**Reviewer's report**

**Title:** Defining and describing birth centres in the Netherlands - a component study of the Dutch Birth Centre Study

**Version:** 0  **Date:** 06 Feb 2017

**Reviewer:** Rachel Rowe

**Reviewer's report:**

This paper reports a study, conducted as part of the Dutch Birth Centre Study (DBCS), aiming to define and describe birth centres in the Netherlands. It is of interest, particularly to those working in maternity care and research in the Netherlands, but also potentially to a wider audience interested in the development of 'midwifery-led' settings for care around the world. I have a number of detailed comments, but briefly:

* The aim of the study, specifically relating to this paper rather than as it relates to the DBCS, needs to be more clearly stated.

* The presentation of the methods and results need to be more clearly aligned with the aim of this paper

* More care needs to be taken with the presentation, discussion and interpretation of small numbers

* The discussion of the results needs a clearer structure with more consideration of the international context

My detailed comments are as follows:

A. Major comments

1. Introduction:
   i. The authors give a useful introduction to the birth centre concept, the Dutch context and the rationale for this study. They clearly state that the study reported in this paper was carried out as
an essential early component of the DBCS. For the purposes of the DBCS the aim was clearly to develop a standard definition of a birth centre for use in the Netherlands and identify the birth centres. As I see it, this paper should therefore focus on describing how that definition was derived, presenting the definition(s) and describing the characteristics of the identified Dutch birth centres. A clear statement to this effect at the end of the introduction would be helpful I think to orient the reader. This may appear to be a subtle reframing, but is helpful I think when considering how the methods and results are presented later.

Following on from this point, the title of the paper itself could also be improved. As it stands it reads as if it may be presenting the results of the DBCS. Perhaps something like "Defining and describing birth centres in the Netherlands: a component study of the Dutch Birth Centre Study" would be more appropriate.

2. Methods:

i. I think it would be helpful to give an 'overview' statement at the start of this section describing the methods used in the development of the birth centre definition (primary data collection using questionnaires and interviews; literature review and a consensus process) before going on to describe the specific data collection tools.

ii. The next two sections read as if they are sub-sections of a report on the development of the DBCS, rather than part of the methods section for a paper describing how the Dutch birth centre definition was derived. Some of the information in the section headed "Identification and selection process of Birth Centres" is relevant, in that it describes the process by which potential/presumed birth centres were contacted and data were collected, but references to "the study" are confusing because they refer to the DBCS. The final sentence in this section relates to selection of study centres for the DBCS and is not relevant here.

3. Results:

i. The couple of sentences are helpful as a starting point to describe the process of identifying potential and presumed birth centres. I think it would be helpful to explain what was not "birth centre-like" about the 47 units which were no longer considered as potential birth centres after the short digital survey. It may also make sense to include here the information in the first two sentences under "Selection of birth centres" on page 11 about response to the DBCQ.
ii. I was puzzled by the definition of freestanding birth centre which states that it is "...located separate from a hospital with obstetric services or on its hospital grounds." Does this mean that a birth centre which is in the grounds of a hospital with obstetric services IS or IS NOT freestanding? In the UK a birth centre in the grounds of a hospital with obstetric services would not be classified as freestanding, but would be 'alongside'.

iii. The definition of an alongside birth centre is also confusing. Presumably in order to be alongside it should be "located separate from an obstetric unit" but in, or in the grounds of, a hospital with obstetric services, not just any hospital. This is not clear in the definition.

iv. As in the Methods section, some of the subsection "Selection of birth centres" reads like part of a report on the DBCS (e.g. "Based on data received from the DBCQ and alignment with the agreed to definition of birth centre for the Netherlands, 19 respondents were excluded from the study because they did not fit the criteria"). The essential information here should be that 27 out of the 46 presumed birth centres appeared to fit the definition and their managers were interviewed.

v. I would also like to see more information given here about the reasons why the remaining 19 birth centres did NOT fit the definition. For any given definition it may be as instructive to know about those which do not fit as it is to see the characteristics of those that do. It may also be of interest to understand the range of service provision available.

vi. The sub-section on the characteristics of the birth centres is interesting, but would be easier to read with sub-headings. It is quite long and could be shortened without much loss of important content.

vii. I am concerned about the presentation of percentages for the characteristics of the birth centres, both in text and in tables. The numbers here are VERY small and it is therefore potentially misleading to present percentages. This is particularly inappropriate where percentages are used to compare different types of setting. It is NOT correct to say, for example, that higher percentages of alongside and freestanding birth centres described 'minimal pharmacological pain management' as an important philosophy, compared with on-site birth centres (as is stated on page
15). Where the numbers being compared are 3/3, 10/14 and 3/6, it is not appropriate to say that 100% and 71% are higher than 50%. I would prefer not to see percentages at all in this section, but it may be acceptable when used to describe the birth centres as a group, (e.g. 17 birth centres (74%) had no medical equipment in sight).

4. Discussion & conclusions

   i. The Discussion and Conclusions would benefit from a clearer structure and focus, e.g. Main findings; Consideration in the light of other relevant literature (e.g. other international definitions); Strengths and limitations; Implications for policy/practice/further research. Some of this is covered in the discussion, but I would like to see more discussion of other relevant literature. The second paragraph on page 18 does not appear to fit comfortably in this paper and has no supporting references.

B. Minor comments

   1. Sometimes (e.g. in the first paragraph of the abstract) the word birth centre (singular) is used where birth centres (plural) would make more sense.

   2. Some of the statements about birth centres in the introduction (e.g. "In general, birth centres focus on childbirth being a family event…") could do with a supporting citation.

   3. In lines 77-8 on page 4 it is stated that "Out of home birth can take place within a hospital setting or in a birth centre location outside a hospital". This doesn't seem quite correct. Surely some (if not most) birth centres are in a hospital.

   4. I am intrigued by the sentence in lines 94-96 that "not all locations that call themselves birth centre[s] in the Netherlands are places where women can actually give birth". This never seems to be explicitly explained, although there is some indication of what this might mean in the discussion section. Could this be clarified?
5. The sentence at lines 120-122 doesn't seem to make sense. Was the short digital survey really only sent to the chair of obstetricians associated with "one of the hospitals in the Netherlands…"?

6. I'm not clear what is meant by "… other than de identified birth centres" in line 163.

7. I don't understand what is meant by "At this point, the definition of birth centre was more context specific developed by developing conditions that should be met for various elements identified." Lines 206-8, page 10.

8. There is an error in the heading of Table 3 - it should read "Important or very important…"

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.

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