**Reviewer’s report**

**Title:** Community Assessment of COPD Health Care study: a clinical audit on primary care performance variability in COPD care

**Version:** 1  **Date:** 15 Jan 2018

**Reviewer:** Terttu Harju

**Reviewer's report:**

General comments:

To audit current dg and treatment of common preventable and treatable diseases such as COPD in real life is an important area of research. Provided local and global guidelines do not work without careful implementing and audit with benchmarking according to given guidelines helps to focus further education and resources.

This is a retrospective study auditing the diagnosis and care of stable COPD in 63 randomly selected primary care centers in Spain in 6 regions, with 4307 patient cases, during a time period of two years (1.1.2015-31.12.2016). The standards of diagnosis and care were set by two well-established guidelines, the Spanish COPD guidelines and the global GOLD 2017 guideline.

The results reflect the real world in primary care setting: the diagnosis of COPD is rarely based on the diagnostic criteria and standards described in guidelines. This is an important area for education. Even though the diagnosis of COPD is not based on diagnostic testing, COPD medication is widely used, especially inhaled corticosteroids and this makes me wonder if there is a significant misdiagnosis and overtreatment / mistreatment of chronic bronchitis vs COPD.

This should be discussed in detail and recommendations for clinicians given, based on current audit. Also educational goals aiming to improve diagnosis and treatment of COPD could be set. Maybe also the GOLD guidelines for COPD dg (exposure, symptoms, post-bd spirometry FEV1/FVC <70%) as well as treatment flow chart could be cited in a information box, for those readers not so familiar with COPD.
Minor comments:
Page 3, row 15: the term randomized is misleading; randomly selected would be a more precise term.
Page 7, row 32: case definition should be stated: how was a case "COPD" defined
Page 7, row 56: classified (not cassified)
Page 8, rows 34-43: asthma symptoms (not asthma-like symptoms) and either to 'described in GINA guidelines (ref)' or wheezing ..... (ref Gina)
Page row 47: inhaler satisfaction?? Does this refer to correct inhaler technique or to patient preference / satisfaction to inhaler device? Clarify please.
Page 9 row 7: the diagnosis of COPD should be on post-bd spirometry, not pre-bd. The number of cases with post-bd spirometry FEV1/FVC <70% should be stated (xxx cases spirometry was available; xxx cases also post-bd spirometry and xx% of post-bd FEV1/FVC was less than 70% confirming the COPD-diagnosis)
Page 12 row 14: some centers improved as the study progressed - this should be discussed. So this study was not entirely retrospective? Was it partly retrospective and partly 'on time'? What was the time span between starting the audit and the time period under evaluation?
Page 13 row 9: Only 10% of cases could be classified into GOLD classes A-D. Given treatment was analysed in this subgroup. The possible bias should be discussed. Was this subgroup similar to total material? Females, age, lung function, fewer comorbidities etc. compared those without enough data to be classified.

Discussion: the poor implication of current guidelines should be discussed. The areas of greatest concerns should be emphasized: only correct diagnosis makes it possible to select proper pharmacological treatment for COPD. COPD cannot be diagnosed without proving irreversible obstruction (according to GOLD guidelines). Cigarette smoke exposure and especially duration of smoking / years is an important risk factor. Smoking cessation, physical activity, nutrition, vaccinations as well as recognition and treatment of comorbidities are even more important than bronchodilators. Golden standard for treatment of chronic bronchitis without obstruction is not there yet. The use of ics (42.2% in this material!) in COPD patients should be confined to those who do get the benefit but no harm.
Table 1. Average (patient level) Number of patients (%) could be used instead. Smoking status: should be presented more accurately: active smokers / ex-smokers/ life-long nonsmokers / smoking status unknown. OR smoking status known xxxx and xx% current smokers. Pack-years 365 FEV1/FVC should be added to the table. The percentage of data post-bd vs pre-bd should be stated (for FEV1, FVC and FEV%).

Table 2. exposure should be defined (for example in the footnote). Asthma symptoms present (not asthma-like symptoms; my preference). The term 'recorded': does it refer to the presence of for example habit of exercising or pneumococcal vaccine taken or that the information is available, either +/-?

Solicited? Could a more precise term be used? Please clarify. Is this 'Complementary tests' section needed or could it be deleted?

Figure 2 and 3. Add to figure legend or a footnote: In xxx cases out of total xxx GOLD classification could be performed, based on exacerbation frequency and symptoms (cat or mrc).

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.
Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.
Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.
Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
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