Reviewer’s report

Title: "Love me, parents!": impact evaluation of a national social and behavioral change communication campaign on maternal health outcomes in Tanzania

Version: 1 Date: 20 Sep 2016

Reviewer: Sonia Lewycka

Reviewer’s report:

This paper provided a useful investigation of the impact of a national social and behavioural change communication campaign to improve maternal health outcomes. I have the following suggestions for major compulsory revisions:

1. The major thing that would improve this paper is presenting more key results in tables. On the basis of the data presented, it is difficult to interpret the findings. There is important information missing from your results that would help readers assess your analysis and conclusions drawn. You need a table providing summary descriptive statistics for the study population. You also need a table that includes bivariate results showing prevalence of outcomes in different levels of exposure. This would show whether women exposed or unexposed to campaign messages were systematically different, and which factors may be important confounders. You have only presented two of your outcomes in table format. I'm not sure why the others have not been presented this way, but it would be useful to see the full models for each. Also, I think it would be easier for interpretation and comparison if you used logistic regression for all of the models, and presented Odds Ratios with 95% confidence intervals instead of coefficients. You don't need to include t, Wald's chi-square or df in the tables. You could convert the 'number of ANC visits' variable to 'four or more ANC visits' yes/no, which is a commonly used indicator. For 'timing of first ANC visit', you have presented mean number of weeks, but say you conducted logistic regression, so it isn't clear whether this variable is continuous or binary. Again, 'ANC visit in the first trimester' yes/no, would be a standard way to make this a binary variable.

Minor essential revisions:

2. Was this a national campaign? On line 173, page 9, the phrase "throughout intervention regions" suggests that it wasn't. It would be good to state this explicitly either way in the abstract and description of the campaign on page 7.

3. How many regions are there in Tanzania in total? What is the population of the selected five regions? You need to mention in the abstract that these were purposively selected.

4. It would help to present some results in the form of ORs for main findings in the abstract.
5. I think you have missed one or two negative results from the abstract. Timing of first ANC?

6. Lines 55-56, page 5 - you mention that challenges remain in meeting the MDGs even though these have now passed.

7. Line 59, page 5 - can you say what the proposed goal was here? i.e. "…maternal mortality twice as high as the proposed goal of … per 100,000 live births …"

8. Lines 96-98, page 6 - this text doesn't read well. Can you re-write it?

9. Line 206, page 11 - you mention that 'eligible women' were read a consent script. You need to provide more detail about how this sample was selected for interview.

10. Lines 213-214, page 11 - you mention household possessions. What were these? Were they a standard set of possessions as used in DHS surveys? It's strange that you haven't found many associations between household asset ownership and health behaviours that usually have a strong socioeconomic gradient. Could the choice of possessions be an issue here? You need to state what they are so that readers can consider how this might affect your analysis. Also, for continuous variables like 'number of ANC visits', do you have enough data at higher levels of attendance? Do you have any other thoughts about why there were few associations with demographic variables?

11. Lines 247-248, page 12 - this is a bit confusingly worded. I think that the 22.1% with no education at all are part of the 87.4% with primary education or less. For clarity, could you present the proportions with no, or primary education separately?

12. Lines 276-274, page 13 - the exposure to the campaign is surprisingly low for a multi-channel mass media campaign. In the discussion, you could comment on this. Can you compare this level of coverage to other campaigns that were or were not successful in changing behaviours?

13. The label 'area of residence' for urban/rural is a bit misleading. It could be region or district or some other geographical division. Can you just call it 'urban/rural residence'?


15. Line 332, page 16 - can you check the 35.1% figure? This doesn't seem right given that 127 women delivered at home.

16. You haven't presented all of the Odds Ratios, only interpreted them as percent increases in behaviour. The 9% increase in health facility delivery, and 3% increase in HIV testing are very small changes. It would be helpful to present confidence intervals here, or in a table.
17. And a point for discussion perhaps - are such small effect sizes likely translate to measurable changes in MMR? Is this approach likely to be cost-effective?

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

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