Reviewer’s report

Title: How to estimate glomerular filtration rate in sub-Saharan Africa: design and methods of the African Research into Kidney Diseases (ARK) study

Version: 1 Date: 07 Sep 2019

Reviewer: Robert Ekart

Reviewer's report:

There are some issues which have to be addressed in this paper. I have the following comments, questions and suggestions:

1. The study aims to compare different eGFR formulas with iohexol excretion for GFR measurement. The study design is interesting. Investigators will include 3000 adult participants from three different African countries. Authors had given primary and secondary objectives, which are adequately addressed. The study will have a cross-sectional design with inclusion participants from Malawi, Uganda and South Africa. They have a working committee for a review of the protocols, data collection and plan of analysis, and they will have many meetings to update the study. I think that this is good for such type of research.

2. Please provide the process of selection of participants in each country.

3. It will be interesting to know the reason for bioimpedance measurements in this study. Authors should explain the connection between eGFR measurements and bioimpedance analysis.

4. Please provide the time-frame for four urine analysis.

5. Which statistical program will be used? Analysis of variance test between groups should be used.

6. I suggest that a native English speaker read the whole manuscript.

Please confirm that you have included your review in the ‘Comments to Author’ box?
As a minimum standard, please include a few sentences that outline what you think are the authors’ hypothesis/objectives, their main results, and the conclusions drawn. Your report should constructively instruct authors on how they can strengthen their paper to the point where it may be acceptable for publication, or provide detailed reasons as to why the manuscript does not fulfill our criteria for consideration. Please supply appropriate evidence using examples from the manuscript to substantiate your comments. Please break your comments into two bulleted or numbered sections: major and minor comments.

Please note that we may not be able to use your review if no comments are provided.
Please only upload as attachments annotated versions of manuscripts, graphs, supporting materials or other aspects of your report which cannot be included as text in the ‘Comments to Author’ box.

Yes

**Are the methods appropriate and well described to allow independent reproduction of experiments?**
Please state in the ‘Comments to Authors’ box below what you think are the strengths and weaknesses of the methods (study design, data collection, and data analysis), and what is required, if anything, to improve the quality of reporting

Yes

**Does the work include the necessary controls?**
If not, please explain in the ‘Comments to Author’ box below.

NA

**Are you able to assess the statistics?**

- Are the statistical test(s) used in this study appropriate and well described?

- Is the exact sample size (n) reported for each experimental group/condition (as a number, not a range)?

- Are the description of any error bars and probability values appropriate?

- Are all error bars defined in the corresponding figure legends?

- Has a sample size calculation been included, or a description and rationale about how sample sizes were chosen?

Please can you confirm which of the following statements apply to your statistical assessment of the manuscript (Please include details of what the authors need to address in the ‘Comments to Author’ box):

There are statistical tests that I am unable to assess and recommend seeking additional advice (please specify which tests these are in the ‘Comments to Editor’ box)

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in the ‘Comments to Author’ box below.

Yes

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

Needs some language corrections before being published

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No

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