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WOMEN´S PSYCHOLOGICAL EXPERIENCES OF PHYSIOLOGICAL CHILDBIRTH: A META SYNTHESIS

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Keywords:	Childbirth, Physiological Childbirth, Lived experiences, Pyschological, empowerment, OBSTETRICS

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WOMEN´S PSYCHOLOGICAL EXPERIENCES OF PHYSIOLOGICAL CHILDBIRTH: A META SYNTHESIS.

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All authors conceived and designed the study. Marianne Nieuwenhuijze and Patricia Leahy Warren organised and conducted the search. All authors participated in the selection of the relevant articles. Ibone Olza and Esther Crespo Mirasol performed the quality assessment of the studies. Ibone Olza did the data extraction from the studies and drafted the manuscript. All authors interpreted the results, critically revised the manuscript for important intellectual content, and contributed to and approved the final version. Marianne Nieuwenhuijze, Soo Downe and Patricia Leahy Warren supervised the project.

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Figure 1. Flow chart

Table 1: Characteristics of selected studies

Table 2: Themes, subthemes and studies contributing/thematic table and studies contributing to each finding.

Appendix 1: Search Terms

Conflict of interest disclosure: attached

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16 **ABSTRACT**

17 **Objective**: To synthesize qualitative studies on women's psychological experiences of
18 physiological childbirth
19
20 **Design**: Meta-synthesis
21
22 **Methods**: Studies exploring women's physiological experiences of birth using
23 qualitative and mixed methods, which include a qualitative element, were eligible.
24 MEDLINE, CINAHL, PsycINFO, PsycARTICLES, SocINDEX and Psychology and
25 Behavioural Sciences Collection databases were searched as well as reference lists and
26 contacting authors. Quality assessment was done independently using the Critical
27 Appraisal Skills Programme (CASP) and COnsolidated criteria for REporting
28 Qualitative studies (COREQ) checklists. Studies were synthesized using techniques of
29 meta-ethnography.
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32
33 **Results**: Eight studies involving 94 women were included. Three third order
34 interpretations were identified: 'maintaining self confidence in early labour',
35 'withdrawing within as labour intensifies' and 'the uniqueness of the birth experience'.
36 Using the first, second and third order interpretations, a line of argument developed that
37 demonstrated the empowering journey of giving birth encompassing the various
38 emotions, thoughts and behaviours that women experience during birth.
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41 **Conclusion**: Giving birth physiologically is a psychological experience that generates a
42 sense of empowerment. The benefits of this process can be maximised through physical,
43 emotional and social support for women, enhancing their belief in their ability to birth
44 and not disturbing physiology unless it is necessary. Health care professionals need to
45 take cognisance of the empowering effects of the psycholgogcal experience of
46 physiological childbirth. Further research to validate the results from this study is
47 necessary.

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49 **STRENTGHT AND LIMITATIONS**
50
51 • Meta ethnographic synthesis of women´s lived experiences of physiological
52 childbirth.
53
54 • Research protocol was registered (PROSPERO Registration CRD42016037072)
55 and published.
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- Limitations: all studies came from high income countries
- A relatively large number of women included in this study had a home birth

WHAT IS KNOWN ON THIS TOPIC:

- Women have vivid and lifelong memories of their childbirth.

- Women´s experiences of childbirth are affected by the care received.

- Women describe their birth experiences in terms of feelings and emotions.

- Women feel disrespected when their emotions and needs are not considered during labour.

WHAT THIS STUDY ADDS

- Women having a physiological childbirth seem to go through a similar psychological process during labour and birth

- When labour intensifies, women withdraw-into an inner world.

- Feeling in control and having trust in the capacity to give birth are valued by women having a physiological childbirth

- Physiological childbirth contributes to a sense of empowerment in women

KEYWORDS: Physiological Childbirth, Psychology, Lived experience, Empowerment

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INTRODUCTION

Childbirth is a profound psychological experience that has a profound short-term and long-term impact on women which is physical, psychological, social and existential (1). It leaves lifelong vivid memories throughout their lives (2). The effects of a birth experience can be positive and empowering or negative and traumatizing (3-5). Women, regardless of their cultural background, need to share their birth stories to fully integrate an experience that is a hallmark of physical and emotional intensity (6).

Meeting the emotional and psychosocial needs of labouring women requires a deep understanding of the psychological aspects of childbirth by midwives and obstetricians. Factors that facilitate positive birth experience include having a sense of control during birth, opportunity for active involvement in care, support and response to labour pain (7-9). However, knowledge of how women lived through their experiences of childbirth remains limited. This lack of knowledge concerning the psychological dimension of childbirth, can lead to mismanagement of the birthing process. A birth experience can be traumatizing and devastating even when the immediate outcome is a physically healthy mother and newborn (10). Not taking labouring women's emotions and needs into account can be experienced by women as a lack of respect or even a form of abuse (11) or obstetric violence (12), which is a growing concern globally together with the medicalization of childbirth (13,14).

The medical model has traditionally described labour stages according to mechanical or physical cues such as dilation of the cervix and descent of the head as depicted on the traditional Friedman´s curve or WHO partograph (15). However, it is questionable that women experience specific stages or phases as traditionally described by professionals (16). There have been attempts to describe the psychological process (17-19). Understanding the psychological experience in physiological childbirth can contribute to enhancing a salutogenic approach to health and promote healthy, happy families.

The aim of this systematic review is to combine qualitative evidence to describe the psychological process of women during physiological childbirth.

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METHODS

A meta-ethnographic synthesis approach was taken using the seven steps described by Noblit and Hare (20,21). This included reciprocal and refutational techniques as well as line of argument synthesis. This synthesis method has the potential to provide a higher level of analyses and generate new conceptual understandings (22). The method used was informed by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statements (23). The protocol was

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registered in the International Prospective Register of Systematic Reviews (PROSPERO) (Registration CRD42016037072) and published (24). Ethical approval was not required for this systematic review.

In March 2016 with an update in October 2017, a systematic search in EBSCOhost, including the database MEDLINE, CINAHL, PsycINFO, PsycARTICLES, SocINDEX and Psychology and Behavioural Sciences Collection was conducted (see appendix 1 for search terms). Groups of two authors independently read through the abstracts and selected articles; they discussed their differences until consensus was reached. If necessary, a third author made the final decision. Finally, we back-tracked references of the included articles and systematic reviews in search for articles that seemed relevant for the study question. We also considered suggestions from experts in this field and articles that came up from other sources.

The inclusion criteria were: (1) original research of (2) women who had physiological childbirth and (3) described their experiences and behaviours during (4) the whole process of childbirth. Studies were excluded, if the experience of childbirth was described by (1) any source other than the woman who experienced the birth (e.g. from health care professionals), (2) described a single stage in the birth process or (3) described births with major medical and surgical pain management or interventions, e.g. caesarean section. To ensure the quality of the findings in the study, all selected papers were first screened on the methodological quality using CASP (25). Subsequently, all the included papers were assessed using COREQ (26) to identify possible flaws in the studies.

Data analysis included a number of steps. First order interpretation involved reading and re-reading all studies to become familiar with their content, feeling and tone. The first author (IO) did line by line coding of the findings of all included studies. Quotes, interpretations and explanations in the original studies were treated as data. We coded sentences as F: Feelings, B: Behaviours (actions), S: Signs (e.g. pain, contractions), R: Relations (midwife, partner, baby, relatives), T: Time perception, C: Cognitions (thoughts and knowledge), L: Location (home, water, places, transferring) and then categorized these codes into (1) early labour, (2) intense labour, (3) pushing, (4) baby out (immediately), (5) placenta and (6) evaluation of the whole birth experience.

Second and third order interpretation involved the collaborative authors' reflections on the first order interpretations to identify the themes and subthemes that describe the emerging constructs grounded in the primary studies. This was followed by a line of argument in which we created a model that best explains the psychological process of physiological childbirth.

Reflexivity

Given the subjective nature of qualitative research and to contribute to the methodological rigor of the study, the authors considered their views and opinions as

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possible influences on the decisions taken throughout the research process. This paper is an output of EU funded COST Action ´BIRTH´. All the authors joined the Action because they believed in the importance of understanding physiological and psychological processes of childbirth, to enhance the capacity of women to labour and give birth normally where this was possible for them, and where it is their choice to do so. All the authors believed that birth is a profound physiological, psychological, and socio-cultural experience for most women and babies. The multidisciplinary backgrounds of the authors contributed to the analytical process, ensuring interpretation of findings were grounded in and emerged from the data. Use of refutational analyses as one of the steps of the meta-ethnographic process also minimized risk of overlooking information that did not fit with the authors pre-conceptions.

RESULTS

Included studies

The searches gave 1520 hits in EBSCOhost, resulting in 1.144 unique hits after removing 376 duplicates. Figure 1 demonstrates the selection process which resulted in 8 included studies. None of the selected studies were excluded based on the quality screening and assessment.

The 8 studies involved 94 women, 28 primiparous and 22 multiparous women. Four of the studies did not indicate the numbers for parity; of these, two had a mix of primiparous and multiparous women (17,27) and two did not indicate parity (28,29). Most of the interviews took place within a year after birth. Two studies included women up to 10 or 20 years after birth (17,27). One did not mention the time between the index birth and the interview (29). Thirty-nine of the women gave birth at home, four in a primary care unit and 51 in hospital. It seems that midwives were the primary carers of these women. Further characteristics of the studies can be found in Table 1.

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TABLE 1. Characteristics of selected studies

AUTHOR(S) / YEAR	TITLE	COUNTRY	METHODOLOGY	N PARITY	TIME AFTER BIRTH	BIRTH SETTING	OBJECTIVE
1. Aune et al. 2015(3)	Promoting a normal birth and a positive birth experience – Norwegian women's perspectives	Norway	Qualitative, focused on salutogenic	12 prim	5 -6 weeks	Hospital birth unit.	Understand factors important for a normal birth and positive birth experience
2. Dixon et al. 2014(19)	The emotional journey of labour- women's perspectives of the experience of labour moving towards birth	New Zealand	Critical feminist standpoint methodology	6 prim 12 multi	6 months	Midwifery continuity care: 7 homebirths, 4 primary care, 7 tertiary care.	To explore women´s experiences of birth
3. Hall & Holloway 1998 (28)	Staying in control: Women's experiences of labour in water	UK	Qualitative approach of grounded theory, which employs the constant comparative method'.	9 (no parity given)	48 hours	Hospital (water birth)	Examine women´s attempt at control during labour in the water
4. Halldorsdottir & Karlsdottir 1996(17)	Journeying through labour and delivery: Perceptions of women who have given birth	Iceland	Phenomenological perspective of qualitative research theory	14 (mix of parity)	2 months to 20 yrs.	Hospital	Explore experience of giving birth
5. Leap et al. 2010(30)	Journey to confidence: Women's experiences of pain in labour and relational continuity of care	UK	Qualitative, descriptive, thematic analysis	5 prim 5 multi	4 weeks	Albany midwifery practice, home and hospital	To explore women´s view of continuity of care and pain in labour
6. Ng & Sinclair 2002(29)	Women's experience of planned home birth: A phenomenological study	UK	Phenomenological research	9 (no parity given)	Not mentioned	Homebirths	Explore women´s lived experiences of planned homebirth
7. Reed, Barnes & Rowe 2016(18)	Women´s experience of birth: Childbirth as a rite of passage	Australia	Narrative approach, rites of passage theory.	5 prim 5 multi	6 months	6 hospital births, 4 homebirths	Explore women´s experiences of physiological childbirth
8. Sjöblom et al. 2006(27)	A qualitative study of women's experiences of home birth in Sweden	Sweden	Phenomenological–hermeneutic method. Qualitative approach based on open narrative interviews	12 (mix of parity)	Less than 10 years	Homebirths	Illuminate the experience of giving birth at home

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Meta-ethnographic analysis

Three main themes emerged: *maintaining self confidence in early labour, withdrawing within as labour intensifies* and *the uniqueness of the birth experience.* Several subthemes emerged within each of the three main themes (Table 2).

I. Maintaining self-confidence in early labour

This theme presents women's experiences when they realised that they were in labour. The accounts indicated that women knew when they were in labour and most preferred to wait calmly for progress, maintaining confidence by keeping a familiar routine and environment.

Experiencing the start of labour

Women described their feelings when they realised that they were in early labour. Some felt excited and others described a lovely feeling comparing it to Christmas (19) (p372). A mixture of feelings emanated from the data at this time, including excitement, happiness, calm, sometimes mixed with apprehension and anxiety (3,17,30).

Women found it important to conserve their emotional strength and to maintain a positive attitude (3,17). Some described being happy with staying in their own home, and felt it was important to keep calm:

"*I felt confident by staying in my own living room"(3)* (p724).

