Reviewer's report

Title: Intestinal Parasitic Infections In Children Aged Five Years And Below In An Urban Informal Settlement Of Nairobi, Kenya

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Reviewer: Vikram Mehraj

Reviewer's report:

- Minor issues not for publication:
  There are punctuation errors throughout the manuscript and need to be corrected.
  The authors should be consistent with use of the following terms in the manuscript:
  “intestinal parasitic infection” or “intestinal parasite infection”
  “urban informal settlement” or “urban slum”
  “Polyparasitism” or “multiple parasitic infection” or “co-infection” or “mixed parasitic infection” or “mixed intestinal infection”.

ABSTRACT:
Results: Correct “intestinal parasites infection was” to “The Prevalence of intestinal parasitic infections was….”

INTRODUCTION
First paragraph: correct “impair cognitive functions” to “impaired cognitive functions”
Third paragraph: Correct typographical error ‘18)

MATERIALS AND METHODS
Data processing and analysis:
Remove the duplicate "for analysis" at the end of second sentence.

Results
Last line: Remove “up to”.

b) Cryptosporidium spp.
Second line: remove ‘more than’

c) Giardia lamblia
First line: modify: “had 3 times” to “had approximately 3 times”.

- Discretionary Revisions:

It will be interesting to include a descriptive + comparative table on the presenting symptoms and signs of patients.

ABSTRACT:

Methodology:
First line: Remove ‘prospective’.
In the last line, mention direct test also.
Results: The first line should mention the overall prevalence of intestinal parasitic infection in the study population followed by the comparative analysis.
For comparison of prevalence among two or more groups, it is better to use the p values of multivariate analysis than the p values of univariate analysis. This also applies to the discussion section.

RESULTS
In table 1 under the parasite infection, add information on ‘any’ and ‘none’.

- Minor Essential Revisions:

Title misrepresents the study, which is a comparison of two groups (in patients and outpatients). Since this study is not based on a representative sample randomly taken from the population of the specified slum; therefore, the title should be modified accordingly.
The odds ratio should be interpreted uniformly throughout the manuscript as there are inconsistencies.

INTRODUCTION
Third paragraph:
To make the point clear, please rephrase the sentences "In spite of this………………………………………………………………… and other antiseptics".
Last paragraph: Reference is missing for the 'little published data'. Either the authors should give the reference(s) to the study/studies or write 'To our knowledge there is no information available.....'
Last sentence, the study objective should be modified in line with the comments above.

MATERIALS AND METHODS
Study site and patients:
Since all the children presented with diarrhea, were they not looked for bacterial or viral infections, need to be mentioned somewhere?
Did the patients recruited from the hospital belong to the same slum area?
The authors say that the patients were recruited from the selected outpatient clinics located in Mukuru slums. How this sample was representative of that slum? It would be informative if they could give a total number of outpatient clinics and then why they selected three among those (randomly?).

The children admitted to the hospital must have some serious issues requiring hospitalization? Why were they compared with the patients coming to the outpatient clinics? This needs to be discussed.

What are the inclusion and exclusion criteria (if any)?

Data processing and analysis:
Rephrase the sentences for clarity:
"Frequencies, proportions………………………… correlates of parasitic infection."

RESULTS
Second paragraph: Check the numbers in the statement and rectify if incorrect:
“The prevalence of intestinal parasites was 613/1577(38.9%), among children from outpatient clinics and 113/535(21.1%) among those admitted in hospital”.

Rectify the errors in numbers and corresponding percentages: “Other parasites isolated include I.belli ,35 (5.7%), A.lumbricoides, 26 (4.24%), H.nana 12(1.96%)”.

Among inpatients, I. belli is also isolated but not mentioned? and it should be.

In the last paragraph regarding the mixed parasitic infections, either the information be put in the table 1 or it must be mentioned as “Data not shown”.

Associations of patient characteristics and infection with 3 common parasites
a) Entamoeba histolytica
Remove the repetition: “Children within 37-48 months age group were four times likely to get the infection than those below 12 months old (OR, 4.02,CI, 2.57-6.29, p<0.001)”
Rephrase the second last line: “The odds for E. histolytica……………….”.
Last line: Put the p-value of multivariate model instead of univariate analysis.

b) Cryptosporidium spp.
Second sentence: correct/rephrase “the highest risk” to interpret the odds ratio.
For patients aged 37-48 years, the odds ratio is inverted, therefore should be interpreted separately and may be discussed in the discussion.

Immunosuppression and infection with parasites
This section is a repetition of the information given already; therefore, needs to be deleted.
Discussion

Second paragraph: IPIs should be unabbreviated. Adjusted odds ratios should be given instead of crude ones.

Third paragraph: “It is likely that most of the children admitted in hospital may have been treated elsewhere in outpatient clinics in the community before being admitted in hospital”.

Was information on past medical history not obtained for these patients? If not then this should be discussed as a limitation.

Fourth paragraph: “Similar findings have been reported in Uganda with prevalence of 73.6% and 5.9%, in HIV positive and HIV negative children respectively [47]”.

The percentages and the difference in percentages are not similar to the current study and should be properly discussed.

“Cryptosporidiosis was highest among children 13–24 months of age”. Add the comparison group.

Fifth paragraph:
Second line: Correct the “whose prevalence among inpatients” to “whose prevalence among outpatients”

Rephrase the last few sentences to make the point clear.

Sixth paragraph:
“G. lamblia was common among both outpatients and inpatients (5.8% and 1.3%) respectively”.

No, As per table 2c, Giardiasis was significantly lower in inpatients.

Last paragraph
“In conclusion………”

If the sample is not representative then the results can not be generalized. This needs rephrasing accordingly.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.