Reviewer’s report

Title: The association of duration of boarding in the emergency room and the outcome of patients admitted to the Intensive Care Unit

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Reviewer: Cintia Magalhães Carvalho Grion

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EMMD-D-17-00006

The association between duration of emergency department boarding and the outcome of patients admitted to the intensive care unit

Authors submit a manuscript presenting a relevant issue that involves the emergency department and intensive care units. There are some interesting data described in this paper but I have some concerns that should be addressed.

The manuscript has many typing errors, needs English editing and revision services and is not formatted according to submissions guidelines.

Abstract:

Authors should state more clearly the outcomes of the present study. In methods section there should be a brief description of main variables analyzed and plans for statistical analysis. In conclusions authors mention mortality as an outcome, although there is no description of this data in results, the last phrase of conclusions should be excluded, since it is not supported by findings of the present study.

Key words should be chosen from the list of MeSH (Medical Subject Headings).

Background

Abbreviations should be defined in the text at first use, please correct them in the manuscript. What does MVA means?

There are isolated phrases in the text with no continuity with what comes before or after. There is no report of results from other authors about the same subject. As authors propose to study the effect of delayed ICU admission in clinical patients, I suggest you explore the data found in the literature about this event in other study patients and in other hospital settings. Data are really
conflicting in the literature, but probably because these aspects vary across studies. You state that emergency teams may jeopardize patient security and increase errors when caring for critically ill patients, but in what way? This issue should be clarified.

Methods

How is organized the care of the critically ill patient in the emergency department? The intensivist cares for all patients? How frequently? What is the nurse to patient ratio? Which physician responds for patient care when there is an acute deterioration? How is the triage of these patients done? What is taken into consideration to prioritize ICU admission? It seems to me that Group 1 are younger and with less comorbidities. Are these characteristics part of the prioritization model?

Why emergency surgical patients were excluded?

What about elective surgeries? Were there any cases of it?

The sample was all adult patients or there were patients under 18 years of age?

Data were collect at ICU admission or when ICU bed was requested?

Patients were mechanically ventilated in the ED? Time of MV summed the entire period (ED and ICU)?

Results

Tables are not in the format required by the journal, they must be edited.

Tables should display legends with information about abbreviations, statistical tests applied, and definitions about study groups' classifications.

Authors describe 920 patients studied but the 3 groups add 940, please explain.

The information on the text of no difference of gender, MV use, diagnostic category or comorbidities is conflicting with the results displayed on Table 1, please clarify.

Total LOS is the sum of ED LOS and ICU LOS, therefore this variable presents collinearity with the classifications of the 3 groups, once those groups were classified according to time in the ED. This variable should be excluded from multivariate analysis.

Table 3 shows five different multivariate analyses? If so, I would suggest replacing the name "variable" in the first column by "outcomes" and exclude the "total LOS" outcome.
I also suggest you describe in the text the median time to ICU admission in the groups, especially in Group 3. It may have a large variation.

Discussion

Authors do not comment on the lack of benefit of immediate ICU admission compared to admission until 24 hours. Since most critically ill patients must be treated within few hours of the event, maybe emergency team is well prepared to deliver the initial care of these patients? Do you have some other explanation to offer?

Discussion is too long, information is presented in a non organized way and there is many orthographic and translation errors. I suggest authors to re write discussion in a logical sequence, by topics, explaining differences between your results compared to others authors.

Last phrase of conclusion should be moved to discussion section, since it does not find support in your data.

All references, including URLs, must be numbered consecutively, in square brackets, in the order in which they are cited in the text, please correct it for the entire manuscript.

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:

Not suitable for publication unless extensively edited

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