

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	WOMEN'S PSYCHOLOGICAL EXPERIENCES OF PHYSIOLOGICAL CHILDBIRTH: A META-SYNTHESIS
<b>AUTHORS</b>	Olza, Ibonerlsdottir, Sigfridur Inga; Spyridou, Andria; Crespo-Mirasol, Esther; Takacs, Lea; Hall, Priscilla J.; Murphy, Margaret; Jonsdottir, Sigridur Sia; Downe, Soo; Nieuwenhuijze, Marianne

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Ofra Halperin The Max Stern Yezreel Valley College , Israel
<b>REVIEW RETURNED</b>	10-Feb-2018

<b>GENERAL COMMENTS</b>	<ol style="list-style-type: none"><li>1. It is a very interesting meta-synthesis!, It's a pity that only eight studies were included although you adressed the limitations properly.</li><li>2. 19 of the references are too dated (1,2,5,14,17,28,32,33,35-37,40,45,46,50,52-54,61). midwifery has changed and developed a great deal in the past 15 years. I think it is not relevant to be based on research that was done before 2003.</li><li>3. In the abstract, the conclusion section (page 3): correct the spelling of the word : psychological(second sentence from the end).</li><li>4. on page 9 on the last paragraph- sharing the begining of labour, add th word "with" in the first sentence: "When women recognised the beginning of labour, they shared it with other women"</li></ol> Good luck!
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<b>REVIEWER</b>	Jane Henderson NPEU, Nuffield Department of Population Health, University of Oxford, UK
<b>REVIEW RETURNED</b>	26-Feb-2018

<b>GENERAL COMMENTS</b>	<p>Women's psychological experiences of physiological childbirth: a meta synthesis</p> <p>Thank you for the opportunity to review this interesting manuscript. It is fairly well written but there are some typos and the Introduction felt a bit patchy. Detailed comments:</p> <p>Major points</p> <p>This manuscript strikes me as very one-dimensional: it is overwhelmingly positive whereas the literature is in general much more nuanced. Many women who had a physiological birth feel unsupported and anxious but this is not reflected at all this manuscript. Was it really the case that the themes and sub-themes were entirely positive?</p> <p>Please define 'physiological' for the purposes of this study.</p> <p>Please justify exclusion of studies which described only a single stage in the birth process, especially as the analysis is sub-divided</p>
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	<p>into the stages of birth. Please summarise reasons for exclusion at the full-text screening stage. The authors state that they used CASP and COREQ to evaluate the quality the included papers. Please add a description of the quality of the papers and, possibly, a summary table. Also, p6, line 28, the quality of findings could not have been ensured as none were excluded (or were they all excellent?) P16 line 34 – The importance of compassion and support in staff is well-recognised but this does not come through in the results of this study except briefly in ‘Accepting the intensity of labour’. This needs some rebalancing. Please also discuss in the context of the relevant literature. Appendix – Search terms – Were no MeSH terms used? Please justify.</p> <p>Minor points Abstract line 22 – elsewhere ‘psychological experiences’ here ‘physiological experiences’ – is this an error? P6 line 13 – ‘Groups of two authors’ – do you mean ‘two authors’? If groups, how many? Please clarify. P6 line 35 – If only the first author did line by line coding, please don’t confuse matters by saying ‘We’. Table 2 – Empowering journey of giving birth – this is a summarising concept not a theme. Typos – quite a few, including but not limited to p3, lines 45 and 49, p12 line 45, p13 line 38, p15 line 45, and random commas e.g. p5 line 24, p6 line 22.</p>
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<b>REVIEWER</b>	Rachel Reed University of the Sunshine Coast, Australia
<b>REVIEW RETURNED</b>	22-Mar-2018

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review this manuscript. The article is well written throughout and offers a valuable contribution to the literature relating to this topic.</p> <p>Whilst this article is publishable as is, I have offer suggestions for minor revision:</p> <ul style="list-style-type: none"> <li>- p. 3, subhead 'Strengths and limitations' = typo.</li> </ul> <p><b>INTRODUCTION</b></p> <ul style="list-style-type: none"> <li>- p.5, line 18: Factors that facilitate a positive (add an 'a').</li> <li>- Include a definition of the term 'physiological' and why this term was favoured over 'normal' or 'natural'.</li> <li>- Include a information re. how few women actually experience a physiological birth i.e. stats. This is a fairly uncommon experience.</li> </ul> <p><b>DISCUSSION</b></p> <ul style="list-style-type: none"> <li>- The findings challenge the biomedical 'stages of labour' discourse.</li> <li>- p.16, 38: change the word 'allowing' to 'supporting'.</li> </ul>
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<b>REVIEWER</b>	Dr K Sheen Liverpool John Moores University, England.
<b>REVIEW RETURNED</b>	16-Apr-2018

<b>GENERAL COMMENTS</b>	Thank you for the opportunity to review the manuscript entitled ‘Women’s psychological experiences of physiological childbirth: a
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	<p>meta-synthesis.’ This manuscript presents a meta-synthesis of qualitative material describing women’s experiences of giving birth. The focus on women’s subjective experience of giving birth is a welcome addition to current understanding, highlighting the important influence of caregiver interaction.</p> <p>General comments</p> <ul style="list-style-type: none"> <li>- Try to maintain consistency with your terms. The manuscript is referred to as a meta-synthesis in the title and abstract, but in the strengths (note: minor spelling mistake on ‘strengths’) it is referred to as a meta-ethnographic synthesis</li> </ul> <p>Specific comments</p> <ul style="list-style-type: none"> <li>- Strengths and limitations <ul style="list-style-type: none"> <li>o It is unclear as to whether the first two points here are strengths of the manuscript. Consideration is required to suggest two key strengths of the manuscript presented.</li> <li>o Whilst the two limitations stated are correct, the authors may wish to consider an additional limitation in that this manuscript includes only studies that report women’s experiences of birth where additional intervention has not been required. This narrows the focus (and subsequently the implications) of findings.</li> </ul> </li> <li>- ‘What this study adds’ <ul style="list-style-type: none"> <li>o Please can bullet point number one be revised as currently it is unclear as to what the ‘similar psychological process’ is</li> <li>o Suggest on bullet point number two to place ‘inner world’ in ‘ ‘ as this is metaphorical</li> </ul> </li> </ul> <p>Introduction</p> <ul style="list-style-type: none"> <li>- Slightly more information is required here. As it stands the authors state the case for considering women’s experiences of giving birth, describe the medical model, and then provide the rationale for considering the psychological model. Is the purpose of this review to identify whether women’s psychological experiences correspond to the stages outlined by the medical model? If so, what benefit would this provide? Further description here would improve the clarity and rationale for the meta-synthesis to the reader.</li> </ul> <p>Methods</p> <ul style="list-style-type: none"> <li>- Inclusion/ exclusion criteria. <ul style="list-style-type: none"> <li>o The exclusion of women experiencing pain management/ interventions needs to be explicit – did this include all women requiring induction/ augmentation/ those requiring instrumental intervention? If so then it needs to be described here</li> <li>o Were any exclusion/ inclusion criteria applied for parity? If not, why? Because the experience of a woman giving birth for the first time is likely to differ from a subsequent baby.</li> </ul> </li> <li>- The authors state that the CASP and COREQ guidelines were used to assess quality, but there is no information on the outcome of any screening. Later on in the manuscript it is stated that no paper was excluded based on this screening, but was this an a priori decision? Were any papers of substantially higher quality than others?</li> </ul> <p>Findings</p> <ul style="list-style-type: none"> <li>- There are some descriptors present without a quote to accompany them (see page 14, line 7; page 14 line 37)</li> </ul> <p>Discussion</p> <ul style="list-style-type: none"> <li>- On page 15 line 45 it is stated that women express a confidence in</li> </ul>
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	<p>their capacity to give birth and a trust in themselves and the birthing process. However this is in direct contrast to one of the other themes describing women’s fears and concerns that they would not be able to cope with the demands of labour</p> <ul style="list-style-type: none"> <li>- The limitations section requires some further consideration, as this manuscript includes studies with women who have/ have not given birth before, and those who had given birth up to ten years prior to participating in the earlier study. In addition , and as mentioned previously, it also requires recognition that this meta-synthesis reflects only the experiences of women who have experienced no intervention during birth</li> <li>- Further description of the requirement to investigate childbirth at the neurobiological level is required; although not incorrect it is slightly disconnected with the discussion throughout the rest of the manuscript</li> </ul> <p>Table 2.</p> <ul style="list-style-type: none"> <li>- A minor point but would it be possible to put the numbers corresponding to the manuscripts in order to enable the reader to easily identify which papers were present in each theme</li> </ul> <p>Figure 1</p> <ul style="list-style-type: none"> <li>- Please include a caption for this figure</li> <li>- Please review the numbers cited as there is a discrepancy following title/abstract exclusion. On what basis were the 60 items excluded for non-eligibility?</li> </ul> <p>Appendix 1</p> <ul style="list-style-type: none"> <li>- Perhaps the authors would consider tabulating the search terms and including these in the manuscript rather than as a supplemental appendix file as these aid comprehension of the methodology employed</li> </ul>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer 1: (Ofra Halperin). Thank you for her comment that the study is of interest. The changes suggested in bullets 3 and 4 have been done. Regarding her suggestion about bibliographic references: 19 of the references are too dated (1,2,5,14,17,28,32,33,35-37,40,45,46,50,52-54,61). Midwifery has changed and developed a great deal in the past 15 years. I think it is not relevant to be based on research that was done before 2003)

