Reviewer’s report

Title: Laparotomy in women with severe acute maternal morbidity: secondary analysis of a nationwide cohort study

Version: 0 Date: 21 Aug 2017

Reviewer: Valerie Smith

Reviewer’s report:

This is an interesting paper. The data, however, are very old (> 10 years), and while the authors acknowledge this as a limitation, it does question the relevance of the findings for contemporary obstetric care. That said, there seems little other evidence to draw from since the time of this study, and the study data remain informative. There are some issues in the paper that need attention;

1. The definition of 'laparotomy' comes too late in the paper (i.e. lines 104-105); it would be much better placed after the very first sentence in the Introduction section.

2. 'Delivery' is not a woman-centred term - please change the words delivery/deliveries to birth or births throughout (i.e. mode of delivery should be mode of birth, delivered vaginally should be gave birth vaginally, etc., please attend to this throughout all of the manuscript).

3. Lines 101……'women could be included in more than one group…'; this could lead to over-counting and impacts on which denominator is used (i.e. number of women or number of laparotomies); you need to provide a sentence here making clear which denominator you will use and when; i.e. which exactly is your unit of analysis (see also points 5 and 6 below).

4. Why were all vaginal births considered as one group? What about instrumental birth versus normal vaginal birth (you do this for planned and emergency CS) - these may reflect differently in the results; not separating might have biased your data/findings? This needs to attention or at least recognised as a potential limitation in some way.

5. Lines 148-149; it is not very clear what is being reported here, i.e. co-morbidity with what? It reads like co-morbidity associated with admission to ICU, but I don't think this can be correct as you use the denominator of 215 (total number of women, rather than 145 women) for the proportions; if it is co-morbidity associated with laparotomy then the denominator is also incorrect (325 should be used); the total percentages here add up to 106%, so there is clearly some double counting using the number of women as the denominator (i.e. women with more than one co-morbidity); please revisit this section to alter the denominator that you use or be clearer about your unit of analysis.
6. Lines 150-156; these incidence rates are not completely correct. You state the incidence of laparotomy in women with SAMM is 6.0 per 10,000; this, however, as I see it, is the overall incidence for all births (i.e. women with and without SAMM); which is not entirely accurate either as you do not provide laparotomy rates for women without SAMM nor have you included those that did not meet your study criteria - calculating the actual incident of laparotomy in women with SAMM should be based on the 276 women who had SAMM + laparotomy of the 2552 women with SAMM, giving an incidence of laparotomy in women with SAMM of 1061 per 10,000. You need to either change how you have written the lead-in sentence or change all of the incidences rates to correctly reflect the incidences in women with SAMM. You also need to link the data in the text to Table 1.

7. Line 167; SAMM before birth in 14 and after in 198 gives 212 women; what about the other three women? If data missing or 'unknown' then you need to state this.

8. Lines 182-183; this sentence is not formatted/written accurately as it isn't making sense. Also need to be clear again here on the denominator you use - it most likely should be 40 (as you use in the next sentence; Lines 184-185).

9. Lines 213; the rate of laparotomy after CS of 0.3% is only the rate for women with SAMM (as per your reported data); please make this clear for the reader.

10. Line 229; states 11 women with laparotomy due to (suspected) uterine rupture; Line 172 gives a figure of 12 for this and Table 3 gives a total figure of 13….which is correct; please amend for accuracy and consistency.

11. The referencing style and list needs attention; please see the journal guidelines for assistance but in brief; references in the text need to be numbers in square brackets not superscript, ii) for all 'et al', please include the full list of authors, iii) for all journals please use appropriate capital letters for the Journal name and formatting (i.e. abbreviations are used, e.g. Arch Gynecol Obstets'; Int J Gynecol Obstets….etc.), iv) references 5 and 9, 'official organ'? is organ the correct word? Should this be Journal?

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.
Yes

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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