They acknowledged the close and trustful relationships in their network at that time in their life (3,19,27).

"Thought it was reassuring to be together with family in familiar surroundings"(3) (p724).

Sharing the beginning of labour

When women recognised the beginning of labour, they shared it other women. Usually they called their mother or sister, before calling the midwife or the hospital (18,19). Few asked their midwife to be with them at this point.

"*At 10 o'clock in the morning I called the hospital. Of course, I had talked to my mom first*"(3)(p274).

They indicated that it was important for them to know their midwife because it gave them confidence and trust (3,18,19,29,30).

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TABLE 2. Themes, subthemes and studies contributing/thematic table and studies contributing to each finding

Main themes	Sub themes	Studies
Maintaining self-confidence during early labour		3,17-19,27,29-30
	Experiencing the start of labour	3,17-19,27, 29-30
	Sharing the beginning of labour	3,17-19, 27, 29, 30
	Keeping life normal	3,18, 19,27, 29,30
Withdrawing within as labour intensifies		3, 17-19, 28-30
	Accepting the intensity of labour	3,17-19, 27-30
	Going to an inner world	3,17-19,27,28
	Coming back to push	3,19,17,30,29,18
Uniqueness of the birth experience		3,17-19, 27-30
	Reaching the glorious zenith	3,19,17,30, 29, 18, 27
	Meeting the baby	17-19, 27,29,30
	Empowered self	3,17-19, 27,29, 30
The empowering journey of giving birth		3,17-19, 27,29, 30

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Keeping life normal

The most common behaviour appeared to be continuing with the usual routine. There were many descriptions of wanting to remain at home, taking a shower, being aware of others' needs (like older children or even pets) and waiting happily. Their own home with their relatives and partners around them (3,17,30) was a tranquil place to be while their contractions were becoming more intense and the pain was increasing (3,17).

"*I was lying all night and with my labour pains and my dog came and lay by my feet…it was an incredible feeling, it was in September, all the apples in the trees…it was all so silent…*"(27)(p352).

II. Withdrawing within as labour intensifies

As the labour intensifies, women withdrew into an inner world where time seemed to be suspended. Women described how this inner space allowed them to concentrate on, and therefore to manage the labouring process of childbirth. Notions of control in this phase were complex and nuanced – for some, the sense of being in control was achieved by feeling safe enough to hand over control (or guardianship) to the midwife, so that they could retreat into their inner world of labouring.

Accepting the intensity of labour

When contractions became stronger and pain intensified, women felt the need to be fully focussed on the physical task (19). At this point women really needed to be with safe companions in a safe place. This was a moment to contact the midwife and /or move to the hospital.

"*I've got to be somewhere where I can actually allow myself to feel what I am going through"*(19)(p373).

Accepting pain as a natural part of childbirth was important for women (3,29). Trust in their body to respond to the pain emotionally and work with it was key (3,17). Some women were active, needing to move around (29) or submerge in water (28).

"I don't think it is explained very well what the pain is for. People just get frightened of the pain. If they could see it as something useful…the pain is there so as you can help them out, it's not frightening at all"(29)(p58).

Women described their desire to be in control which could be different for each of them. For some, control meant staying on top of things and deciding what they needed, whereas for others, it was the control of being able to hand over control to the midwives (28).

"Not having any experience of labour, I needed the midwife to tell me what to do. Because she was in control I felt I was too"(28)(p33).

Women expressed their need for a caring approach (3,17,19,28). The support from midwives helped women to face the vulnerability they experienced during labour.

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"I felt in such a great need for caring at this time, because naturally it is difficult and you need someone to take part in this with you, and someone who agrees that it hurts. I don't think people should try to minimise your perception that it hurts. They should not maximise it either"(17)(p53).

"You are so incredibly vulnerable and I feel that you have such a need that someone is kind to you and shows you some interest. All your energy goes into giving birth to this child and you simply don't have energy left to argue with someone or make a fuss about something. You almost have to take whatever your surroundings offer you"(17)(p52).

They also described how important their partner was.

"I felt he was my lifeline, he had the best analgesic effect on me and he did not leave me once"(27)(p352).

Sometimes they needed to be alone with their partners but to have the opportunity to reach their midwife whenever they needed (28,30).

"I felt like we were doing it ourselves which was nice. We didn't feel we needed the midwife all the time but she was there if we did"(28)(p34).

Going to an inner world

Women described how they withdrew within themselves to an inner world and the importance of living in the moment. Words used included "*narrowed*", "*zone*", *"faraway place", "another planet"* and "*private*"(17-19,27).

"Nothing else matters and the universe kind of shrinks to this particular, you know this particular job that you have to do which is you know about birthing your baby"(19)(p373).

"Like with both my labours, I took myself away, I need not to have people looking at me"(18)(p49).

Women described time as being altered and in some cases suspended.

"My sense of time was completely lost, as if I had forgotten it in a drawer at home. It was a very strange feeling. There are a lot of people around you and yet you are in your own world. Even if we were in the same room we were not in the same world…"(17)(p52).

Over time as the intensity of the contractions and the pain increased, women described feelings of fear and desperation (19). Some felt exhausted and deprived of energy (17,29). The thought that they could not continue any more, expressing fears of death (17).

"I was so optimistic in the beginning of the latter birth…I had given birth before and I survived…so that you believe you will survive. However, in both births I had this feeling for some time that I would never survive this"(17)(p56).

"I was requesting for a caesarean, I was requesting for everything! Because I just wanted to get over with it. I just said I was going to die. At one point I felt like I was going to faint and stuff like that. I said: 'Please Sandra, I want pain relief.' I was

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actually begging her, 'Please, please, please.' I said, 'I'm going to die! I won't be able to do this!" (30)(p239).

Coming back to push

When starting to push, time was no longer suspended and women became more active (17,19).

"When I started to push, it was as if a curtain was drawn. A totally different perception, suddenly I was awake, alert and quite aware of timing"(17)(p55).

"… I was at the top of the mountain when I started to push. And then I had to get down again. And that was it !"(3)(p725).

III. Uniqueness of the birth experience

With the birth of their baby women described relief, joy at meeting their baby, and sense of transformation.

Reaching the glorious zenith

Directly after birth, women described feelings of pride and joy in achieving and experiencing natural childbirth (17,19,29,30).

"*So I was brave, I was strong!... So I was like, 'Yes, I have done it! Yes, I can do it!' I was so happy. I honestly never had this kind of joy since I was born. I don´t know where this joy came from. I don´t know how to describe the endless joy that came in me"*(30) (p239).

"What is most prominent in the birth experience as a whole is the sense of victory, the feeling of ecstasy when the baby is born. That feeling is unique, and in the last birth I was without all medication and therefore I could enjoy this feeling much better, well I enjoyed it completely"(17)(p57).

Women described the intensity of their feelings of childbirth as being their greatest achievement which is unparralleled.

"It is an intense experience, a powerful life experience. It is naturally magnificent that you, just to find that you are capable of giving birth, to a child, that you can do it. To be such a perfect being that you can do it...the feeling you get when you get your new born child into your arms naturally is indescribable. It is a feeling you cannot compare with anything else. It is awe inspiring"(17)(p56).

Women also expressed feelings of spiritual closeness and gratitude.

"*I had this holiness, being close to the universe. I feel such gratitude for the possibility to give birth at home*"(27)(p350).

Some women were also surprised and satisfied how effectively their body had taken them through the labour *(19)* and they were proud of how they managed their pain which positively influenced their confidence in becoming a mother (30).

"I can´t really explain. I'm very pleased, very pleased, that I did it naturally. I feel so proud, full of myself, I am very proud to have him naturally. I am very proud even now."(30)(p239).

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However, as well as being a unique and powerful experience, some women also expressed a need for a sense of peace, and of routine to ground themselves in the new reality of motherhood (29).

Meeting the baby

Women described the speed with which they assured themselves that their baby looked normal.

> "*I remember particularly that as soon as the baby is born you think incredibly fast and you look incredibly fast whether there are, without all doubts, ten toes and ten finger and everything that is supposed to be in place is there and many other things*."(17)(p56).

Women with other children were impatient for them to meet their new sibling as it was important for them to involve other family members soon after birth to share this important moment with them (29).

> *"As soon as I had the baby I´d had my bath and everything and my mum and everybody arrived…we were all in the garden with the baby*"(29)(p58).

Women described a sense of being 'cocooned' within the family soon after the baby was born (30) and this was expressed in the manner in which the new baby was welcomed by hugs, kisses and expressions of love (27).

> *"By three o'clock everybody had left except for just ourselves, the four of us, the whole family, we were just tucked up across my bed and I think in some ways that was the moment that felt that this is absolutely right, there´s nothing more right in the world. I was just all so peaceful, so ---why would do anything differently kind of feeling to it"*(29)(p58).

Only in one study there was a mention of placenta by the researchers who indicated that some women considered it as an anti-climax and others part of the recovery process (19).

Empowered-self

After processing their emotions, women described feeling different. They absorbed new knowledge and understanding about themselves and incorporated this into their sense of self. They talked about their birth as an empowering experience (18).

> *"…I felt I could sense right then, when minutes passed by, I felt that I (tearful) was a little bit different"*(17)(p56).

Women linked their pride about coping with pain to feeling strong and confident and to a positive start to new motherhood (30).

> *"When you do that as a woman, you know you can do anything … I realized how everything else in life is easy, if you can do that (enduring 70 hours of no sleep, wild contractions, etc.) you can do anything. I am sad that so many women don't get to understand this"*(18)(p52).

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The empowering journey of giving birth

Following the meta-ethnographic approach, a line of argument was constructed based on the first, second and third order interpretations. This line of argument demonstrated 'the empowering journey of giving birth' encompassing the various emotions, thoughts and behaviours that women experience during birth.

Women's psychological journey commenced with telling other women from their social network that labour had started, while they remained cocooned in a familiar environment. Most women focused on maintaining self-confidence at the start of labour, and tended to withdraw into an inner world when labour became more intense. As birth progressed women experienced an altered state of consciousness including a change in time perception and intense feelings such as fear of dying. Women described various ways of coping with the pain and keeping control, including releasing control to the midwife where appropriate. With the urge to push, women felt that once again they became alert and more active. Immediately after the baby was born, feelings of joy and pride were predominant. The journey through childbirth meant a growth in personal strength. Some women described themselves as a changed person in the sense that they felt stronger, empowered, and ready to meet the demands of the newborn.

DISCUSSION

Our study offers new insights into women's psychological experience of physiologic childbirth as a systematic synthesis on this topic has not been previously reported. We created a model of the emerging psychological pattern of this journey that is designated in terms of emotions and behaviours. Women described birth as a challenge, but predominantly a positive experience which they were able to overcome with their own coping resources and the help of others. For them, this resulted in feelings of strength to face a new episode in their life with their family.

Elements of this pattern are coherent with findings from other studies that have previously described the preference for familiarity of environment and people at the start of birth (31), the altered state of consciousness (32-34), the different time perception (35-39), the empowerment (6,40-42) and change (34,43) that come with childbirth.

In our meta-synthesis, women expressed confidence in their capacitiy to give birth and trust in themselves and in the process. Positive perceptions of their own coping strategies and confidence in their ability to go through birth is linked to women's positive experience of birth (44).

Women´s psychological experience of physiological childbirth is strongly influenced by the people present at their birth. Women indicated that close relatives, mostly their partner and mother, as well as care providers were highly relevant for the way women experienced their birthing process. Women described the presence of their partner as the person with whom they most closely shared their experience and relied on

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for support, confirming that human birth is a social event (45,46). This is in line with other studies that emphasized the decisive contribution partners can make to feelings of trust (47,48) and the woman's wish for a physiological birth (49).

With regard to the midwife, women indicated their presence as being important for them. Depending on which point of the process, women tended to want to be alone at a distance from the midwife but as labour intensifies, it seems that they need to be more visible and present for the woman, either to support her control or take control if offered by the woman. Control was a key feature in our study. Over the years various researchers identified different internal and external dimensions of control (50,51). Women's internal control includes a sense of self-control, such as thoughts, emotions, behaviours and coping with labour pain. External control is described as the woman's involvement in what is happening during birth, understanding what care providers are doing, and influence on decisions. What seems important to women is not so much 'having control', but the affective component, which is the 'feeling' of having influence(52). Women's external control also seemed to arise from feeling that they were informed and could challenge decisions if the need arose (50).

Mixed feelings, both positive and negative were expressed regarding pain similar to several studies (53-55). Women experienced pain as meaningful in relation to their baby and a contribution to gaining strength to cope with the demands of parenthood. Berentson-Shaw et al. (2009) indicated that stronger self-efficacy during birth explains a lower level of pain (44). Rijnders et al. (2008) showed that women who felt unsatisfied about their coping with pain had more negative emotions about their birth (56).

What this meta-synthesis demonstrates is the enormous importance of having maternity care providers, including midwives, at the birth that are compassionate and support women to keep a sense of control that is adjusted to their personal needs and wishes. Care providers can strengthen women's sense of coherence in offering them emotional support, stimulating trust and confidence, and allowing meaningful others to be there during the birthing process. Labouring women need to be able to create a trustful bond with midwives and obstetricians attending them that enable them to feel in control and reassured. Midwives can facilitate this process by demonstrating empathy, compassion and reassuring women in their belief in their ability to birth. These are key skills and competencies identified in midwifery-led care, recommended to be implemented worldwide (57).

This study offers an insight into women's psychological experience of physiological childbirth that can be compared with the experience of women whose birth evolves differently, or when women's experiences are significantly negative with emotional or mental health issues such as postpartum depression or post traumatic stress disorder. Most women in this synthesis indicated that for them birth was an enriching experience. After birth, they expressed confidence in their own strength to face the challenges of motherhood. These emotions may be quite different when women are confronted with unexpected complications during childbirth, such as a referral to

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obsteric care, an assisted vaginal birth or unplanned caesaran section, which are associated with more negative emotions (58,59). Some women experience grief following a traumatic birth, this grieving may well be the mourning over the loss of the experience which contributes to feelings of empowerment (60).

This study has several limitations. A relatively large number of women included in this study had a home birth (39 of the 94 women). Women wishing a home birth seem to have less worries about health issues or fear of childbirth, and a greater desire for personal autonomy (61,62). Women planning a midwife-led birth also have lower rates of interventions which is also linked to positive experiences in birth(63).

This meta-synthesis was a retrospective study among women in high income countries, our sample was small and we lacked information on women's parity, preparation for birth and specific details of supporting professionals, partners and significant others which can be of major influence on women's experience of childbirth.

Further research is needed, women's psychological experience of physiological childbirth needs to be studied in women from other backgrounds and other cultural systems. Additionally, it is of great importance to gain insight into the psychological experience of birth in women with complications during pregnancy or childbirth. As childbirth is a neurobiological event directed by neurohormones produced both by the maternal and fetal brain (64), further research needs to address the interrelationship neurohormones, psychological experience and physiological labour and birth (65).

Positive, physiological labour and birth can therefore be a salutogenic event, from a mental health perspective, as well as in terms of physical wellbeing. The benefits of this process can be maximised through physical, emotional and social support for women, enhancing their belief in their ability to birth and not disturbing physiology unless it is necessary.

CONCLUSIONS

Giving birth physiologically is a psychological journey that seems to generate a sense of empowerment in the transition to motherhood. The benefits of this process can be maximised through physical, emotional and social support for women, enhancing their belief in their ability to birth and not disturbing physiology unless it is necessary. Health care professionals need to take cognisance of the empowering effects of the psychological experience of physiological childbirth. Further research to validate the results from this study is necessary.

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FIGURE LEGENDS:

FIGURE 1. Flow chart

Table 1. Characteristics of selected studies

Table 2. Themes, subthemes and studies contributing/thematic table and studies contributing to each finding

Appendix 1. Search Terms

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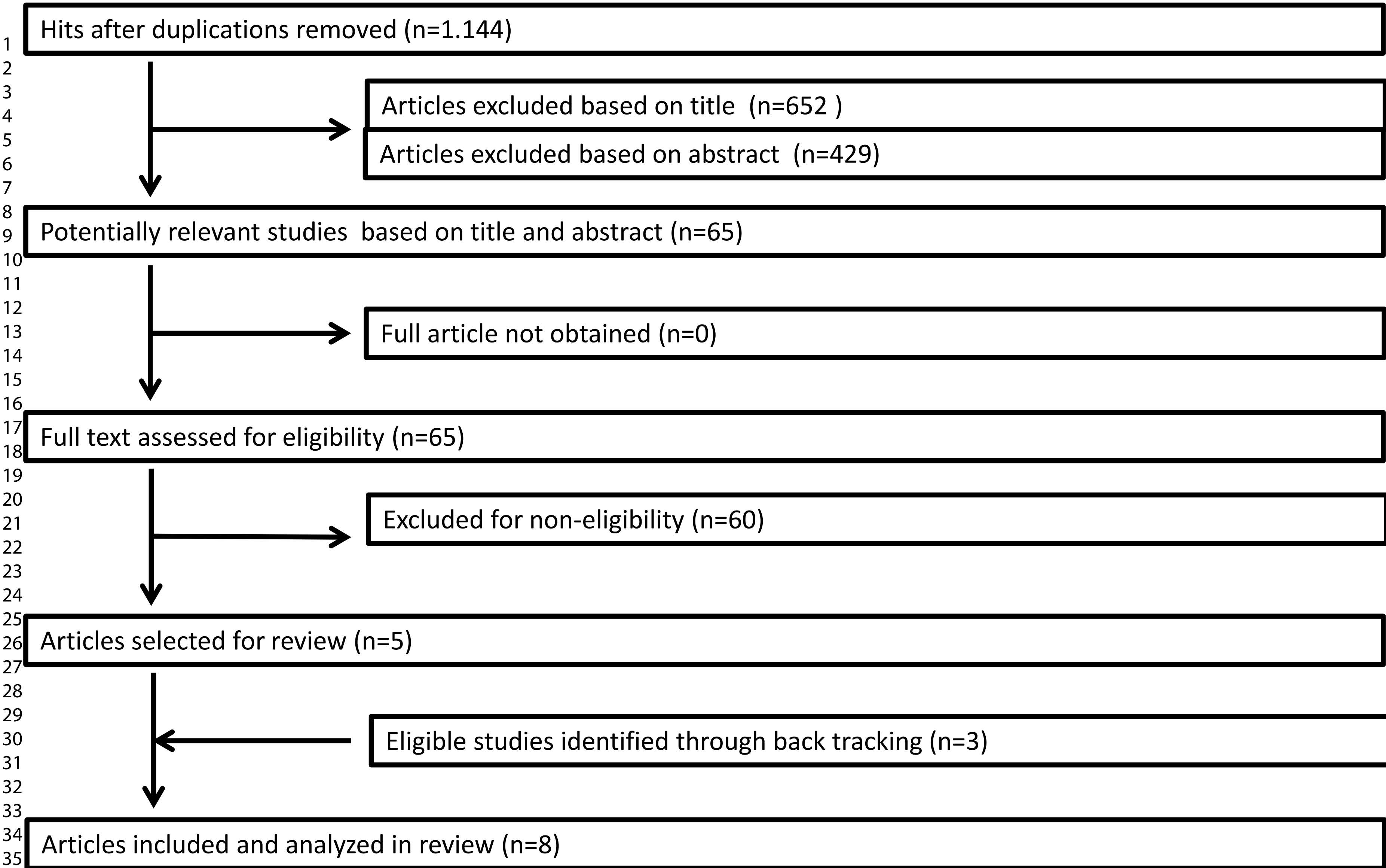
Hits after duplications removed (n=1.144)
Articles excluded based on title (n=652)
Articles excluded based on abstract (n=429)
Potentially relevant studies based on title and abstract (n=65)
Full article not obtained (n=0)
Full text assessed for eligibility (n=65)
Excluded for non-eligibility (n=60)
Articles selected for review (n=5)
Eligible studies identified through back tracking (n=3)
Articles included and analyzed in review (n=8)

