Author’s response to reviews

Title: Daily Physical Activity and Related Risk Factors in COPD

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Author’s response to reviews:

Dear Editor,

Thank you for considering our paper for publication in your journal.

We revised our manuscript and address reviewers’ comments and highlight in the text.

Kind regards,

Ali

Reviewer 1):

The study by Albarrati and colleagues has studied an interesting topic investigating the risk factors related to lower levels of daily physical activity in patients with COPD. The manuscript has a sound structure and the design is adequate to answer the given aim. Please see my major and minor comments that need to be attended to by the author as indicated below;

Introduction:

1. A solid rationale is given with the relevant references used throughout.

2. Aim of the study is relevant and provides a novelty, however no hypothesis is given?
3. Could the author provide a hypothesis for the study outcome?

Response: A hypothesis has been added

Method:

1. You argue in the introduction that discrepancies in the results of previous literature may be due to patients being recruited from pulmonary rehabilitation, yet your patient cohort is also from rehabilitation? I would just like you to elaborate a little on why you state that in your introduction and yet the patients in your study are recruited the same. It may be better to rewrite the last section of the introduction.

Response: This study was a nested study from a large longitudinal study in patients with COPD (ARCADE). One source of the recruitment for the ARCADE was from pulmonary rehabilitation as stated in the study protocol by Gale et al., 2014. However, in this study, we excluded any patients had participated in pulmonary rehabilitation program, and we just selected patients recruited from general practice databases, respiratory outpatient clinics and smoking cessation referrals.

2. Again in your introduction you state that control subjects recruited in previous studies may be relatively active and may not be representative of the older population, would you agree that control subjects that are recruited from previous research studies, like in your study, maybe more active than say subjects of a similar age who haven't previously taken part in research? This may affect the robustness of your findings.

Response: This study was part from a large longitudinal study and one source of the recruitment was from previous studies database as stated in the study protocol by Gale et al., 2014. However, in this study, controls were patients’ relatives or from smoking cessation clinics or controls from general practice databases who agreed to wear the physical activity monitors.

3. When describing your assessment of physical activity, you do not provide any confirmation of "valid hours of activity" i.e. 08:00 to 22:00 as you would normally find in research using accelerometers to measure physical activity levels. Would you be able to confirm this in your manuscript?

Response: participants were asked to wear the monitor the whole day a part from having a shower or taking path.

4. How many valid days of activity did you use, and did you base the analysis on weekdays alone or weekends as well? Could a sentence be added with this information?

Response: Participants wore the monitors for complete 7 days.
5. No sample size calculation has been provided, I think it would help if one was provided or at least an explanation to why one hasn't been provided?

Results:

1. It would be good to see a consort diagram in the results section please.
Response: A consort diagram has been added

2. I may have interpreted the findings wrong, but are the number of steps reported in your results text (line 165-166) different from those reported in table 1?
Response: Numbers have been corrected

3. Could you include in the figure legends an explanation of what the error bars represent?
Response: Error bars represent upper and lower 95% confidence intervals for each category.

4. Line 217, does table 2 demonstrate what this sentence is showing?
Response: Corrected

5. Line 244, CAT needs to be abbreviated earlier in the manuscript as it is wrote earlier as "COPD Assessment Test", please add (CAT) after this.
Response: Abbreviation added

Discussion:

1. In a number of cases throughout the discussion you refer to daily physical activity as a number of different phrases and abbreviations i.e. DPA, physical activity levels, activity levels. For consistency could you keep to the earlier abbreviation of DPA or decide on the best phrase which you can use throughout?
Response: DPA was used throughout the text

2. I think you repeat yourself in the paragraph from lines 298-303 and it sounds poor, could you re-write this paragraph please?
Response: The paragraph was written again

3. Line 310 requires an abbreviation for "handgrip muscle strength".
Response: being abbreviated previously in the methods section

4. Line 323, replace "an" with "and".
Response: corrected

5. Line 325, requires an abbreviation for "systematic inflammation".
Response: Abbreviation was added.

* Please take care with your abbreviations throughout the manuscript and present all of them at the end, as currently many of them are missing.
Response: All abbreviations have been added at the end

(Reviewer 2):

Thank you for the opportunity to review this submission. This is an interesting research project.

The authors of the manuscript entitled "Daily Physical Activity and Related Risk Factors in COPD" discuss an important issue exploring and describing the daily physical activity in COPD patients, recognized as a relevant aspect in COPD progression and morbidity. The objective of this study is interesting; however some major details and limitations are remarkable. I add any suggestions or queries for improve this manuscript.

In general my major comment is about the absence of any perceived or real barriers to physical activity, this fact has been reported in the last years to be determinant.

Response: This is beyond the aim of the study and the design is not suitable to answer such question.

Additionally, the selection of controls is not comparable in age, gender or level of physical activity.
Response: Controls and patients were similar in age and gender. The level of physical activity was not prior to this study.

Those facts impact not only the results of the study, but impact the conclusions and relevance.

In general the manuscript is well written, but the authors need to improve the scientific background of the introduction and to increase the discussion section.

Response: The introduction and discussion have been revised and improved.