Author's response to reviews

Title: Victorian Paramedics' Encounters and Management of Labouring Women: An Epidemiological Study

Authors:

Gayle E McLelland (Gayle.McLelland@monash.edu)
Amee Morgans (amee.morgans@monash.edu)
Lisa McKenna (lisa.mckenna@monash.edu)

Version: 7 Date: 16 October 2014

Author's response to reviews: see over
Dear Reviewer 1,
We thank you for your insightful feedback which resulted in significant impact up our manuscript “Victorian Paramedics' Encounters and Management of Labouring Women: An Epidemiological Study”. As suggested, we have totally reanalysed the data and incorporated many of your suggestions into the manuscript. Below are our responses to your comments:

This manuscript examines an important area of work that has not been well explored – that of care of women in labour by an ambulance service. It is an important piece of work and is a comprehensive description of the epidemiology of this unique group of patients. However, in its present form, the manuscript is quite verbose and would improve with further editing and succinct writing. Given the innovative nature of the study area, opportunity should be afforded to the authors to improve the manuscript.
We agree this research is investigates an area that is relatively unexplored. Thankyou, for the opportunity to resubmit this manuscript.

Abstract:
Problem well stated and whilst the broader objective is to inform ambulance training, the aim of the study was to examine women in labour and their treatment provided by an ambulance service.
We debated the aims of the study and thought that it was important to state the broader aim of the study. However, upon reflection, we agree that the aim of the study was to investigate women in labour and their treatment provided by an ambulance service. We have simplified the aim of the study to reflect this.

Introduction:
Provides an overview of the issue under study – women in labour and their pre-hospital management. Highlights the role of paramedics in this care and the context of limited preparation and confidence in caring for this patient population. Identifies a gap in knowledge on the epidemiology of paramedic care of women in labour.
Thank you.

I think the manuscript would be improved by re-stating the aim of the study to reflect what was done rather than the broader objective.
In retrospect we agree, we have complicated the paper by stating the broader objective. We have restated the aim to reflect what was done and deleted the broader objectives.

I think the ‘Ethics’ element should be included in the Methods section.
We have moved “Ethics” to the Methods section.

Methods:
Study setting: comprehensive overview of birth in Victoria. Could reduce the description (e.g. lines 134-139) and replace with all tertiary maternity services are located in the capital city, Melbourne:
We had difficulty deciding how much description of the Victorian maternity services was required in this section. We have changed as advised.
Data collection: Write VACIS® in full or explain it
VACIS was initially developed as Victorian Ambulance Clinical Information System hence “VACIS”. However, it has since been implemented in other states and the name VACIS is currently a registered trade name. We have tried to explain that it is an electronic information system but we are reluctant to use the trade name. The sentence has been restructured as: “Retrospective data collected by paramedics between January 1st and December 31st 2009 using an on-scene electronic patient care record information system (VACIS®) was extracted from Ambulance Victoria’s Clinical Data Warehouse.”

Move dates to line 145 after records e.g. records between January 1st and December 31st 2009, were extracted from Ambulance Victoria’s ..........
This has been altered with the above suggested change.

Line 146 – presumably all males and cases aged less than 10 years etc.
The initial data set received from Ambulance Victoria had excluded any case that was electronically entered as “male”. Interestingly there were some males identified during the manual cleaning process for less than 10 cases. However we have clarified in the text that all males were removed electronically. “Initially, all males and cases with females aged less than 10 years or greater than 55 were excluded electronically”

Line 154 – sentence on data analysis needs to be moved to later in methods and form part of a more detailed data analysis plan – group all data analysis plan together (e.g. lines 201-220 – though again, could be written more succinctly) + should add specific statistical tests applied (according to data distribution) and significance level
Line 154 was moved to later in the data sections. We have written 201 -220 more succinctly and have included the specific statistical tests used with the significance levels.

If the length of the manuscript needed to be reduced, data definitions could be shortened and stated in a box
Data definitions for labour and preterm labour have been included in two boxes. However, we felt we needed to have some theoretical explanation so we have still included a brief explanation in the methods section.

Inconsistency with inclusion criteria which is not explained – Lines 162-163 included Premature Rupture of the Membranes without contractions, because they needed assessment but excluded women > 20 weeks’ gestation with antepartum haemorrhage without contractions (I would argue that women with either of these conditions need assessment)
We debated this as well at the beginning of the study. At that stage we included ruptured membranes because we knew that most of the women at term would either spontaneously go into labour or be medically induced after 24 hours. However, we acknowledge that these women are not in labour and accept the point the reviewers makes about vaginal bleeding. After much discussion, we have decided to change “ruptured membranes without contractions” from the inclusion criteria to the exclusion criteria.

In general, this section is very long and could be written more succinctly
We agree and have attempted to do this.
This manuscript examines an important area of work that has not been well explored – that of care of women in labour by an ambulance service. It is an important piece of work and is a comprehensive description of the epidemiology of this unique group of patients. However, in its present form, the manuscript is quite verbose and would improve with further editing and succinct writing. Given the innovative nature of the study area, opportunity should be afforded to the authors to improve the manuscript.

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not in labour and accept the point the reviewers makes about vaginal bleeding. After much discussion, we have decided to change “ruptured membranes without contractions” from the inclusion criteria to the exclusion criteria.

**In general, this section is very long and could be written more succinctly**
We agree and have attempted to do this.

**Results:**

In general, this section is quite verbose – report the numbers in the results, and interpret and apply them to what is already known/how these finding impact practice in the discussion
We have tried to streamline this section by reporting the numbers only and then report the impact on practice in the discussion.

A figure summarising the case selection would be a beneficial addition to the results
As suggested, a figure depicting case selection has been included in the results section.

Unclear why PROM were included in demographics only and then excluded from the remaining analysis (lines 227-229) when PROM without contractions were stated in the inclusion criteria
Cases with PROM has been excluded from all data analysis including the demographic section.

I think that tables could be better utilised than they are – Table 2 content is also written in the text (& doesn’t need a Table) or improve table and omit the detail in the text that is replicated, whilst data on dispatch, transportation and complications could be put in a table to improve access of the information
As suggested, the tables have been changed. Initially, table 3 has been extended to include all data on procedures including medications, obstetric, medical and other complications but this proved too big. We have added an extra table but removed the tables with the cross tabs.

Although an independent T-Test was conducted, it is unclear whether the on-scene times were normally distributed – results on page 13
Thankyou, you are absolutely correct the data is not normally distributed. We have used nonparametric instead of parametric tests. We have rectified this and used Mann-Whitney U test to analyse this data. We have tried to be more succinct with the further statistical analysis performed. Interestingly there was no difference in the results.

**Discussion:**
Do not need to reference table results in the discussion when you have already in the results section
   We have removed any references to the tables.

   Chance to emphasise the importance of the work – although a small proportion of the ambulance workload, nevertheless, thirty-one women in labour are managed by paramedics every week in Victoria:
   This is a very good suggestion and we have included a sentence to reflect the average number per week of women in labour encountered by paramedics.

   Inability to follow up the outcomes of women transported to hospital should be included in the limitations – it is acknowledged in two other paragraphs in the discussion but it should be in the limitations
   This is a good suggestion and has been included in the limitations.

   Limited reference to other work in the area in the discussion – how does this study add to ‘what is known’, how does it fit in with ‘what is known’ – same, similar, different? Or is this a really innovative study and is the first to describe the epidemiology in such detail?
   After searching Cinhal, Embase, Medline and Pubmed, this is the first study that we can find that describes the epidemiology of women in labour in detail. There are very few articles on paramedics involvement with childbirth and even less on their encounters with pregnant women. Many of the articles found are very old and focus on birth. Nothing could be found about paramedics management of women in labour. We have highlighted the uniqueness of this study in the opening paragraph of the discussion.

   Conclusion:

   State the key finding of the study – i.e. paramedics provide care to women in labour and apply clinical decision making to this group of women in the pre-hospital environment.
   The implications of this finding is well stated i.e. the need for knowledge and skills to provide care to women in labour is thus essential for the paramedic workforce.
   We have added a clear statement about the key finding of this study. As suggested, we have retained the key findings.

