Reviewer’s report

Title: Neonatal Near-Misses in Ghana: A Prospective, Observational, Multi-Center Study

Version: 1 Date: 11 Nov 2019

Reviewer: Pauline Kale

Reviewer's report:

The authors made a good revision of the manuscript. I think that it should be more clear why they are using predictive values to discuss the validity of NNMT. There are some minor issues to correct.

1) About the validity of NNMT

The validity of NNMT (gold standard: neonatal death = maximum of the severity); The components of the validity of screening tests are the sensitivity and specificity. The false positives are cases of near miss neonatal (survivors at 28 incomplete days of life). Then, to assessing the validity of NNMT screening is necessary to calculate the sensitivity and specificity.

What was done:

NNMAT positive = 341: 67 deaths (true positive) and 274 survivors (false positive) and the positive predictive value is 19,6%.

NNMAT negative = 53: 1 death (false negative) and 52 survivors (true negative) and the negative predictive value is 98,1%.

Calculating sensitivity and specificity.

Deaths positive = 68: 67 (true positive), so the sensibility is 67/68 = 98,5%

Deaths negative = 326: 52 (true negative), so the specificity is close to 16%.

The frequency of death is 68 deaths among 394 screening tests, so 17,2% (high value).

The specificity is low, and the frequency of death is high so, the positive predictive value is reflecting more the frequency of death than the specificity of the NNMT. Thus, the screening test is more productive and efficient if it directed to a high-risk target population.

I suggested that the authors included the validity of NNMT to recognize severity (neonatal death) besides the calculation and discussion of predictive values, important to recognize near miss cases (NNMT false positives).
2) Corrections:

a) Page 4, Line 45: Two tertiary care hospitals (not three)

b) Page 6, Lines 12 and 13: Apgar scores &lt; 7 at 5th minute (not 1 minute)

c) Page 6, Line 56: only the reference 5 (Silva et al, 2014) use the complete neonatal period (0-27 complete days of life).

d) Page 7, Lines 38 and 39: validity of NNMT to recognize maximum of the gravity (death) and predictive values, to recognize case of near miss.

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

Yes

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

Yes

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.

Not relevant to this manuscript

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

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal