Author's response to reviews

Title: Incidence and pattern of injuries among residents of a rural area in South western Nigeria: a community-based study

Authors:

Omoniyi A Olawale (omoniyi_olawale@yahoo.com)
Eme T Owoaje (emeowoaje@yahoo.com)

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Title: Incidence and pattern of injuries among residents of a rural area in South western Nigeria: a community-based study
(MS 5190095651201410)

Authors:
Olawale Omoniyi (omoniyi_olawale@yahoo.com)
Eme Owoaje (emeowoaje@yahoo.com)

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The Editor
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Re: Incidence and pattern of injuries among residents of a rural area in South western Nigeria: a community-based study (MS 5190095651201410)

Thank you for the email. We thank the reviewers for the insightful reviews. Following their comments, we have revised the paper as suggested. Below is a point-by-point response to their comments. Please note that we have also decided to modify the title of the paper to better reflect the geography of the study area.

Yours sincerely,
Olawale Omoniyi
Reviewer 1: Marilyn Leff
General
This is an important paper because more community level, injury surveillance data is needed in Nigeria and other countries in Africa. However, I think that this paper would help contribute to that body of literature if reworked in a number of ways. In general, I felt the paper could be a little better organized and more substantial. I suggest that the authors follow the organization of those of other articles, e.g., references 7,10, and notice the attention to more specifics e.g., definition of injury, why the data presented are those chosen for presentation, etc. There was a lot of data presented in this paper but after the first reading I wasn’t sure what I had read, i.e., too much data without enough explanation.

The point is taken and the paper has been reorganized and edited as suggested

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. The authors said that all households were “visited” in the two enumeration districts. Is that the same number of households in these 2 districts? The authors need to specifically report the response rate for households and individuals within households.
All households in the census areas were visited, though information could not be obtained from all for various reasons: e.g. nobody being at home, refusal to give consent, etc. We have included the response rates for the households (82%) and individuals within the households (86%) in the results section.

2. Was there a specific definition for injury or how was that described/defined for the respondent?

Injury was defined to the respondent, using the local language, as any type of injury to the body, in the last 4 months prior to the study; regardless of severity and outcome. Common examples of injury and injury causes were mentioned to ensure clarity. Such “unrestricted” definition may have contributed to a high injury incidence as considered under the discussion section.

3. The authors report that the unit of analysis was “an injured person who sustained injury in the last 6 months”, yet in the methods section the authors report that the number of injuries is for the last 4 months. I didn’t understand this discrepancy. I think the authors mean that the unit of analysis was at the individual rather than the household level. Was data gathered for individual injuries within the last 6 months but only those injuries sustained in the last 4 months used to estimate prevalence?

The unit of analysis was an injury sustained in the four-month (NOT six-month) period preceding the study. The
correction has been made, and a statement as to the rationale for the recall period included in the methods section

4. I’m confused by the reporting of the mechanism of injury in the paper. First, Figure 2 presents “fracture” as a mechanism of injury. I do not believe it is a mechanism. There are different levels of mechanisms within Figure 2. I think in order to add to information about injury, it is important to use terms that are generally accepted and can be used when compiling information from various surveys. The authors state that they adapted the interview tool used by Kobusingye, Guwatudde, and Lett and from reviewing that instrument it appears that there are specific mechanisms used in the interview. Why didn’t the authors report the data using those mechanisms? Another that could be followed would be the International Classification of External Causes of Injury (ICECI). See http://www.rivm.nl/who-fic/ICECIeng.htm. Or using the same nomenclature as those used in other articles, e.g., see reference 10 in the paper. Do these categories that have been used by others work in this survey? If not, why not?

The authors agree and have revised the classification to follow the pattern used in the Uganda survey by Kobusingye et al.

5. When talking about intent of injury, the number of injuries don’t add up. 49 intentional + 15 assault = 64
injuries, but the authors report 60 people injured in table 3. Is that because there was more than one injury to some individuals? Is the unit of analysis, the injury event or an individual? This issue comes up in other parts of the article as well. E.g., under “Injury Outcomes” the authors write – “Thirty-one of the injured lost less than one week. In fifteen of the injuries (25.8%) ….” However, 15 of the injuries would be 25.0%. A sentence in the results saying that there were 60 injured people for a total of the number of injuries would be helpful. Make sure the reader can understand what the numerator is i.e., injury versus injured persons. And if injured persons is the numerator, which injury was used to determine the injury data, e.g., mechanism, seeking health care, etc. Was it the most recent injury or the first injury?