   Minor Essential Revisions

1. Please correct the multiple typographical/grammar errors throughout e.g.
   a. Line 72 – insert ‘a’ after require
      This has been added.
   b. Line 89 – full stop not comma
This has been changed

c. Line 107 – full stop after cues. And then a space
This has been added.

d. Line 108 – omit full stop after ‘but’
This has been removed

e. Multiple examples of data ‘was’ instead of data ‘were’ (data is pleural)
Data written as singular has been change to pleural.

f. Etc. throughout
We apologise but this is not clear. Do you mean that the grammar is poor to that we use etc. throughout. Any “etc.” in the manuscript has been removed. We have tried to fix the issues with grammar throughout the document.

2. The aim of the study needs to be re-stated more precisely:
As advised, the aim of the study has been rested to be more precise

3. Data analysis section in the methods needs to re-written to encompass all the ‘data analysis plan’ in one place
As advised this has been done.

5. At present there is no mention or reference to fetal assessment – this needs to be acknowledged somewhere in the manuscript, even if it is in a statement to not include ‘fetal assessment’ in the study (preferably with a rationale for why)
Other than enquiring about foetal movements or checking the colour of the amniotic fluid, Paramedics are unable to assess the foetus. There was no documentation in the patient records that paramedics made any enquiries about this. A statement to this effect has been made early in the results section.

4. Edit the manuscript to improve readability – needs to be more succinct:
The manuscript has been edited to be more succinct.

6. Move the ‘ethics’ element to the methods section
Ethics has been moved to methods section.

Discretionary Revisions

1. Re-work the tables;
The tables have been reworked hopefully they are clearer. As the further statistical analysis has been written in more depth, the tables representing the cross tabs of ‘pain and labour’ and ‘oxygen and gestation’ have been removed.
Dear Reviewer 2,

Thankyou for your feedback on our manuscript “Victorian Paramedics' Encounters and Management of Labouring Women: An Epidemiological Study”. We have incorporated your suggestions into the revised manuscript. Thank you for the opportunity to resubmit this manuscript. Below are our responses to you feedback:

Reviewer 2 comments:

Thankyou your feedback. Our comments are below.

Abstract

Line 59: Please define term, i.e. over 37 weeks gestation and preterm
This has been changed as suggested.

Line 61 delete this sentence “Women at various stages in labour were encountered”
This has been changed as suggested.

Line 66  “procedures”, such as...
We have included the following ... “such as intravenous cannulation administration of analgesia and oxygen”

Line 67 – 68 “use the word "misuse" instead of "abuse". This sentence needs to be rephrased as I don't quite know what you mean with it - maybe you mean there was a variable casemix?”
We have exchanged the word “misuse” for “abuse” throughout the manuscript. This sentence was been rewritten to .... Paramedics needed to consider the implications of numerous obstetric and medical complications during their management.

Line 73 “…pregnancy including labour.” suggest replace with "antenatal and intrapartum care"
This has been changed as suggested.

Introduction

Line 76 missed “ the”
“The” has been included

Line 76 – 77 on birth outcomes. (delete the rest of the sentence)
This has been change as suggested.

Line 94 delete “an”
“an” has been deleted

Line 107: Include full stop after cues.
This has been changed as suggested.

Line 108: delete full stop after but
This has been changed as suggested.

**Line 130** Rather than 71.8% .... 72% for ease  
This has been changed as suggested.

**Line 214** Delete the first “cases”  
This has been changed as suggested.

**Line 214 to 216** .... this sentence is a bit confusing and may need rephrasing  
This sentence and paragraph has been rephrased.

**Line 230** .... for ease of reading, consider using 14%, 7%, 48%, 40% etc *(rather than not whole numbers)*  
Except for values ≤ 0.5%, this has been changed as suggested

**Line 341** say NS or state p-value *(for p>0.05)*  
The p value has been displayed as suggested

**Line 342** .... ? p<0.05 if significant *(for p<0.05)*  
This has been corrected as suggested

**Line 355** .... what was the p-value? or state NS; not significant *(for p>0.05)*  
The p value has been displayed as suggested

**Line 358 - 359** write .... provide a wide range of services to pregnant women. *(delete the rest)*  
This has been changed as suggested however we feel it is important to highlight that it is a small proportion of their workload. Obstetric content is inconsistent in paramedic education in Australia. We feel it is important to acknowledge that we are aware that it is a small proportion of their workload but highlight that it is still important for paramedics to have this knowledge.