Author's response to reviews

Title: Burden of Leprosy in Malawi: Population-based Cross-sectional Study

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Author's response to reviews: see over
8 June, 2012

The Executive Editor
BMC- series Journals
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Dear Sir/Madam,

COVERING LETTER: RE-SUBMISSION OF MS: 1214962263682887

Burden of Leprosy in Malawi: Population-based Cross-sectional Study

On 21 May 2012, we were delighted to receive encouraging and constructive comments from you and the reviewers. We have worked on/ incorporated the comments and revised the manuscript accordingly.

The following files have been uploaded:

- Cover letter
- Point-by-point response to comments
- The revised manuscript
- The revised manuscript with track changes for easy referencing

Yours faithfully

Dr Kelias Msyamboza

(Corresponding author)
Point-by-Point Responses to the Reviewer’s comments

Reviewer's report

Title: Burden, Trend and Challenges of Leprosy and other Skin Diseases in Malawi: Population-based Cross-sectional Study

Version: 2 Date: 2 May 2012

Reviewer: Maria Lucia Penna

Reviewer's report:

Comment
The paper is very important because it documents the serious epidemiological situation of leprosy in some areas of Malawi.

Response
Thank you.

Minor essential revisions

Comment
1. The title is too broad in scope. It could be limited to “Leprosy burden in Malawi” because prevalence data are the main data of the study and no trend analysis was made.

Response
Thank you for your suggestion. The title has been revised to “Burden of Leprosy in Malawi: Population-based Cross-sectional Study”. However as regards to the comment “no trend analysis was made” may not be entirely true. Under Results on page 7, there is a section sub-titled ‘Trends of leprosy indicators at national level and in selected districts: 2006-2011’ and figure 1 and figure 2; data on trends are provided.

Some of the key messages revealed from this trends analysis and highlighted in the discussion include:

- Proportion of MB cases at national and district level were persistently high (national over 70%, figure 2) from 2006-2010 suggesting a chronic problem of severe under-reporting as suggested by Kumar A and Girdhar BK 2006 (ref number 18 in the revised manuscript).
• Prevalence/detection ratios were over 1 for all the years between 2006 and 2011, indicating poor case-holding of leprosy patients, poor recording and updating of leprosy registers at district level.

Comment
2. The sampling was in two stages. In the first the areas were selected proportional to size and at the second step people mobilized at one place were selected. This is not a traditional sampling method because it depends on compliance with the mobilization that is not the same for the whole population. Possible bias should be discussed.

Response
Thank you for your comment. It is indeed true that mobilising people at once place could be the source of bias. On page 9 of the revised manuscript, a section on limitations of the study has been added highlighting this short fall. The following is what has been incorporated:

“The second step of the sampling process where people were mobilised at one place in the community could be the source of bias because it depended on the compliance. People who thought had leprosy might have selectively came forward thereby leading to over-estimation or might have stayed away for fear of being stigmatised thereby leading to under-estimation of leprosy prevalence. Chiefs and community health workers were involved in the mobilisation and promotion of community awareness for sustainability of leprosy elimination efforts. While recognizing the shortfall of mobilising people to one place rather than random selection of households and eligible participants, the method was more appropriate for promotion of community awareness, involvement and openness on leprosy. More people (more than twice the sample size) participated making it more representative of the study population”.

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

Response
Thank you

Quality of written English: Acceptable

Response
Thank you

Statistical review: Yes, and I have assessed the statistics in my report.
Response
Thank you.

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

Response
Thank you.

Reviewer's report
Title: Burden, Trend and Challenges of Leprosy and other Skin Diseases in Malawi: Population-based Cross-sectional Study

Version: 2 Date: 7 May 2012
Reviewer: ANIL KUMAR

Reviewer's report:
Paper has a good subject for examination, highlighting severe under reporting of leprosy in Malawi national data (0.5 vs. 104) and thus may be accepted for publication after the following comments included in revised MS.

Response
Thank you.

Major Comments:
1. It would be better if leprosy data only presented in this paper—not mixing with other skin ailments and accordingly title modified.

Response
Thank you for your suggestion. The title has been revised to “Burden of Leprosy in Malawi: Population-based Cross-sectional Study”. However, because of integration of leprosy programme into general health services (GHS) as leprosy and skin conditions, we thought it wise to include some data on other skin conditions. In addition, recent published data on other skin condition from sub-Saharan countries in general, Malawi in particular is scarce and therefore this could be an opportunity to fill this knowledge gap and the same time highlighting the integration
of leprosy into GHS. With your permission therefore we would like to maintain the data on other skin conditions with the emphasis on leprosy.

2. There appears a choice selection used in the recruitment process since people who pre-educated on the subjects came for physical examination and this group cannot be representative of population. Therefore, prevalence will get over estimated.

**Response**
Thank you for your comment. It is indeed true that mobilising people at once place could be the source of bias. On page 9 of the revised manuscript, a section of limitations of the study has been added highlighting this short fall. The following is what has been incorporated:

“The second step of the sampling process where people were mobilised at one place in the community could be the source of bias because it depended on the compliance. People who thought had leprosy might have selectively came forward thereby leading to over-estimation or might have stayed away for fear of being stigmatised thereby leading to under-estimation of leprosy prevalence. Chiefs and community health workers were involved in the mobilisation and promotion of community awareness for sustainability of leprosy elimination efforts. While recognizing the shortfall of mobilising people to one place rather than random selection of households and eligible participants, the method was more appropriate for promotion of community awareness, involvement and openness on leprosy. More people (more than twice the sample size) participated making it more representative of the study population”.

3. Can authors show that examined population is representative sample? If yes, then only one can assess levels /burden of leprosy prevalence. This is very important to show.

**Response**
Thank you once again for this comment. We have shown this limitation of the study as stated above under comment number 2.

4. There is a paper (Kumar A, Girdhar BK. Is increasing MB ratio a positive indicator of declining leprosy? J Commun Dis 2006; 38(1):24-31) showing that high MB ratio in leprosy data is not a sign of positive impact but of severe under reporting (upto 75%) in passive data. In Malawi, it could be even more since MB rate is higher than in India about 50%.

**Response**
Thank you for your input. We have incorporated this comment of high MB ratio is not a positive sign for programme performance but of severe under reporting. This has been incorporated under Discussion on page 8, second paragraph, at the end.
The addition reads: “High leprosy MB ratio in the passive health facility-based data has been shown that it is not a sign of positive impact as previously thought but of severe under reporting to the extent of 73% when MB ratio reaches 47.5%. In Malawi, it could be even more since the proportion of MB cases in passive data was 88%, higher than in India which was at about 50%”. Its reference has also been added to the reference list (ref number 18).

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

**Response**
Thank you.

**Quality of written English:** Acceptable
**Response**
Thank you.

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Response**
Thank you.

**Declaration of competing interests:**
No competing interest

**Response**
Thank you.