*The number errors have been corrected.*

6. The numbers don’t add up when the authors talked about the injured who were helped – 20 by family and friends+ 17 received no help ---- what happened to the other 33?

*We have decided to remove the statement to reduce the load of data presented.*

7. In talking about injury outcomes, how did the authors define “disability” and what does “yet unrecovered” mean? I think more specific definitions would help put this into the larger injury context. Defining for the reader both how injury itself was defined (see #2) and disability or major or minor injuries and reporting
those would make the discussion section more relevant. For instance, in the last paragraph the authors say that the health-seeking behaviour of the residents was good. That depends on how injury was defined.

*Please see response #2 for the definition of injury. Disability was defined as loss of at least one day of work/school due to the direct effect of an injury sustained within the four-month period preceding the study. A major injury was one that led to at least 30 days lost and a minor injury less than 30 days. The justification for the conclusion that the health-seeking behaviour was good is included in the discussions section.*

8. Nowhere do the authors talk about the limitations of the study. First, the number of injuries is smaller than those reported by other studies. What effect could the small number have? Reference number 1 points out several limitations of community surveys on injuries and I suggest the authors think those through and bring those into the discussion section.

*We appreciate the observation. limitations of the study have been included under the discussion section*

9. The authors did not say if they took into account the cluster sampling design in the analysis. If they did, they need to say so. If not, they need to say how not taking this into account may have influenced the results. EpiInfo, which is free from CDC, has the availability to do such an analysis with the data the authors have.
We did not take the cluster sampling design into the analysis. This may have restricted the generalizability of the results to other populations.

The authors state that they tested for statistical significance but really didn’t report any. I’m not sure that such is needed in this descriptive paper.

We agree, we have modified the sentence to read “Statistical association was investigated using the chi-square test”

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. I wondered why the authors chose the age categories that they did. It would seem that very young children might sustain injuries in different ways than those in the older children category. Similarly, are 20-29 and 30-39 year olds very different? I would also wondered if those over 60 might have different injury experiences than those 40-59. What is the rationale for the age categorization?

We agree that a classification that is more likely to highlight the differences in types, causes and outcomes of injury is more helpful. Hence, we have adopted the 0-4, 5-14, 15-49, 50+ classification modified from the Tanzania study by
Moshiro et al to represent the different age groups likely to have different causes of injury in the local area.

2. The word “data” is plural so make sure that the verb is plural when using “data” as the subject of the sentence, e.g., under “Data collection” in the methods section --- The data was collected should read --- The data were collected

Appropriate corrections have been made.

3. Table 1 --- I think the age group of 0-20 should read 0-19.

We agree, but the authors agree to remove that table to avoid overreporting of data as earlier observed

4. There are places in the text that data are reported that are not shown in a table. For instance, 45.8% of respondents were traders and the authors refer the reader to Table 1 but there is no occupation information in table 1. I think it would be appropriate to add occupation to that table.

Please refer to response 3

5. The titles to the figures need to be reworked to included either “number of injuries by …….” or “percent of
injuries by ……”, e.g., age group, mechanism, sex, etc., etc., to be more clear. For instance Figure 1, I think, should read Number of Injuries by Injury Mechanism.

The suggestion is taken and applied to the figure still retained in this revision

6. Under the results section, the authors say “In all types of injuries, there was male preponderance” and then refer to the reader to figure 3. I think the reference to figure 3 should go in the sentence right before this sentence. Since figure 3 shows the proportion of injuries by mechanism, you can’t really see from this figure that males had a greater number of each type of injury than females. For instance it looks like over 30% of injuries to females were traffic while only 21% were to men. But, men had a larger number than women --- which isn’t shown in this figure.

The authors have moved the reference and converted figure 3 into a table that shows the information more clearly.

Discretionary Revisions (which the author can choose to ignore)
Reviewer 2: Robert Ekman

General
> 2. Are the methods appropriate and well described, and are
> sufficient details provided to replicate the work?
Recommend that authors include a sample instrument-this would allow for the study to be replicated. Descriptive statistics are employed here in an appropriate fashion, but I strongly recommend that the authors round up their percentage figures, to avoid over-precision in reporting in a small population.