woman	AND	experience	AND	normal	AND	childbirth	AND	qualitative design
• wom* OR mother* OR maternal* OR primip* OR multip* OR paturient* OR female*		• experienc* OR percept* OR emotion* OR thought* OR feeling* OR view* OR opinion* OR recall* OR memor* OR satisfact* OR cognit* OR behavio* OR insight*		• normal OR natural* OR uncomplicat* OR undistrurb* OR physiologic*		• childbirth OR "child birth" OR child-birth OR birth* OR labour OR labor OR delivery OR intrapartum		• qualitat* OR interview* OR narrat*OR synthes* OR "focus group*" OR ethnograph* OR "grounded theory" OR phenomenolog* OR discourse

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	6
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	22
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	21, 25
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	7
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	-
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	7

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	-
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	7
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	22
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	23
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	-
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	-
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	8
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	-
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	-
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	24
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	13
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	13
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	7

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

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WOMEN´S PSYCHOLOGICAL EXPERIENCES OF PHYSIOLOGICAL CHILDBIRTH: A META SYNTHESIS

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Women´s psychological experiences of physiological childbirth: a meta synthesis.

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All authors conceived and designed the study. Marianne Nieuwenhuijze and Patricia Leahy Warren organised and conducted the search. Ibone Olza, Patricia Leahy-Warren, Yael Benyamini, Marianne Nieuwenhuijze, Esther Crespo, Andria Spyridou, Maria Kazmierczak, Lea Takacs, Margaret Murphy and Sia Jonsdottir participated in the selection of the relevant articles. Ibone Olza and Esther Crespo Mirasol performed the quality assessment of the studies. Ibone Olza did the data extraction from the studies and drafted the manuscript. Ibone Olza, Patricia Leahy-Warren, Yael Benyamini, Marianne Nieuwenhuijze, Andria Spyridou, Maria Kazmierczak, Sia Jonsdottir, Inga Karlsdottir , Priscilla Hall and Soo Down interpreted the results, critically revised the manuscript for important intellectual content, and contributed to and approved the final version. Marianne Nieuwenhuijze, Soo Downe and Patricia Leahy Warren supervised the project. Yael Benyamini, Priscilla J.Hall, Soo Downe, Maria Kasmierczak, Patricia Leahy-Warren, Marianne Nieuwenhuijze and Ibone Olza made the changes and corrections suggested by the reviewers.

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Figure 1. Flow chart

Table 1: Characteristics of selected studies

Table 2: Themes, subthemes and studies contributing/thematic table and studies contributing to each finding.

Appendix 1: Search Terms

Supplementary File: CASP and COREQ tables

Competing interests statement: None

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4 **Data Sharing Statement: Additional unpublished data only available to authors.**
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11 **Abstract**
12
13 **Objective**: To synthesize qualitative studies on women's psychological experiences of
14 physiological childbirth
15
16 **Design**: Meta-synthesis
17
18 **Methods**: Studies exploring women's psychological experiences of physiological birth
19 using qualitative methods were eligible. The research group searched the following
20 databases: MEDLINE, CINAHL, PsycINFO, PsycARTICLES, SocINDEX and
21 Psychology and Behavioural Sciences Collection. Key authors were contacted and we
22 searched reference lists of collected articles. Quality assessment was done
23 independently using the Critical Appraisal Skills Programme (CASP) checklist. Studies
24 were synthesized using techniques of meta-ethnography.
25
26 **Results**: Eight studies involving 94 women were included. Three third order
27 interpretations were identified: 'maintaining self confidence in early labour',
28 'withdrawing within as labour intensifies' and 'the uniqueness of the birth experience'.
29 Using the first, second and third order interpretations, a line of argument developed that
30 demonstrated the empowering journey of giving birth encompassing the various
31 emotions, thoughts and behaviours that women experience during birth.
32
33 **Conclusion**: Giving birth physiologically is an intense and transformative psychological
34 experience that generates a sense of empowerment. The benefits of this process can be
35 maximised through physical, emotional and social support for women, enhancing their
36 belief in their ability to birth and not disturbing physiology unless it is necessary. Health
37 care professionals need to take cognisance of the empowering effects of the
38 psychological experience of physiological childbirth. Further research to validate the
39 results from this study is necessary.
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42 **Strentgth and limitations**
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44 - Research protocol was registered (PROSPERO Registration CRD42016037072)
45 and published.
46 - Strict inclusion criteria were applied so that only studies were all women had
47 unmedicated births were included.
48 - Some births had occurred more than 10 years before. Parity was not
49 differentiated as a criteria.
50
51 - All selected studies came from high income countries.
52 - All births were attended by midwives and a relatively large number of women
53 included in this study had a home birth.
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KEYWORDS: Physiological Childbirth, Psychology, Lived experience, Empowerment

Introduction

Childbirth is a profound psychological experience that has a physical, psychological, social and existential impact in both the short and longer term (1). It leaves lifelong vivid memories for women (2). The effects of a birth experience can be positive and empowering, or negative and traumatizing (3-5). Regardless of their cultural background, women need to share their birth stories to integrate fully an experience that is both physically and emotionally intense (6).

Neurobiologically, childbirth is directed by hormones produced both by the maternal and the fetal brain(7). During childbirth and immediately after delivery both brains are immersed in a very specific neurohormonal scenario, impossible to reproduce artificially. The psychology of childbirth is likely to be mediated by these neuro hormones, as well as by particular cultural and personal issues. The peaks of endogenous oxytocin during labour, together with the progressive release of endorphins in the maternal brain, are likely to cause the altered state of consciousness most typical of unmedicated labor that midwives and mothers easily recognise or describe as "labor land" but that has received little attention from neuropsychology.

