Innovative Journal of Pediatrics
Volume 34 · Issue 2 · e139634

OPEN PEER REVIEW

The Cost Effectiveness of Newborn Hearing Screening Program: New Approach of Iran Ministry of Health and Medical Education in 2022

Ehsan Moradi-Joo, Mohsen Barouni, Saeid Mahmoudian, Leila Vali

SUBMITTED	REVISED	ACCEPTED	DOI
31 Jul 2023	9 Dec 2023	17 Jan 2024	10.5812/ijp-139634

About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

More about open peer review: brieflands.com/knowledgebase/opr

Contents

1 Original submission Referee 1 2
2 Revision 1 3
Authors' reply to reviewers 4
Reviewer and editor comments 10

1 Original submission

1 comment · 4 Nov 2023

Referee 1 Reviewer

MAJOR REVISION 4 Nov 2023

Correct the grammatical structure.
The structure of the summary of the article should be modified according to the format.
The structure of the article should be modified according to the format of the magazine.
The introduction of the article should be revised with new references.
The results of the article should be more comprehensive.
The author's conclusion is more complete.
References should be corrected; please add new references from 2021–2022.

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewer 1:

Q: Correct the grammatical structure.

Reply: The manuscript was carefully edited.

Q: The structure of the summary of the article should be modified according to the format

Reply: The abstract was revised according to the journal's format (structured abstract: background, methods, results, conclusion).

Q: The structure of the article should be modified according to the format of the magazine

Reply: The structure of the whole manuscript was revised accordingly.

Q: The introduction of the article should be revised with new references

Reply: New and up-to-date references were added (highlighted in the reference list) to the introduction and discussion.

Q: The results of the article should be more comprehensive.

Reply: The manuscript was revised accordingly.

Q: The author's conclusion is more complete.

Reply: The conclusion was completed.

Q: References should be corrected please new reference 2021 -2022

Reply: New and up-to-date references were added (highlighted in the reference list) to the introduction and discussion.

Thanks for your time and valuable comments.

Reviewer 2:

Thank you for considering me as a reviewer for your prestigious journal. The study addresses an important public health issue - evaluating the cost-effectiveness of different screening protocols for detecting hearing loss in newborns. This can help inform policy decisions around implementation

of national screening programs. Overall this appears to be a solid study assessing an important public health policy question. With some minor revisions to provide more context and discuss limitations, it could make a valuable contribution to the literature. Here are a few thoughts on peer reviewing this article on the cost effectiveness of newborn hearing screening in Iran:

Method:

Q: More details could be provided on the data sources and cost estimates, including any limitations. Were the costs estimated from published sources or primary data collection?

Reply: The data were obtained from the Non-Communicable Diseases Department at the Iranian Ministry of Health. This section was highlighted in the method. A detailed explanation has been provided on the cost-estimation process.

Results:

Q: The source and details of the data used, such as the screening coverage rates, prevalence of hearing loss, and cost estimates, are not fully described. More information on where these parameter values came from and any uncertainties would strengthen the results.

Reply: Thank you, I agree with you, and in fact, we have provided the information required on cost-estimation, sources, coverage rate in the method section under the sections of Cost Estimation and Outcomes.

Q: The disaggregated costs for the different screening strategies are not shown - only the total costs. It would be informative to see the breakdown of costs by test type.

Reply: Costs related to each method (AABR and OAE) have been separately provided in Table 1 and Tabe 5. The Costs have been provided for each of OAE + AABR and OAE (as the two target strategies that were assessed in this study). The costs for AABR alone can be calculated by deducting the two above costs, but since AABR alone is not a routine screening strategy, it was not our primary goal to separately analyze this strategy.

Q: The majority of results focus on comparing OAE vs. OAE + AABR. The standalone AABR arm does not seem to receive much focus in the results or discussion.

Reply: The focus on AABR alone, since it is not a routine screening strategy, it was not our primary goal in this study.

Q: Uncertainty intervals are not provided around the cost-effectiveness estimates.

Reply: The following was added to the section "Sensitivity Analysis":

For sensitivity analysis, the uncertainty intervals were examined based on the willingness to pay threshold, which showed that the value of ICER after changing the desired parameters in a certain range was below this threshold.

