Author's response to reviews

Title: Prevalence and care seeking for chronic diseases among Syrian refugees in Jordan

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Version: 3 Date: 31 August 2015

Author's response to reviews: see over
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Please consider our revised manuscript, “Prevalence and care seeking for chronic diseases among Syrian refugees in Jordan” for publication in *BMC Public Health* Below please find point-by-point responses to the reviewer comments.

Thank you in advance for your consideration.
Reviewer's report
Title: Prevalence and care seeking for chronic diseases among Syrian refugees in Jordan
Version: 1 Date: 20 July 2015
Reviewer: Stine Byberg
Reviewer's report:

**Major compulsory revisions**

Methods p. 7: Why did you not interview every member of the household? This would likely have improved the accuracy of the prevalence estimates. Was there any attempt to validate the correctness of the respondent’s statements on behalf of the other household members?

  *The survey was conducted at the household level with a primary respondent for the household; where possible, other household members participated in the interview to improve accuracy of results for specific questions. The budget did not permit for every member of the household to be interviewed—this would have required significantly more time and additional interviewers. Text was added in the methods section to clarify the interview process and to the limitations section.*

Results p. 9: please state how many participants had more than one condition – I am assume a double burden of NCDs must be of extra concern in relation to health care seeking?

  *Because no identifying information was collected from participants, it was not possible to identify individuals with more than one NCD and, as such, double burden of NCDs in individual household members was not assessed.*

Results p. 11-13: Since many of the chronic conditions have a similar pattern of health care seeking the paragraphs with all the different NCDs seem to be a repetition in many instances – please reduce these paragraphs to include for which chronic conditions inability to afford care was a problem; for which conditions there were regional differences etc.

  *Paragraphs were combined and text in this section was altered to reduce redundancy.*

Figures and tables: please include a figure displaying the participant flow – this will make it easier to understand the results.

  *This was not addressed because the authors were unclear on the request. A clarifying statement was added to the beginning of the results section to better describe the final sample. The survey was conducted at the household level with a primary respondent for the household; where possible, other household members participated in the interview to improve accuracy of results for specific questions. If the reviewer feels the figures is still required and can be more specific about the request, the authors can address it in subsequent revisions.*

**Minor essential revisions**

Abstract: could you make the aim of study more clear? It is not exactly clear what the objective of the study is from a sentence such as “...and better understand issues related to accessing health services”

  *Description of objective in the abstract was updated to match objective description in introduction and methods sections.*

Introduction p. 4: The first paragraph in the introduction should be shortened. Thus, how refugees put a strain on the host country is well known. I would instead like if you could write more about the Jordanian health system and how refugees are viewed upon and which barriers (formal/informal) exist for refugees in health care seeking.

  *Detailed discussion of strain on host country and trends in displacement worldwide was shortened and additional information about the Jordanian health system, barriers to care, and host community tensions with regard to health care were added.*

Introduction p. 5: Could you elaborate a bit more on why “The implications of the increasing NCD burden in refugee populations have been striking in the Syria crisis”? I don't doubt the relevance of
NCD’s in the Syria crisis but I don’t see any data backing this statement in the paper?

This sentence was removed in the above changes to the introduction.

Introduction p. 5: please elaborate more on the Jordanian health system and how refugees are received. Are the Jordanian doctors reimbursed by UNHCR? Are they even allowed to treat unregistered refugees and how is that viewed upon? What are their incentives to provide consultations? Language barriers?

The introduction was changed as per the reviewer’s above comment. Below is clarification for reviewers on the specified questions; however, we did not feel it was necessary to include this information in the manuscript’s introduction:

Jordanian doctors are not directly reimbursed by UNHCR. Unregistered refugees have difficulty accessing subsidized care in the public sector but can do so in the private sector; to my knowledge there are no restrictions on providing care to unregistered refugees – incentives are payments. The unregistered population is very small. Language is not a barrier.

Methods p. 7: How did you make sure that the nearest Syrian household (information derived from the starting household of the cluster) were refugees as well and not work/family reunified migrants?

Text was added to explain skip pattern for respondents arriving in Jordan in 2010 or earlier.

