Author’s response to reviews

Title: Determinants of healthcare seeking for childhood illnesses among caregivers of under-five children in urban slums in Malawi: a population-based cross-sectional study

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Author’s response to reviews:

Dear Sir / Madam

REVIEWER REPORTS:

Helena Hildenwall (Reviewer 1): Thanks for attempting to clarify this issue. I continue to think that there are several methodological flaws to this work:

1. The symptoms asked for could also be part of an uncomplicated and self-resolving illness. Your finding that caretakers with a good understanding of danger signs seek care less promptly may be a verification of that the symptoms of studied children in many cases were benign.

Response: We appreciate this line of argument and accept that it is probable in some cases that some self-resolving illness could have been included. However, we think that there are some contextual factors that still render this approach valid in many ways. Firstly, the country has been registering high childhood mortality with suboptimal and late care seeking from a biomedical provider being one of the key attributable factors. In this context, one can argue that it is safer for caregivers to rush to seek healthcare from a biomedical provider who has the technical know-how to ascertain the gravity of the illness and provide appropriate care including simple health education on self-resolving illnesses.

Secondly, we feel that the section we added during initial revisions on symptom definition focusing on:
cough with fast breathing; fever; and diarrhea, reflecting commonest causes of child mortality, for which policy in the Malawi context demands for prompt health care seeking warranted consideration for care seeking itself. We hope that provides some clarity for readers that gravity of each of these symptoms necessitated seeking healthcare.

Thirdly, the high illiteracy levels in the study area, including low knowledge of childhood danger signs (only 26% of the total sample had knowledge of danger signs – a sentence has since been added to put this in perspective, lines 366-367) is conversely the reason prompt healthcare seeking for the selected illnesses is presumed and safe.

2. Recall period of as much as three months is a threat to data accuracy of symptoms (can caretakers really be expected to accurately recall the number of stools a child had during the past three months?). Response: We agree that a long recall period is a limitation especially with regard to data accuracy. We have duly reflected this as a limitation of the study and added some brief description as reflected on lines 513-517. We have further indicated the fact that we used health passports (booklets) to verify health care seeking information thereby reduce recall and reporting bias. The subjective illness history is usually documented in the child health passport including symptom description, duration and frequency, hence we had opportunity to verify these, albeit acknowledging that this opportunity was only possible for caregivers who sought healthcare for their ill child

3. An additional limitation is that it seems only household with an alive child were selected causing an important bias in results since households with higher probability of inaccurate care seeking have been excluded. The latter may have provided some information on risk factors in care seeking. Response: We agree that a household that may have experienced child death could have provided insightful information on risk factors for care seeking. However, we do not think that excluding these was a bias for our study due to the following reasons. As described under the section on study design (See lines 120-121), this was part of a prospective cohort study with the intention of following children for at least one year. Including information on children that may have died was not going to serve this purpose (prospective follow up) hence was not within the scope of our study. Furthermore, our prospective cohort still offered an opportunity to explore care seeking factors surrounding an event of child death if it were to occur among our cohort. We believe that social autopsy studies that explore factors surrounding child deaths including any health care seeking related factors provide this information more accurately than our baseline design. In essence as part of the longitudinal study design, we had intended to use this social autopsy approach in the event of child death. Given that these findings focus on the baseline component of the larger study, we could not discuss methodological considerations of a longitudinal study.

4. as previously raised - and now also highlighted by you - the definition of "timely care-seeking" is vague. The combination of one weak type of data (symptoms recalled by guardians up to three months after an illness episode) with another weak type of data - (care-seeking time definition) - in a population where households who (most likely) are at highest risk, makes me question the scientific value of the manuscript which was also my reasons for suggesting to reject this paper. Response: We respect this viewpoint. However, we believe we have discussed both the limitations of recall bias and the complexity of ascertaining timely care seeking in our context. In our extensive review of literature on similar studies, we noted this as a methodological challenge and were able to use the literature backing, available at the time. Specifically, we cited a similar study that used this timeline based on an African Union declaration on prompt care seeking for malaria control as part of the Roll
Back Malaria initiative. We believe that we have attempted to provide both a rationale for use of our definition for ‘timely care seeking’ and the complexity of eliciting this generally and in the context of our largely illiterate population where hour/minutes estimation of time is incomprehensible, instead time estimation is ‘calculated by which part of the day – morning, afternoon, position of the sun etc.

We have, however, undertaken some revisions on the relevant paragraph in the discussion (see lines 406 – 413) which complement section on variable definition (see lines 211-221)

However, I acknowledge the fact that prompt care-seeking is encouraged for the studied symptoms and I think you also highlight the issues with recall bias and uncertainties of timing in your limitations. I further understand the editors must have approved of the weaknesses described above since already mentioned in my first review and methods and definitions have not (and could not, I guess) changed since first version. Given that, I think the manuscript can be approved for publication in this journal.

Response: Thank you and this is noted. We believe that additional explanations and information to the manuscript as alluded to herein also render support to this conclusion

Required changes would be to please add a sentence around the selection of households (if those who experienced a recent death were excluded) in methodological considerations
Response: Whilst a response on our justification for not including recent deaths has been provided earlier, we have undertaken to include this under participant selection, hence added lines 151-154

And also pls note that the sample size is still incorrectly explained - if calculated for the outcome "care-seeking" the given sample must only contain children who have had one of the symptoms asked for. It is not clear from your calculation what proportion of children you expected to have had any of these symptoms.
Response: Given that our study focused on healthcare seeking we felt it was appropriate to use probable rate of care seeking as opposed to burden of (rate of children with…) any symptom of interest. We acknowledge that the explanation may have benefited from additional sentences and we have thus undertaken to expound on this by adding our assumption on expected rate of care seeking with a literature base. See lines 159-167

Since you factored in an additional 40% to your sample due to mobility (?), the sample size is big enough for your first objective but I suggest to add a sentence for clarification.
Response: We appreciate the acknowledgement that the sample size is big enough and indeed as per our response to the preceding, we believe our additional sentences provide clarity as recommended

Reviewer 2 (Reviewer 3): PEER REVIEWER ASSESSMENTS:
Overall response: All subsequent comments from Reviewer 2 acknowledge that revisions made have improved the quality of respective sections of the manuscript. There were no further changes proposed. We appreciate the comments provided. We therefore chose not to respond to each comment individually.
OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)
Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?
Yes - the approach is appropriate
EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?
Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?
Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?
Yes - current version is technically sound

PEER REVIEWER COMMENTS:
GENERAL COMMENTS: The revised manuscript has, in my view, responded appropriately to the previous reviews. I agree with the previous reviews, and the authors should be commended for meticulously responding, and doing so to improve the quality of the paper.
Response: We appreciate the comments and acknowledgement of the revisions undertaken

We hope the current version will be deemed suitable for publication. We await your feedback. Thanks in advance