Discussion:

Q: Compare the findings and cost-effectiveness results to other similar studies in the literature. How do the ICERs and conclusions align with or differ from prior studies in other countries? Putting the findings in context can help determine generalizability.

Reply: We found a few reports investigating ABRR and OAE cost-effectiveness for hearing loss screening in newborns. We provided a more detailed discussion around ICER, we hope its satisfactory.

Q: The discussion could be expanded a bit more to put the findings in context of the wider literature on cost-effectiveness of newborn hearing screening. How do the findings relate to studies in other countries/settings?

Reply: According to the ICER estimated here, and based on the results of other studies, the discussion was enriched around the cost-effectiveness of these strategies.

Q: Discuss the generalizability and external validity of the findings beyond the Iranian healthcare system. What are considerations for applying these results more broadly?

Reply: The results, based on the robustness of findings based on sensitivity analysis, can be extrapolated to other developing countries with similar economic and health infrastructure.

Q: Compare the ICERs to a willingness-to-pay threshold that is relevant for the Iranian context to better interpret cost-effectiveness.

Reply: The relevant section was incorporated into discussion.

Q: Discuss implications of the findings for healthcare policy and practice in Iran. What changes to existing protocols for newborn hearing screening might be indicated based on this analysis?

Reply: Since AABR + OAE was found to be the most cost-effective method for screening Iranian newborns, it is recommended to implement this strategy as the primary step to early identify and prevent the progression of hearing impairment in Iranian neonates. This was added in conclusion.

Q: The sensitivity analyses help support the robustness of the findings but it would be good to see some discussion around any limitations or uncertainties in the parameters used.

Reply: The following was added to the section "Sensitivity Analysis":

In the sensitivity analysis, the uncertainty intervals were examined based on the willingness to pay threshold, so that the value of ICER after changing the desired parameters in a certain range is below this threshold.

Q: Provide more perspective on the magnitude of the potential health gains in context of broader hearing loss impact.

Reply: The use of the combined (i.e., AABR + OAE) strategy for screening hearing loss in newborns, as a more cost-effective strategy than OAE, can lead to early diagnosis of hearing impairments in neonates and save the families, the newborns, and health systems the expenses imposed by future therapeutic interventions. Besides, these newborns can benefit from earlier and timely rehabilitation procedures, which can prevent delays in speech development and school enrolment. This was added in the conclusion.

Q: The conclusion could highlight the key implications from the study and what it adds versus existing literature.

Reply: Our results provide new insights on the effectiveness of healing impairment screening methods in newborns. Studies are required to be extended in this area to obtain more comprehensive data on this topic and determine the applicability of different hearing loss screening strategies stratified by socioeconomic classes of Iranians. This was added to the conclusion.

References:

Q: Including some very recent references (past 1-2 years) could further demonstrate this is looking at current practices and literature.

Reply: Up-to-date references were added.

Q: Citations could be added for any health economic parameters like discount rates, willingness-to-pay thresholds, etc.

Reply: Done.

Q: Some references supporting the cost estimates and resource utilization seem to be lacking.

Reply: Relevant citations were added.

Associate Editor's Comments:

Associate Editor 1:

Your manuscript was reviewed by our reviewers. The reviewers have raised concerns regarding the manuscript, and therefore, your paper is not acceptable for publication in this format. However since the reviewers do find some merit in the paper, I would be willing to reconsider if you wish to undertake major revisions and re-submit, addressing the referees' concerns.

Reply: Thanks for giving us the opportunity to revise the manuscript, which was revised according to the dear reviewers' comments.

EIC Decision:

Thank you for submitting your manuscript to Iran J Pediatr. Two reviewers and an Associate Editor have now reviewed your manuscript. I now have the Referees' reports, which suggest that your manuscript might be suitable for publication following some revisions. I have attached some reviewer comments and invite you to submit a revised version of your manuscript addressing the points made.

Reply: Thanks for giving us the opportunity to revise the manuscript, which was revised according to the dear reviewers' comments.

Respectfully

Dr. Moshen Barouni

2 Revision 1

0 comments

No public comments in this round.