Methods p. 8: could you provide information on who conducted the interview? I can see in the limitations section of the discussion that Jordanians conducted the interview but it would be good to state it here as well. And how were the unregistered refugees approached? I assume they must be cautious about being interviewed?

Text was added in the methods section clarifying that interviewers were Jordanian and that anonymity of respondents was stressed when approaching households to ease hesitation of unregistered refugees to participate.

Methods p. 8: please describe if you saw/requested any documentation to verify the conditions, such as doctor’s receipts, prescriptions, vaccination cards, medical records etc.

Text was added to explain that no documentation was used to verify condition(s)’ diagnoses.

Methods p. 9: why did you only include variables with a statistical significance of p<0.1 in the adjusted analyses? Some variables may have confounding effects even though they are not significantly associated with the outcome. It seems you have the power to include all variables from the unadjusted analysis?

We have included a full model with all variables from the adjusted analysis to address the reviewers comment.

Results p. 10: do you have any idea whether refugees were diagnosed with their chronic condition in Syria or after fleeing to Jordan?

The survey did not ask respondents where/when they were diagnosed.

Results p. 14: did you assess whether the participants were compliant/well medicated for their condition?

Access to medications and compliance was assessed; this information is presented in a separate forthcoming manuscript.

Discretionary revisions

Abstract: please add total number of participants in the results section

Total number of participants (1550) was added to methods section of abstract.

Introduction p. 4-5: please add a reference to your statement “While these priorities remain, the burden of NCDs in displaced populations is increasing”

Reference added.

Methods p. 8: the referencing style in the second paragraph is not equal over the entire paragraph

The authors could not identify the incorrect citation format; if the problem persists and the
reviewer can highlight it, we will make the correction. Please note there are several footnotes, and these are not intended as citations.

Results p. 10: please rewrite the sentence starting in line 9 and in line 20 as the meaning of these is not clear.

Both sentences were edited to be more clear.

Discussion p. 15: please rewrite the last sentence on the page

Sentence was edited to be more clear.

Level of interest: An article of importance in its field
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
Reviewer’s report

Title: Prevalence and care seeking for chronic diseases among Syrian refugees in Jordan.

Version: 1 Date: 1 August 2015

Reviewer: Ahmed Amara

Level of interest: An article of importance in its field.

Quality of written English: Acceptable.

Quality of Figures: Acceptable.

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.

Overall, this is a good study. It addresses a global health issue in relation to refugees. The introduction lays out the importance of noncommunicable diseases in urban refugee settings. The methods and the limitations of the study are described in detail and are appropriate. However, discussion and conclusion need improvements.

Major Compulsory Revisions

1. The objective of the study stated in the abstract is different from the one in the introduction (last sentence) and the methods section (first sentence). In the abstract the author wanted to “Characterize health seeking behaviors and better understand issues related to accessing health services for NCDs among Syrian refugees in non-camp settings in Jordan” - no mention of prevalence. In the introduction “Assess the health status, unmet needs, and the access to and utilization of health services for NCDs among Syrian refugees in noncamp settings in Jordan”, no mention of health seeking behavior. While in methods section “Characterize health seeking behaviors and better understand issues related to accessing health services”, again no mention of prevalence. I think seeking health care is different from accessing it. Likewise, access doesn’t mean utilization. If access to health care for NCDs is one of the aims of this study, it must be addressed properly.

   References to access removed from text about study objective in both introduction and methods sections, as the article’s contents do not adequately discuss access to include it in the objectives.

   Prevalence was also added to objective in methods section.

2. Some numbers and percentages in Table 1 do not tally. For example, adult prevalence of NCDs in all age groups except 0-17 age group. There is also two confusing statements about the prevalence in the first paragraph of results where it says “Just under half (43.4%, CI: 40.5- 46.4) of households reported that one or more household members had been previously diagnosed by a health provider with one of the five non communicable diseases ...” and the one in the conclusion “More than half (50.3%) of Syrian refugee households had a member with a NCD ...”. Does that mean the 43.4% are now free from NCDs.

   Prevalence analysis was rerun and figures were corrected. 50.3% is the accurate proportion. The results text was updated with the accurate figures.