Midwives and obstetricians require a deep understanding of the emotional aspects of childbirth in order to meet the emotional and psychosocial needs of labouring women. Factors that facilitate a positive birth experience include having a sense of control during birth, an opportunity for active involvement in care, and support and responsive care from others in relation to women´s experience of labour pain (8-10). There is limited research on women's lived experience of physiological childbirth, including their emotional response (11-13).This lack of knowledge concerning the psychological dimension of childbirth can lead to mismanagement of the birthing process. At the extreme, a lack of understanding of the psychology of childbirth can contribute to a traumatizing birth, which can be devastating to women even when the immediate outcome is a physically healthy mother and newborn (14). When women in labour encounter caregivers who do not incorporate emotional needs into their care, women can experience this as disrespect, mistreatment or in some instances, as a form of abuse (15) or obstetric violence (16). The problem of disrespect towards women in labour is a growing concern globally, as is also the over application of medicalized care practices for healthy women (17-19). 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% (20).

The medical model has traditionally divided labour into stages according to mechanical or physical changes such as dilation of the cervix and descent of the head as depicted on the traditional Friedman´s curve or WHO partograph (21). However, the

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subjective, emotional experience of labour does not conform to these mechanical descriptions of the body's changes. It is questionable that women experience specific stages or phases as traditionally described by professionals (22). Understanding the psychological experience in physiological childbirth can contribute to enhancing a salutogenic ('wellbeing') approach to health, can contribute to the promotion of healthy, happy family relationships in the longer run

The aim of this systematic review is to locate and synthesise published qualitative studies that describe the psychological process of women during physiological childbirth, paying attention to the immanent psychological responses that emerge during the process of labour and birth. We hypothesised that there is a common psychological experience of physiological labour. We focus on laboring women's thoughts and feelings, and the meanings they ascribe to their perceptions of childbirth process and the surrounding environment, as reaction to both childbirth and to the surrounding environment are part of a single psychological process. We refer to the psychological process we are interested in by the Husserlian term "lived experience", adopting a phenomenological theoretical lens for the analysis of the data in the included studies.

Methods

Design

We undertook a metasynthesis. This is a process of reviewing and consolidating qualitative research, to create a summary of qualitative findings and allow for the development of new interpretations (Thomas & Harden, 2008). Qualitative synthesis of a number of qualitative studies provides robust evidence to inform health care practices. Meta-ethnography was deemed to most appropriate qualitative synthesis approach for this analysis in order to transcend the findings of individual study accounts in developing a conceptual model (23). This synthesis method has the potential to provide a higher level of analysis and generate new conceptual understandings (24). The research approach used for this meta-synthesis was the seven-step process described by Noblit and Hare (25,26), which uses meta-ethnographic techniques like reciprocal and refutational techniques as well as line of argument synthesis. The research group used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statements to inform the meta-synthesis (27). The research protocol was registered and published in the International Prospective Register of Systematic Reviews (PROSPERO) (Registration CRD42016037072) (28). Ethical approval was not required for this systematic review.

Patient and Public Involvement: not involved

Data sources

A systematic search was conducted in March 2016, and updated in October 2017. The following databases were included: EBSCOhost, including the database MEDLINE, CINAHL, PsycINFO, PsycARTICLES, SocINDEX and Psychology and Behavioural Sciences Collection. The search terms are given in appendix 1. Eligible papers were written in English, Spanish and Portuguese. Five groups of two authors

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independently read the abstracts and selected articles, and the decision to include an article was achieved by consensus. When there was disagreement, a third author provided assistance and input. The research team searched reference lists of the included articles to identify additional articles that were relevant to the study question. We sought suggestions from experts in the field and articles from other sources.

Eligibility criteria for selecting studies

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 or other pain relief medications. The inclusion criteria were: (1) original research of (2) women who had physiological childbirth and (3) described their experiences and behaviours during (4) the whole process of childbirth. Studies were excluded, if the experience of childbirth was (1) described by any source other than the woman who experienced the birth (e.g. from health care professionals), (2) described only a single stage in the birth process or (3) described births with major medical and surgical interventions or pain management, e.g. caesarean section. To ensure the quality of the findings in the study, all selected papers were screened on the methodological quality using CASP (29) and subsequently, all the included papers were assessed using COREQ (30) to ensure they had reported all the relevant details of their methodological and analytic approach.

Data extraction and synthesis

Data analysis included the following steps. The first order interpretation involved reading and re-reading all studies to become familiar with their content, feeling and tone. The first author (IO) conducted a line by line coding of the findings of all included studies. Quotes, interpretations and explanations in the original studies were treated as data. The coding categories included: feelings, behaviours (actions), signs (e.g. pain, contractions), relations (midwife, partner, baby, and relatives), time perception, cognitions (thoughts and knowledge), location (home, water, places, transferring). Based on the emerging data, these coding categories were sorted into (1) early labour, (2) intense labour, (3) pushing, (4) baby out (immediately), (5) placenta and (6) evaluation of the whole birth experience.

To achieve the second and third order interpretation, the collaborative authors reflected on the first order interpretations to identify the themes and subthemes that describe the emerging constructs grounded in the primary studies. This process included reciprocal (similarity) and refutational (contradictory) analysis which identified differences, divergences, and dissonance between the studies and then to synthesise these translations. Following this reflection process, the research team used a line of argument to create a model that best explains the psychological process of physiological childbirth, as described in the included studies.

Reflexivity

Throughout the research process, the authors identified and explored their own views and opinions as possible influences on the decisions taken. This was done because of the subjective nature of qualitative research to protect the methodological rigor of the study. All of the authors of this paper are part of an EU-funded COST Action specifically examining aspects of physiological birth. The research group/authors have chosen to participate in the COST Action because of strong beliefs

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in the importance of understanding physiological and psychological processes of childbirth, to enhance the capacity of women to labour and give birth normally where this was possible for them, and where it is their choice to do so. All the authors believe that birth is a profound physiological, psychological, and socio-cultural experience for most women and babies.

The research team included authors of multidisciplinary backgrounds. The contribution of each author, coming from different paradigms and perspectives on women's needs in labour ensured the interpretation of findings was grounded in the data and came from the data. The use of refutational analyses, as recommended by Noblit & Hare (20, 21) minimizes the risk of overlooking information because it did not fit with the authors pre-conceptions. This strengthens the trustworthiness of this research.