- References 1,2 have been kept as we consider them to be important and relevant for our study; 17 and 28 are two of the reviewed articles so they cannot be replaced; 36-37 have been kept as they are original studies specifically looking at women’s temporal perception during birth; 5,14, 52, 53, 54 have been substituted by more recent and relevant ones; 32,33,35, 40, 45, 61 have been deleted. Other relevant references have been added (such as the most recent WHO guidelines).

Reviewer 2 (Jane Henderson) raises a major point: “This manuscript strikes me as very one-dimensional: it is overwhelmingly positive whereas the literature is in general much more nuanced. Many women who had a physiological birth feel unsupported and anxious but this is not reflected at all this manuscript. Was it really the case that the themes and sub-themes were entirely positive?”

- We would be interested to see the evidence for the statement that ‘many women who have had a physiological birth feel unsupported and anxious...’. We do, however, agree that there is evidence that this might be the case for a minority of women in this situation. We checked our data to ensure we had not missed any disconfirming evidence and did not find any non-included instances of adverse experience. On reflection, we think a reason for that is that all births in the selected studies were attended by midwives who were offering complete or near one to one care. This seemed to

attenuate some of the experiences that could, otherwise, have been viewed as traumatic. For instance, among our findings was the experience of overwhelming pain, yet the respondents viewed the pain in a positive way. Close to giving birth, women also reported feelings of exhaustion, lack of energy, being overwhelmed, a feeling that I cannot continue, and fear that I am going to die. These experiences that could be viewed as negative in isolation occurred during labor, but the potential for negative affect was overshadowed by the feelings of joy and empowerment in women's overall experiences of labour and birth. To capture these nuances, we have added the following sentence (in blue):

- Mixed feelings, both positive and negative were expressed regarding pain similar to several studies (49). Women experienced pain as meaningful in relation to their baby. They recognized its intensity but reframed it positively. This was also the case for other feelings that are usually interpreted negatively: (being exhausted, feeling overwhelmed and fear of dying) that were referred to in relation to specific moments of the labour and birth, but not in the global psychological evaluation of the experience once it was over.

Regarding the comment: Please define 'physiological' for the purposes of this study:

The different words used for an uncomplicated birth without interventions are highly debated. We chose to use the word physiological birth indicating a birth following the physiological process of the woman's body. This term is also used in statements of the Royal College of Midwives and ACNM/MANA/NACPM on birth. We wanted to stay away from a normative suggestion. Even though most women around the world use the word normal birth unproblematically, some women who have experienced intervention have indicated that they do not like the term normal birth as it suggests that, in not achieving this, they have failed, or are 'abnormal'. Professionals debate whether epidurals should not be considered normal as do many women who use them.

We added this line to the paper to explain our position: "For the purpose of our study physiological childbirth was defined as an uninterrupted process without major interventions, such as induction, augmentation, instrumental assistance, caesarean section as well as use of epidural anaesthesia nor pain relief medications".

