Reviewer's report

Title: Assessment of the prevalence of intestinal parasitosis and the associated risk factors among primary school children in Chencha town, Southern Ethiopia.

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Reviewer: Gordon Nichols

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Assessment of the prevalence of intestinal parasitosis and the associated risk factors among primary school children in Chencha town, Southern Ethiopia.

This is a study of the faecal parasite burden of children in a school in Ethiopia. Although such studies are relatively common in the literature, there is some merit in publishing details of the risk factors, even if the overall messages offer little that is new to science, because this might encourage control measures in Ethiopia and improve people’s lives.

The title and abstract are OK to read, but the results section of the abstract is incorrect (see below). This is because toilet ownership and using soap were not statistically significant as risk factors.

Background: the references are mostly rather old and there are some assertions that are missing references (page 3 para 1 sentence 1; Para 2 sentence 1).

Methods: The parasitological methods do not include Cryptosporidium and as a result no cases were identified. The recent large study of diarrhoeal disease burden conducted over many countries emphasises the importance of Cryptosporidium in children in developing countries [1]. The study research team is presumably unable to go back to the samples in this study and test. However, it is important to mention this in the limitations of the study in the discussion. The study did not differentiate the pathogenic E. histolytica from the enteric commensal E. dispar. This also needs to be included as a limitation. Otherwise the methods seem robust although the statistical analysis could be described a bit more clearly.

The potential risk factors are a bit limited. Factors that might also contribute to parasite infection are water storage in the house, involvement of children in food preparation, secure food storage, use of human faecal waste in agriculture.

Ethical considerations: The paragraph here seems to imply that the review of ethics was done after the study was completed. I think this may be the way the paragraph is structured, rather than any ethical problem, but the wording may need to be changed.

Results: The description of the results needs to be either significant or not significant (see http://mchankins.wordpress.com/2013/04/21/still-not-significant-2/). In Table 4 the significant odds ratios are wrong. Where the 95% confidence intervals extend from below one to above one the odds ratio cannot be regarded as significant,
even if the p value is below 0.05. Thus under Education in Table 4 “Unable to read and write” 104/122; OR 2.98 (CI 1.36-6.53) and “only read and write” 70/79; OR 4.01 (CI 1.6-10.07) are significant, whereas “Primary to secondary” 119/152; OR 1.86 (CI 0.91-3.89) is not significant. The same applies for the rest of table 4 and the implications need to follow in the result descriptions and discussion.

Separating water supply into pipe water and non-pipe water shows piped supplies are significantly protective 234/302 (77.5%) vrs 90/98 (91%) OR 0.34 (CI 0.13-0.74) using Chi2 test.

Thus the important risk factors are education, washing at home, cleanliness in the home, the type of latrine and having piped water. The high prevalence of parasitic infections in these populations of children suggests that the protozoa and helminths concerned are very common in the environment of these villages and the results of the risk factor analysis suggests that transmission is from several routes. This emphasises the desirability of multiple interventions to reduce the disease burden.

This paper needs to be re-written with the statistics presented correctly. The discussion is similarly in need of revision to reflect the wrong interpretation of the statistical tests. I would suggest that the authors get help from a qualified statistician for interpretation and presentation of the results.


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 have no scientific or financial competing interests in relation to this paper.