Reviewer's report

Title: Contraceptive use and associated factors in Afghanistan: A secondary analysis of Afghanistan Mortality Survey (AMS) data

Version: 2
Date: 30 July 2014

Reviewer: Catherine Todd

Reviewer's report:

Major Compulsory Revisions

• There are two major issues that need to be addressed in this manuscript: data for percentage of use by method and geographic distribution by method needs to be presented. This has major policy and programming implications – for example, if withdrawal is the most commonly used method in urban areas where there are many health facilities, how will BPHS expansion reduce unintended pregnancies that result from use of less effective methods? There is no mention of bringing men into the decision process, even though two of the most common methods, condoms and withdrawal, are “used” by men and male permission is required for women to access other modern methods.

• Next, there is no mention of how contraceptive use was queried. Were women willing/able to disclose male method use? Were responses from their husbands use to confirm method choice or use? Were these interviews conducted confidentially with only the wife or husband or were women interviewed in the presence of their husband or mother-in-law? Could this have biased the data?

• Introduction: Multiple statistics are provided regarding maternal and child mortality for Afghanistan, but no comparator or ranking is provided to place these statistics in perspective (where do these rank globally?). Also, there are other national statistics on contraceptive prevalence gathered in Afghanistan in the last decade, such as through the National Risk and Vulnerability Assessment. Those statistics should be provided with their year of collection to provide a comparator for AMS data.

• Methods: Please specify whether there were female study staff and whether women were interviewed alone by the staff member or surrounded by family members. The conditions under which interviews were done may result in some reporting bias and need to be detailed.

• Methods: In the analysis section, terminology used needs to be reviewed by an epidemiologist or statistician. Contraceptive use is the primary outcome measure and should be referred to as such, rather than as a dependant variable. Was logistic regression used for the bivariate analysis? Table 2 suggests this was done by Chi-square test – please verify and, if two different methods were used, please advise why Chi-square test is used. What criteria were used in constructing multivariable models? Were all sociodemographic variables included or just those meeting certain criteria (\( p < 0.10 \)) in bivariate analysis?
• Methods: Please clarify whether contraceptive use included all methods (modern and traditional) or just modern methods. If both groups were included, why was a sub-analysis of use of modern methods not performed? This sub-analysis should be considered as use of withdrawal and other traditional methods are unlikely to inform policy and programming development, the stated rationale for this study.

• Results/Discussion: The reported association that contraceptive use is lower among women who marry at age 19 or older is surprising. Can some explanation be provided for this finding?

• Discussion: The authors state that being from “any region” and remoteness of household were not independently associated with contraceptive use. This seems unlikely based on results from the bivariate analysis. Did the authors ensure that the multivariate analysis was comprehensive by either analyzing these variables by their differential categories or creating new dichotomous variables to represent most remote vs. least remote, etc.?

• Discussion: There is not very much correlation between results and the existing literature – the paper would benefit from efforts to place findings in perspective to findings from other countries with similar challenges.

• Discussion: There is no limitations section while limitations were certainly present, in addition to those imposed by insecurity on sampling. Please consider what potential reporting biases may have been present at the household level.

• Tables and Figures: Is a map image missing from Figure 1? This may have occurred during .pdf conversion of the file and seems to appear as the last page of this document. Please check with journal editorial staff.

Minor Essential Revisions:

• The manuscript would benefit from review and editing by a native English speaker with a background in epidemiology. For example, the abstract currently states, “The outcome variables is use of any contraceptive methods as a binary variables” and may benefit from re-phrasing as, “The primary outcome measure is current use of any contraceptive method, a dichotomous variable.”

• In the Abstract Results section, young age and rural location are indicated to be independently negatively associated with contraceptive use. Please provide the adjusted odds ratios and 95% CIs for these data.

• Introduction: Review is necessary by a native English speaker to adjust grammar and vocabulary issues.

• Methods: There is quite a bit of detail regarding sampling and question content in the AMS that is not particularly relevant to the purpose of this analysis. I suggest the authors minimize the amount of detail regarding question content not relevant to family planning and management of death inquiries and instead reference the AMS report that is available on the Internet.

• Methods: Analysis: please advise how the analysis was performed. Was a statistical software package used and, if so, which one?
• Results: The data indicating an association between education and contraceptive use needs further detail, such as odds ratio or p-values to indicate whether the association was significant.

• Results: There is a lot of repetition between data contained in the tables and in the text. It would be best to simply mention significant variables by name in the text and then refer the reader to the appropriate table for percentages, p-values, etc.

• Results: The detail regarding analysis approach for the multivariable model should be moved to the analysis paragraph in the Methods section.

• Discussion: In the first paragraph, the authors mention that the national CPR of 22% is an improvement. However, no comparative statistics are provided – please include this data in the Introduction. Also, some care needs to be taken with attribution – if withdrawal and condoms are the most popular methods, is it likely that BPHS expansion has resulted in their use?

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

**Quality of written English:** Not suitable for publication unless extensively edited

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

**Declaration of competing interests:**

I declare that I have no competing interests.