Author's response to reviews

Title: Symptoms of Common Mental Disorder and cognitive associations with seropositivity among a cohort of people coming for testing for HIV/AIDS in Goa, India

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Author's response to reviews: see over
Dear Dr. Yuan-Pang Wang,

REF: Response to Reviewers Comments- MANUSCRIPT: Mental health and cognitive associations with seropositivity among a cohort of people coming for testing for HIV/AIDS in Goa, India

Many thanks for your comments and to Greg Armstrong and Andre A. Malbergier for their insightful and detailed consideration of our work. We appreciate the opportunity to make revisions and resubmit our manuscript. As detailed below, we have now amended the manuscript to address the issues raised by the reviewers, in particular, the conclusion has been altered to better reflect the essence of our findings and the limitations of the study design have been discussed in greater detail.

Response to comments from reviewer 1- Greg Armstrong

Minor Issues
1. In response to your request for further information about the place of recruitment, I have included additional detail in the paragraph on recruitment and measures (see page 3). Around 80 percent of people coming for testing at the study site at the time of data collection were referred for testing by a Doctor. Doctors referred people to testing for a variety of different reasons, including symptoms. Pre-operative tests. Reasons for self-referral were also diverse, including perceive high-risk, pre-marital tests and tests before working abroad. I have also referred to this heterogeneity of reasons for testing in my discussion of the low prevalence of CMD identified in the Umeed sample (paragraph 4, page 7).
2. Many thanks for pointing out the incorrect use of a capital “N” in Tables 1 & 2, this has now been amended to “n”.
3. Likewise, all percentages in Table 1 are now presented in parentheses.

Major Issues
4. You are correct, reported risk-taking behaviours are low, relative to the prevalence of HIV identified in our sample. It is possible that social desirability bias may have reduced reported risk-taking. The text has been amended to include a discussion of these issues (paragraph 4, page 9).
5. Given the wealth of evidence to support the overlap between the diagnostic categories of anxiety and depression, in this study, we opted to use the category of Common Mental Disorders. The text has been amended so that the rationale for this categorisation has been addressed (paragraph 2, page 4). Prevalence of symptoms of depression, anxiety and panic have now been included in Table 1. Our analysis demonstrated a high degree of co-morbidity of symptoms of anxiety and depression within our sample (of those scoring >10 on the GAD-7, 75 percent scored >10 on the PHQ-9; of those scoring >10 on the PHQ-9, 20 percent scored >10 on the GAD-7 and 47.4 percent scored between 5 and 10 on the GAD-7), thus providing justification for this approach- this has now been included in the discussion (paragraph 1, page 8).
6. The text has now been amended so that a more detailed discussion of the low prevalence of CMD identified in Umeed is now included. In brief, it is possible that the low prevalence of CMD (compared to that found in two other samples of people coming for testing) is due to underlying differences in the samples, in particular, the prevalence of HIV identified in Umeed is much lower than that found in the Indian and South African samples described. Given the fact that our sample is heterogeneous and includes both high and low-risk participants, the low prevalence of CMD is perhaps to be expected. Measurement issues (validity of PHQ, interview settings) may have had an impact upon the prevalence of CMD identified in our study - the discussion has been amended to reflect this possibility.

With reference to the specific studies with samples drawn from primary care settings that you referenced: it is difficult to draw direct comparisons between the Umeed sample of people coming for HIV testing with those from the population-based sample from Chennai or the sample of people attending a mobile health clinic in Delhi. The rural/peri-urban, relatively wealthy Goan setting is likely to have a significant influence upon the prevalence identified in Umeed. In fact, as now included in the text, the prevalence found in Umeed is remarkably similar to that identified in a community-based survey carried out in Goa (Patel et al 2006).

7. As described in 5. Given the overlap between diagnostic categories of anxiety and depression, we have used the category of CMD in this study. As can be seen from the data now included in Table 1, the overlap between depression, generalised anxiety and panic is such that there are insufficient numbers in each category to make meaningful comparisons of the association between symptoms of depression (without symptoms of anxiety) and anxiety/panic (without depression).

Response to comments from reviewer 2- Andre A. Malbergier

General
1. In response to your comment about the use of the term “mental health” within the text, this has now been changed to “common mental disorders”

Abstract
2. Reference number [1] has now been deleted from the text.
3. The abstract has now been amended to more accurately reflect the conclusions that may be drawn from the study.

Introduction
4. In response to your comments about the need to further develop the introduction, we have included additional background information on neurocognitive impairment and its associations with HIV outcomes and everyday functioning (paragraph 1, page 2).

Methods
5. In response to your query about why 57 individuals who had received a seropositive result would undergo a repeat test. From preparatory qualitative work with staff from non-governmental organisations working with people living with HIV/AIDS in Goa, we were informed that it was common practice for people to undertake multiple tests in the private sector, prior to coming for testing at a public test centre. Public test certificate is needed to access government treatment and care services. This information has been added to the paragraph on recruitment and measures (paragraph 1, page 4).
6. Unfortunately, condom use was not measured in this study.
7. The text has been amended so that the nomenclature “symptoms of” depression, anxiety, panic is used throughout.

Results
8. Table 1 has now been amended to exclude the 57 participants who had already received a HIV-positive result.
9. The need for further discussion of the low prevalence of CMD identified among our sample is something that both reviewers have alerted us to—thank you for this. The text has now been amended to include a more detailed discussion of this—please see response 6 to reviewer 1 for further information.

Discussion
10. The number of potential participants excluded from taking part because they were too unwell to take part in a study interview or lacked the capacity to give informed consent has now been included in the text (paragraph 3, page 9). Information about inclusion criteria has been added to the recruitment and measures section (paragraph 2 in this section on page 4).
11. The possibility of reverse causality, that CMD may be a risk factor for acquisition of HIV/AIDS is discussed in the text (paragraph 2, page 8). I have added additional detail to the discussion of the possibility of low cognitive functioning as a risk factor for testing positive for HIV/AIDS—specifically addressing the possibility that alcohol may be responsible for both low cognitive scores and sexual risk-taking that leads to testing HIV-positive (paragraph 1, page 10).

Conclusion
12. To avoid a continuation of the discussion within the conclusion, comments about evidence of association of HIV-related damage to white matter and symptoms of apathy have been moved to the discussion (paragraph 2, page 8). The conclusion has been amended so that it summarises research findings and provides a more definite ending to the article (paragraph 3, page 10).

Many thanks for your reconsideration of our work. I look forward to hearing from you.

Yours Sincerely,

Dr. Rosie Mayston