Author's response to reviews

Title: Disease knowledge level is a noteworthy risk factor of anxiety and depression in patients with chronic obstructive pulmonary disease: a cross-sectional study

Authors:

Qiao Zhang (zhangqiaoo@gmail.com)
Jiangrong Liao (liaojiangrong@yeah.net)
Xiuqing Liao (XQ_Liao@126.com)
Xiuling Wu (xl_wu2001@163.com)
Min Wan (W_an521@sina.com)
Changzheng Wang (czwang@yeah.net)
Qianli Ma (cqmqi@163.com)

Version: 5 Date: 28 April 2014

Author's response to reviews:

Dear Editor,

Thank you very much for your constructive comments on our manuscript, MS: 1299139599118339. As suggested, we ask for the advice of Edanz (www.edanzediting.com/bmc1) and Edanz revise grammatical errors, and unclear terms, that are marked with blue color. (Attachment: Certificate of editing)

Listed below please find our point-by-point answers in response to the comments of reviewers and those revises are marked with red color.

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.

Answer: Thanks for the comment. We study the comments carefully about the word “determinant”, and then we make a correction with the “risk factor”, which we hope to meet with the referee’s approval. The changes were made on page 1 (title) and where had used the word “determinant” throughout the manuscript.
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”).

Answer: Thanks for the comment. We revise the word "Interventional" to "possible interventional", "targeted" or "addressed" for the more appropriate expression throughout manuscript.

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.)

Answer: Thanks for the comment. We find the referee’s comments could be due to our unclear descriptions in Background. So we revise and clearly point out our hypotheses that “We hypothesize that COPD patients' disease knowledge (including knowledge of epidemiology, aetiology, symptoms, treatment, and disease management of COPD) is another risk factor related to anxiety and depression symptoms.” in the Background para4. (Page 4, Line 79-82) and " In accordance with our hypotheses, level of COPD knowledge was a risk factor of anxiety and/or depression symptoms in COPD patients alongside functional capacity and quality of life." in the Result para.4 (Page 8, line 187-189) as a result.

“Low levels of disease knowledge would result in anxiety and depression” was an interesting phenomenon from our early data, derived our further correlation research about our hypotheses. The mechanism is very interesting, however, it should be done after our above-mentioned hypotheses confirmed first.

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).

Answer: Thanks for the comment. To describe it clearly, we revise it to “Both are significantly associated with increased physical disability and morbidity, decreased health status, and decreased compliance with medical treatment” in this section (Page 3, line 59-61).

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.

Answer: Thanks for the comment. It is very sorry to cause the referees confusion. It is certain that successful psychological/psychiatric interventions may address anxiety and depression. So we add the information “Successful psychological or psychiatric interventions could address anxiety and depression. Exploring the risk factors of COPD patients with anxiety and/or depression may be valuable for understanding disease processes and improving disease prevention.” in the Background para.2 (Page 3, line 62-65).

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.

Answer: Thanks for the comment. We add the information to clarify the meaning of “disease-specific education”. “COPD patients’ disease knowledge (including knowledge of epidemiology, aetiology, symptoms, treatment, and disease management of COPD)” is added in Background para.4 (Page 4, line 79-80).

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.

Answer: Thanks for the comment. We add a paragraph in Discussion for more appropriate analyzing our result. “However, it is important to point out that the overall explanatory value of our final four-variable multivariable regression model was weak. Therefore, although we have confirmed that level of COPD knowledge was a new risk factor, none of the factors we measured strongly explained the presence of anxiety and/or depression in patients with COPD. Based on these results, we hypothesize that in COPD patients, anxiety and depression are primarily driven by the patient’s perception of serious chronic disease and the mindset of facing this troubled state. Further research should be conducted to increase knowledge in this area.” is added in Page 9-10, line 220-227.

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.

Answer: Thanks for the comment. We revise and point out that “However, the reason that the epidemiology category was significant is unknown, we conjecture that this misunderstanding of the disease may be involved.” in Discussion para.6 (Page 10, line 246-248) and “The causes of the significance of this factor were also unclear. We conjecture that this may be a special topic in China.” in para.7 (Page 11, line 254-255).

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.

Answer: Thanks for the comment. We revise and give some explanation and discussion about “the gender was imbalance” in para.8 (line4-9). "In addition, gender was imbalanced. The number of male patients was nearly 10 times higher than the number of female patients. This may result from the gender ratio
characteristic of COPD. There was a 3:1 ratio of men to women in the epidemiological investigation, and this is comparable with that of another multicenter study held in China. The influence of gender imbalance was limited to the relationship between the level of COPD knowledge and anxiety/depression." is added in Page 11 line 265-270. Also we add the information on how the participants completed the measures in Methods/Participants and Measurements, para.2 (line7-13). "All questionnaires were completed by subjects independently with adequate space, a firm writing surface, and a pencil. If the patient was illiterate or had other complications that prevented them from completing the questionnaire, the investigator obtained patient responses by reading each question out loud verbatim, followed by the corresponding response categories, and entering the patient’s responses. The investigator did not influence patient responses." is added in Page 5, line 112-118.

We thank again you for your consideration of this manuscript.

Sincerely Yours,

Qianli Ma

Institute of Respiratory Diseases,
Xinqiao Hospital,
Third Military Medical University,
Chongqing 400037, China