Reviewer's report

Title: Factors associated with suboptimal adherence to antiretroviral therapy in Viet Nam: a cross-sectional study using audio computer assisted self-interview (ACASI)

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Reviewer: Jessica Merlin

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This paper likely represents a meaningful contribution to our understanding of adherence in southeast Asia. It is the largest adherence study in that region, and uses a novel method of collecting adherence data. However, due to major methodologic concerns about why this novel method (ACASI) was used, initial ACASI qualitative work that is inadequately described and has not been published, and the confusing way in which the results and conclusions are intermingled, I do not think it can be accepted in this format. It requires a very substantial revision, and should be reviewed again once these revisions have been made.

Please note that in re-reading the paper a few times, I think it may be the case that ACASI is simply a computerized format for answering the VAS and AACTG questions. In my opinion, the manuscript does not make it clear that the ACASI is simply an electronic questionnaire. If that is the case, this should be clarified early in the paper.

Major Compulsory Revisions

1. In introducing ACASI, I would like a little more information regarding exactly what this method is, and what literature exists that supports its use. Simply because a prior review suggested that it should be used is not a reason to use it. If there are papers, preferably in SE Asia or Vietnam, that the use of this type of technology has gone through some preliminary testing, e.g., it is feasible, has high levels of acceptability among respondents, and has some initial validity data, is needed prior to using it in a study like this. In addition, now having read the paper twice, I think I understand that ACASI is simply a computerized way of administering questionnaires - but I'm unsure if that's the case. It seems like a lot of trouble to go to computerize only two questions that can be done by pencil and paper-and not something that can cheaply, easily be rolled out on a larger scale.

2. The paper's objectives need to be clearly stated at the end of the introduction.

3. The authors state: “In order to ensure that the survey instruments were appropriate in Vietnamese context, they were developed through review of published international and Vietnamese research on ART adherence, a qualitative study, and consultations with 8 international and 10 national HIV/AIDS treatment experts.” No reference is listed with this. This piece is critical; it is a
description of how the authors developed their methodology. Unfortunately, the
description is brief and does not appear to have been published before. This
leaves the reviewer wondering whether the process was appropriate and
rigorous enough to ensure that the ACASI method will yield the intended results.
In particular, just stating that a “qualitative study” was done without any further
explanation is very concerning. As qualitative methodology becomes more widely
understood and rigorous, simply stating that some qualitative work was done is
not enough. What type of qualitative work? Was it interviews? Focus groups?
What type of approach was used? How was the data coded? What were the
results of the qualitative work? For example, how was ACASI perceived by
participants? Did participants feel comfortable enough to share their
experiences? Was a mixed-methods approach used to understand whether
participants who reported good adherence via ACASI also had correspondingly
good adherence via another method, e.g., pharmacy refill data, even if this work
was only done on a small scale? The results of this qualitative/mixed methods
piece should be written up and published first, then if those results are promising
a study such as the one presented here should be undertaken.

4. They do report some additional validation work “The ACASI program was
field7 tested in a focus group discussion with seven PLHIV. The measurement
scales were modified and validated through pilot testing to ensure the
questionnaire was face valid and understandable to the respondents.” Again,
these results should be a separate paper in and of themselves. “Ensuring” face
validity is a complex process that is not adequately captured in this sentence. In
addition, only 1 focus group is not likely to be enough; did they achieve theme
saturation with this small sample? This brings up the same methodologic
concerns as in #5 above.

5. I have concerns about the modification of the adherence questionnaires. The
authors state that these modifications have been used by one prior author, but
why are they necessary? Is this a language issue, cultural issue,?

6. I left the methods section wanting more of a description of what makes the
ACASI tool unique. Is it just a videorecording of adherence questions? The
authors alluded to the fact that numerous questions were used, but only report
results for and talk about the VAS and AACTG. I am confused by this-the authors
used this technology to ask only 2 questions that can also be asked using a
pencil and paper? How do the respondents record their answers? There is no
mention of qualitative software in the analysis so I wonder if the respondents
answers were categorized somehow? The authors mentioned that they wrote the
questions that were asked, but there should be a better description of how those
questions were constructed and whether those specific questions were part of
the field testing process.

7. The results section is confusing. It only reports VAS and AACTG results.
Where are the ACASI results? Did ACASI only include VAS/AACTG? The
authors report recording questions for the ACASI, where are those questions? In
addition, the results section begins to frame the results in the context of the
conclusions, which should be avoided.

8. The conclusions paragraph is one long paragraph. There needs to be a
discrete results section, and then discussion.

Minor Essential Revisions
1. The first sentence in the abstract states “This study assesses the level of adherence to antiretroviral therapy (ART) and to examine factors associated with suboptimal adherence among a sample of HIV positive adult patients on ART in Viet Nam.” Rather, it should be “examines factors.” These types of grammatical issues occur throughout the manuscript.

2. The background section of the abstract should include more than just the study objectives. It should also include some framing/background related to the topic. One sentence like this should be added before the current background sentence.

3. In the introduction, the sentence “With differences in measurement methods and time reference periods, it is not possible from the Asian studies to combine the estimates” should be reworded. I think they are specifically referring to methods of measuring adherence, but this is not clear and should be clarified in the rewording of this sentence.

4. In the introduction, the authors state “The second category includes ART treatment and health services-related factors.” I am not sure what is meant by this. This sentence must be clarified.

5. Furthermore, the entire paragraph in the introduction talking about reasons for suboptimal adherence seems out of place. I would reduce this to one or two sentences and move the remainder of this important information to the discussion, where it can be used to put the authors’ results in context.

6. The subsequent 2 paragraphs, regarding ART adherence in Vietnam specifically and how that data has been collected, is too long and too detailed. Some of that information may be moved to the discussion, where it can be used to frame the results in the context of other researchers’ findings.

Discretionary Revisions
1. In the introduction, there is a mention of the work by Mills et al, which is already 6 years old, describing the relative paucity of data on adherence in developing countries. The authors then go on to report results of their literature review on the topic. I do not think the paragraph describing Mills et al is necessary. If there is something more recent, I would include that, plus the authors’ own review of the literature. If there is nothing more recent, I would just include the authors’ own review of the literature.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests.