Reviewer's report

Title: Could giardiasis be a risk factor for low zinc status in schoolchildren from northwestern Mexico? A cross-sectional study with longitudinal follow-up

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Reviewer: Paul Kelly

Reviewer's report:

This is an interesting manuscript which seeks to clarify the relationship of giardiasis to a specific micronutrient deficiency, that of zinc. However, I think the manuscript suffers from several significant shortcomings and some major revisions are necessary. These are:

Major Compulsory Revisions

1 There is a problem with the analysis. The paper hangs on two analyses. First, the association of zinc and giardia at baseline. Second, and much more important, the changes in zinc following treatment. It is the second analysis with which I have a problem. The statistical test which has been carried out is an unpaired t test which is inappropriate. From Fig 2 I can see that 56 data are included from before treatment and 49 after. The only data which are admissible here are samples from children who gave blood both before and after treatment, and a paired test should be used. The paired data from the uninfected children should also be presented as these are in effect a control group to ensure that the difference seen is not attributable to some other secular trend.

2 It is misleading to say that 14.7 mmol/l is higher than 13.8 mmol/l (P=0.70). These are not statistically different and no inference should be drawn from them.

3 The Results section of the Abstract is confusing. It is not clear what 13.9 and 19 refer to. It does not set out clearly the results and omits completely the most interesting result of all as set out above.

Minor Essential Revisions

4 What was the "anthropological software" used? It is not stated.

5 The legend to Fig 2 is the same as Fig 1 and is incorrect.

6 The Fig in the supplementary file is the same as Table 1. Was there supposed to be something else?

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

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

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