Reviewer’s report

Title: Is Unplanned out-of-hospital birth managed by Paramedics 'Infrequent', 'Normal' and 'Uncomplicated'?

Version: 0 Date: 19 Apr 2017

Reviewer: Jussi Pirneskoski

Reviewer's report:

I would like to thank the authors on presenting interesting data on a subject that does indeed require further scientific input. Please find my comments on improving the manuscript below.

Background:

- Page 3, Row 29: In the first sentence of the second chapter the authors mention two different terms used in pre-existing literature. In addition to these, e.g. terms "pre-hospital delivery/birth" or "out-of-hospital delivery" (Ref. n:o 4) are commonly used in literature. I suggest revising to include the additional terms or rephrasing otherwise. This is relevant, as a multitude of terms used in current literature would require all of them to be used in literature search to cover all pre-existing research.

- Page 3, Row 35: The authors state that "It is acknowledged...". By whom? Reference?

- Page 4, Row 20: I suggest the authors to refer to a relatively recent review by McLelland et al. (Emerg Med J 2014;31) who state a lower attendance percentage with a similar rate reported in a very recent Scandinavian study as well (Pirneskoski et al., Scand J Trauma Resusc Emerg Med, 2015;24) and revise accordingly.

Methods:

- I would be grateful for an extended section describing the study area. How large is the area? How is the population spread out (how much urban, rural etc)? I'd like to also know more about the incidence of planned home birth. In a number of European countries planned home birth is a rare exception, in a few it's very common. I find this background information relevant, as previous research has suggested a negative correlation with long distance to a maternity unit and the rate of unexpected out-of-hospital births. But then again, with longer transfer distances come the obvious increased risks if problems arise.
- Page 5, Row 5: I'm unfamiliar with the patient record system used. Would the methodology used for data extraction cover all possible cases? Would it have been possible to use data collection based on e.g. a dispatch code? I suggest mentioning if the search criteria were deemed inclusive enough or discussing possible loss of data in "Limitations"

Results:

- Were all 5722 patients encountered by the EMS personnel transported to a maternity unit? If not, what proportion wasn't? This would be crucial data when considering the appropriateness of dispatching and use of resources. I suggest reporting in the "Results".

- Regarding pain management: I suggest reporting data separately for BBA, especially regarding use of analgesics. Even though use of morphine was very limited, it would be relevant when managing the baby after birth.

- Regarding vital sign abnormalities: Was data regarding hypotension or heart rate analysed at all? As amount of blood loss estimated by paramedics is known to be very inaccurate, a combination of tachycardia and hypotension could be used as a surrogate of significant blood loss.

- Authors state in the Methods section that all babies born before arrival should have a patient record file. Authors report 618 births but only 413 neonatal records in the results section. In a significant proportion of cases no neonatal records are identified. Is this a problem with data collection or protocol adherence? Please discuss this in the Limitations section.

- No data regarding the infants is represented. All reported vital sign abnormalities and complications refer to mothers. I would find this data of very high relevance especially in view of quite high prematurity rate (28.4%). Even though this is a descriptive study, I would suggest including the data regarding the infants and the actual complications. If you feel that the scope of the current manuscript doesn't allow this, I encourage you to publish the results in a separate paper.

Discussion:

- As the authors mention in the "Results" section the data regarding complications is arbitrary. A comparison to published literature in "Discussion" would be meaningful in order for the reader to fully understand the significance of the presented data. Are the proportions presented different from general population or previous studies.

- Page 9, Row 46: Authors talk about the relevance of recognition and management of possible maternal complications. Still not a single oxygen saturation was recorded in the study
population. I suggest discussing the relevance of this in the views of known possible respiratory complications in pregnant women.

Limitations:

- This section needs major revision. Please further discuss limitations in data collection, the missing neonatal records, infant data not being reported etc.

**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.

Yes

**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:

Acceptable

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