Reviewer's report

Title: Assessment of the feasibility and coverage of a modified universal hearing screening protocol for use with newborn babies of migrant workers in Beijing

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Reviewer: Bolajoko O. Olusanya

Reviewer's report:

- General

Besides the reported screen coverage at 24-48hours, the authors have not sufficiently demonstrated why their modified protocol is more effective or efficient in achieving better outcomes for migrant populations. Moreover, the authors have not addressed the following points raised in the earlier review:

- Compulsory Revisions

1. It is unclear how the introduction of an earlier OAE screening test at 24-48hours after birth (with the likelihood of higher false-positives and maternal anxiety) as well as the additional outpatient screening at 2 months would have resulted in improved outcomes without comparing the recommended protocol for China with the authors’ modified protocol among the migrant population.

2. Methods: The enrolment criteria need to be clearly stated. How were migrant mothers distinguished from non-migrant mothers? How were they identified at various stages of the protocol?

3. Methods: Hearing impairment Testing Protocol: This section needs to be clarified. For instance, the recommended or official UNHS protocol in China (Figure 1) suggests that the first inpatient screen should occur 48-72 hours after birth. The understanding from the paper is that the authors introduced an additional inpatient screen at an earlier period of 24-48hrs after birth under their modified protocol. It is therefore confusing to state that modified protocol “incorporated an additional inpatient OAE test 48-72hrs after birth” as this was already included in the official UNHS protocol for China.

Additional Observations:

4. The authors have not adjusted for infants who were lost to follow-up in computing the referral rates.

5. The title for Figure 3 suggests a comparison between the outcomes for the recommended protocol and the modified protocol. However, this is not reflected in the data presented in the flow chart.

6. Discussion (page 11): The first paragraph needs to be revised to reflect the fact that the NIH recommended a two-stage screening first with OAE followed by
AABR for OAE referrals. Diagnosis with ABR is for those who failed the
two-stage screening (i.e. OAE plus AABR).

7. Discussion (page 12, paragraph 1): It is still unclear how the authors “have
demonstrated that there was increased coverage rate in the target population”
when no baseline data based on the official UNHS protocol was not provided.
For instance, how many babies were screened that would have been missed
under the official protocol?

8. Figure 3: The second inpatient OAE is recorded as greater than or equal to
72hrs whereas, in the text, this was recorded as 48-72hrs. Please clarify.

Level of interest: An article whose findings are important to those with closely
related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a
statistician.

Declaration of competing interests:

I declare that I have no competing interests