Reviewer's report

Title: Reproductive healthcare utilization in urban poor settlements of Delhi: Baseline survey of ANCHUL (Ante Natal and Child Health care in Urban Slums) project

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Reviewer: Changwei Li

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Devasenapathy and colleagues performed a secondary analysis of the ANCHUL study to explore the extent and determinants of disparity in maternal health facility utilization among the poor urban population in Delhi. They identified that the maternal health care utilization was suboptimal in this population, and income was the main factor that predicted the maternal health care utilization. This is a very good study focusing on under-served vulnerable population. However, I would suggest the authors clarifying the following major issues before publication:

1. The study sites were two large urban poor settlements in Delhi. How many urban poor settlements are there in Delhi? If there are more than 2, how the two sites were selected? Because this would affect the generalizability of the study findings.

2. The sampling scheme and process are not very clear. Are you including all household in the two settlements? Or just a random sample of all households?

3. It is not clear the validity of self-reported pregnancy in this population. Is there any research in India on the validity of self-reported pregnancy? If the validity is low, then the prevalence of maternal health care utilization will be biased.

4. What about women with miscarriage? Were they included as those delivered in the past 6 months?

5. The author mentioned that “if a household had more than 1 women who delivered in the past year, only one of them contribute to the analysis...”. How the women included in the analysis were selected? Randomly?

6. Table 4 shows that ANC registration rate was much higher among delivered mothers than pregnant mothers. Is there any specific reason for that? Among delivered mothers, only 46.3% had their first ANC visit in the first trimester. I notice that the mean gestational period was 5.6 months among pregnant women, which means many of them were actually at their first trimester. Maybe many other pregnant women will register the ANC later during their pregnancy. I suggest the authors elaborating on this difference.

7. As discussed in 6, I think the model on “Possession of ANC card” should be better done among the delivered women, since many non-registered pregnant women might register later. Or at least, the authors should present the model among delivered women.
8. Table 5 shows that “cluster vulnerability score” is only associated with “ANC registration in the first trimester” and “Facility based childbirth”. But the results section reads “Cluster vulnerability score was associated with ANC visits, registration of ANC within first trimester, facility based birthing and visit to hospital within one month of childbirth with lower odds in women residing in vulnerable clusters.” Please double check your result section.

Minor:
1. Please make sure that the full names of abbreviations are listed in the manuscript, then abbreviations can be used in the remaining text.
2. For table 3, how was “the median time since childbirth” calculated for primigravida pregnant women?
3. Please annotate the abbreviations in tables.

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:

None