Reviewer's report

Title: Assessment of water, sanitation, and hygiene practice and associated factors in a Buruli ulcer-endemic district in Benin (West Africa)

Version: 1 Date: 19 March 2015

Reviewer: Kebede Deribe

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Assessment of water, sanitation, and hygiene practice and associated factors in a Buruli ulcer-endemic district in Benin (West Africa)

General comment:
The title and the objectives of the manuscript are very interesting. Both Buruli ulcer and WASH are important public health challenges. Globally there is a growing interest in the link between neglected tropical diseases and water, sanitation, and hygiene practices. Nonetheless, the manuscript did not demonstrate the important link between WASH and Buruli ulcer. The findings are limited and the discussion lacks focus. The manuscript needs extensive review and work before it is considered for publication. I have indicated below the major concerns I have.

Abstract
1. Methods “to access WASH practices” should be rephrased to “to assess WASH practices”

Background
2. The importance of WASH for Buruli ulcer is not clearly indicated in this part of the study. There should be critical appraisal of the link between WASH and BU.

3. It is also to review the important literature on the link between BU and WASH. It would have been important to do a systematic search of the literature to indicate the link between BU and WASH.

Methods
4. The order of the methods section can be improved by first start with Methods section then subheading, study setting, study design, sampling, variables or measurements, operational definitions, Data analysis, Ethical considerations

5. Some of the variables measured are not related to the study for example episodes of diarrhea among children in the previous 7 days. How will this be related with a study assessing WASH indicators in BU endemic area?

6. Under the Ethical consideration the statement “The questions from the questionnaire were proven not to affect the morale or personality of study subjects” should be rephrased. You could say “The questions were culturally sensitive”

7. Was the consent written or verbal this should be stated.
Results
8. It is indicted that there is high detection rate of BU, without knowing the population in the area it would not be appropriate to say so.

9. The factors associated with the improved sanitation and good hygiene practice should be described well.

10. The results of the qualitative study are poorly presented. The authors should describe the major thematic areas in each subtitle and make quotes, and should give the person should also be described.

11. Some of the statements in the qualitative findings should be quantified by the quantitative study. For example the statement “Open defecation is most frequently used” should have proportion of individuals who practice open defecation.

12. The terms improved sanitation versus good sanitation, good hygiene versus improved hygiene should be clarified. I would recommend using consistent definitions.

Discussion
13. Generally the discussion lacks focus, I would recommend discussing important areas of WASH which are related to BU disease. First, availability of water and good hygiene practices. Most of the discussion part is not related to the study. There are many studies which clearly showed the link between NTDs and WASH and the authors should make reference to them.

14. I would recommend the discussion should start with summarizing the main findings, comparing with others studies, discussing the limitation of the study, indicating the need for future studies such as systematic review to assess the link between BU and WASH etc. Finally the implication of the findings for BU control.

Maps
15. Figure1. All the description is French and these should be changed to English.

16. Figure 2. The legend is not visible.

17. Table 3 and Table 4. The association here doesn’t convey any relevant message. I would suggest focusing on descriptive findings.

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

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

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