Reviewer’s report

Title: Factors influencing choice of skilled birth attendance at ANC: evidence from the Kenya Demographic Health Survey

Version: 0 Date: 19 Sep 2016

Reviewer: Benedict Oppong Asamoah

Reviewer’s report:

This is a very interesting manuscript and relevant for the improvement of maternal health. Overall the manuscript is well written, easy to follow and clearly structured, with up to date references.

Major comment

My major concern is the definition of the outcome of this study. The authors state that the outcome is skilled attendance at delivery which is defined as follows: "The primary outcome variable was skilled attendance at delivery, defined as a delivery attended by a "health professional - such as a midwife, doctor, clinical officer or nurse". Thus the outcome is understood from here to be actual delivery by a skilled professional. However, They also continue in the same paragraph to explain that "Women who planned to deliver at a health facility, either the current one or another facility were classified together with those who were delivered by skilled attendants in a health facility.". This gives an impression that they dealt both with actual delivery with a skilled birth attendant and "intention" to deliver with a skilled birth attendant. What is the rationale for putting this together? Do you have evidence that planning to deliver at a facility translates into actual utilization during the time of delivery?. The unclarity in the definition of the outcome variable is also seen in the way the results are reported in terms of the outcome. So you would find out that a number of my comments are also related to this concern.

Minor essential comments

Abstract: results: page 2, line 43: "The Overall, 94.8% of women reported having planned to be attended by a skilled professional." Did this also include those who were delivered by SBAs as mentioned in the outcome definition?

Also, some of the results focus on ".....likely to plan for skilled attendance" , whereas others focus on "likely to seek skilled attendance". This is quite confusing for me. Do you mean the different things or do you equate "planning" to actual "seeking"?

Background:
Page 3, line 75: The statement "which found demonstrated the high MMR at 488 (CI 343-696) per 100,000 live births" needs to be revised.

Methods

predictor variables:

Page 5, lines 124, 125: "This opinion on quality of services was grouped under either "no problem", "small problem" or "large problem"". What do these responses mean? What were the original responses and how were they categorised?

Page 5, lines 125, 126-128: "Client's response to cost of hospital delivery was classified as no (client did not have any money set aside for delivery); yes, enough (client had enough money set aside for delivery) or yes, but not enough (client did not have enough money set aside for delivery)." The question 'cost of hospital delivery' and the response given do not seem to match. The authors should indicate how the question was asked in the questionnaire for clarity.

Page 6, LINES 144 - 145: "The variables reporting p-values less than 0.05 on the Likelihood Ratio test were removed". This looks strange for me. Do you mean "retained" or "removed"?

Results

Page 6, lines 152 - 154: "Only 14% of the women had four or more ANC visits. 94.8% of women reported that they plan to have skilled attendance at delivery compared to 5% who planned to have unskilled attendance at delivery". Again, does this include those who had actually delivered with a skilled birth attendant as mentioned in the methods? See my comment on the definition of the outcome.

Discussion

The discussion on the link between intention to utilize and actual utilisation need to be strengthened. Are there previous research showing that planning for SBA results in actual usage? If so, you can include that in your discussion.

Page 7, line 175: "According to the DHS 20008/9 data". one '0' should be removed.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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