Author’s response to reviews

Title: The modified Medical Research Council scale for the assessment of dyspnea in daily living in obesity: a pilot study

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Author’s response to reviews: see over
Dear Editor,

We thank you for the reviews regarding our manuscript. Please find the point-by-point responses to the 3 reviewers. We hope our answers will suit your requirements. We thank the reviewers for giving us the opportunity to improve the quality of our manuscript.

Sincerely,
Dr Claire LAUNOIS

Reviewer: Dennis Jensen

Reviewer’s report:
1. Abstract (Page 2, Conclusion, 1st sentence): Avoid use of the word prevalence, particularly considering (i) the small study sample size and (ii) that the subjects in your study were referred for systemic respiratory evaluation and are likely not representative of a ‘normal’ obese population.

R1. We fully agree with the reviewer that the word prevalence is not used adequately considering the small study sample. We have made the change in the new version (Page 2, Conclusion, 1st sentence).

2. The rationale for the study remains poorly developed.

R2. In the new version, the rationale has been developed. Our view as pulmonologists is that dyspnea is a frequent symptom which is very challenging to assess in clinical practice. The goal of this pilot study is to assess the use of a simple and widely used dyspnea scale in clinical practice in obesity. Regarding the need of such a validation in clinical practice, we think that dyspnea is a symptom which is underestimated by clinicians. The use of simple scale as the mMRC scale could be an interesting and simple tool for clinicians.

3. The authors should be consider the results of a recently published meta-analysis by Gerlach et al. (International Journal of Obesity, doi:10.1038/ijo.2012.49) entitled, "Weighing up the evidence-a systematic review of measures used for the sensation of breathlessness in obesity"

R3. We thank the reviewer for providing this reference. We have included these new reference in the revised manuscript (Page 9, Line 13).

4. Statistical Analysis, Page 6, 2nd sentence: you should provide the reader with a better description of what an mMRC ≥1 actually represents.

R4. As shown in Table 1, a mMRC score ≥1 represents patients who get at least short of breath when hurrying on level ground or walking up a slight hill. This point was made clearer in the new version (Statistical Analysis, Page 6, 2nd sentence).

5. Results in discussion, Demographic characteristics, Page 7: As per reviewer #1’s recommendation, I think its very important that you point out that the fifty
four patients were referred for systematic respiratory evaluation from the Department of Nutrition of your institution. Why were these subjects referred for respiratory evaluation - because of dyspnea of unknown origin? Information on the reasons for referral are important in as much as such patients/subjects may not be considered "normal" and therefore your results may not be generalizable to the obese population as a whole. In other words, dyspnea may be frequent in this population because they were referred to you because they were symptomatic.

R5. They came from the Department of Nutrition and were referred for a systematic respiratory evaluation. They were consecutive referrals and there was no specific reason that they were referred for a respiratory assessment. This point has been clarified in the revised manuscript (Page 5, first sentence).

6. In my previous review, I encouraged you to include X-Y plots to demonstrate the strength of the associations between parameters. These plots are important to the interpretation of the data because they will show the reader whether the observed associations are driven by one or two patients, which many will suspect is the case until they see the plots.

R6. We thank the reviewer for this proposition. However, we performed the X-Y plots and we think that it does not help to better understand the results of our study.

7. The discussion is superficial and lacks focus.

R7. In the discussion, and as suggested by the other reviewers, we focused on the results obtained in our study and discuss the limitations of our study. We think that it would be too speculative to discuss more deeply the physiology and to extrapolate too much our results. We fully agree that our pilot study has limitations and that additional studies are needed to fully validate the use of dyspnea scales in the context of obesity. We hope our study will stimulate additional studies in this field. We thank the reviewer for stimulating discussions on our study and for enhancing the quality of our article.
Reviewer: Amanda Piper

Reviewer’s report:
Dyspnea is probably the most universal symptom described by obese individuals, yet the best tool to use to describe its presence and severity and monitor change with intervention has not been widely investigated. While the mMRC is simple to apply in routine clinical practice, whether it has clinical utility in this population has not been previously investigated. This is a pilot study to look at this question, and the data seems to suggest it may reflect some clinical differences between obese individuals with and without dyspnea. The important limitations of the current study, as outlined by the authors, demonstrates this is very preliminary work. However, the data provides a foundation for further studies comparing the mMRC with other dyspnea scales in evaluating the usefulness of such tools in identifying functionally important differences between obese patients, and the responsiveness of these tools to interventions and predicting clinical outcomes. The authors have addressed the points I raised previously.

There are a number of small grammatical changes that still require attention.

Page 4, Background, last paragraph: change to “its relationships with the 6-minute walk distance (6MWD), lung function and biological parameters”.

Page 8, 3rd Paragraph, Relationships between the mMRC etc, 1st sentence: “..demographic, lung functional and biological… Subjects in the mMRC >1 group had a higher BMI (p=0.01) (Figure 1a), lower ERV (p<0.005)(Figure 1B), FEV1 (p<0.05) and Hb levels (p<0.05), and covered less distance in the 6MWT…. than subjects in the mMRC=0 group.

2nd paragraph, 3rd sentence: “No relationship…”

Page 9, 1st paragraph, 2nd sentence: “.. and 40% a mMRC scale >2”.

Page 10, 2nd paragraph, 3rd sentence: “.. and a mildly lower hemoglobin… “

5th sentence: “..bA1C, CRP or NT pro-BNP”.

Page 11, 1st sentence: change to “allow the analysis of sex differences.”

Conclusions, 1st sentence: “This pilot study investigated the potential .. groups as defined by the mMRC scale with respect to BMI, ERV etc”.

We thank the reviewer for these suggestions. We have made all the changes proposed in the new version.
Reviewer: Antonia Koutsoukou

Reviewer’s report:
Following the reviewers suggestions the authors have made some changes in the Introduction, Results and Discussion, which have substantially improved the Revised Manuscript. Furthermore, they have answered adequately to most of the issues raised by the reviewers. However, there are still a few specific concerns. As I have pointed out in my first review, Table 5 provides comparisons and not relationships. Although the authors agreed with this comment (authors R-1 to my comments), in their revised Ms they still describe Table 5 as presenting relationships!! (Results, page 8, last paragraph, 1st line) The legend for Figure 1 is wrong. Figure 1 shows differences in BMI, ERV and 6mWT distance between non-dyspneic (mMRC score =0) and dyspneic (mMRC score >1) subjects and not relationships. Please correct.

We thank the reviewer for these comments. We have made all the changes proposed in the new version.