Reviewer’s report

Title: “Effects of antiretroviral therapy among HIV positive adults on HIV infections among young women: a systematic review protocol”.

Version: 0 Date: 11 Dec 2018

Reviewer: Deborah Passey

Reviewer's report:

Dear Authors,

I applaud you for your efforts for taking on a systematic review for this topic. However, I think this protocol has several methodological issues that need to be addressed. From what I read in this protocol, you are trying to look at population-level incidence of new HIV among young women in an ART intervention setting. As this protocol is currently written, I am not sure if this systematic review will yield meaningful results. I provided several areas I wish for you to revisit as a research team.

1. "We will conduct a comprehensive search of MEDLINE (PubMed)". This needs more clarity, are you searching both Medline (the US National Library of Medicine) and PubMed, or just Medline? Although Medline and PubMed are quite similar (PubMed contains what is in Medline) they do have differences, please read here: https://www.nlm.nih.gov/bsd/difference.html. I highlight this difference because searching pubmed.gov yields different results than searching nlm.nih.gov.

2. Thank you for providing the PRISMA-P checklist in the supplement. I would like to see the checklist filled out with the details of this proposed study, and not just refer to lines in the manuscript where the information can be found. Checklists are helpful for making sure you report the items, but the items reported in this protocol need more description.

3. As it is written, the types of participants, types of interventions, and types of outcomes are a bit confusing. The stated objective of this systematic review are broad (to summarize the effects of ART in HIV positive adults on new HIV infection among young women aged 15 to 24 years) and the inclusion criteria are narrow (exclusion criteria: children, PREP, mother-to-child, MSM, TG, FSWs, and IDUs). You are looking at ART interventions for HIV positive adults 18 years or older and your outcome is new incidence of HIV in young women 15-24 years. Do you expect intervention studies to report on the incidence of HIV in young women 15-24 years? Are these young women only in South Africa, or only in places where ART interventions are taking place? I suggest you revise the research objectives to describe PICOT - population, intervention, control, outcome, and time frame.
4. You describe how the risk of bias will be handled for randomized and non-randomized studies. How do you plan to handle conference abstracts and grey literature sources? I would like to see more detail regarding how the grey literature will be assessed and included in the synthesis of results. Grey literature is not peer-reviewed research and should not be lumped together with peer-reviewed literature. I suggest using the AACODS Checklist to appraise the grey literature.

5. "If the studies are relatively homogeneous in terms of methodology and outcomes, meta-analyses of the data will be performed".
You need to decide beforehand whether you are conducting a systematic review, a meta-analysis, or a systematic review and meta-analysis. Systematic reviews and meta-analyses are conducted for different reasons. Systematic reviews are used to provide a complete and exhaustive summary of the research question. A meta-analysis refers to statistical methods of combining evidence in order to assess the utility of an intervention or the validity of a hypothesis. Conducting a systematic review and meta-analysis can provide a robust answer to the research question. How will the meta-analysis help achieve the study objectives? What research question is the meta-analysis answering? Do you anticipate having enough results to perform a meta-analysis? Are you going to include grey literature in the meta-analysis?

6. "The extraction form will be used to extract relevant data from the eligible studies such as: bibliometric information, participants' demographics, study location, reported outcomes and measures of effect related to the risk of HIV infection among young women in the study, and other outcomes."
Will the extraction form be used to provide a narrative synthesis of the results or will you provide a study summary table?

7. When writing up a protocol for a systematic review or meta-analysis, it is important to look at examples of protocols that have been published in the journal you are submitting to. Please look at the following:


**Level of interest**
Please indicate how interesting you found the manuscript:

An article of limited interest

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

Acceptable

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

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Were you mentored through this peer review?

No