Author’s response to reviews

Title: Extent of induced abortions and occurrence of complications in Kinshasa, Democratic Republic of the Congo

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Version: 1 Date: 22 Nov 2018

Author’s response to reviews:

Reviewer #1:

A. For Major comments

Comment 1: Need to explain confidante method a bit more, including findings from this methodology in the introduction

Response: We added the explanation of the confidante method to the introduction as suggested

Comment 2: The use of the confidante method is unclear, as it is not described in the methods section. Did the authors use this exact methodology or a part of the methodology? Overall, the methodology section lacks enough clarity for another researcher to replicate these methods.

Response: We added explanations to improve clarity

Comment 3: Pg 6, line 1: Isn't the sample both women who answered the questionnaire plus the additional women they spoke about?

Response: The sample consists only of confidants (women whose respondents spoke)

Comment 4: Sampling section: It's unclear how authors used both respondent-driven sampling and the random sampling strategy, as you would typically use one or the other. The line 19, pg 6: "Respondents thus generated the sample without being a part of it" is confusing, as is the next line about respondents and the sample being the same group of women of childbearing age.

Response: We added explanations to improve clarity
Comment 5: Pg 6, line 47 Sentence beginning with "This sample" is unclear. "The sample size" was calculated, not "the sample". In addition, the rest of the sentence is unclear.

Response: We deleted the sentence

Comment 6: What is a health zone? Need more detail on the stratum that were created. Where did the demographic weights originate? What is a parcel survey? The first two paragraphs on pg 7 are unclear.

Response: We added explanations to improve clarity

Comment 7: For the multivariate analyses, why were only variables that were significant in the bivariate analyses included in the final model? Typically some variables would be included a priori, such as age, income, and residence, as plenty of African abortion studies have found the majority of unsafe abortion burden among young, poor, rural women.

Response: We did not include these variables in the final model in order to respect the principle of the automatic method of selecting "forward stepwise" predictors. In others, even including these variables, the associations do not change. So, if you think that it's still important to include them, then tell me, and I'll do it.

Comment 8: How was abortion incidence calculated?

Response: We added explanations to improve clarity

Comment 9: How were induced abortions defined? What steps were taken to determine the difference between induced abortion and miscarriage, especially for women the confidants were reporting on?

Response: We added in the methodology the phrase “Information on induced abortion was collected as any other characteristic of the confidante, and its difference with spontaneous abortion was ensured at the time of the interview by reminding the respondent of what it was, because the population of Kinshasa hardly confuse these two concepts even in the local language”

Comment 10: The data is reported for the year 2015. When was the data collected? Need to add the detail that women were only asked about induced abortions that occurred in 2015, and not ever had an induced abortion

Response: We specified in the "Study Design" section of the methodology “During March 2016, a cross-sectional study was conducted in households in Kinshasa, the capital of the DRC. Information was collected from 2015”

Comment 11: The discussion lacks a full discussion of the limitations of this study and this methodology.
Response: We added the limits at the end of the "discussion" section

Comment 12: The conclusion lacks clear recommendations.

Response: We recommend in our conclusion “the analysis of the management of induced abortion-related complications in the health structures and that of possibility of extending the health care package offered by health centres to major surgeries are urgently needed to offer appropriate measures in favour of maternal health”

B. For Minor comments

Comment 1: Abstract: Suggest highlighting a different result than the 12% who had genital trauma, uterine perforation, or intestinal necrosis. There were only 2 women in that category, and 2 women in the infection category as well. It's not clear why you chose that complication over infection which was just as common, and over haemorrhage, since that was the most common. In the conclusion section, it's not clear if you are recommending the prevention of induced abortion or of complications due to induced abortion.

Keywords: not clear why "extent" was chosen

Response: Prevention as a recommendation is removed

And for cases of genital trauma / intestinal necrosis, there were 8 and 2 went to the health center. The focus here is that health centers are not equipped to take care of these cases.

"Extent" was chosen in relation to the rate of induced abortions

Comment 2: Background: Do you mean psychiatric sequelae instead of psychic?

Response: We corrected

Comment 3: Methods: Ethical Considerations: Add university name. The last line about the confidentiality of women is confusing.

Response: We added and corrected

Comment 4: Was excessive alcohol use asked about the woman "ever" or "only in 2015"?

Response: only in 2015

Comment 5: Add detail explaining what the residence categories mean.

Response: We explained in the text the categorical "eccentric" which is difficult to understand
Comment 6: What does "no precision" category mean in the type of solicited health facility if complication variable?

Response: “No precision” is when the respondent did not remember the name of the health facility that helped us categorize

Comment 7: Did you collect how many women died?

Response: We collected this information but difficult to use because there were more outside the list of confidants

Comment 8: Results: Add the total number of women interviewed, the mean number of women who were reported about per interviewee, and the % of women who refused to be interviewed.

Response: We added

Comment 9: Add standard deviation to the median age.

Response: We rather added the Interquartile Range (IQR)

Comment 10: Suggest dividing out to see the information about induced abortions for the women who described their own abortion and for the women who were described by the interviewees, along with a total column, to understand the full picture of the data.

Response: There are no women who have described their own abortions

Comment 11: How was the 95% CI calculated on the induced abortion %?

Response: The software has calculated with the formula:

With: \( p=0.055 \)

Comment 12: Table 3: is tradipratician a traditional healer?

Response: Yes, we corrected

Comment 13: Table 3: is tradipratician a traditional healer?

Response: Yes, we corrected

Comment 14: For method used, could they have used more than one method? If yes, how was this question asked?

Response: Generally only one method was reported per case. In case of complications, the information on drugs... in the health structures were not sought.
Comment 15: For "high doses of drugs" does this mean oral administration?

Response: Yes.

Comment 16: How was this question asked, as open ended or were these the choices given to women?

Response: Open question (with some assertions of answers and one last assertion "others to be specified")

Comment 17: For table 5, women could have had >1 complication. How was this addressed? How would a lay women know what uterine perforations or intestinal necrosis are, let alone choose those responses?

Response: Respondents cited, for example, "perforated and rotten intestines" or "perforated uterus" and the investigators circled "intestinal necrosis" or "uterine perforation" as a type of complication.

Comment 18: Discussion: The first sentence of the results, about the abortion rate, belongs in the results section. What is the confidence interval around the abortion rate?

Response: All confidence intervals are presented under the rubric: "result"

Comment 19: Pg 10, line 9: It's not clear if the % for Malawi, Tanzania, and Rwanda are for rates of induced abortion or rates of modern contraception use.

Response: We corrected, it's not the percentages, but rather for 1000

Comment 20: Pg 11: sentence about Dragoman's work is unclear.

Response: We modified a little bit

Comment 21: Pg 11, line 14: unclear what is meant about the upstream causes of abortion.

Response: We modified the sentence

Reviewer #2

This is a good article, very useful. It could be enriched with describing the limitations of this methodology and discussion on program implications. Also are abortions legal or illegal in DRC?

Response: We have enriched as suggested.
In the DRC, induced abortion is still illegal. We note advances in the process of its legalization, including efforts in publication in the official journal.