Reviewer's report

Title: Symptoms of depression impact the course of lung function in adolescents and adults with cystic fibrosis

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Reviewer: Gregory Sawicki

Reviewer's report:

Overall, the paper provides an interesting analysis of the TIDES data looking at 2 year longitudinal lung function data in relation to baseline mental health issues. The manuscript needs to be reviewed closely for English language issues (as explained below). Additionally, the authors should state that one limitation is the use only of a limited set of lung function data rather than all data available over a 2 year period.

Suggested revisions:

Abstract:
- In the background, the hypothesis should have directionality. For example, would elevated symptoms of depression predict worse or better lung function?
- The statement "determined the course of lung function" is inaccurate - it really is a change in lung function, not a true "course"

Introduction:
- The first sentence ends with an "is" that is inappropriate.
- "percent of the predicted" is not standard language
- The final sentence of the first paragraph is unclear. How would psychological factors contribute to treatment options?
- The sentence on general prevalence of depression "is one major health problem" does not make sense.
- The term "severer" in line 88 should read "more severe"
- line 90, "were associated over a period" does not say what the association is

Methods:
- Line 103 - "assessed" is spelled incorrectly
- The limitation of only one lung function measure per year needs to be mentioned and explained. This makes a true longitudinal analysis impossible and thus the discussion needs to be framed in a manner that suggests that variability in lung function was not accounted for.

Results:
- not clear why the data on CFRD is included since it was not used in later analysis.
- line 190- I am not sure what the term "develop consistently" means
- line 197- the phrase "against the odds" is not proper English in this setting.
- For the analysis in the figure, no p-values are presented - are the changes by group actually statistically significant? I understand that the group x time interaction term is significant, but what about the individual changes for each of the 4 groups? if only one is different than the rest, the group x time interaction would be significant.

Discussion:
- is this really the first "prospective" study of the impact of depression on lung function?

Table 1
- not clear why the data on CFRD or Burkholderia are included

**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'