Reviewer's report

Title: Prevalence, characteristics and correlates of a positive-dementia screen in patients on antiretroviral therapy in Bamenda, Cameroon

Version: 1 Date: 22 May 2013

Reviewer: Reuben N Robbins

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This manuscript describes findings from a study aimed at examining the prevalence of positive screenings for HIV-associated dementia (HAD), as well as the socio-demographic and clinical correlates to the positive screen among HIV+ patients in Bamenda, Cameroon on antiretroviral therapy (ART). This is an important study, examining HIV-associated neurocognitive disorders among an understudied population and in an understudied country.

The manuscript is clear and well written, and raises important implications about the presence of HAD in Cameroon and the usefulness of screening tests for it. This review has several criticisms that may help to make the manuscript stronger:

Major Compulsory Revisions:

Abstract:

The Objectives section needs to specify that these are positive screens for HIV-associated dementia. The Methods needs to state the sample size, not results.

Introduction:

1) The authors neglect to cite any of the work coming out of South Africa and Uganda on HAND in the introduction. For example, Joska, et al. has conducted a number of studies on HAND and its correlates among HIV+ populations on ART in South Africa. Sacktor’s work in Uganda (on which the IHDS was based) is also an important source. While not Cameroon, the authors may wish to cite these other researchers work (as well as others) to raise awareness about HAND in sub-Saharan Africa.

2) The authors do not provide much of a rationale for why they are using the IHDS and whether or not it is an appropriate tool for this population regardless of whether one other study used it in Cameroon.

Method:

1) On page 7, the authors mention that, “It is worth noting that it took at least 20 minutes of contact between research staff and study participant before the IHDS tool was administered, thus ensuring that participants were sufficiently relaxed
and comfortable with the research staff before the IHDS assessments were conducted.” Why is this important to note? Perhaps the authors could address some basic issues of neurocognitive screening among populations naïve to neuropsychological type tests in the introduction.

2) The information about the IHDS on page 7 is better suited for the introduction.

3) On page 8, the authors state that a sensitivity analyses was conducted on the IHDS using the cut-off score of #9, but the published cut off is #10. Could they explain why they used this cut-off score?

Results:

1) On page 10, the authors report that bivariable analyses used an IHDS cut-off score of #10. Which cut-off score(s) are being used and why?

Discussion:

1) On page 11, the authors state that this is one of the few studies documenting HAND in sub-Saharan Africa. See comment 1 above in Introduction. Authors need to cite this work.

2) The authors need to question their findings a bit more. All they have is a positive screen on a screening test that may or may not be appropriate for this population. While it is in line with the Robbins et al. article they cite, that article also calls into question some of the difficulties for non-expert personnel in administering the IHDS, in particular the alternating hand sequences. It’s interesting that in this study, AHS is also the lowest performing. Is this an artifact of a hard to administer and score test, or a reflection of HIV’s effect on the brain? The authors need to discuss this some.

3) Furthermore, the authors need to address the cultural appropriateness of this test for this population. A recent article by Robbins et al. found that certain items in another screening test (the Montreal Cognitive Assessment) may not be appropriate for certain populations in South Africa – as despite presence of HIV, most people could not draw a cube or correctly do serial 7’s. Could that be an issue with AHS here? Also, another paper the authors do not cite is one by Nitrini et al. (2005) that found the AHS test particularly more difficult for those people with low education.

4) On page 11 the authors suggest that one reason they had such a high number of positive screens is that this sample may have advanced HIV disease because they are on ART. Yet, they do not present any immunological data about the sample, nor do they indicate what the Cameroon ART initiation guidelines are, as globally initiating is starting at much early disease stages. Hence, being on ART may not indicate such advanced disease as it once did.

The overall impression of this reviewer is that this is a manuscript with merit, though it needs much greater detail and a more thorough review of the research on HAND in sub-Saharan Africa. The authors also need to grapple more with the
issue of what a positive screen on the IHDS means in this sample. There are numerous typos throughout that the authors need to address.

**Level of interest:** An article of importance in its field

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.