Reviewer's report

Title: Malaria and related outcomes in patients with intestinal helminths: A cross-sectional study

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Reviewer: Davison Sangweme

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Major Compulsory Revisions

This is a very interesting and relevant cross sectional survey/study which attempts to address a very critical question of intestinal helminth co-infection and its impact on malaria outcomes in an endemic area. The authors had quite a sizeable study population.

1. The major concern with this kind of study though is the differences in pathology due to different intestinal helminth infestation, different helminth infection levels, different malaria parasite levels in blood, and different species of malaria parasites (Plasmodium falciparum and P. vivax or combinations thereof), as well as differences in population demographics, entomological inoculation rates and local and focal distribution of worm infections.

2. A more focused study with less parametric variables will have a better chance of coming up with testable hypotheses and firmer conclusions which can be further investigated. I suggest the authors focus on P. falciparum and fewer helminths with very similar pathology instead of comparing hookworms and Schistosoma mansoni, (which induce severe anemia) to Trichuris trichura, Ascaris lumbricoides (which cause little if any anemia). Sub dividing these groups for separate analysis may yield a clearer picture of what is going on in the study population as opposed to lumping everything together.

3. Another interesting observation is that if the population has S. mansoni, did it also have S. haematobium? If so how did this affect outcomes in terms of anemia?

4. The question, however, was not well defined. Too many variables were under investigation each of which may have greatly impacted malaria outcome.

5. Population description should include the range of ages for the study population. Under Ethical Considerations Paragraph 1, Page 7, it is not clearly stated how the subjects gave their consent to participate in the study. Was it written informed consent or oral and who administered it and at what point? Furthermore, no reference was ever made to the treatment of patients for malaria and intestinal worms? Was that done? Were there any incentives for participation? Was the study population educated on the distinction between treatment and research?

6. The second paragraph on Page 9 under results needs to be clarified for
meaning. It is difficult to conceive of a reason for not showing results or data which have a significant p value < 0.001.

7. The discussion dwells a lot on pregnant women although the authors did not describe their study population as having pregnant women. All reference to pregnant women should be edited out of the manuscript if pregnant women did not form part of the study population. Paragraphs 1 and 2, Page 15 under Discussion.

8. The limitations of the study are not clearly acknowledged. Primarily, cross sectional surveys capture a snapshot in time or disease prevalence in study population at one point in time. Such a study design only enables the most tentative of conclusions to be drawn.

**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.