Reviewers report

Title: Association between Anemia and Quality of Life in a Population Sample of Individuals with Chronic Obstructive Pulmonary Disease

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Reviewer: Matthias John

Reviewers report:

The present manuscript of Krishnan et al reports the association of anemia and impaired health related quality of life. Anemia is commonly associated with chronic illnesses such as heart failure and inflammatory diseases like rheumatoid arthritis, with chronic infectious disorders, and with cancer. Anemia in chronic illness is characterized by weakness, fatigue, and an impaired quality of life. The clinical symptoms of anemia often do not stand in the foreground in patients with chronic diseases. It has been suggested that anemia to some extent contributes to exercise limitation and dyspnoea. The occurrence and prevalence of anemia in COPD has hardly been studied. Anemia is such a common and simple clinical finding that we may underestimate its physiological relevance in COPD. Therefore the issue of the manuscript is of potential interest demonstrating that patients with COPD and anemia have a lower quality of life in the physical functioning and physical component summary domain. The authors also report an association between hemoglobin and physical functioning scores for patients with COPD. Anemia is an understudied issue in COPD but may be of great importance in this disease. There is raising evidence that anemia might be an additional systemic manifestation of COPD. This study documents nicely that anemia may have an impact on physical functioning in COPD. The manuscript has been written in a proper way, the study outline is acceptable and the discussion also mentions limitations. However there are some issues that need to be clarified upon a potential publication of the paper. (Major compulsory revisions.

1. The patient population should be characterized more thoroughly (smoking status, medication).
2. Where the authors aware that a therapy with ACE inhibitors could also cause anemia? This issue should at least mention in the discussion.
3. What is the frequency of anemia in COPD in relation to patients with other chronic diseases (CHF, renal failure, cancer) in the database population.
4. The manuscript lacks of figures that could improve the presentation of the results. At present there are too many tables with some doublings.
5. I would suggest focusing the study on COPD patients only. Table 1 could then be removed. Table 4 does not add further information compared to Table 5 and should also be removed.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests.