Author's response to reviews

Title: Determinants of use of skilled birth attendant at delivery in Makueni, Kenya: A cross sectional study.

Authors:

Anne M Gitimu Ms (anne.gitimu@amref.org)
Christine Herr Ms (herr@ualberta.ca)
Happiness Oruko Ms (happiness.oruko@amref.org)
Evalin Kario Ms (Evalin.Kario@amref.org)
Richard Gichuki Mr (Richard.Gichuki@amref.org)
Peter Ofware Mr (Peter.Ofware@amref.org)
Alice Lakati Dr (Alice.Lakati@amref.org)
Josaphat Nyagero Dr (Josephat.Nyagero@amref.org)

Version: 4 Date: 5 September 2014

Author's response to reviews: see over
Abstract:

Background
This has been changed in view of the comments given to “the study examines the association of mother’s characteristics, access to reproductive health services, and the use of skilled birth attendants in Makueni County, Kenya. 2
We have added the year of the current progress.

Method
We have included more details on the source of data, extraction of variables and also mentioned the statistical analyses. We have also indicated that we used chi-square tests to test the significance of association between the outcome variables and the independent variables. We also took into consideration cluster and sample weight analysis which changed our sample size and eventually our results.

In our analysis, we considered variables with p values less than p<0.25 to be included in the multiple logistic regression, after the logistic regression model, variables that had p values p<0.05 were considered significant.
We have mentioned the inclusion and exclusion criteria in brief since the data was collected from women of reproductive (15-49 years) who had children less than five years at the time of the study.

Results
The content has been improved by starting with a description of the sample. We have presented the outcome variable and then reported its association with other independent variables.
The bivariate part has been removed from the abstract and we have presented the results from multiple logistic regression. We have equally reported on the effect size in the results section.

We have removed the sentence on sampling from the results section. “A two stage sampling design was used; first a random sample of clusters was selected for each district based on probability proportional to their population (PPP). In the second stage, 20 households were selected from each cluster”....

The sentence “there was no significant multicollinearity among the explanatory variables” has been removed.
The results of ANC have been changed, and we have included results for distance which was significant.

Conclusions

The conclusion has been re-written based on the findings of the study so that it’s more informative stating the next actions to be taken.

Main Text

We have included in blue the changes and revisions made to the manuscript

Background

This has been made more specific to the Kenyan context and we have added more information on maternal, health status in Kenya on the trends of skill birth attendance and existing challenges in paragraph 3. We have added more information based on similar researches conducted. We have also linked the background with the overall objective of the study.

We have edited the progress made towards achieving MDG 5. We have re-written the first paragraph and also included Kenya’s MDG 5 target.

We have arranged the background section as suggested by starting with a description of the developing countries, Sub Saharan Africa and then Kenya specific information, where we have included the current rates of skilled birth attendance, MDG 5 targets and the existing challenges being faced towards achieving MDG 5 in Kenya. We have equally included information for Makueni County.

Methods

We have provided information that details the original study, sampling, and inclusion as well as exclusion criteria. We have provided details on how the participants were selected for the study.

We have added the information of the inclusion and exclusion criteria. We have added the information of the sampling in the manuscript, the number of women of reproductive age who were to be sampled and equally the number of women of reproductive age who participated in the survey.

We have removed the repeated information in the methodology section.
Data analysis

Based on the comments given we have been able to revise the data analysis. We used complex sample analysis so as to account for unequal weights. Our sample size changed to 1,212. We conducted Univariate statistics, a binary logistic regression, and proceeded to multiple logistic regression with the variables that were statistically significant. Chi-square tests were used during the analysis of the data to test significance of relationships between outcome and explanatory variables (independent variables).

Multicollinearity of the independent variables was assessed. We found that there was no strong correlation among the independent variables.

We have re-arranged the tables (table 2 and three) based on findings of the study.

We included all variables that were significant at $p < 0.25$ in the multiple logistic regression. After the logistic regression model, variables that had $p$ values $<0.05$ were considered significant.

We have removed the sentence on correlation from the data analysis section.

Results

We have re-arranged our results into characteristics of sample as well as factors associated with skilled birth attendance. We have presented the odds ratios for the respective independent variables.

We have removed the sentence on correlation “Since there was no strong co-relation among the independent variables, the variables that were statistically significant at $p<0.25$ were all included into the multiple logistic regression model.

In presenting the factors associated with skilled attendance at birth we have added the test used. We have also changed the presentation of the $p$ values.

We used backward elimination method to avoid background correlation of independent variables.

We have removed the sentences that are not required in the results as advised.

In the multivariate logistic regression we included the variables that had $p$ values less than 0.25 and after analysis; those that were less than 0.05 were considered significant.

We also checked the confidence intervals of the parity, ANC, mother’s education and marital status and made revisions. For marital status, we did not include it in the logistic regression model as some respondents had not answered the question.
Discussion

We have presented the descriptive findings, and compared this with other studies in the Kenyan context. We also focussed on the key factors from the multiple logistic regression for discussion. We have also presented the limitations of the study.

We referred to the article suggested. We have removed the sentences that are not required in the discussion session as advised.

We did not included the number of ANC visits in the multiple logistic regression, since the p values were greater than 0.25 (p> 0.25)

We have removed the sentence on ANC “Further investigations are needed in order to highlight whether the importance of skilled delivery is well received during ANC sessions.

We have edited the paragraph on distance to make it shorter, and re-phrased the outcome at multivariate level, to “Living in a distance of 6 kilometres and above was associated with lesser likelihood of skilled birth attendance.”

Conclusion

We have re-written the conclusion as advised and giving recommendations from the study, we included the results that were statistically significant at the multivariate logistic regression.

Tables

We have combined the tables as advised into one table (table 3)
Under table 3 we have presented the totals in columns as opposed to the row totals.
Table 6—which was present previously, has been revised to table 3 and we have also changed the titles of the tables.

We have removed the p values at the bottom of the tables. We have changed the heading of the tables to lower case except for the first word.
Un-adjusted had been changed to unadjusted.