Reviewer’s report

Title: Awareness, use and associated factors of emergency contraceptive pills among women of reproductive age (15-49 years) in Tamale, Ghana

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Reviewer: Jane K Cover

Reviewer’s report:

This was an interesting article and I enjoyed reading it. I have a number of suggestions to make it a stronger paper.

Major Compulsory Revisions

Results:

• Related to the cultural and religious acceptability variables, in Table 2, the denominator is among women who are aware of ECPs, and correctly so. It seems reasonable that you would ask cultural and religious acceptability questions only to women who have heard of/are aware of ECPs. But in your statistical analysis (Table 4), your calculations appear to reflect the entire study population (n=200), with the percentages calculated based on the full sample. I would advise limiting the regression only to the population that is aware of the method (n=138).
• Factors associated with the use of ECPs: Interpret your findings! (e.g. The odds of using ECPs are X% higher among women who said they were affordable. The odds of using ECPs are X% higher for women whose religion opposes EC...)

Discussion:

• Your findings on the relationship between cultural and religious attitudes and ECP use are intriguing! Speculate as to why women whose religion and culture are opposed to ECPs would be MORE likely to use than women without such opposition. The reader needs more explanation of these counterintuitive findings. What have other studies found on this issue? If you can’t find EC studies that explore the relationship between ECP cultural/religious acceptability and use, then find another comparator – sterilization and Catholicism for example.
• While you mention your limitations, a key limitation is that your analysis is univariate. I assume you did not include any additional variables in your equation because of lack of statistical power? It may well be the case that your findings are spurious. Perhaps if marriage or age were controlled, some of these relationships would disappear. And that being the case, I don’t think your evidence is strong enough to make recommendations. Rather, I would emphasize that these findings are intriguing and MAY suggest a relationship, but further study with a larger sample that would permit multivariate analysis is required.
Minor Essential Revisions

Abstract:
• Second sentence: Replace ‘It’ with ‘ECPs’
• Third sentence: insert ‘among’ (among reproductive age women)
• Third sentence: insert ‘Ghana’ (women in Tamale, Ghana) since this is the first mention of where Tamale is located.
• Methods: This section should include a sentence describing the statistical analysis (univariate logistical analysis) performed to produce your findings.

Introduction:
• Second paragraph: Remove ‘she’ from the last sentence.
• Third paragraph: Replace ‘them’ with ‘those pregnancies’ from the first sentence, since it is not the women who are unplanned and/or unwanted
• Third paragraph: It is not the fact of being unplanned that causes maternal mortality. Rather, it is the physical (and also social) characteristics of women who do not want that pregnancy (too old, too young, too many, too soon) that make those women vulnerable to mortality. In addition, as you correctly note, having an unwanted pregnancy may lead to an unsafe abortion, which in turn, can cause mortality. Best to be clear with your language.
• Fourth paragraph: Replace ‘has’ with ‘have’ in the first sentence, since ECPs is plural.
• Same sentence: Rape is not a ‘contraceptive accident’, so it should not be added to the list with burst condoms and forgotten pills.
• Fourth paragraph: Site the studies on awareness in Ghana, and summarize the main findings. These are important comparators to your study, even if the population is different.

Methods:
• Second paragraph: There is no need to state that you excluded women outside the target age range.
• How did you decide on 200 participants? Explain your rationale for the sample size.
• You draw your sample from a list of electoral constituents. How comprehensive is this list? Who (what type of women) are likely to be excluded? While random selection is good, you need to address the possibility that the population from which you are drawing your sample nonetheless is likely to differ in a nonrandom fashion from the population of WRA of Tamale, Ghana.
• Questionnaire: Include the questions (verbatim) that are central to your analysis (awareness, affordability, availability, cultural unacceptability, religious unacceptability). Is cultural and religious acceptability a yes/no question or are there shades of grey? Was ‘don’t know’ or ‘uncertain’ a valid response category. Including the wording for key questions in the methods section helps the reader
to better understand and interpret the findings.

• How did you classify education into two categories? Elaborate on what ‘low’ and ‘high’ education mean.

• Conduct your analysis using age as a continuous variable. You are losing too much information when you recode to categorical (which may be why you don’t see significance).

Results:

• First paragraph: if you are only going to report percentages for one category (of a categorical variable), chose the modal category (high education, married, self-employed, Muslim, below GHC 200).

• Second paragraph, fourth sentence: Replace ‘of the study participants’ with ‘among those aware of ECPs’. The percentages are not calculated from the full sample, but rather from those who have heard of ECPs, right?

• Table 1: report the mean age, or if you prefer the median.

• Table 1: To what extent does your population resemble (or not resemble) WRA in urban settings of Ghana? It may be hard to add a comparison column from the DHS (due to the way variables are classified), but at a minimum, give the reader some idea of how similar or different your sample is.

• Third paragraph, second sentence: ‘With regards to cultural and religious acceptance, 63% said it was NOT culturally acceptable and 44.9% said the usage of EC WAS acceptable’ (emphasis added). Why is one expressed in the negative ‘not acceptable’ and the other in the positive ‘is acceptable’? Please confirm that these variables are both coded correctly, and that frequencies for these tabulations are expressed in the same direction – either both in the negative or both in the positive.

Discussion:

• Be cautious about causality. In paragraph six, you have a sentence, “This presupposes that availability and affordability are significant determinants of the use of ECPs.” You may be right, but it is also possible that women who use ECPs know where to get them and how much they cost. I would replace the word ‘presupposes’ with ‘suggests’, and ‘are significant determinants’ with ‘may be significant determinants’.

• You recommend price subsidization, but I don’t recall reading what the price is.

Discretionary Revisions

Abstract:

• Results: I would drop the first sentence. The age of the respondents is not a key result that merits inclusion in the abstract.

Discussion:

• Second paragraph: There is a lot of data from other studies included in the discussion. It would perhaps flow better if the comparative data on levels of
awareness found in other studies was moved to the background section. You can then reference these studies in the discussion more generally, without getting into all the details (percentages).

**Level of interest:** An article whose findings are important to those with closely related research interests

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.