*The sample instrument has been included*

> 3. Are the data sound and well controlled?
The data seem sound, but I would strongly recommend that the authors drop the bar graphs, and stick to more general data. The main drawback to the article is its over-reporting of findings. A simple table for ages, causes, and outcomes will more than suffice.

*Appropriate modifications have been incorporated. For instance, tables 1 &2 have been removed and all the figures removed except figure 2 which was modified and retained.*
> 4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Not certain. What did the authors do to protect respondent confidentiality? Were instruments destroyed after data was blind-recorded? As many young African researchers will undoubtedly refer to this article, it behooves the authors to include a few sentences about this subject.

*A statement addressing this concern has been included in the methods section*

> 7. Is the writing acceptable? There are a few grammatical errors - authors may wish to use the term census area to describe which communities they included, (as well as provide a brief description about why they selected those communities.)

*The term census area has been substituted for enumeration area as suggested*

Titles are missing from graphs, n information would be useful, and there is a conclusion that the population's health seeking behaviors are appropriate, but this conclusion is not discussed nor justified in the article. There is a reference to what I suppose is a health promotion program, but no explanation of this program, nor an explanation as to why this program appears to help with injuries, per se.
The graphs are titled. Explanations of the Ibarapa programme and the justification for the conclusion about health-seeking behaviour have been included in the methods and discussion sections respectively.

I do not think that this work has been previously published, nor do I see any evidence that the findings have been falsified. While the findings may be more general than specific, we lack information of just about any kind on injuries in rural African populations, and so this article will provide important background information on this population. Data on how the study population compares to the national population would be useful, for readers to determine how generalizable the findings are.

A statement on how Igbo-ora compares with national population has been included in the discussions section

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
Please refer to my comments about your conclusions about appropriate health seeking behavior. You must justify your conclusions, as there is no evidence in the article that convinces me about this statement.

The justification for the conclusion about health-seeking behaviour has been included in the discussion section
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Delete the two bar graphs, please, check your titles and then move the most important information about your findings into a table

This has been done

Discretionary Revisions (which the author can choose to ignore)
Reviewer 3: Francisco Tercero

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
There are some problems of definition. For example, the readers want to know which is the definition of not fatal case (injured person or injury cases). Similarly, which is the definition of disability, as well as the indicator of severity. Furthermore, you must mention the classification used.

*The definition of injury for the subjects has been included under the methods section*

The sample size and power calculations were neither presented nor justified. Describe better the study area and the sampling method used.

*This has been done*

The estimation of incidence should include also the 95% confidence intervals.
*This has been done*
Why present Odd Ratio in a descriptive study?

*The point is taken. Correction has been made*

Which one is the recall period for nonfatal injuries? 4 or 6 months.

*Four months. The correction has been made*

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

First of all, the authors should use the term incidence instead of prevalence. Prevalence must be reserved only to permanent disabilities or diseases when the latency period is unknown.

*We agree. We have corrected it*

Areas to be addressed:

(pag8, para2, line 6) traders are missing in Table 1.

*The tables have re-organized and the reported data modified*

(pag8, Table 1) In the title change “sociodemographic characteristics” by age and sex. The first two age groups are not mutually exclusive. Check the symbol in the last age groups.

*Appropriate correction has been made*
(Pag 9, para 1) The 0-10 age group does not appear in Table 2, and there are some errors in the last line. 

Appropriate correction has been made

(Page 11, para 1) What is the meaning of variables students and unemployed?

Students refer to all those presently undergoing formal training. The unemployed are those that are not undergoing any form of training but who have not found paying jobs for varying reasons. We felt these two groups differ since the first group is not seeking employment while the second is seeking employment but have not secured yet.

(Page 13, para 1) There is an error in the sum of unintentional injuries and assault (49+15= 64 or 60?).

Appropriate correction has been made

(Page 13, para 2) What is the meaning of the first sentence?

We have decided to remove the statement to reduce the load of data presented.

In my opinion you could reduce the number of tables if you link table 2 and 3, including incidence rates and 95% CI. Similarly, the 4 figures can be reduced to one table, because some information is repeated.

The tables have re-organized
(Page 15, para 2) Does not make sense. 
*Appropriate correction has been made*

(Page 16, para 2) The last sentence can be compared con reference 6, for instance.

*A comment on how the recovery rate in the study compares with the Uganda study has been included*

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Discretionary Revisions (which the author can choose to ignore)