Author's response to reviews


Authors:

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Version: 2 Date: 17 May 2010

Author's response to reviews: see over
Response to Reviewers
Reviewer 1 report
Version: 1 Date: 11 January 2010
Reviewer: Amare Deribew
Reviewer's report:
Major compulsory revisions
Introduction:
# Several risk factors of under-five death including regional variation have been reported in Nigeria. Why are you doing this study again? You need to justify this issue.

Author response:
Not quite correct. There a scarcity of empirical studies exploring the determinants of under-five mortality in Nigeria.

# Together with this, please justify why you used the 2003 DHS which is old? Nine/ten years is long and things might have been changed.

Author response:
At the time the study was carried out (2009), the 2003 Nigeria DHS, which was released in 2004 was only 5 years old, and the most current DHS available. The 2008 Nigeria DHS was only released in 2010.

Methods:
# Statistical analysis- did you consider the effect of interaction of variables in the analysis. Some variables are proxy indicators for others. E.g. education and wealth or occupation. You need to assess interaction.

Author response:
The analysis has been redone with mother’s education and wealth index as the measures of socioeconomic position.
You have used three levels and four models in the analysis. Please specify which type of model building did you use (stepwise, backward, forward etc…)

**Author response:**
A forward model was employed in building the models

Results:
# Table 2 contains two ideas, Odds ratios and variances. Please put these two ideas in two tables

**Author response:**
Adjusted as reviewer indicated.

Discussion:
# Avoid recommendation/conclusions in the discussion part. The ideas mentioned from number 1 to 3 under the subtitle ‘policy implication’ are repetition of the conclusion. Better to take this idea under the conclusion section.

**Author response:**
The recommendation/conclusions in the discussion part have been removed as reviewer indicated.

Minor essential revisions

Methods:
# Needs editorial revision—Please use past tense (the word ‘is’, ‘are’ needs to be changed). The last sentence in paragraph 1 needs revision. Eg ….a total of 6029 live born children born.

**Author response:**
Edited as reviewer indicated.

# Please replace the word ‘measure’ by measurement and describe the types of the variable under it.

**Author response:**
Adjusted as reviewer indicated.
# The paragraph/s under the sub-title ‘individual level explanatory factors’ needs clarity and revision

Results:

**Author response:**

Adjusted as reviewer indicated.

# Please don’t cite table in the sub-title (first sub-title in result). Describe the findings and cite the table at the end of the paragraph.

**Author response:**

Edited as reviewer indicated.

# Please correct phrases like “Mothers who had secondary of higher education”

**Author response:**

Edited as reviewer indicated.

# The second sub-title” multilevel logistic regression analysis” shall be replaced by ‘risk factors of under-five mortality’. We know the analysis in the method section.

**Author response:**

Edited as reviewer indicated.

# I would prefer the first row of table 1 be removed

**Author response:**

Removed as reviewer indicated.

# Make the titles self explanatory, time and place shall be included in the title

**Author response:**

Edited as reviewer indicated.

# Foot notes in the tables are fully elaborated in the method section, you don’t have to repeat them

**Author response:**
Removed as reviewer indicated.

Discussion:
# Please avoid the sub-heading in this section. Better to discuss the ideas chronologically.

**Author response:**
Subheadings removed as reviewer indicated.

# In your finding, higher risk of death was observed in south-south region. But, your literature indicated that the north part had higher death rate. Add more explanation if available in the discussion in this area

**Author response:**
Edited as reviewer indicated.

References- Use the same style eg. Reference 25 should be corrected

**Author response:**
Edited as reviewer indicated.

Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being published
Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:
I declare that I have no competing interests' below

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**Reviewer 2 report**

Version: 1 Date: 16 February 2010
Reviewer: Peter Allebeck
Reviewer's report:
The research question is well posed, and the data set is impressive. Analysis of regional differences in a country like Nigeria and its determinants is of great interest. The use of DHS surveys for such purposes should be encouraged. I have however several problems with this paper. The first relates to the aim and structure of the study. It seems as if a main aim or the study is to assess the regional differences per se. This could be of interest for national and regional public health purposes, but hardly for an international scientific community. Most analyses end up by estimating the remaining effect of region after having adjusted for lower level variables. The analyses show that a number of factors on various levels (community, individual) do influence regional differences, but I lack an attempt to disentangle these various factors for the regional differences. To show how regional level variation is built up from variation on various levels would have been a scientifically more interesting issue, but I can not find such analyses in the rather lengthy reporting of results.

Author response:
The analytical strategy has been modified as the reviewer indicated. The distribution of the characteristics was presented separately for individual and community level characteristics separately. The multilevel survival analyses were done separately for individual and community level as well as simultaneously for individual and community levels.

Another problem is the number of risk factors on various levels and how they are structured. Obviously, many of them are related, and some partly overlapping. It is relevant to structure risk factors on community and individual level, but this division is not pursued, and I do not see how the multi-level analysis is used to take care of the effects on various levels. I am not able to judge the statistics in detail, so I suggest a statistician looks closer at this. I find the analyses are impressive, but to what extent do they adequately reflect variation on the various levels and the contribution of different sets of risk factors?

Author response:
The presentation of the analysis has been simplified as the reviewer implied.

The third problem relates to the methods for data collection that is not clearly described. The DHS surveys included consist of around 6000 live births in 5 regions. It is not clear how the
children have been followed up through five years of age, usually DHS surveys are not cohorts followed over time. Sometimes parents are asked if a child has died in the past, but in that case it would have been difficult to estimate backwards number of birth, and the term "risk" of death would not be appropriate. In table 1, no of children born are shown, but the numbers in several cells are quite small, and I gather many cells have no under-5 death at all. Thus a limitation in the stratification is low number of deaths, if it is the deaths among the 6000 births that are analysed. Maybe the author have looked at official data from the region of under-5 deaths, but then it would have been an ecological study, with its limitations.

**Author response:**

A clear explanation has been included (see under *Measurements* section)

**Outcome variable:** The outcome variable was the risk of under-5 death, defined as a child dying between birth and the fifth birthday. Under-five mortality was estimated for the 5 years preceding the survey. All children between 0 and 59 months of age were included in the estimation, and exposure time and cases were observed during this time frame, with all living children 59 months or younger being considered as exposures, that is contributing person-time, and all deaths among children 59 months or younger regarded as cases. Children born during the time frame (at birth) or before the time frame (at any age until 59 months) could enter this time frame. Children that stayed alive after 59 months of age within this time frame were censored after 59 months of age.

In summary, several questions regarding the method for data collection as well as the structure of the analyses need to be answered before I would recommend the paper for publication.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interest