PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Home childbirth among young mothers aged 15 – 24 years in Nigeria: a population-based cross-sectional study
AUTHORS	Adewuyi, Emmanuel; Khanal, Vishnu; Zhao, Yun; David, Lungcit; Bamidele, Olasunkanmi; Auta, Asa

VERSION 1 – REVIEW

REVIEWER	Dr Sialubanje Cephas Chainama College of Health Science Lusaka, Zambia Harvard University School of Public Health Department of Global Health and Population Boston, MA, USA
REVIEW RETURNED	09-Oct-2018

GENERAL COMMENTS	This is a cross-sectional descriptive study that used secondary data from the 2013 NDHS to estimate the prevalence and identify factors associated with home delivery among young mothers aged 15–24 years in Nigeria. The manuscript is generally well written and can be considered for publication after the authors have attended to the comments listed below. I recommend MAJOR REVISION Comments: 1) Abstract: classify the predictor variables according to the Andersen model you used 2) Page 3 line 37: in addition to absolute figures, include the percentage of maternal deaths Nigeria is contributing to the global maternal mortality 3)Page 6 line 17; Briefly describe the STROBE checklist to make it easy for the reader to understand 4) Page 6 line 40: Briefly describe the Andersen model and make it clear that the factors you describe in the ensuing paragraphs refer to the Andersen model. In addition, explain why you chose this model, cite health behaviours and studies where it has been applied and its importance and applicability to maternal health 5) Page 7 line3: marital status...use never married rather than never in union 6) Page 7 line 21-26: It is not clear why authors use frequency of media exposure as a proxy to assess levels of health knowldge. Exposure to the media does not equal to knowledge. Moreover, there are standard ways of assessing [health] knowldge described in the health promotion literature. If the NDHS did not collect data on health knowldge, let the authors admit this and categorically mention that this data was not available. Exposure to the media can be used as it is, not a proxy variable to assess knowledge 7) Page 8 line 29: Briefly explain what you mean by "complex sample analysis method". What did you do?

	8) Table 1: this table is confusing as it has too uch information. Split the table into 2 to make it easier for the reader to understand: Table 1 should include descriptive statistics (absolute number and percentages in parenthesis) , without the column for odds ratio and P values; the other table (Table 2) should include bivariate analysis on Prevalence of Home delivery; clarify/indicate the reference category,incldue the column for P values and unadjusted odds ratio. 9)Table 2: This should be table 3; In addition, split models IV from model IV, even if the results are the same. In table 2 you report adjusted odds ratios, but it is not clear which variables you adjusted for. Clearly indicate below the table the variables you adjusted for. Alternatively, you can report both adjusted and unadjusted odds ratios. 10) Page 15 line 7 and page 16 line 39-52: The authors mention that ANC provides unparalleled opportunity for awareness creation. Yet on page 7 they mention that they used exposure to media as a proxy to assess levels of health knowledge. This is contradictory. Let the authors clarify 11) Page 15 line 14: "Distance barrier and lack of health insurance coverage increased the odds of home delivery …" Briefly explain how distance was measured in this survey and how you categorised it in your analysis. Comment also on the insurance system in Nigeria, its coverage and what happens to the pregnant women (in terms of access to and utilisation of maternal health services) who have not insurance coverage.

REVIEWER	Chun-Bae Kim Yonsei University Wonju College of Medicine Republic of Korea
REVIEW RETURNED	25-Feb-2019

GENERAL COMMENTS	* Further consideration should be given to the benefit of using Andersen's behavioral model as a main research perspectives (theological model) in the discussion section. - Look at the related one article (Freidoony L, Ranabhat CL, Kim CB1,2, Kim CS, Ahn DW, Doh YA. Predisposing, enabling, and need factors associated with utilization of institutional delivery services: A community-based cross-sectional study in far-western Nepal. Women Health. 2018;58(1):51-71. doi: 10.1080/03630242.2016.1267689.). The reviewer provided a marked copy with additional comments. Please contact the publisher for full details.

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1
This is a cross-sectional descriptive study that used secondary data from the 2013 NDHS to estimate the prevalence and identify factors associated with home delivery among young mothers aged 15–24 years in Nigeria. The manuscript is generally well written and can be considered for publication after the authors have attended to the comments listed below.

Response: Thank you for your comments

Comments:
1) Abstract: classify the predictor variables according to the Andersen model you used

Response: We have briefly described our results using the Andersen model as requested (page 2 of the revised manuscript).

2) Page 3 line 37: in addition to absolute figures, include the percentage of maternal deaths Nigeria is contributing to the global maternal mortality

Response: The percentage has now been included (first paragraph under introduction section, page 3 of the revised manuscript).

3) Page 6 line 17; Briefly describe the STROBE checklist to make it easy for the reader to understand

Response: We have briefly described the STROBE statement for ease of readers' understanding (last two sentences under 'sample size' sub-section, page 6 of the revised manuscript).

4) Page 6 line 40: Briefly describe the Andersen model and make it clear that the factors you describe in the ensuing paragraphs refer to the Andersen model. In addition, explain why you chose this model, cite health behaviours and studies where it has been applied and its importance and applicability to maternal health

Response: We have briefly described the model, highlight the reason for choosing it and clearly made reference to it in the paragraph that followed (last paragraph page 6 through second paragraph page 7 of the revised manuscript).

