Reviewer's report

Title: Determinants of first and second trimester induced abortion in Ethiopia - results from a study taken place after a recent abortion law reform

Version: 4 Date: 17 June 2014

Reviewer: Caitlin Gerdts

Reviewer's report:

This is an important contribution to a sparse literature around unintended pregnancy and abortion in Ethiopia. The authors have used a unique study design to enable an investigation into potential predictors of abortion and contraceptive use patterns.

Major Compulsory Revisions:

1. Inclusion criteria must be more clearly explained. The following descriptions on page 3 are incomplete and leave the reader wondering why the description of each category of inclusion is different. The authors must standardize their descriptions. Line 21-22 "Data were collected for 3 months at each health facility. Out of 842 eligible women, 715 (85%) accepted to participate in the study (Table 1)." Line 25-26 "Out of 112 eligible 26 women, 90 (80%) were included in the study."

In addition to standard exclusion criteria, for Line 30-32: "In all 183 women were admitted with incomplete abortion, 133 of these women were invited to participate in the study and 128 (70%) accepted participation." one wonders why only 133 women were invited to participate.

2. On page 4, the authors describe a reference group, but do not give any rationale for why they believe this reference group (women seeking antenatal services) would be an appropriate comparison group for women seeking both legal and illegal abortion. A full description of the rationale behind the comparison group, and the potential limitations of the comparison group is warranted.

3. Page 3. Dr. Rasch has published extensively on the use of empathic interviewing techniques, but the method is not well described in this paper. The authors should provide either a) a full description or b) citations for the method.

4. Page 6, line 24, the authors say they are describing 'determinants' of first and second trimester abortion. The use of causal language in an observational study, while common, is not appropriate given the limitations of the data and comparison groups. The authors should modify their language in the discussion section to ensure readers understand that the results are associations not determining factors.

5. Limitations of the comparison group and potential issues of unmeasured
confounding are not addressed in the loosely written limitations section and must be addressed

Minor Essential Revisions
There are a number of typo's and spelling mistakes throughout the manuscript, the authors should do a thorough read through before resubmission.

**Level of interest:** An article of importance in its field

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

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

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