Reviewer’s report

Title: Continuity of care is an important and distinct aspect of childbirth experience: findings of a survey evaluating experienced continuity, experienced quality of care and women's perception of labor.

Version: 0 Date: 12 Jun 2017

Reviewer: Natasha Donnolley

Reviewer's report:

Thank you for the invitation to review this manuscript: Experienced continuity of care is an important and distinct aspect of childbirth experience: findings of a survey evaluating continuity, experienced quality of care and women's perception of labor. With healthcare evaluation increasingly focused on patient reported measures and satisfaction with care, I commend the authors on addressing a gap in the research evidence regarding the relationship between experienced continuity of care and perceived quality of care/perception of labor. While this is generally a well written paper, there are some major revisions required before I would consider publication of this paper.

The areas of greatest concern are the statistical analysis, small sample sizes and overstating the results to support the conclusion.

The sample size is very small and uneven, particularly for the subgroup analysis. I would suggest a further review by a bio-statistician on the appropriateness of the correlation coefficients and regression analysis. There was no table comparing the underlying differences between the groups (only between the study group and regional/national data) that might identify significant differences between women receiving midwife-led vs obstetrician led care that would need to be adjusted for. While there was adjustment for parity there has been no adjustment for the indication for secondary/tertiary care that might result in lower scores for obstetric-led care or referred care. 'Confounding by indication' is a common issue in observational studies, particularly in maternity studies where the 'risk profile' of women can affect outcomes independently of the intervention (in this case the intervention being the model of care). There was also no examination of the effect of timing of referral on scores - if women were referred early or late in pregnancy could influence their scores for personal continuity for both their primary midwife and the hospital staff.

I am not convinced from the results how the integrated model will influence continuity of care, as the integration of the two lead carer types (midwife and obstetrician) is different to women being transferred from a midwife to an obstetrician-led hospital team. It is possible that the integrated model of care will improve experienced continuity for that group of women who are not eligible for primary midwife-led care (and are currently referred out). If women commence
their care with the integrated team, that may not have as much of a negative effect on relational continuity as being referred from a single midwife to a hospital team during pregnancy. Some models of midwife-led continuity of carer models in Australia and New Zealand provide care for women of all risk, as midwives provide collaborative care with obstetricians or maternal fetal medicine sub-specialists. The midwife continues to provide primary care throughout pregnancy, birth and postnatal, and the women will also see a specialist when indicated. This provides a high level of experienced continuity. While I acknowledge that the system in the Netherlands is different regarding the scope of practice for community midwives (vs clinical hospital midwives) perhaps the impact on continuity of care may not be as significant as suggested by the authors. For some useful references on maintaining continuity in an all risk midwife-led model see:


I am concerned that the measures of continuity of care used in this study through the NCQ mix two different concepts - continuity of care and continuity of carer - to then identify an association with quality of care. These are distinct concepts and the latter is important if the authors are attempting to examine what the impact of an integrated maternity care system would be. There is clearly going to be a difference in continuity of carer between a model that has a single known caregiver (midwife-led or obstetric-led) and a team model (either the referral group or the proposed integrated care model), however when looking at continuity of care, there may possibly be an improvement in this measure for the women who are being referred out in the present system if they were in the new integrated model in the future.

I am curious why there was no sub-analysis of the PCQ and CPS for the women referred during labor. Both of these instruments are relevant to care provided during labor. Comparing the scores from this group of women to the other groups may provide additional information about the influence of continuity of carer from their primary carer during the pregnancy, especially when compared to the group referred during pregnancy, ie that the relationship with their known midwife throughout pregnancy can influence a better birth experience even if their primary midwife was not providing care during the birth. There is a gap in the evidence currently regarding whether continuity of carer throughout the continuum of pregnancy, childbirth and the postnatal period results in better outcomes than just having continuity of carer in the antenatal and postnatal periods - ie does having your primary midwife present for intrapartum care make any difference to perceived quality of care and perception of labor? Suggest looking at Freeman,

I am concerned about the validity of looking for an association between continuity of care provided by one provider and quality of care provided by a completely different set of providers. The CPS is directed at the care being provided during labor, while the NCQ is directed at care provided by a number of different carers during pregnancy. For women in the referred group the only valid scores to correlate would be the NCQ questions asked about the hospital staff and the CPS and PCQ (which are by their nature only about the hospital staff). I do not see how it is valid to associate personal continuity of care by the primary midwife with the quality of labor care provided by the hospital staff. Further, I am not clear how the team continuity questions apply to the midwife-led or obstetric-led groups if the care is only provided by the one carer. For these reasons, I do not see how the results support the conclusions and would suggest the authors revisit the concepts of continuity being measured in the different groups and how they have been analysed.

I would be happy to review this paper again after the authors have revised their statistical analysis and methods of correlation.

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.

No

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:

Acceptable
**Declaration of competing interests**

Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal