Reviewer's report

Title: A semi-parametric mixed models for longitudinally measured fasting blood sugar level of adult diabetic patients

Version: 0 Date: 10 Aug 2018

Reviewer: Abbas Bahrampour

Reviewer's report:

I recommend to clarify some methods and results as follows:

Why did you use FBS (If you had used A1CHg as a criterion, it could be shown the trend, better than FBS)?

Using the contraction of gender and time in the model doesn't have logical, theoretical and clinical support.

Could you please explain the theoretical support of using semi-parametric linear-mixed model, because the FBS has the normal distribution?

In linear mixed models, it is necessary to determine the structural or non-structural model is used and why?

Interpret the variance components.

All patients are type two diabetes how it can be a variable?

As you see the semiparametric linear mixed model is very close to the linear mixed model (the difference of AIC), and using the linear mixed model is easier for clinicians, what do you reckon?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organisation that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

'I declare that I have no competing interests'
I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal