Reviewer's report

Title: Association between physical functional capacity and lung function in obese children and adolescents

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Reviewer: Neeti Pathare

Reviewer's report:

The current manuscript evaluates the association between physical function capacity measured by six minute walk test (6MWT) and the lung functions in obese children and adolescents. The topic is important. However there are many concerns regarding this study.

Major Compulsory Revisions

Abstract:
The conclusion needs to correspond with the purpose of the study.

Introduction:
The authors provide the current prevalence of obesity in children and explain the need to conduct research in this population. However, the rationale of studying the association between physical functional capacity and lung function is not clearly explained. Also, there is lack of literature provided in the manuscript about lung function and physical function capacity in obese children and adolescents. It is important to provide a scientific rationale for conducting this study.

Results:
• This section needs to be aligned with the aim of the study. The current manuscript includes associations between weight and lung function, all lung function, weight and 6MWT variables, all 6MWT variable and finally between lung function and 6MWT variables. The main findings of the study are not clear. It is important to focus on the results that correspond with the purpose of the study. Based on the purpose, only association between lung function and 6MWT variables is needed. Also, it is important to clarifying in the purpose which of the lung function and 6MWT variables the authors want to correlate.

• All results should be represented in 3-4 tables and 3-4 figures. Please include units and statistical significance in the table. Specifically, data in Tables 3-10 does not correspond with the aim of the study. Data presented in table should not be replicated in figures.

Discussion:
• The focus should be on the aim of the study which is to associate the lung function and 6MWT variables. This is not included in the discussion.
• In the current manuscript, lung function findings and whether they agree with the literature are stated. The section needs to provide explanations for interpretation of findings and why the findings concur or is in contrast with the literature.

Minor Essential Revisions

• The language needs some corrections before being published. Some examples:
  o Abstract: Methods section: “56 control individuals peered” is not appropriate
  o Abstract: Results: When comparing two groups please state that obese group had lower expiratory volumes compared to the healthy weight group.
  o Also, there are several typos

• Please consider including a hypothesis for the purpose of the study. Also, please make the purpose more specific.

• Please define the term eutrophics in the methods section.

• Please clarify why the obese group received bronchodilator

• Statistical analysis: Please clarify why non parametric tests were included

• Statistical analysis: What was the power of the study? Did this influence the findings?

Discretionary Revisions

• Consider adding details on participant recruitment

• Why are figure captions 10 and 11 highlighted?

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

I declare that I have no competing interests