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Title: Factor associated with global mortality in COPD between 2006 and 2011: French claims data

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Body: Background: A good understanding of prognostic factors of death in COPD may contribute to improve disease management. The role of patient and management-related factors during a baseline period on global mortality during the following years was investigated in COPD. Methods: A cohort of patients aged ≥ 45 , with documented follow-up and ≥ 3 dispensations in 2005 of a same drug-class were selected in French Claims data. Drug classes were long-acting beta agonists, short-acting beta agonists (SABAs), short-acting muscarinic antagonists (SAMAs), xanthines, and SAMA/SABA fixed combinations. Cox multivariate models were used to predict global 2006-2011 mortality. Analyzed co-factors were age, gender, dispensing level inhaled bronchodilator therapy in 2005, free-access-to-care status, long-term-disease status (diabetes, respiratory, cardiovascular, tumoral, and mental diseases) and COPD-related hospitalization in 2005 (1-10, >10 days). Results: The mean annual death rate between 2006 and 2011 of the 4,800 patients (mean age 66, 50% women) was 4.6%. The strongest predicting factors was duration of COPD-related hospitalizations in 2005 (HR=2.0 and 2.3 for hospital stays of 1-10 days and >10 days, respectively), long-term disease status of cancer (HR=1.8), cardiovascular diseases (HR=1.3) and male gender (HR=1.7), $p < 0.0001$ for all. Significant effects were also observed with long-term disease status for mental disorders ($p = 0.0004$), severe respiratory condition ($p = 0.003$) and diabetes ($p = 0.02$). Conclusions: In this cohort of COPD patients, severe exacerbations for COPD in 2005 were the most prominent risk factor of death between 2006 and 2011. Comorbidities also markedly impacted COPD global mortality.