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

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Reviewer: David Mabirizi

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Line 28/29 - "managed disease. However, ART regimen change has become a common phenomenon and limits the treatment option" ……This sentence lacks clarification on how regimen change limits treatment options. Probably a change in use of words is suggested.

Line 49/50 - The major causes identified were toxicity, 58% (95% CI: 46%, 69%); TB co-morbidity, 12% (95% CI: 8%, 16%); treatment failure, 7% (95% CI: 5%, 9%); and pregnancy, 5% (95% CI: 4%, 7%) ………. there is no mention of the prescriber recommended switch in regimen that is due to a recommendation by the program due to a change in guidelines. Does that mean there was no change in first line regimen recommendation in the period under review? This aspect is not presented in either the findings/results section nor the discussion.

Line 51 - Conclusions: One-third of HIV patients in Ethiopia changed their first line regimen…….with 37% of the patients switching regimens not including by recommendation by physician, this is a high switch rate likely to indicate either poor adherence by patients and this high treatment failure rate or poor compliance to guidelines by prescribers or an indication of high stock out rate. These aspects should be explored or touched upon in the discussion section.

Line 64/65 - The number of people enrolled in ART rose from 900 in 2005 to 300,000 in 2010, and the number of facilities providing increased from four in 2003 to 481 in 2009 [4, 5]. ……….These figures are more than 10 years old. It is important to include the most recent figures showing the rapid growth of the program in Ethiopia. Ending this story of enrollment falls short of the realistic picture especially in terms of the number of patients currently on ART in Ethiopia by the end of 2018.

Line 67 - "transformed this infection from a fatal to a medically managed disease"…….This sentence may mean that fatal diseases are not medically managed or before the advent of ART, HIV was literally not "medically managed". I would prefer a change in use of terms here.
Line 205 - The most commonly mentioned causes for first line ART regimen were toxicity, 58% .....this is a high toxicity rate. Some explanation is needed especially from these studies on the reasons why Ethiopia has such high toxicity rate.

Lastly - the discussion needs alot of strengthening rather than repeating the results presented in the results section. The discussion should highlight some of the issues identified in earlier comments and presented the papers used in the meta analysis to explain the observations reported

**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?**
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I recommend additional statistical review

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