Reviewer's report

Title: Assessing the quality of record keeping for cesarean deliveries: results from a multicenter retrospective record review

Version: 3 Date: 18 November 2013

Reviewer: Nanna Maaløe

Reviewer's report:

OVERALL IMPRESSION:

Thanks to the authors for the substantially rewritten manuscript. Though the lack of data on quality of obstetric management is a serious drawback to the study, the research does reveal some interesting obstetric care quality issues that are widespread in developing countries.

As stressed by Dr. Frank, the findings are five years old and management might have changed substantially since then. Therefore, to be scientifically useful, it is highly important that the article’s purpose is not only to present the data, but also to present a simple and easy adaptable study design for performing audits of recordkeeping at other low resourced settings.

The paper is unnecessarily long (especially the sections on discussion and limitations), sometimes unclearly structured and inconsistent with the objectives, and occasionally contradictory (please see the revisions below). To present the study design and important findings clearly, the authors need to make the presentation more concise.

MAJOR COMPULSORY REVISIONS:

Background:

1. The first three paragraphs of the background section is unnecessary long; the presentation could be more concisely leading to the objective of the article. The sentences starting with “The maternal health community is moving toward an evidence-based...” are central for the importance of the study.

Methods:

2. It seems that the key informant interviews are a qualitative supplement to the quantitative retrospective data, which is the dominant part of the study? If so, this needs to be clear for the reader. Consider presenting the interview method after describing the method for the record review study as well as introducing subheadings in the method section.

3. It is stated that the CS procedure was coded as emergency “if the decision for CS was made after the woman had started active labor and as elective if the decision was made before active labor started”. What if the CS was performed urgently at an antenatal care visit because of e.g. severe pre-labour hemorrhage
or poor fetal heart rate?
Contradicting the above-mentioned definition, in the result section it is stated that emergency CSs “were performed in response to urgent medical complications”.

To be clear on these definitions (as well as on the definitions below in comment 4) is highly important for the educational benefit of the article

4. There are problems in the grouping of CS indications:
What if “deformed pelvis” (due to e.g. polio) or ”big baby” was found at an antenatal care visit and an elective CS was planned? Then there was no obstructed labour.
In addition, should “failed trial of labour” be combined with “prolonged labour” instead?

Results:

5. The most important results still need to be prioritized and presented more succinctly. E.g. is it a central finding that place of residence was missing for more than 10% of cases from Uganda A, or could it be omitted from the text and mentioned in the table only? As a rule of thumb, the data described in the text should be used in the discussion.

6. The 57 interviews are still mentioned very little in the results section. Instead, it seems that these data are included initially in the analyses leading to the discussion and conclusion sections. If included as part of the study method (which is an interesting supplement to the quantitative findings), these qualitative data should play a bigger role in the manuscript.

Discussion:

7. This section is unnecessary long and needs a rewrite. Consider e.g. shortening the sub-sections on decision-to-delivery intervals, partograph use, and ‘follow-up actions’. Also, more subtitles are needed to make the structure clear.

8. While stating in the background section that a primary objective of the study is, among others, to assess “the quality of care in CS services”, it is now noted that “since evaluating quality of care was not the aim of the review…”.

9. The discussion on indications for CS could be more in-depth:
   a) It is stated that “data on CS type and indications can tell more about why CSs are performed than do rates alone”. Please include examples from the study on this matter. E.g., how many of the indications suggest that the CSs were unnecessary at the time, and what does the lack of uniformity in use of indications among study sites imply?
   b) As elective CSs are associated with a lower risk than emergency CSs, The overall low rate of elective CSs might be interesting to discuss. Some of the indications presented could easily lead to elective CSs (if the woman attended antenatal clinic and gestational age was known).
c) It may be interesting to use examples from the study to discuss the international confusion regarding overlapping indications – and multiple ICD10 codes – for prolonged labour (e.g. CPD, obstructed labour, failure to progress).

10. The 46 maternal death cases (an overall facility based maternal death rate of more than 1500 per 100,000 women!) are currently not mentioned in the discussion. This is needed. Particularly, the high rate of referral cases in this group seems to be a central finding.

11. The missing use of prophylactic antibiotics would be interesting to discuss as well.

Limitations:

12. This section is unnecessary long and should be more concise.

Conclusions:

13. Please rewrite this section to secure its connection to the study findings.

MINOR ESSENTIAL REVISIONS:

Title:

14. The title must include that the study regards developing countries.

Abstract:

15. Please rephrase to: “…depends upon the quality of data”

16. In the result section, the key informant interviews should be mentioned.

17. In the abstract, it is stated that 11 facilities were included, but in the method section only nine.

Background:

18. These sentences are stating nearly the same: “Reliable, timely information is the foundation of decision making across all the World Health Organization (WHO) building blocks of a health care system [9]. Furthermore, the quality of decision making depends upon the quality of these data.”

19. Regarding “The primary objectives of this study are…”, include that this will be done in 11 (or 9?) low resourced facilities…

Methods:

20. The method section is too long and with some repetitions.

21. Please rephrase to e.g.: “…which included provision of technical assistance to strengthen CS management”.

22. This sentence is contradicting that a random sample of 350 CSs were drawn
from each site: “The record review study group consisted of all women undergoing emergency or nonemergency CS in calendar year 2008”.

23. Remove the extra semicolon: “primary indication;”

Results:

24. Sub-headings should be selected more carefully; e.g. ‘Type of CS’ and ‘Indications for CS’ may be grouped.

25. Regarding ‘Use of the partograph’:
   a) Please include more clearly how you define that the partographs are filled out incorrectly.
   b) A crossed action line indicates first stage of labour, and assisted vaginal delivery is not appropriate before second stage of labour.
   c) “These data suggest…” fits better in the discussion.

26. Regarding ‘Maternal outcomes’, could the fact that no complications were mentioned in one-third of cases at five sites be interpreted as that no complications occurred?

27. Please rephrase “Demographic and Health Survey (DHS) results show that delivery at a health facility and delivery by CS vary by country” to include e.g. “delivery rates”.

28. Please include overall percentages in the following sentences: “The most commonly recorded complication was anemia, followed by wound infection (data not shown)”, “The leading CS indication among women who died was uterine rupture, followed by eclampsia, and obstructed labor”, and “Among early neonatal deaths, the primary recorded cause of death was asphyxia and birth trauma (data not shown)”

29. Regarding fetal outcomes, it is unclear whether “in this sample” refer to all 2941 cases.

Discussion:

30. Please rephrase “These findings indicate an urgent need to…” to e.g. “The findings of this study indicate…”.

31. Please rephrase: “In a comparable low-resource setting, a chart review of 178 CS cases in Afghan government facilities indicated that only 30% of emergency cases began within an hour of the decision being made”.

32. Please rephrase: “…more than three quarters of the CSs done in Guinea Band Niger B were listed a maternal indications…”

33. Please rephrase: “or why explain why some facilities have high institutional rates.”
34. Insert the missing brackets in the following sentences: “[32”, “(along the lines of the Safe Childbirth Checklist [30]” and “; these conditions also could have arisen due to delays in appropriate emergency care after arrival at the health facility)”

35. Regarding “In many cases, when the action line was crossed, partograph findings did not translate into the emergency actions required”, please include a percentage.

36. Please rephrase: “Fistula Care program managers utilized these findings, along with other data collected during joint monitoring and supportive supervision visits at supported sites, to develop and implement action plans to improve CS services”.

Limitations:

37. Regarding “Graham et al. have recently noted [33] (e.g., sickle cell anemia, HIV) an important step in improving quality of care is increased attention to and investment in medical recordkeeping…”, why “e.g., sickle cell anemia, HIV”?

DISCRETIONARY REVISIONS:

Background:

38. Consider rephrasing to: “Yet, existing evidence suggests that the risks of short term severe adverse maternal…”

39. Consider including ref. 3 here: “A growing body of published studies about cesarean deliveries identifies the need to improve labor monitoring and surgical obstetric practices…”.

Method:

40. Regarding “A total of 2,941 CSs were reviewed from the nine facilities. Individual patient charts were missing…”, consider moving this paragraph to the results section.

41. Regarding “(K. Beattie, personal communication, April 5, 2013)”, should this be a standard reference?

Results:

42. Regarding ‘Profile of study sites’, most of this section is background information on study settings and might fit better prior to describing results.

43. Regarding the subheading “Timing of care and…”, should the Uganda B cases with crossed action line be moved to this sub-section?

Discussion:

44. In the manuscript, the authors present an abnormal distribution of perinatal deaths, and also, it is noted that at some sites maternal death cases were the
only cases with a partograph. Have the authors considered whether these kind of findings suggest a tendency to record data retrospectively and unreliably? -and if so, do the 57 interviews suggest the staff’s incentives for this (lack of time, fear of punishment…)? This is a central topic to discuss, as it is a barrier to good, reliable, and prospective recordkeeping.

45. Regarding “exposing women to greater risk of adverse outcomes”, consider ‘unnecessary’ instead of ‘greater’.

46. As stated in a 2013 Cochrane Review, the actual evidence-based impact of partograph use is still doubtful. A more critical discussion on partograph use may be relevant.

Figure 1:

47. The figure is a little chaotic. E.g. consider to make it clearer which ‘Fistula Care Study Tool’ indications are grouped in ‘Fistula Care Recording’. In addition, subgroup-headings would be helpful, e.g. absolute/relative and maternal/fetal. Maybe, the Acta Ob. Gyn. Scand. article by Maaløe et al. can be inspirational.

Figure 2:

48. Consider omitting this figure – is it central for the objective of the study?

Table 3:

49. Is it ‘CS care’ or ‘care preceding CS’?

The manuscript in general:

50. Consider whether ‘e.g.’ in the parentheses are used correctly and whether all of these parentheses are necessary. It seems that sometimes it is not examples, but all possibilities.

51. Consider only to use the abbreviation ‘CS’ through the manuscript and rephrase e.g. “cesareans” and “cesarean deliveries”.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.