5) Page 7 line3: marital status...use never married rather than never in union

Response: We have replaced 'never in union' with 'never married' in our categorization of marital status and effect corrections as appropriate in-text as well as on relevant Table.

6) Page 7 line 21-26: It is not clear why authors use frequency of media exposure as a proxy to assess levels of health knowldge. Exposure to the media does not equal to knowledge. Moreover, there are standard ways of assessing [health] knowldge described in the health promotion literature. If the NDHS did not collect data on health knowldge, let the authors admit this and categorically mention that this data was not available. Exposure to the media can be used as it is, not a proxy variable to assess knowledge

Response: To address the concern raised here, we have made a slight correction by assessing media factors for what they are and not as a proxy for health knowledge, as suggested by the reviewer. Our data contain information suitable for assessing health knowledge of respondents—knowledge of

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pregnancy complication. We have assessed this variable at the level of univariate and bivariate analyses. About 58% of the data for the variable were, however, missing. Hence, we were unable to include the variable in our multivariable modeling (correction was made on figure 1, Tables, in-text under independent variable classification and as appropriate in other relevant sections of the revised manuscript).

7) Page 8 line 29: Briefly explain what you mean by "complex sample analysis method". What did you do?

Response: We have briefly explained what it means and what we did (paragraph 1, page 9 of the revised manuscript).

8) Table 1: this table is confusing as it has too much information. Split the table into 2 to make it easier for the reader to understand: Table 1 should include descriptive statistics (absolute number and percentages in parenthesis) , without the column for odds ratio and P values; the other table (Table 2) should include bivariate analysis on Prevalence of Home delivery; clarify/indicate the reference category, include the column for P values and unadjusted odds ratio.

Response: Table 1 does not contain the results for unadjusted odds ratio. Rather, as titled, Table 1 describes the characteristics of our samples as well as the prevalence of home delivery. We believe the Table is appropriate for what it was intended for, hence, we did not make any major changes except removing the p-value column and a footnote added to show tests conducted yielded p-values that were less than 0.001 on all variables. To address the aspect of unadjusted odds ratio mentioned by the reviewer, we have now reported the results for bivariate analysis which are our Table 2. Unadjusted odds ratio, reference categories, and p-values are clearly indicated. The previous Table 2 has now been changed to Table 3 to accommodate the corrections (Table 1 and Table 2, as well as relevant sections of the revised manuscript).

9)Table 2: This should be table 3; In addition, split models IV from model IV, even if the results are the same. In table 2 you report adjusted odds ratios, but it is not clear which variables you adjusted for. Clearly indicate below the table the variables you adjusted for. Alternatively, you can report both adjusted and unadjusted odds ratios.

Response: We have now included model IV in Table 3 (previously Table 2). Also, all the variables adjusted for are now listed under the table.

10) Page 15 line 7 and page 16 line 39-52: The authors mention that ANC provides unparalleled opportunity for awareness creation. Yet on page 7 they mention that they used exposure to media as a proxy to assess levels of health knowledge. This is contradictory. Let the authors clarify

Response: Mass media provides an opportunity for a wider reach of audience while antenatal may reach a lower number of people per time, but with the advantage that the message is better targeted. We believe there is no contradiction here. However, as previously mentioned, media exposure is no more assessed as health knowledge—in line with the reviewer's suggestion. Also, we have changed 'unparalleled' to 'unique'. Hopefully, these address the concern raised here.

11) Page 15 line 14: "Distance barrier and lack of health insurance coverage increased the odds of home delivery …" Briefly explain how distance was measured in this survey and how you categorised it in your analysis.

Response: Distance to a health facility/service provider, and similar factors—'getting permission to go to the doctor', 'getting money needed for advice or treatment', 'not wanting to go alone' were

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measured by the respondent's answer ('a big problem' or 'not a big problem') to the following question: "Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not" 1

Comment also on the insurance system in Nigeria, its coverage and what happens to the pregnant women (in terms of access to and utilisation of maternal health services) who have not insurance coverage.

Response: We have made brief comments on the health insurance system in Nigeria and how it affects the utilization of maternal health care services in the country (last paragraph page 21 through first paragraph page 22 of the revised manuscript).

Reviewer: 2
* Further consideration should be given to the benefit of using Andersen's behavioral model as a main research perspective (theological model) in the discussion section. Look at the related one article (Freidoony L, Ranabhat CL, Kim CB1,2, Kim CS, Ahn DW, Doh YA. Predisposing, enabling, and need factors associated with utilization of institutional delivery services: A community-based cross-sectional study in far-western Nepal. Women Health. 2018;58(1):51-71. doi: 10.1080/03630242.2016.1267689.).

Response: Very many thanks for your comments and the example provided, we have discussed our findings using Andersen's model (discussion section of the revised manuscript).

* Also, please check that further correction is displayed in the attachment file.

Response: We have made all the corrections as required by the reviewer (keywords, reference section of the revised manuscript, figure 1 and 2).

References
1. National Population Commission (NPC) [Nigeria] and ICF International. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria and Rockville, Maryland, USA: NPC and ICF International., 2014.