Reviewer’s report

Title: Structured on-the-job training to improve retention of newborn resuscitation skills: a national cohort Helping Babies Breathe study in Tanzania

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Reviewer: Johan Wrammert

Reviewer's report:

Thanks to the editor for inviting me to review. I appreciated reading the manuscript and hereby send my regards to the authors for all the work they put into the study.

I think the abstract was well structured and easy to follow. In key words, the authors may consider using "low-income countries" instead of "developing countries".

Background was fine. Whether birth asphyxia is the leading cause of newborn mortality could be discussed (prematurity, severe infection) but it is at least one of the leading causes.

One concern for me is the methods part where the Modified Approach is poorly described. I am told there is a 13-page instruction in local language and that there is repetitive training but more information is needed to understand the difference between the two groups. How often was OJT performed? Daily? With certain intervals? How many of the staff participated? Did it vary between sites?

One weakness in the methodology is the short time of follow up of skills. Previous data typically uses sustainability at three or six months. Why use only 4-6 weeks in this study? The authors explain that this study demonstrates that skills can deteriorate quickly which is worrisome, but how sustainable is their model of OJT after 3 months? Six months? It would have been interesting to see that.

Another weakness is that the groups are trained at different points in time. Could other factors explain the difference in skills retention? More or less workload, for example due to seasonal differences which affect patient flow, could affect the time staff can allocate for retraining. Other training initiatives going on in one of the periods and not in the other? This should at least be discussed.

What also needs to be discussed is the lack of clinical outcomes in this study. It is mentioned and stated that the reason is because of resources. But as some studies has demonstrated a change in simulated skills but not in clinical practice after HBB training it is important to discuss this further.

Conclusion could be more to the point rather than repeating results and discussion again. Repeating references in the conclusion is rare I think.

Table 2: The p-value in the note is unclear to me. What does it refer to?
Comparing table 1 and 2 the number of participants in the two groups seems to differ.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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