Reviewer’s report

Title: Magnitude and causes of first-line antiretroviral therapy regimen changes among HIV patients in Ethiopia: a systematic review and meta-analysis

Version: 1 Date: 15 Aug 2019

Reviewer: Dan Kibuule

Reviewer's report:

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It was a pleasure reading this manuscript on the magnitude of changes of ART regimens among HIV patients in Ethiopia. The manuscript is well thought through and has a valid methodology. Nevertheless there are a few issues to address.

(1) Kindly specify the MEASURE of magnitude of change (WHAT DOES MAGNITUDE MEAN, % OR)

(2) Several grammatical errors in the document

(3) The results of the systematic review not presented, its rather a meta-analysis

(4) what do these results / findings mean or how will they be implemented. Good results but the significance is not clear given that toxicity, pregnancy and co-morbidity really mean for the HIV/AIDS programme

(5) Caution should be taken - in use of toxicity (rather Adverse effects should be used) since the grades of toxicity were not highlighted

(6) The study should a high level of heterogeneity; there is need for sub-analyses in the meta-analyses to identify the sources in the heterogeneity (Severity of HIV, facility, ART regimen etc)

(7) There is a repetition of results in the discussion
(8) The study ignores the main causes of SWITCHING, i.e. treatment failure (CD4 and VL) sub-analyses should be done

(9) The exact search strategy and criteria used should be included in this paper. In addition what the exact effect sizes measured should be specified.

(10) The meta-analyses for TB, pregnancy and toxicity should be done as sub-analyses in the analyses for toxicity and not separately.

(11) Studies need to explain the causes of heterogeneity and if we can indeed the findings in this study

Indeed this is a good study BUT the relevance of the findings is not clear. So what? it looks that the findings are in line with recommendations of the ART treatment outcomes. What thresholds of change are recommended. is the threshold high or acceptable?.

- **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.

  No

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

  No

- **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
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