Reviewer’s report

Title: Does implementation of the PECARN rules for minor head trauma improve patient-centered outcomes in a lower resource emergency department: A retrospective cohort study

Version: 0 Date: 03 Jun 2020

Reviewer's report:

The submitted manuscript is a valuable addition to the evidence base about the utility of PECARN in lower resource settings. It has appropriate design and methods. The manuscript needs the following issues to be addressed before resubmission for a second review:

1. Abstract: In the results section, I recommend the authors list the absolute number of patients who had CT scans in <2year and >2year age groups as this enhances the interpretation of the results. In the conclusion section, I recommend the conclusion be altered to reflect the results accurately i.e. PECARN rules did not significantly change the overall CT scan rate but reduced the CT scan rate in patients aged <2years at low risk of ciTBI.

2. Methods:
   a. The reason for the different durations of pre and post PECARN-implementation is not described. I recommend the authors describe the rationale for this.
   b. The methods of data collection is insufficiently described. I recommend the authors describe this process in detail. I suggest the authors refer to 'Gilbert et al 1996 Emergency Chart Reviews in Emergency Medicine research. Where are the methods ? Ann Emerg Med 1996 MAR;27(3):305-8' or some thing similar to guide their revision of this section.
   c. Was a sample size calculation performed? Please justify your answer.

3. Results: under 'Primary Outcomes - CT scanning rates', please list the absolute number of CT scans in the <2years and >2 years cohorts in all risk groups (in addition to the percentages).

4. Discussion: The limitations needs to be discussed in further detail. Particularly, the reliance on previously documented data might have led to misclassification of patients. The 37 patients whose medical records could not be accessed should also be mentioned as a limitation.

5. Conclusions: The conclusion needs to be altered to reflect the results accurately i.e. PECARN rules did not significantly change the overall CT scan rate but reduced the CT scan rate in patients aged <2years at low risk of ciTBI.

Figure 1: Please replace the word 'Scanned' at the top of the flowchart with 'Screened' as this is confusing given the context of CT scanning.
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.

Yes

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

No

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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