- Please justify exclusion of studies which described only a single stage in the birth process, especially as the analysis is sub-divided into the stages of birth.

The division into stages was a result of the review, we could not have known this ahead and may have missed the flow of events had we included studies based on single stages, which most probably emphasized issues specific to that stage, out of context of the entire process.

- Please summarize reasons for exclusion at the full-text screening stage The following have added to the flowchart:

- Studies where some of the women had pain relief medications or epidurals
- Studies where only part of the birth was described
- Accounts that were not directly from childbearing women

- The authors state that they used CASP and COREQ to evaluate the quality the included papers.

Please add a description of the quality of the papers and, possibly, a summary table. Also, p6, line 28, the quality of findings could not have been ensured as none were excluded (or were they all excellent?)

They all met the quality criteria threshold. Two tables have been added as supplementary files to explain the quality assessment process

- P16 line 34 – The importance of compassion and support in staff is well-recognized but this does not come through in the results of this study except briefly in 'Accepting the intensity of labour'. This needs some rebalancing. Please also discuss in the context of the relevant literature.

We considered this point, and we feel we covered the issue in the "Accepting the intensity of labour" section of the paper. However, the reviewer may be correct in pointing out that midwife support is not emphasized in the results section. We added the following to the discussion:

It may be that women are more likely to experience a psychologically positive physiological birth when they feel that a supportive and compassionate companion or health care provider (in the case of the include studies, a midwife) is by their side, and is very sensitive and attentive to their cues. This includes effective responses when the woman needs them, and simple encouragement, information or support to reassure them that what is happening to them is normal. Such support may enable women to trust that they are safe to focus inwards, thus releasing the hormones and enabling the maternal behaviours that are essential to progress a physiological labour and birth.

• Appendix – Search terms – Were no MeSH terms used? Please justify. We used EBSCOHOST for the complete search and therefore did not use MeSH terms

Reviewer 3 (Rachel Reed) suggestions for minor revisions have been done

• Include information re. how few women actually experience a physiological birth i.e. stats. This is a fairly uncommon experience. In reply we have added this sentence

Rates for these interventions vary greatly between and within countries. For example, using 2010 Euro-peristat data, Macfarlane et al (2016) reported on a range in spontaneous vaginal birth from 45.3%-78.5%’.

In the discussion reviewer’s comment that the findings challenge the biomedical ‘stages of labour’ discourse, this has been commented on in the last paragraph of the discussion

Reviewer 4 (Dr K Sheen) brings some general comments

• Try to maintain consistency with your terms. The manuscript is referred to as a meta-synthesis in the title and abstract, but in the it is referred to as a meta-ethnographic synthesis. Regarding this comment we have explained: Qualitative synthesis of a number of qualitative studies provides robust evidence to inform health care practices. Meta-ethnography was deemed to be most appropriate qualitative synthesis approach for this analysis in order to transcend the findings of individual study accounts in developing a conceptual model (29).

Specific comments

- Strengths and limitations: It is unclear as to whether the first two points here are strengths of the manuscript. Consideration is required to suggest two key strengths of the manuscript presented. This has been changed

• Regarding this two comments:

- Whilst the two limitations stated are correct, the authors may wish to consider an additional limitation in that this manuscript includes only studies that report women’s experiences of birth where additional intervention has not been required. This narrows the focus (and subsequently the implications) of findings.

- As it stands the authors state the case for considering women’s experiences of giving birth, describe the medical model, and then provide the rationale for considering the psychological model. Is the purpose of this review to identify whether women’s psychological experiences correspond to the stages outlined by the medical model? If so, what benefit would this provide? Further description here would improve the clarity and rationale for the meta-synthesis to the reader.

This was the goal of the study as we wanted to know if there is a specific pattern or psychological process that occurs during physiological childbirth mediated by the neurohormones of labor.

Understanding physiological childbirth is critical to minimize medicalization. We have added a paragraph in the introduction to offer clearer rationale for the review.

Methods and criteria:

- We have explained in more detailed the Inclusion/ exclusion criteria. The exclusion of women experiencing interventions has to do with the aim of the study (see above). Parity was not a criteria as, even if the experience of a woman giving birth for the first time is likely to differ from a subsequent baby, there should be a common neurophysiological process in both cases that may reveal some commonalities.

- The authors state that the CASP and COREQ guidelines were used to assess quality, but there is no information on the outcome of any screening. Later on in the manuscript it is stated that no paper was excluded based on this screening, but was this an a priori decision? Were any papers of substantially higher quality than others?

We have added the outcomes of the quality review supplementary files. All final studies were considered to be of sufficient quality to be included.

- There are some descriptors present without a quote to accompany them (see page 14, line 7; page 14 line 37) We decided not to include a quote for each finding.

- On page 15 line 45 it is stated that women express a confidence in their capacity to give birth and a trust in themselves and the birthing process. However this is in direct contrast to one of the other themes describing women’s fears and concerns that they would not be able to cope with the demands of labour. We have added:

In our meta-synthesis, overall women expressed confidence in their capacity to give birth and to trust in themselves and in the process, despite some apprehension as labour began, and some concerns, including fear of death, during the most intensive stages of labour. Positive perceptions of their own coping strategies and confidence in their ability to go through birth were linked to women’s positive experience of birth (44).

- The limitations section requires some further consideration, as this manuscript includes studies with women who have/ have not given birth before, and those who had given birth up to ten years prior to participating in the earlier study. In addition, and as mentioned previously, it also requires recognition that this meta-synthesis reflects only the experiences of women who have experienced no intervention during birth. (Answered above)

- Further description of the requirement to investigate childbirth at the neurobiological level is required; although not incorrect it is slightly disconnected with the discussion throughout the rest of the manuscript. A paragraph has been added in the introduction regarding this comment

#### Table 2.

- A minor point but would it be possible to put the numbers corresponding to the manuscripts in order to enable the reader to easily identify which papers were present in each theme . Regardgin this: it is difficult to format the tables within the text, we have thought we can leave this for the final revision (otherwise the numbers of references may be different again).

- Please review the numbers cited as there is a discrepancy following title/abstract exclusion. On what basis were the 60 items excluded for non-eligibility? - Studies where some of the women had pain relief medications or epidurals- Studies where only part of the birth was described - Accounts that were not directly from childbearing women

This has been explained in the flowchart.

#### Appendix 1

- Perhaps the authors would consider tabulating the search terms and including these in the manuscript rather than as a supplemental appendix file as these aid comprehension of the methodology employed. We have considered but decided to no as the word count already exceeds the recommended.

#### FORMATTING AMENDMENTS (if any)

- Kindly re-upload FIGURE with at least 300 dpi resolution in either TIFF or JPG format. Done
- The contributor ship statement has been completed

Regarding editorial requests:

- Methods section and abstract have been reformatted following recommendation into subheadings. The strengths and limitations section has been rewritten and the “what this study adds” removed.

- We are not convinced that the COREQ checklist should be used as a quality assessment tool. It was not designed for this purpose. Please see the following paper which advises against using the STROBE reporting checklist as a tool for assessing study quality in systematic reviews: <http://bmjopen.bmj.com/content/1/1/e000048.full> We feel that the same criticisms apply to the COREQ checklist. We suggest that you use an alternative measure unless you are specifically interested in looking at reporting quality. Cochrane provides some guidance on assessing the quality of qualitative research. We note that you initially screened abstracts with CASP but then you changed to using COREQ. We are not sure why you did this.

We are adding as supplementary files two tables that summarize CASP and COREQ.

- Were there any language restrictions when you searched the literature? Please clarify in the methods section. Eligible papers were written in English, Spanish and Portuguese

- Please be consistent with your description of the study design. The title says it's a meta synthesis but elsewhere it's described as a meta-ethnography. We did a meta-synthesis with meta-ethnographic techniques, it has been explained in the methods section.

**VERSION 2 – REVIEW**

<b>REVIEWER</b>	Ofra Halperin The Max Stern Yezreel Valley College, Israel
<b>REVIEW RETURNED</b>	14-Jun-2018
<b>GENERAL COMMENTS</b>	All comments and editorial requests have been addressed properly. the article is improved and I recommend to accept it to publication.