Reviewer’s report

Title: Prevalence of active trachoma and associated risk factors among children of the pastoralist population in Madda Walabu rural district, Southeast Ethiopia: A community-based cross-sectional study

Version: 0 Date: 06 Sep 2018

Reviewer: Anthony Solomon

Reviewer's report:

Prevalence of active trachoma and associated risk factors among children of the pastoralist population in Madda Walabu rural district, Southeast Ethiopia: A community-based cross-sectional study

Trachoma surveys are difficult, and the authors are to be congratulated for their work. I think some adjustment to the description of the planning, fieldwork and analysis would help the reader. To localize the following comments within the document, I have used the numbers in the left-hand margin that line-up against the actual lines of text - the numbers further to the right, not the ones further to the left that appear to have been added by the submission system.

p3, line 3: cataract, not trachoma, is the leading cause of preventable blindness. Cataract itself is not necessarily preventable, but can be operated on before VA falls to <3/60

p.3, line 9: if systematic sampling was used, it was not random sampling. Please delete the word "random". (The same comment applies to p.7, line 19; and p.7, line 23.)

p.3, line 14: please provide the number of children with each sign, as well as the percentage. I would advise using whole numbers for percentages (i.e., no decimal places).

p.3, line 16-18: the meanings of "source of water" and "time to fetch water" here are not clear. By "associated with active trachoma", do the authors mean "associated with TF"? Presumably, since binary logistic regression was used, particular categories of responses within each of the potential explanatory variables were associated with active trachoma, which should be specified so that the abstract makes sense by itself. Since the methods does not talk about observation, presumably "use of soap during face-washing" refers to self-report (or parent report) of usual use of soap (or use of soap when face last washed) - these points should be clarified. (Was binary logistic regression used, or multinomial logistic regression? This should also be made clear in the methods section of the main document.)
p.3, line 19: please delete the word "determinant". "Associated" is fine. In a cross-sectional study like this, causality is uncertain, and confounding can't be excluded.

p.4, lines 1-2: antibiotics are also indicated in this population, in line with the WHO-endorsed SAFE strategy.

p.5, line 2: "Trachoma is a bacterial infection caused by Chlamydia trachomatis." This is incorrect. Trachoma is a disease caused by infection with C. trachomatis. Apologies for being pedantic: it's a subtle but important distinction.

p.5, line 4-5: "and can be identified by sticky red eyes; this stage is known as active trachoma, or Trachomatous Inflammation-Follicular (TF).". Two points here. First, active trachoma is not always accompanied by a sticky discharge or eyes that look red. Second, the sentence implies that active trachoma and TF are synonymous, but they are not - active trachoma has other manifestations besides a follicular conjunctivitis.

p.5, line 6: please delete the word "easily".


p.5, line 17: F is not to stop transmission, but to limit it.

p.5, line 20: please change "the leading" to "a leading" (same rationale as outlined for the abstract).

p.6, lines 1-12: the prevalence estimates quoted here are hard to compare because some are for "active trachoma", some are for TI and some are for TF. Suggest use the TF prevalence in 1-9-year-olds throughout, since this is the metric used by WHO.

p.7, line 6: please note here that Bale Zone is in Oromia. There is so much data on trachoma in Ethiopia now, it's important to give readers reference points.

p.7, sample size and sampling procedure: the authors have not specified a design effect. This should be done. The sampling system (in which 6 of 22 sub-districts were chosen as the first sampling stage) is likely to have produced a very high DE: I would not have recommended this. The authors should explain how systematic sampling was done for households within an entire kebele, which is a relatively large population unit in which it would be logistically difficult to amass a complete household line listing, and logically difficult to then see the households that had been chosen. I would personally find it very helpful for the authors to describe how the pastoralist communities were identified, listed and located, since this is a problem that has troubled many trachoma epidemiologists over the last few years.

p.8, data collection: there's now a fairly well-established process for training and certifying trachoma graders, using the GTMP/Tropical Data system. Is this what was done to train the graders used here?

p.8, lines 17-20: Many of the parameters here have more than two categories (e.g., age, frequency of face washing, educational and occupational status of household head, source of water...). How did the authors reduce this to binary classification for binary logistic regression?

p.9, line 1: since TF was used as the outcome variable for "active trachoma", suggest say this on p.8, line 17, instead of saying there that "active trachoma" was the outcome variable then defining active trachoma as TF a few lines later.

Results: for percentages, suggest just use whole numbers throughout. Even though you may often be able to mathematically justify the use of more significant digits, I think the point of percentages is to enable the reader to "feel" the proportion. This is just an opinion.

p.10, line 12: if flies on faces were observed as part of the survey, this should be mentioned in the methods section, please.
p.10, line 16: the abbreviations TF and TI have already been defined. (For what it's worth, TF is "trachomatous inflammation—follicular" and TI is "trachomatous inflammation—intense", without any of the words needing the first letter to be upper case.

p.11, discussion: I am not sure how helpful it is to compare the prevalence recorded in this population to prevalence estimates from other contexts. I was, however, surprised not to see the prevalence here compared to the baseline prevalence in the same location described in a previous publication. (Madda Walabu was surveyed for baseline trachoma prevalence in as part of an evaluation unit that also included Berbere, Dolo Mena, Gura Damole and Harena Buluk. The reference is Bero B, et al. Prevalence of and Risk Factors for Trachoma in Oromia Regional State of Ethiopia: Results of 79 Population-Based Prevalence Surveys Conducted with the Global Trachoma Mapping Project. Ophthalmic Epidemiol. 2016;23:392-405. doi: 10.1080/09286586.2016.1243717 - this is cited by the authors as reference 7, but should be looked at more closely for the relevant data. If that previous survey did not actually include the pastoralist community, that should be specifically noted by the authors here.) It would also be helpful to have the interventions done in the woreda since baseline, if any, described in the current manuscript (including whether any of those interventions reached the pastoralists that are the focus of this paper.


Anthony Solomon

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

Unable to assess

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.

No

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

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?
If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal