and Vascular Department, University of Pisa, as part of the baseline evaluation of patients with COPD included in an outpatient pulmonary rehabilitation program. The Italian data were de-identified to protect patient information confidentiality.

The data from Spain were collected in three regions (Catalonia, Euskadi and Balearic Islands) as part of the Phenotype and Course of COPD (PAC-COPD) study, which was a prospective longitudinal study aiming to identify clinically and epidemiologically meaningful COPD subtypes and to validate them by assessing their relationship with clinically relevant outcomes (hospitalization and death) during a 4 year follow-up [169, 71]. Participants were recruited between January 2004 and March 2006 in 9 tertiary hospitals. The study protocol was approved by the Ethics Committees of all the participating hospitals, which were previously listed by Garcia-Aymerich et al [71]. A multicenter study aiming to evaluate the effect of acclidinium 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.¹) also contributed to the Spanish database. In this study, participants were recruited in Alicante,