3. The discussion section needs a lot of improvement. There is enough data on NCDs among both the general population and urban refugees in the region to make relevant discussion points. Besides, what is the point of comparing the prevalence of NCDs in Syrian refugees with Jordanian population? Such comparison would be more plausible if made in reference to Syrian population and/or other refugees. For example, it is not enough for the author to say that the study lacked a qualitative component to explain how educational level and care seeking relate to each other. Cite other studies, report their findings and critically discuss them.

   The discussion has been revised to address the comments of all reviewers. We have added sub-headers and included references to NCDs in both the Jordanian and Syrian refugee population.
though few are available). Additional text was added providing a possible explanation for the finding related to education care seeking. Despite having searched, the authors are unaware of other articles on NCDs in Syrian refugees that are appropriate for citation in this section (the only other recent survey, by UNHCR, is cited). As stated in Amara and Aljunid’s 2014 Globalization and Health article, few research articles exist on NCD prevalence in urban refugee populations, including Syrian refugees. 1

4. Revise the information obtained from references. For example, reference No. 20 has nothing to do with Syrian refugees. I think the author refers to Iraqi refugees.

This reference is not intended to cite information on Syrian refugees, but rather a trend among urban refugees. All other references were checked for possible examples of this problem.

5. In the second paragraph in discussion, the most common NCDs in this study are hypertension and arthritis and not hypertension and diabetes.

Text was updated to reflect this correction.

6. Revise the references section as the total number of references should be 24. Reference No. 20 is actually No. 4. Also, the journal here is Globalization and Health not Global Health.

Reference 20 was removed and in-text citation changed to “4.” Journal title also changed. All other references checked.

Minor Essential Revisions
1. The justification for this study would be that the burdens of NCDs faced by refugees and not the burdens faced by host countries.

Text was changed to “burden of NCDs faced by refugees.”

2. The author concludes that Syrian refugee population has high NCD burden. Just to ask; compared to what.

This sentence has been removed.

3. In the methods where the author states “For each condition, if at least one person in the household had that condition ...” is a bit confusing and need to be rephrased.

This sentence was rephrased to be more clear.

4. In the last paragraph in methods section “The study was reviewed by and approved...” I think the author means “The study was reviewed by an approved...”

Text was changed to “reviewed and approved by...”

5. In the results and elsewhere, the prevalence from the highest should be hypertension 9.7%, arthritis 6.8, diabetes 5.3%, cardiovascular disease 3.7% and chronic respiratory disease 3.1%.

List of NCDs by prevalence was changed to reflect correct order from highest to lowest.

6. List some of the numerous challenges besides cost that the international community faces in meeting refugee health needs.

Additional discussion surrounding challenges to meeting health needs was added to the introduction section with discussion of the Jordanian health system and host/refugee tensions.

7. In the third paragraph of discussion revise “Care seeking for was high....”

“For” was removed from this sentence.

8. It seems the objective of care seeking is addressed in the conclusion as access. Also, some ideas presented here fit better the discussion section, especially those of health financing options.

The conclusion was revised to focus more on care seeking and less on access.

9. Explain SES in limitations and NFI and HH in Table 2.

Acronyms were spelled out in both limitations text and Table 2.

10. The author should look into how to make the abstract and the conclusion short and

synchronize with the aim of the study.

   The abstract and conclusion have been revised to address this request.

11. Be consistent in writing either non-communicable or non communicable.
   All instances of “noncommunicable” or “non communicable” were changed to non-communicable.

Discretionary Revisions
1. It would be good if the author defines health seeking behavior, access and utilization.
   As the objective was standardized throughout the article exclusive of access, much of the language
   including these terms was changed. As such, no definitions were added as the terms are no longer
   used as frequently or in the same manner.
2. The discussion section could be divided into two sections; prevalence and care seeking in the
   same way presented in the results.
   Sub-headings were added to the discussion section as with results section.
3. Could look into adding a table of the social and demographic characteristics of the sample.
   A column was added to Table 2 with distribution of each variable in the overall study population in
   addition to the distribution among careseekers and non-careseekers.

Level of interest: An article of importance in its field.
Quality of written English: Acceptable.
Quality of Figures: Acceptable.
Statistical review: No, the manuscript does not need to be seen by a statistician, if point No. 2 in
major compulsory revisions is explained/addressed.
Declaration of competing interests: I declare that I have no competing interest.
- Accept after minor essential revisions.