Reviewer’s report

Title: Respiratory compromise in children presenting to an urban emergency department of a tertiary hospital in Tanzania: A descriptive cohort study

Version: 1 Date: 21 Sep 2018

Reviewer: Travis Whitfill

Reviewer's report:

Summary:

This is important work describing the presentation, treatment, and outcomes of pediatric patients with respiratory compromise in the first emergency department in the country of Tanzania. The study seems well conducted and is significant work highlighting a significant problem with high mortality in a single center in Tanzania.

Major or general Comments:

Abstract:
- The concept of "limited" income countries is introduced in the abstract; however, I think "low income countries" is a more standard definition (this is what the World Bank uses).

Background:
- It may be helpful to add some additional background on Tanzania's healthcare system for the readers, especially with an emphasis on pediatrics. Where do pediatric patients typically present? Is there a Children's Hospital in Tanzania? Do other hospitals in Tanzania transfer critically ill/injured patients to MNH?

Methods:
- The relative risks calculated for the EMD interventions add questions in my opinion. For example, for CPR there was a higher RR of mortality. Is this because quality of CPR was very poor or because the patients requiring CPR were more critically ill? It would be interesting to tease out EMD interventions that were done correctly (e.g., correct dose of Abx, correct CPR [e.g., compression and ventilation rates etc.]) and/or control for confounders (e.g., severity score). I understand these are likely not feasible especially from case collection forms, but could be a source for future work. I think the next step should be identifying areas for improvement in managing this patient population due to the high mortality rate compared to other countries as you pointed out.

Results:
You say "in adjusted analyses," but I do not believe the RRs in Table 6 are adjusted for any potential cofounders. Please clarify.

Discussion/limitations:
- To my point above, you could mention in the last paragraph in the discussion that another possibility could be poor adherence to respiratory management guidelines or poor quality of interventions (e.g., CPR)

Minor Comments:

Style/language: There is a mixture of American and British English throughout the paper (e.g., paediatric and pediatric; aetiology and etiology; -ize instead of -ise, etc.). Would make consistent (I believe the style of the Journal is British English).

Cover page:
- Note academic/institutional email addresses are typically used for correspondence instead of personal email. Also, it seems that Dr. Sawe's email address may be incorrect ("yaho.com" instead of "yahoo.com").

Methods:
- SPSS should be cited as (SPSS version 22.0, IBM Corp., Armonk, NY, USA)

References:
- The references need to be checked. E.g., references 2 (missing all information), 3 (missing source [UpToDate], editors, and date it was updated), 4 (missing author), 11 (missing title, source, author, date), 15 (additional words), 19 (lacking information), 20 (weird addition in the title), 23 (missing journal name and year etc.).
- A lot of the references are not from peer-reviewed sources and would ideally be replaced with more credible resources. For example, the PALS guidelines are published (ref 10) and should not cite a website. Please update these references.

Tables:
- There seem to be a lot of tables - I think Table 4 can be merged with Table 1

Figure:
- Figure needs to be edited—e.g., the respiratory failure bubble has no percentage sign; the respiratory distress and admitted bubbles have no closing parentheses. One line is blue and the others are black. Not sure if the Journal will fix this, but wanted to point this out.

Grammar:

These are minor that may be caught by editors, but would like to highlight several grammatical errors:

Abstract:
"We enrolled 165 children; their median age was.." (replace comma with semicolon)
"24 hours mortality" should be "24-hour mortality"
It would read better to have parallel structure in the results: e.g., "20 (12%) were sent to the ICU, four (2%) were discharged from the EMD, and 14 (8%) died in the EMD."
"In the EMD, 18 children" (add "the" and comma).
2 should be "two"
Add closing parenthesis and period in last sentence of the results

Background:
"LIC's" should be "LICs"
Unclear to whom "our" setting refers - please clarify

Methods:
"Data from REDCap… [were]" (replace "was" with "were")
"residents in [an] emergency medicine program"
"24 hours mortality" should be "24-hour mortality"

Results:
"[The] median age was.."

Discussion:
"therapy, however, only 11%" should be "therapy; however, only 11%" (replace comma with semicolon)

Tables:
Table 1: "[Difficulty] breathing"
Table 6: (7.9%) should be (7.9)

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.

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:

Needs some language corrections before being published

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