Reviewer's report

Title: Utilization of postnatal care for newborns and neonatal mortality in India: Evidence from a large-scale population-based dataset

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Reviewer: Sada Nand Prof. Dwivedi

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Comments on Research Article, “Utilization of postnatal care for newborns and neonatal mortality in India: Evidence from a large-scale population-based dataset”, by Abhishek Singh, Awadhesh Yadav and Ashish Singh

BMC Pregnancy and Childbirth

The question to be investigated by the authors is very much relevant from public health program point of view. Also, this is an article whose findings will be important to those with closely related research interests. To strengthen the merits of the article further, the following observations on the article need to be considered:

1. The question posed by the authors is well defined.

2. The methods are appropriate but not well-described. As described under 3rd Para of Data & Methods, the analysis is guided by the framework for analyzing a case-control study.

The newborns who died during neonatal period were treated as cases and those who survived were treated as controls. They examined the utilization of post-natal care (PNC) for newborns among the cases and the controls. If PNC is significantly less in cases than in controls, then they concluded that PNC is associated with mortality during neonatal period. Conditional binary logistic regression models were also fitted to assess the adjusted effect of each of the three PNC on the likelihood of mortality during neonatal period.

The adjustment was made for some socioeconomic and demographic
characteristics. The matching variables utilized in the conditional logistic regression models include birth order of the newborn and the age of the mother at the time of birth of the newborn. The above-mentioned facts indicate that they have used matched case-control study design.

It is understood that analytical methods & interpretation of results are directly associated with study design. Hence, under Major Compulsory Revisions, there is need to describe used matched case-control study design properly. How many cases were included in data analysis? How did they select matched cases & controls? How many controls per case? Results in tables (1-3) may relate to only study sample, not the total births. Total births’ details, if necessary, need to be explained in text only.

3. The data are as such sound. They have used data from the ‘District Level Household Survey’ round three (DLHS-3) conducted in 2007-08 in 601 districts spread over 34 states and union territories of India. The authors have tried to investigate the role of post-natal care (PNC) in improving neonatal survival using a nationally representative, large-scale population-based dataset.

As described in second Para of Data & methods, the explanatory variables of interest in the analysis are measures of PNC – whether the new born received any check-up within 24 hours of birth and whether the new born was examined in a government/private health facility. These explanatory variables were computed in order to investigate the association between PNC and mortality during neonatal period. Since, no direct question on ‘whether attempts were made to keep baby warm’ was asked in the survey, they utilized information on ‘whether mother was advised on keeping baby warm during one of her antenatal sessions’ as
a proxy of whether baby was kept warm or not. This proxy measure of PNC is used as the third explanatory variable in the analysis. Keeping in view of these considerations, exclusion of the babies that died within first few hours and minutes of birth from analysis (Para 3rd, Data & methods) is expected to distort the existing relationship between PNC & mortality during neonatal period. How many such deaths were there? These deaths are neonatal deaths only. Under “Major Compulsory Revisions”, for accuracy and clarity, the authors need to include analytical results with consideration of these deaths as well. Further, whether each surviving child completed his/her age beyond neonatal period. If not, what was their proportion otherwise, and how were they dealt with in study design as well as analysis?

4. This manuscript need to adhere to the relevant standards for reporting and data deposition, specially considered data & absolute frequency (not only %) in a desired manner.

5. The discussion and conclusions need to be updated after revision of the article.

6. The limitations of the work need to be clearly stated after revision of the article.

7. The authors need to clearly acknowledge any work upon which they are building.

8. To make the title convey more accurately what has been found, it can be modified as “Utilization of postnatal care for newborns and its association with neonatal mortality in India: An analytical appraisal”.

9. The writing of the article is acceptable. However, inclusion of facts about considered data and related distribution will further strengthen the presentation.

10. I have assessed the statistics in my report.

One can decide on acceptance or rejection after the authors have responded to the major compulsory revisions. After incorporation of suggested “Major Compulsory
Revisions”, the article may be again reviewed for its possible publication in the MBC, Pregnancy and Childbirth.

I declare that I have no competing interests.