Reviewer’s report

Title: Validating a transnational fracture treatment registry using a standardized method

Version: 0 Date: 11 Aug 2019

Reviewer: Cristina Ojeda-Thies

Reviewer's report:

I commend the authors in their efforts in establishing their BFCC, and performing data quality analysis of their registry.

However, I regret to inform that I do not believe the manuscript is publishable in its present form.

I strongly recommend a thorough review of language, as parts of the text seem to have been written using translation software, and the German roots are clearly visible (i.e Line 119, "fracture page, number of side illnesses," from the German "Frakturseite, Nebenerkrankungen"). I believe editing of the manuscript by a native English speaker will make the article clearer and more enjoyable for readers. Furthermore, there are structural and methodological issues which I will summarise point by point:

ABSTRACT: Is is "adaptive monitoring" or "applied monitoring"? Both terms are used in the abstract. Length is adequate.

BACKGROUND: It is very short, and the method of the registry belongs to the "Methods" section. The question of why it is important to analyse data quality is not quite clear, and should be explained better to catch the interest of readers.

METHOD: It is now clear how data for the registry was collected (it is hinted at in the previous section). However, there are serious issues with the data collection software, as can be deduced by the discussion. Inclusion and exclusion criteria should be explained better. The search methodology should be better explained, including a flowchart with the results of your searches. The section could be better structured with subheadings, to make it easier to follow for non-expert readers. A final paragraph should state all the software used for analysis, as some of the software is mentioned in the results section.

RESULTS: Line 116: "A random sample of patients equivalent to the size of  was drawn from the registry...": What size was the random sample? What was the value of n? We finally find out several pages later, in line 183: In total, 73 patients were randomly sampled from the registry". Most readers will have gotten lost by this point, please try to structure the section in a clearer fashion. Again, large parts of this section belong to the "methods" section (Line 122. "A frequently used tool was the package ggplot2 and its geom_count and geom_density function in R...", for example).
DISCUSSION: I could not find this heading in the manuscript. I understand it is included in the CONCLUSIONS section. Please follow the journal guidelines for structuring the manuscript.

There is no explanation on how outliers were managed. Also, there are serious issues with the date format in the registry's software which were only superficially addressed. How did this data monitoring change your registry's practice? Were datasets adapted or modified in view of the results? Are there other methods of data quality monitoring? This is the first published application of adaptive monitoring, I'm missing a comparison to other more established methods. Weaknesses and strengths of your study are insufficiently highlighted.

CONCLUSIONS: Is lacking as such.

REFERENCES: Please review the references thoroughly. Several references do not list the journal title (references 1, 2, 3, 5, 6, 9). Other references are useless for readers interested in consulting them, in the current format (4, 12, 13, 15 need weblinks).

TABLES: Some German words in tables ("Personal" in table 1). In table 1 the thresholds have a ";gt;" sign, in table 3 they have a ";lt;" sign. One of them is likely to be incorrect.

FIGURES: If the fracture age is an inclusion criterion, Figure 3 can be omitted (or at least the scale modified). Figure 4 would be easier to understand as a standard 2x2 figure, the category "same" can be omitted (the reader will see them in the diagonal of yes / yes or no / no). Same applies for figure 1.

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.

Unable to assess

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 recommend additional statistical review
Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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