Reviewer's report

Title: Caretakers’ Understanding of Malaria, Use of Insecticide Treated Net and Care Seeking-Behavior for Febrile Illness of their Children in Ethiopia

Version: 1 Date: 13 Jul 2017

Reviewer: Justin Pulford

Reviewer's report:

This manuscript has potential and, with further work, could be suitable for publication in an international scientific journal. However, I do not believe it is suitable for publication in BMC Infectious Diseases in its current form. My major concern with this manuscript is that the data presented are narrow in scope (primarily pertaining to knowledge) and, therefore, are likely to be of interest to only a very limited audience. While understanding caretaker's malaria 'knowledge' has some value, the appeal of the study would have been substantially increased if the authors had also included some 'practice' measures in the survey as well. For example, questions exploring caretakers (and/or their child's) use of insecticide treated mosquito nets and their treatment seeking behaviour in response to febrile illness would have allowed a more meaningful analysis of the association (if any) between malaria knowledge and practice. If the authors did include practice-related questions in the survey, then I would strongly recommend revising the manuscript as a new submission (with practice data included). If practice data are not available, then I believe the current manuscript should be substantially reduced in length and resubmitted as a form of brief report. My other major concern with this manuscript is the standard of written English is far below what I would consider acceptable for an international, English language journal. Substantially shortening the manuscript may help in this regard as well.

The authors may wish to consider the following recommendations in any subsequent revision:

Title:

The manuscript title is too lengthy and poorly worded. A briefer, 'catchier' title is required

Background:

Given the narrow focus of the manuscript, and relatively basis level of data analysis, I would limit the background section to 2-3 paragraphs maximum.

I would also rephrase 'understanding on malaria' to 'understanding of malaria' throughout.
Method:

The study was largely, but not exclusively, based in sentinel surveillance sites (so the title is incorrect). Is it possible that, as a result of sentinel surveillance activities, the study population may have greater knowledge of malaria relative to other populations in the area? Might need to comment on in limitations.

As the manuscript presents data from only four questions, it might be possible to include the questions in the method section? This would help with interpretation.

The description of the knowledge composite score is not that clear. Was the maximum score 4 (=100%)?

Results:

I’m not convinced there is much value in presenting data disaggregated by sentinel surveillance site. I would either just present overall data or disaggregate according to the three altitude measures (low-, mid- and high).

‘Chilling’ should be revised to ‘chills’ throughout.

Signs and symptoms - perhaps report the % of participants that correctly identified the three most common symptoms (chills, fever, headache).

Section on cause of malaria is quite limited. Did any participant specifically state ‘night biting mosquito’ ‘female, night biting mosquito’ which would be most accurate.

Tables:

Table 1: the 'caretakers occupation' heading needs to be aligned with 'farmer'

Table 2: swelling of spleen noted twice underneath Table

Table 3: Change title - self-reported methods of malaria prevention
Table 3: many of the 'other' responses pertain to food types. These could perhaps be included in a single 'diet' related category.

Table 4: presentation of 95% CI figures is unusual (prefer this format = (4.32, 17.31)

Figures:

Figure 1. This map needs to be positioned within a country map of Ethiopia (i.e. it is currently not clear in which part of Ethiopia this study took place).

Figures 2, 5 & 6. Line graphs are not appropriate for these data; rather, some form of bar graph is required.

Figures 2, 4, 5, 6 & 7. I am not convinced that there is much value in depicting the data by study site. I would suggest the authors present the data by 3 altitude related categories (low-, mid- and high).

Figure 4. The data in Figure 4 are also presented in Figure 5 (i.e. duplication). I would suggest either deleting Figure 4 or removing the 'mosquito bite' data from Figure 5.

Figure legends should only include the title of the figure. Text describing the study findings should be included in the results section (i.e. removed from the legend and incorporated into the manuscript text).

Discussion:

Again, far too lengthy for a manuscript of this type. I would aim to at least halve in length and greater attention to the study limitations is needed, including: 1) lack of practice data - so cannot state whether knowledge in anyway associated with malaria prevention practice or treatment seeking behaviour; 2) use of sentinel surveillance sites as sample frame which may not be representative of knowledge elsewhere; 3) caretakers knowledge may not be influential in terms of malaria prevention practice at household level (e.g. who in the household determines whether to purchase and use a mosquito net, seek help when sick etc).
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

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