Author’s response to reviews

Title: Seroprevalence of transfusion-transmissible infections and evaluation of the pre-donation screening performance at the Provincial Hospital of Tete, Mozambique

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Author’s response to reviews: see over
Dear Editor,

Please find enclosed our revised manuscript "Seroprevalence of transfusion-transmissible infections and evaluation of the pre-donation screening performance at the Provincial Hospital of Tete, Mozambique" where requested changes have been highlighted.

First, we would like to thank all reviewers and the editorial team for considering our work suitable for publication as well as for the meaningful comments. Please find in this cover letter a point-by-point response to the concerns.

Reviewer 1 and 3: no comments

Reviewer 2:

Minor Essential Revisions

Thank you for inviting me to review this manuscript - 'Sero-prevalence of transfusion-transmissible infections and evaluation of the pre-donation screening performance at the Provincial Hospital of Tete, Mozambique'. While I found this manuscript very interesting, there are some issues of concern.

1) Page 6, line 109 – It is still difficult to understand why there is no routine screening for HCV in Mozambique. I agree that cost-effective interventions should be favored, but for a commodity like blood, it is important to make sure blood is not infected in any way before transfusion. Is there any plan underway to make HCV screening routine in Mozambique?

Screening for HCV infection was not performed in Mozambique at the time this study was conducted (now mentioned in the Background section), but is well implemented in Tete since this study (and still ongoing) and at national level since 2010, in accordance with the 2008 WHO recommendations of universal testing for the 4 major TTs. This is now also mentioned clearly in the text under Discussion.
2) Page 9, line 159 – The authors should state what is usually done when there is HIV sero-discordance with the Determine HIV ½ and the Uni-Gold ½ kits. Does it follow the same algorithm as HBV and Syphilis?

In the HIV counseling/care programs, patients found with discordant Determine and Uni-Gold are followed-up and retested one month later (according to the WHO and Mozambican algorithms). We followed therefore this algorithm and it is now stated in the text.

In case of screening test positive for HBV, confirmation testing is not available in routine in Tete. It was only performed during this study and as mentioned, results could only be known several months later (after workup in Maputo and Antwerp) and we tried to retrace patients with confirmed infection (no specific national algorithm exists).

For syphilis, confirmation test was immediately available in Tete and, if positive, patients were treated according Mozambican guidelines. This was already detailed under Methods.

3) Page 10, line 198 – The authors should state the compliance rate for treatment for donors who test positive to the TTI’s. Were there any barriers to treating these affected donors?

The study was mainly “blood bank-based” and not specifically designed to further follow-up candidate blood donors found with positive serological results. So we are not able to provide accurate data on compliance rate and on potential barriers to treatment, although this information would have been very interesting. We mention this now in the limitations of our study (under Discussion). As a whole, we have the feeling that donors found positive for any TTI came frequently for further workup and care but did not quantify this precisely unfortunately.

4) Page 25 (Questionnaire) – Some of the questions in this questionnaire are vague. For example, question 4. The authors should state how they explained what hepatitis is to the donors, because this can be difficult. Assuming the donors reported past history of jaundice, does this mean the jaundice was from hepatitis B or C?

We fully agree that most questions were very vague, reason why we felt that screening performance was weak and decided to conduct this study. Our very purpose was indeed to investigate its operational performance in real life conditions with field workers. Blood bank staff were purposely asked to follow the national screening procedure “as usual” without specific intervention from our part. Regarding the question about jaundice, it should be reminded that transfusion medicine is not aimed at establishing accurate diagnoses but at “eliminating” donors at highest risk for TTI, so we cannot answer the reviewer’s query accurately (but 3 of 4 patients with history of jaundice were found with positive HBsAg, as stated in the text).

5) Most of the other questions are vague as well – questions 9,10,11,12,13… These questions may have been difficult for the donors to understand. What efforts did the authors put in place to make sure the donors really understood the contents of this questionnaire?

As mentioned in the text, we found many questions too vague or even irrelevant for the setting, but we could not modify the national protocols. In addition these questions refer on other pathologic conditions (contra-indicating transfusion) rather than specific risk for TTI. We have
re-insisted on the purpose and importance of questionnaire screening for blood donation during training sessions, and clarifications and informal comments were offered by the researchers if requested. However, we were not allowed to locally modify the questions, which anyway should be “robust” by themselves and designed for national “large-scale” use as a selective tool. Anyway we did not develop this part that much in our manuscript since we did not perform any qualitative research to specifically investigate the anthropological issues about clarity of questions and donors’ comprehension.

Referee 1:

Abstract
It is correct

Introduction
The main problem of the blood transfusion is well described.
The screening process is correct
The objective is clear
The cited references are current and relevant

Methods
The STARD guideline is a checklist for diagnostic studies, not for cross-sectional studies. In this paper there is not a “gold standard” to compare the results. You have to use another checklist appropriate to cross-sectional studies (eg. STROBE)

Thank you for the suggestion. We verified the STROBE checklist as well and can confirm that our study complied with the specific requirements. It is now mentioned under Methods. Also, one reference has been added (highlighted) and all other references in the text and in the list adequately re-ordered (changes accepted, for clarity).

Results
Table 3 results are not relevant in this paper. I consider you should to take off it.

We agree that Table 3 does not bring so much additional information when compared to the text and have deleted it. We modified the order of the following Tables (in the text and at the end)

In tables 4 and 5, if you compare two tests, you should to show in methods how you have calculated the diagnostic value parameters, like sensibility, specificity, and predictive values (positive and negative).

For HBV and syphilis, the reference diagnostic method has been defined (quality-assured rapid test corrected by the confirmation assay). Sensitivity and specificity of the locally used rapid test were calculated with standard formulas against these reference methods, and this is now mentioned clearly in the text under Methods (for each testing).
Material has not and will not be offered elsewhere for possible publication, as long as it is under BMC Infectious Diseases consideration.

All undersigned contributing authors have participated in the study, reviewed the revised manuscript and concur with the revised submission.

Yours sincerely,

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