Reviewer's report

Title: Inadequate glucose control in type 2 diabetes is associated with impaired lung function and with systemic inflammation.

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Reviewer: Wendy A Davis

Reviewer's report:

This is an interesting paper which evaluates whether lung function is worse in patients with inadequate glucose control and if inflammatory markers are simultaneously increased in these poorly-controlled subjects.

The study is cross-sectional which prevents attribution of causality, but it suggests novel associations between impaired lung function, poor glycaemic control and inflammation.

Abstract:

Results - Second sentence: Those with inadequate control had lower (not higher) mean residuals for FEV1 and FVC and higher (not lower) residuals for FEV1/FVC.

Results - Final sentence: Please specify the P-value more accurately (i.e. P<=0.039).

Methods:

The authors did not exclude people with asthma or emphysema or other COPD. How many of the study subjects fitted into one or more of these categories?

Sample size:

"y" should be replaced by "and".

Statistical analysis:

"ACCESS" has double S.

The authors state that the prediction equations by Hankinson et al for Mexican Americans provide a good fit for Columbian subjects based on previous studies by their group. Can the authors cite a reference for this work?

The statistical analysis mentions adjustment for exposure to wood smoke. The results include lifetime exposure to dusts and gases as well as wood smoke. How were these environmental factors estimated?

Results

Subject characteristics:

How was past clinical history of cardiovascular and pulmonary co-morbidity
defined and ascertained?

Table 2 - Typos in variable names: FEV1/FVC not VEF1/FVC, FVC not CVF.

In the text the authors state that the higher FEV1/FVC in those with inadequate glycaemic control did not reach statistical significance, but it did according to Table 2 (P=0.0447). Which is correct?

Likewise, in the text it is stated that FVC % predicted <70% was not statistically significant by glycaemic control status, but in Table 2 the P-value for FVC % predicted <70% is 0.0200, which is significant. Which is correct?

Relationship between glucose control and pulmonary function:

First sentence: There needs to be a minus sign in front of the lower confidence interval.

Please state what the "minimally" increased values of FEV1/FVC and their differences were.

Table 4:

In the text it states that the mean residual values are stratified by BMI and wood smoke exposure history as well as smoking history, but the Table shows only stratification for smoking history. Please amend appropriately.

As Table 4 stands, since smoking history is stratified, the mean residuals were not adjusted for smoking history. This should be deleted from the title and the footnote.

Please can the authors add the inflammation markers to the multiple linear regression models to see if, after adjusting for age, sex, height, smoking history, and HbA1c, any of them add significantly to the models?

Discussion:

3rd paragraph, first sentence - "and" instead of "y".

3rd paragraph, second sentence - Since the study is cross-sectional, the authors might want to temper their statement that their results suggest a causal pathway.

3rd paragraph, last sentence - "cytokines" not "citokines".

Level of interest: An article of importance in its field

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

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.