Reviewer’s report

Title: Disease knowledge level is a noteworthy determinant of anxiety and depression in patients with Chronic Obstructive Pulmonary Disease: a cross-sectional studies

Version: 2 Date: 15 February 2014

Reviewer: Susan Yount

Reviewer’s report:

This manuscript describes a cross-sectional study that purports to examine determinants of anxiety and depression in patients with COPD. As anxiety and depression are highly prevalent in COPD and not only have a significant impact on patients' health-related quality of life, but also interfere with adjustment to having COPD and adherence to treatment regimens and contribute to social isolation, low levels of physical activity, sleep disturbance, as well as other adverse consequences. Identifying opportunities to intervene to address anxiety and depression is critically important in this population, and some of the factors the study identified as being associated with anxiety and depression also represent areas where interventions could have a significant impact. However, there are concerns with the study conceptualization and data analysis and interpretation that limit confidence in the findings.

Major Compulsory Revisions

1. General comment: The central premise of the study/article is identification of determinants of anxiety and depression in patients with COPD, and this term is used throughout the manuscript. However, “determinant” implies a causal relationship, and this is a cross-sectional study. This may be an artifact of language, but the most this study can do is identify factors associated with anxiety and depression in these patients. This confusion and mis-use of the word “determinant” exists throughout the manuscript (including Background) and should be clarified.

2. General comment: “Interventional” is also a term used throughout the manuscript. It is presumed to refer to an area where intervention could have an effect on outcome, but in areas where an efficacious intervention has not been demonstrated in the literature, the authors may wish to acknowledge that (e.g., “possible intervention” or “intervention opportunity”).

3. Background: The authors do not propose hypotheses that they then test with data. Thus, the mechanism by which low levels of disease knowledge would result in anxiety and depression is not presented. Instead, they seem to have collected data on a number of variables and then analyzed all of them. It would be interesting to know what variables the authors hypothesized would be significantly associated with anxiety and depression (including the subdomains of the COPD knowledge measure). (These concerns also apply to the Statistical
Analysis and Results sections.)

4. Background, para. 1: Anxiety and depression can have deleterious effects on physical disability and morbidity, but the impact is bidirectional, and this should be acknowledged (i.e., people with high levels of physical disability and morbidity can become depressed as a result).

5. Background, para. 2: This paragraph is confusing and incorrect. In addition, the authors seem to suggest that interventions to improve anxiety and depression need to be indirect (e.g., through education, pulmonary rehabilitation) rather than directly through psychological/psychosocial interventions. This does not negate the possibility of achieving improvements in anxiety and depression levels through other means, but successful psychological/psychiatric interventions to address anxiety and depression should be acknowledged.

6. Background, para. 3: It would be helpful if the authors would clarify when they are referring to general educational level and disease-specific education.

7. Methods/Participants and Measurements, para. 1: There was no mention as to whether any of the participants in this study were receiving treatment for their anxiety and depression at the time of the assessment.

8. Methods/Participants and Measurements, para. 1: How, when and where were patients approached, consented and assessed? How many refused participation and for what reasons? How did they complete the measures (e.g., paper and pencil, computer, interview)?

9. Methods/Measurement of COPD patients’ disease knowledge level, para. 1: This description of the Bristol COPD Knowledge Questionnaire is somewhat confusing and would benefit from some additional information and clarification. Reference is made to “13-item subscales,” but it is presumed that this should be “13 subscales.” What direction is the scoring (high score = high knowledge?)? Given that this measure is not widely known, some description of the types of information assessed in the subscales would be very helpful. There is no information about the measure’s reliability and validity, especially in Chinese. Lastly, because it sounds as though the authors had the measure translated into Chinese, some additional information about the translation methodology would be reassuring.

10. Methods/Participants and Measurements: There was no description of the CAT Assessment Test.

11. Statistical analyses: This paragraph would benefit from additional detail and clarity. It is often not clear what variables are being referred to; all variables should be explicitly described. It is also not clear what is meant in the second sentence by “in different group.” The rationale for using partial correlations is not clearly described, and what variable’s effect is being controlled for is not clear. More details are required about the logistic regression in order to fully understand how variables were selected for inclusion and what variables were included in the model.

12. Results/Characteristics of Subjects: If the cutoff of 8 on the HADS was used to identify those with anxiety and/or depression, this should be indicated in the
Results section (and all tables).

13. Results/correlation of HAD Total Score with Characteristics of Subjects, para. 1: The statistics and significance values should be presented in the Results section along with the direction (e.g., is higher HADS score related to being female or male?). It is not clear what the last sentence means. Not all sociodemographic variables were reported; was that intentional?

14. Results/determinants of Anxiety and/or Depression in Subjects: It is probable that the authors intended to refer to a multivariable model rather than a multivariate model; please clarify.

15. Discussion, para. 2: The authors seemed to preferentially focus on the results that confirmed the premise of the paper – that patient education about their COPD is related to anxiety and depression levels. However, the model that included the BCKQ was described by the authors as having “weak” predictive capability. In fact, other variables were included in that model and their potential relationship with anxiety and depression were not discussed.

16. Discussion, para. 3: Considerable emphasis was placed on the significance of specific subdomains of the BCKQ. This paragraph contains considerable conjecture that is not supported by data.

17. Discussion, para. 4: The limitations section would benefit from some additional consideration by the authors. The sample included a very small number of women (<10%), which was not discussed; the sample also had a largely low education level, so there is reason to believe literacy levels may have been limited. Without information on how the participants completed the measures, readers are unable to determine how much of a factor this may have played in the results, especially given that the manuscript highlights the role of disease-specific education.

Minor Essential Revisions

1. Title: “studies” should be “study

2. Throughout the manuscript, “wildly” should be “widely”

3. Throughout the manuscript, there was reference to a score “increase”; since this was a cross-sectional study, scores would not have changed, so it is presumed that this was intended to refer to “higher scores,” but this should be confirmed and then clarified throughout.

Discretionary Revisions

1. Methods/Participants and Measures, para. 2: The COPD Assessment Test is described as a quality of life measure. However, it is really more of a measure of the impact of COPD on a patient’s health status, as it is comprised of primarily symptoms. Health-related quality of life is widely conceptualized as a multidimensional construct consisting of physical-, functional-, social- and emotional-wellbeing. The authors may wish to reconsider how they describe this measure, as it is somewhat limited in assessment multidimensional quality of life.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**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.