Author’s response to reviews

Title: Fertility and family planning in Uttar Pradesh, India: major progress and persistent gaps

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Version: 1 Date: 02 Aug 2019

Author’s response to reviews:

Reviewer 1:
1. A well written article, discussing a pertinent issue

Response: We thank the reviewer for the kind comments

Reviewer 2:
1. As the authors mentioned in line 167, the districts were grouped according to NFHS-4 TFR levels. However, I believed the change of TFR in each district you mentioned as follows might be more reasonable when analysis of contraceptive use patterns and trends. I would like to suggested the heat map of change of TFR in each district as figure 4. And the following family
planning coverage and trends should also be re-analysis according to the change of TFR rather than TFR in each district.

Response: We reworked the analysis by categorizing the districts based on the change in TFR as suggested by the reviewer. (The analysis results part of the appendix of the paper). We did not find any significant change in the results. The association between the rate of change in TFR and contraceptive usages also remain the same. This is primarily because many of the districts with slow rate of change are falling in the same categories of district with low TFR. Similarly, the district with faster change are those with high TFR. Though we feel reviewer’s recommendation is genuine and adds another dimension to the findings, we also feel that it is not changing the results substantially. Hence, we have retain the original analysis and description as it is and added a paragraph in the results section mentioning the similarities and difference in the results based on the new analysis. This will also go along with the regression table where we are presenting the results in two panels: on based on the recent TFR and second based on the change.

Minor comments:

2. Although abbreviation has been provided in the end of manuscript, full name still should be provided when it first appeared in the text, eg. TFR in line 115.

Response: The comment has been addressed.

3. What is the replacement level mentioned in line 127?

Response: The replacement level is 2.1 and it has been mentioned in the text.

4. In line 156, the authors mentioned that they examined clustering of fertility using NFHS data in 2015-16 and assessed the extent to which district characteristics were associated with fertility. I would like to suggest the authors to provide the detail data or clustering figures in the results to show the district characteristics were associated with fertility.

Response: The table 1 provides district characteristics such as literacy level, urbanization level, percentage of Muslim population, percentage of Scheduled Caste population and poverty levels

5. The modern and traditional contraceptive methods should be defined in the part of methods.
Response: The modern and traditional methods have been defined in the text.

6. In figure 1, line chart is more suitable.
Response: Figure has been revised with a line chart

7. I fell quite difficult in understanding the figure 5, and I think the authors should provided detailed figure legends rather than a figure title.
Response: We have added a legend for better clarification