Reviewer’s report

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

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Reviewer: Antonia Koutsoukou

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In this report, Launois et al studied a cohort of 45 obese subjects. In these subjects they recorded dyspnea in daily living as assessed by the mMRC scale along with exertional dyspnea after six minute walk test (6MWT) assessed by the Borg scale, pulmonary function tests (PFTs) and biological parameters.

They found that the majority of the obese subjects exhibited dyspnea in daily living (mMRC>1 was found in 38 subjects), and that Group mMRC>1 individuals had higher BMI and smaller FEV1%pred, distance covered in 6MWT, and serum hemoglobin levels than those in Group mMRC=0.

There are some major concerns regarding the methodology and interpretation of this study.

General concerns
The main problem of the study is that the results, as they are currently presented, are not supported by the analysis used.

Table 5 presents comparisons of the two groups of subjects (Group mMRC=0 and Group mMRC>1) based on the study of different parameters, not including relationships and associations as it is repeatedly mentioned in the Results and Discussion sections.

Figure 1 is rather confusing. Please provide information about what is presented in this figure due to lack of clarity regarding a) which statistical test was used, b) whether the significant differences presented in the figure represent comparisons between the two mMRC groups (as it is described in the text and shown in Table 5) or between the three groups presented in Figure 1, c) if the authors applied Chi-square test to assess relationships of a categorical variable (mMRC groups) with non-categorical variables (BMI or ERV)

Specific comments
Title: The title does not actually define the content of the manuscript
Aim: The aim of the study is not clearly stated. If the aim were to evaluate mMRC scale as a tool for assessing dyspnea sensation in daily living, comparison of this scale with other scores of dyspnea recorded would be appropriate. If the aim were to study the predictive role of mMRC scale in exercise capacity in this cohort of obese subjects a different protocol should had been followed.

Statistical analysis: Given the small number of subjects studied, the authors
(correctly) used Wilcoxon test (a non parametric statistical test) to compare related samples. However, they used Pearson’s correlation coefficient (a parametric test) to test possible correlations between different variables! Please explain

Discussion: Given the questionable analysis of the data, the interpretation of the findings is rather arbitrary.

In addition, possible explanations for the study results are not provided, the findings are not in context with results of similar studies and the clinical relevance of the findings is not stated.

Conclusions: The conclusions are not sufficiently supported by the findings

Additional comments
Results, page7, 3rd paragraph and Table 5: Please provide the comparison of the Borg scale data between the two groups.

How many of the subjects with abnormal PFTs exhibited dyspnea in daily living?

In which mMRC group did the subjects who developed desaturation during the 6MWT belong?

What is the rationale of measuring biological parameters (Cholesterol, CRP etc) in an investigation aimed to study “the interest of mMRC scale for the assessment of dyspnea”?

Page 10, lines 5-8 “….demonstrates some correlations between the 6MWT and dyspnea..” Please be more precise. Was the distance covered in 6MWT correlated with any dyspnea scale?

Table 3, first line, mMRC scale (/4): Something is missing in the parenthesis. Please correct

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**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests