Reviewer's report

Title: Up-to-date on mortality in COPD - report from the OLIN COPD study

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Reviewer: Roberto de Marco

Reviewer's report:

It is well known that mortality attributable to COPD is underestimated from official statistics. Data derived from longitudinal population based studies can advance our understanding of the true impact of COPD as a cause of death. This paper aims to evaluate the impact of COPD on mortality and its predictors, using a cohort of subjects with and without COPD recruited in the frame of the ONLIN study.

The paper deals with a relevant topic for clinicians and public health doctors, it is well written and interesting.

MAJOR

1) The authors say in the introduction that “within the OLIN studies, cross-sectional and longitudinal data on respiratory diseases, including lung function, have been collected in several cohorts recruited from the general population since 1985”. However, they start the follow-up only in 2002-2004. They should at least justify their choice and clarify the design of the study in the Mat&meth section.

2) It is not clear to me, why smoking is present as a risk factor in table 4 but not in table 3. In my opinion smoking should be present in both tables. In fact, table 3 suggests that people with “spirometric COPD” have a risk of dying double (RR=2.06; 95%CI: 1.49-2.85) with respect to non-COPD subjects, after adjusting for other potential riskfactors/confounders. However this estimate is not adjusted for smoking habits. Furthermore the interaction between COPD and smoking habits should be evaluated in order to test if the effect of smoking on mortality is the same in COPD and non COPD subjects.

3) There are two international cohort studies (de Marco R.et al. AJRCCM 2009; Bridevaux PO et al. Thorax 2008) showing that asymptomatic and non smokers subjects classified at baseline as mild/moderate COPD (spirometric GOLD criterion) had, after a 10-year follow-up, a FEV1 decline and an rate of hospitalization for respiratory diseases similar to that of non-COPD subjects. From the analysis presented, is not clear whether non smokers with spirometric COPD had a greater mortality than non COPD subjects (table 2 suggests that the difference is not statistically significant, but it is not adjusted for potential confounders). This point should be analysed and discussed in a better way.

DISCRETIONARY
The interest of the paper could be improved, if the AA will present some data about the role that the presence of chronic symptoms (cough and phlegm) at baseline play on mortality, both in COPD and non-COPD subjects.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests’