Author’s response to reviews

Title: Prevalence and determinants of unintended childbirth in Ethiopia

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Author’s response to reviews: see over
Authors’ response to reviews

Title: Prevalence and determinants of unintended childbirth in Ethiopia

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Dear Editor

With the submission of this revised manuscript we would like to acknowledge the comments forwarded by the Referees and we also appreciate for taking part of their busy time to review our article. We are grateful for the critical comments forwarded by the two referees and we have revised the article based on the comments. The comments have helped us to see the article with more depth and make adjustments accordingly. The changes that are made on the manuscript are indicated in detail as follows in blue in line with each of the Referees’ comments. Please let us know if any more is needed from our end to improve the content of the article. We declare we have no conflict of interest.

Regards,

Yibeltal Tebekaw
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Abstract: Conclusions sections should be more focused indicating a few of the recommended strategies in the article which should be implemented to improve family planning in Ethiopia. As it is now, it is highly general.

Conclusion part refined and made more focussed as per the specific findings. It reads now as “The study found a relatively high prevalence of unintended childbirth in Ethiopia and this implies high levels of unmet need for child spacing and limiting. There is much need for better targeted family planning programs and strategies to strengthen and improve access to contraceptive services, to raise educational levels, and related information and communication particularly for those affected groups including young, unmarried, multipara, and those with less than secondary level of education. Further quantitative and qualitative research on the consequences of unintended pregnancy and childbirth related to prenatal and perinatal outcomes are vital to document process of change in the problem overtime.”

Introduction

Paragraph 1: Africa 5.2 million; Sub-Saharan Africa 5.5 million – please check again.

Africa 5.2 million corrected as 6.2 million.

Paragraph 4: 2015 (Ethiopia 2007/2008) and not Ethiopia 1993 – Please correct

2015 in this context refers to the last year of the MDG period (1990-2015) which is in G.C. but not in Ethiopian calendar. Hence we maintained it as it is.

Last paragraph: DHS 2011 should be changed to EDHS 2011

Done.

Last paragraph:

Corrected accordingly as per the suggestions: “In Ethiopia, the percentage of births that were unwanted or unplanned at the time of conception was 37%, 35% and 28% in the 2000, 2005, and 2011 respectively [12]. A cross-sectional study from Eastern Ethiopia shows that 33.3% of sexually active women had their most recent pregnancies classified unintended and the prevalence of unintended childbirth was 14.4% [19]. Another study from the same region shows a 27.9% unintended pregnancy level (13). A nationwide facility based study shows 42% unintended pregnancies [14]. The studies indicate that younger, unmarried, and multipara women and those among the poor wealth quintiles have higher experience of unintended pregnancies [13, 15].”

Methodology

The use of “intended” in this study in place of “wanted” in the EDHS and the same for “unintended” is not acceptable and does not signify the same meaning. Suggest keeping “wanted” and “unwanted” as it is used in the EDHS.
The operational definitions of intended and unintended used in the paper are not acceptable unless they have been specifically used in the EDHS methodology. A study that is doing a secondary analysis on a previous database cannot in my view go into the process of providing operational definition of study subjects other than the one already used in the parent study. This creates too much of a bias.

Regarding the terms used to define the outcome variable, the authors preferred the use of “intended=0 vs unintended=1” instead of “wanted or unwanted” for the following reasons:

- Though the term “intended” has an equivalent meaning to “wanted” in this context, “unintended” and “unwanted” do not carry the same meaning. According to EDHS, “if the birth or pregnancy was wanted then, it is considered to be planned. It is considered to be mistimed if it was wanted but at a later time, and considered to be unwanted if it was not wanted at the time of conception”. When we considered a dichotomous variable, using the term “unwanted” instead of both mistimed and unwanted births would be confusing which would bring different understanding from that of the EDHS report. Hence, to harmonize this, we preferred to use the terms “intended vs unintended”. We didn’t intend to give an operational definition which would bring a different meaning to that of the EDHS report. Unintended childbirth in this case refers to the last birth that was not wanted or that was mistimed at the time of conception or it refers to the proportion of births resulting from unintended pregnancies.
- Many previous studies used the terms “intended vs unintended” and yet respondents were asked same kind of series of questions used in the DHS.
- We believe using the terms “wanted or unwanted” as a whole would seem judgmental on the approach of the analysis.

However, we would appreciate for any further advice on this regard so that we can harmonize the different views to make the article more informative.

**Results:** Most of the result section in the initial paragraphs describes the frequency of the findings in percentages without indicating the significance level of the findings either in p values, unadjusted and adjusted odd’s ratios. Better to include those from the initial results section and summarize the results section.

The remainder of the results section is well organized.

The results section is summarized again and the unadjusted (chi-square) significance levels are included in the revised version. Details are reduced as the findings are available in the tables and figures.

**Discussion:**

Paragraph 7: Please clarify the statement “Plus, Afars and Somalis have the highest wanted fertility of 4% and Oromos 3%”. What exactly is wanted fertility?
Rewritten and reads as “Somali and Afar have the lowest proportion of women and men with desire to limit childbearing and have the highest total wanted fertility rate in Ethiopia compared to the Oromos.”

EDHS 2011 report presents both the Total Fertility Rates and the Total Wanted Fertility Rates by region. EDHS has assessed the level of unwanted fertility among women age 15-49 through a series of survey questions asked about each of the children born to them in the preceding five years (including current pregnancy). This was done by asking women whether each of the previous births or current pregnancies was wanted then, wanted later or unwanted at the time of conception. The total wanted fertility rate (TWFR) is calculated in the same manner as the total fertility rate (TFR) but excludes unwanted births from the numerator.

Could the level of empowerment of women explain some of the discrepancies of this study such as the unintended pregnancy being more among some regions and less in Somali and Afar; lesser among the poor than the middle class …etc. In a situation where a woman may be expressing the opinion of her husband rather than her own on whether a pregnancy was intended or not the discrepancies observed in this study might appear.

The authors tried to analyze the association between women empowerment and unintended childbirth by indexing a decision-making autonomy variable using some of the questions used to assess women’s decision-making autonomy on large household purchases, healthcare, visit to relatives…. Even we checked by each individual variable. However, we got huge missing values which would affect the interpretation of the results in the logistic regression model. It would reduce the sample size by at least 15%. However, we have added other independent variables related to healthcare (knowledge of any method of contraceptives, contraceptive use and history of abortion).

Minor essential revisions:

If the article can be shortened a bit it is ok.

The article was revised and shortened from around 6700 to 5800 words.

It would also be good if the authors can add a small paragraph on 1. the level of empowerment of women in Ethiopia; 2. The general role of planning in life – the view of society on planning in general and 3. The highly religiosity of the society expressed in the belief that outcomes happen anyway and individual interventions will not alter predestined outcomes. All of this has a huge impact on the kind of responses couples and individuals may provide to questions like whether a pregnancy was intended or planned. In the strictest sense of the word, I really doubt as to whether even 1% of pregnancies in Ethiopia are PLANNED or INTENDED. But as is obvious the majority are accepted anyway.

We have tried to include evidences regarding religiosity and women empowerment to support our findings among others is the following paragraph added under the Discussions section of the article:

*The other finding worth mentioning is the difference in unintended childbirth by religious background. In the current study, Muslim women had lower odds of having unintended*
childbirth compared to Orthodox Christians. This might be attributed to the tendency of Muslims to have higher fertility compared to Christians. Evidence shows that Muslims have the highest fertility in the regions of Ethiopia with equal Muslim and Christian populations (Oromia and Benishangul-Gumuz), but the lowest among Muslim minority regions [32]. Another EDHS data in-depth analysis shows that Muslim women show better decision making power on their own health care as compared to other religious groups [33]. Only thirteen percent of Ethiopian women decide on their own healthcare independently [12].

Discretionary revisions
None.

Quality of Written English
Very Good

Statistical Review
I have tried to see that myself. No need for additional review.

Conflict of interest
I do not have any conflict of interest.

Decision
Would like to see the article again after the authors have addressed the major revisions.

Referee 2:

Reviewer's report

Title: Prevalence and determinants of unintended childbirth in Ethiopia

Version: 1  Date: 17 June 2014

Reviewer: Ramesh Adhikari

Reviewer's report:

Title: Prevalence and determinants of unintended childbirth in Ethiopia:
The authors have selected an important topic that deserves increased attention in Ethiopia. Determinants of unintended childbirth are poorly understood in Ethiopia and most of the developing countries, and this study contributes to add some new knowledge regarding unintended childbirth. However, this paper does need some revision before it is acceptable for publication.

Abstract:

Background: Background can shorten.

Shortened a bit from 992 to 637 words after revision
Method: It would be better to have sample size in method section.

Sample size included and reads as “……It covered 16,515 women of which 7,759 had at least one birth and thus included for this study.”

Result: It would be better to focus more on unintended child birth not unintended pregnancy as title of this paper is related to unintended child birth.

We agree with the comments and done accordingly.

Introduction:

It would be better if authors add some more literature regarding the situation of unintended childbirth in Ethiopia. Almost all literature presented in background is related to unintended pregnancy not unintended childbirth. Unintended pregnancy does not mean unintended childbirth because most of the women who had abortion had experienced unintended pregnancy.

As much as possible, we have tried to include study results and survey reports about childbirth in Ethiopia. Articles and surveys that are accessed were referred. The main limitation is that almost all of the previous studies were done on unintended pregnancies rather than unintended childbirth. Fair modification was done on the Background section.

Result:
It would be better if authors add some more important variables such as exposure to mass media, knowledge and practice of family planning, history of abortion in the analysis (both bivariate and multivariate analysis).

The suggested variables including exposure to mass media, knowledge and practice of family planning, history of abortion are included in this revised version.

It is not clear whether author checked multicollinearity between the variables. Variables such as 'age' and 'parity' will be highly correlated.

Multicollinearity was also checked and stated in the analysis section of the Methodology. The text in the article reads as

“Multi-collinearities were also checked among selected variables including age versus parity, educational status versus working status, and educational status versus wealth index. The Variance Inflation Factor (VIF) and adjusted $R^2$ values for each of the pairs ranged from 1.01-1.31 and 0.001-0.011 respectively. Commonly, a VIF of 10 and above or a Tolerance (1-$R^2$) of close to zero would be a concern for multi-collinearity.”

It would be better if authors include r square in the logistic models.

In the logistic model part, we have included values of goodness of fit tests and the pseudo R2 values as per the suggestion (Paragraph 3 under the METHODS section).
“The Hosmer and Lemeshow goodness of fit test showed P-value of 0.89 and Nagelkerke R Square value was 0.63 for the final model which shows that our data fairly fits with the logistic regression model.”

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Language edition made further during the revision by a native speaker (one of the authors).

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: I declare that I have no competing interests

Other changes made by the authors:

- The paragraph for “limitation of the study” moved from DISCUSSION section to the METHODS section so that readers can take these into account before reading results.
- Formatting of the article done as per the BMC author’s checklist.