Reviewer’s report

Title: A Prevalence Survey of Enteral Parasites in Preschool Children in the Mangochi District of Malawi

Version: 2 Date: 11 Jul 2019

Reviewer: Claire Bourke

Reviewer's report:

Summary:

Thank you to the authors for their efforts to address my initial review; in particular, the added detail significantly clarifies some aspects of the methods and more fully discusses the study limitations. The new analyses on azithromycin allays some of my concerns about the impact of the MORDOR intervention on prevalence estimates. I still consider this study suitable for publication, but there remain a number of minor revisions that I would consider necessary for publication. I provide full details below.

I would encourage the authors to include a tracked version of the manuscript for response to reviews for ease of re-reviewing.

Minor revisions:

There are a number of grammatical and formatting errors that should be corrected, including but not limited to missing full stops and commas, incorrectly formatted species names and incorrect use of capitals/lower case.

Abstract, Line 32-33: replace 'less economically developed countries' with 'low- or middle-income countries'

Abstract, Line 35: specify what 'treatment' is meant here (presumably to clear infections?)

Abstract, Line 44: 'Hookworm species' should not be italicised

Abstract, Line 47 & Discussion, Line 276: what is your comparator to say that the prevalence was 'low'? Relative to previous estimates for the same community? Relative to national standards/international guidelines?

Introduction, Lines 74-75: This statement is not true, the GEMS study identified Rotavirus as the leading cause. Please clarify in the text.
Introduction, Line 79: please specify what protocols are being referred to and for which pathogens - the reference indicate that it is MDA for soil-transmitted helminths (not the other parasites referred to earlier in the text)

Introduction, Line 92-93: use consistent terminology for pathogens - i.e. soil-transmitted helminths, not 'soil helminths'

Introduction, Line 99: specify that it is 'gastrointestinal' helminths, since S. haematobium was not evaluated nor were sample types other than stool

Methods: Since diarrhoeal symptoms were not evaluated in the study, the giardia-infected children cannot be described as 'otherwise well' in the conclusions. It should be made clear throughout the text that the study includes both symptomatic and asymptomatic parasite carriage.

Methods, Statistical Analysis: Details of additional sensitivity analysis including azithromycin data from MORDOR should be added to the statistical analysis section rather than the Results. Why were Chi-squared tests used in some cases but ANOVA in others?

Methods, Line 105: replace '…of the stool carriage of children…' with '…of the carriage of enteropathogens in stool samples collected from children…'

Methods, Line 118-119: move the description of the MORDOR-Malawi study ("cluster-randomised placebo controlled trial exploring the effect of six-monthly administration of Azithromycin on under-five mortality, morbidity and growth.") to the first mention of the MORDOR-Malawi study in the previous section

Methods, Line 164-168 (and throughout): pay attention to correct formatting of species names

Methods, Line 185: replace 'infective carriage' with 'gastrointestinal parasite carriage' - cysts and ova are not infective to humans as implied by original phrasing

Methods, Line 198-199: Move full title of MORDOR to the first use of the acronym in the text

Figure 1: It looks as though some participant/study team/village leader names have been included on this map, which compromises their anonymity - please remove and use alternative anonymous approach to name villages.

Figure 1: There is overlap between the labels on the map, which should be adjusted to improve legibility.
Table 1: It is unclear what the number ranges refer to in the first part of the table (age range?); please define.

Table 3: the focus on age of this analysis should be indicated in the table title - e.g. 'Prevalence and Odds ratio of infection with parasite, helminth or protozoa by age'

Results, Line 248: This statement requires clarification since the preceding paragraph and Table indicate an association between age and gastrointestinal parasite carriage; please add explicit details of the analysis that this refers to.

Results, Line 252-256: This detail is already provided in the Methods section, please remove

Table 4: please provide details of the statistical analysis with p-values for these OR, as seen for the parasites

Results, Line 267-273: please provide full details of these analyses in a table/s; although the sample size is small. It would be preferable (though not essential) for these analyses to be ANOVA with adjustment for relevant factors (azithromycin, village, age etc.) rather than an unadjusted Chi-squared, particularly age, since this influences gastrointestinal pathogen prevalence.

Discussion, Line 276, Line 281, Line 310: please specify that you are referring to pre-school children

Discussion, Line 276-278: the hierarchy described here is artificial as stool testing for hookworm vs giardia have markedly different sensitivities and both species have known health impacts on infected children (e.g. whilst fewer children tested positive for hookworm than giardia, but this does not mean that the health impact for the affected child is insignificant and hookworm assays are notorious for lacking sensitivity). I would suggest removing the following text: "the impact of this helminth on health is likely to be low in this preschool population. Of more interest is infection with" and "It is particularly pertinent as other studies have shown chronic infection is associated with poor nutritional status in long-term follow-up. (17-20)."

Discussion, Line 331-332: please specify which species/type of parasite is being referred to

Discussion, Line 359-360: This statement does not add to the discussion and should be removed; the prevalence of Giardia has already been reported and 'significant' is a statistical term that is not appropriate here.
Conclusions: Avoid using 'significant' to describe a prevalence; replace with 'quantified the'

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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