Author’s response to reviews

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

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Author’s response to reviews:

Dear Dr Nausch and Dr Bourke

Please find attached the response to the reviewers’ comments on our manuscript.

We would like to thank them for their input, and we hope that the responses to each of the points and changes made the manuscript are sufficient. Please do not hesitate to contact us, if any further clarification is required or expansion is necessary.

Response to Reviewer

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.

Grammatical errors have been changed where found.

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

This has been changed accordingly
Abstract, Line 35: specify what 'treatment' is meant here (presumably to clear infections?)
This has been changed accordingly

Abstract, Line 44: 'Hookworm species' should not be italicised
This has been changed accordingly

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?
The statements were in relation to international guidelines. This has been changed accordingly with a reference added for clarity.

Introduction, Lines 74-75: This statement is not true, the GEMS study identified Rotavirus as the leading cause. Please clarify in the text.
Changes have been made to clarify this point.

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)
Changes have been made to clarify this point

Introduction, Line 92-93: use consistent terminology for pathogens - i.e. soil-transmitted helminths, not 'soil helminths'
These changes have been made accordingly

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

These changes have been made accordingly

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?

These changes have been made accordingly. Chi-squared was used to compare proportion of children with enteropathogen carriage, while ANOVA was used to compare the means of the markers of growth directly. ANOVA was used to improve sensitivity of analysis; to avoid missing a significant difference between groups which might have been missed if the data had been transformed.

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

This has been changed accordingly

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

This has been changed accordingly

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

These changes have been made accordingly

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

This has been changed accordingly
Methods, Line 198-199: Move full title of MORDOR to the first use of the acronym in the text
This has been changed accordingly

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.
This has been changed accordingly

Figure 1: There is overlap between the labels on the map, which should be adjusted to improve legibility.
This has been changed accordingly

Table 1: It is unclear what the number ranges refer to in the first part of the table (age range?); please define.
This has been changed accordingly

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'
This has been changed accordingly

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.
We have removed this line as it was meant to clarify that no other associations were found with other species. We have edited the preceding line to make this point instead.

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

Table 4: please provide details of the statistical analysis with p-values for these OR, as seen for the parasites
The p values have been added to table 4.

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.
A table with the calculated unadjusted odds ratios and Chi squared p-values is now included (See table 5).

Discussion, Line 276, Line 281, Line 310: please specify that you are referring to pre-school children
This has been changed accordingly

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)."
This has been changed accordingly

Discussion, Line 331-332: please specify which species/type of parasite is being referred to
This refers to all enteroparasite generally and has been clarified accordingly.
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.

This has been removed accordingly.

Conclusions: Avoid using 'significant' to describe a prevalence; replace with 'quantified the'

This has been removed accordingly.

We look forward to hearing from you.

Yours Sincerely