Data Sharing Statement: Additional unpublished data only available to authors.

Results

Included studies

The search identified 1520 articles in EBSCOhost. There were 376 duplicates, which were removed, leaving 1144 unique articles in the sample. Figure 1 demonstrates the selection process, which resulted in eight included studies. All of the selected studies met the quality screening and assessment criteria. Some very relevant papers had to be excluded because just one or a few participants did not have a physiological birth as defined for this study. CASP and COREQ assessments are detailed in the supplementary files.

The eight included studies involved 94 women, 28 primiparous and 22 multiparous women, although four studies did not identify parity in their sample. Of these, two studies had a mix of primiparous and multiparous women (half each) (17, 27) and two studies did not address parity for the sample at all (28, 29). Most of the interviews took place within a year after birth, but some studies had longer intervals, and in two studies, women were interviewed up to 10 or 20 years after birth (11,31). One study did not identify a time interval between the index birth and the interview (32). Thirty-nine of the women gave birth at home, four in a primary care unit and 51 in hospital. It seems that midwives were the primary carers of these women. Further characteristics of the studies can be found in Table 1.

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TABLE 1. Characteristics of selected studies

AUTHOR(S) / YEAR	TITLE	COUNTRY	METHODOLOGY	N PARITY	TIME AFTER BIRTH	BIRTH SETTING	OBJECTIVE
1. Aune et al. 2015(3)	Promoting a normal birth and a positive birth experience – Norwegian women's perspectives	Norway	Qualitative, focused on salutogenic principles	12 prim	5 -6 weeks	Hospital birth unit.	To understand factors important for a normal birth and positive birth experience
2. Dixon et al. 2014(13)	The emotional journey of labour-women's perspectives of the experience of labour moving towards birth	New Zealand	Critical feminist standpoint methodology	6 prim 12 multi	6 months	Midwifery continuity care: 7 homebirths, 4 primary care, 7 tertiary care.	To explore women´s experiences of birth
3. Hall & Holloway 1998 (33)	Staying in control: Women's experiences of labour in water	UK	Grounded theory, using the constant comparative method'.	9 (no parity given)	48 hours	Hospital (water birth)	To examine women´s attempt at control during labour in the water
4. Halldorsdottir & Karlsdottir 1996(11)	Journeying through labour and delivery: Perceptions of women who have given birth	Iceland	Phenomenological perspective	14 (mix of parity)	2 months to 20 yrs.	Hospital	To explore experience of giving birth
5. Leap et al. 2010(34)	Journey to confidence: Women's experiences of pain in labour and relational continuity of care	UK	Qualitative, descriptive, thematic analysis	5 prim 5 multi	4 weeks	Albany midwifery practice, home and hospital	To explore women´s view of continuity of care and pain in labour
6. Ng & Sinclair 2002(32)	Women's experience of planned home birth: A phenomenological study	UK	Phenomenological perspective	9 (no parity given)	Not mentioned	Homebirths	To explore women´s lived experiences of planned homebirth
7. Reed, Barnes & Rowe 2016(12)	Women´s experience of birth: Childbirth as a rite of passage	Australia	Narrative approach, rites of passage theory.	5 prim 5 multi	6 months	6 hospital births, 4 homebirths	To explore women´s experiences of physiological childbirth
8. Sjöblom et al. 2006(31)	A qualitative study of women's experiences of home birth in Sweden	Sweden	Phenomenological–hermeneutic method.	12 (mix of parity)	Less than 10 years	Homebirths	To illuminate the experience of giving birth at home

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Meta-synthesis analysis

Three main themes emerged: *maintaining self-confidence in early labour, withdrawing within as labour intensifies* and *the uniqueness of the birth experience.* A number of subthemes were identified within each of the three main themes, which are listed on Table 2.

TABLE 2. Themes, subthemes and studies contributing/thematic table and studies contributing to each finding

Main themes	Sub themes	Studies
Maintaining self-confidence during early labour		3,20-22,31, 32,34
	Experiencing the start of labour	3,20-22,31, 32,34
	Sharing the beginning of labour	3,20-22,31, 32,34
	Keeping life normal	3,21, 22,31, 32,34
Withdrawing within as labour intensifies		3, 20-22, ,32-34
	Accepting the intensity of labour	3, 20-22, 31, 32,34
	Going to an inner world	3,20-22,31,33
	Coming back to push	3,20-22,32, 34
Uniqueness of the birth experience		3,20-22, 31,32,34
	Reaching the glorious zenith	3,20-22, 31,32,34
	Meeting the baby	20-22, 31,32,34
	Empowered self	3,20-22, 31,32, 34
The empowering journey of giving birth		3, 20-22, 31,32, 34

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I. Maintaining self-confidence in early labour

This theme presents women's experiences when they realised that they were in labour. The accounts indicated that women knew when they were in labour and most preferred to wait calmly for progress, maintaining confidence by keeping a familiar routine and environment.

Experiencing the start of labour

Women described their feelings when they realised that they were in early labour. Some felt excited and others described a lovely feeling, comparing it to Christmas (13) (p372). A mixture of feelings emanated from the data at this time, including excitement, happiness, calm, sometimes mixed with apprehension and anxiety (3,11,34).

Women found it important to conserve their emotional strength and to maintain a positive attitude (3,11). Some described being happy with staying in their own home, and felt it was important to keep calm:

"*I felt confident by staying in my own living room" (3,* p.724).

They acknowledged the close and trustful relationships in their network at that time in their life (3,13,31).

"Thought it was reassuring to be together with family in familiar surroundings" (3, p.724).

Sharing the beginning of labour

When women recognised the beginning of labour, they shared it with other women. Usually they called their mother or sister, before calling the midwife or the hospital (12,13). Few asked their midwife to be with them at this point.

"*At 10 o'clock in the morning I called the hospital. Of course, I had talked to my mom first*" (3, p. 274).

They indicated that it was important for them to know their midwife because it gave them confidence and trust (3,12,13,32,34)

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Keeping life normal

The most common behaviour at the onset of labour appeared to be continuing with the usual routine. There were many descriptions of wanting to remain at home, taking a shower, being aware of others' needs (like older children or even pets) and waiting happily. Their own home with their relatives and partners around them (3,11,34) was a tranquil place to be while their contractions were becoming more intense and the pain was increasing (3,11).

> "*I was lying all night and with my labour pains and my dog came and lay by my feet…it was an incredible feeling, it was in September, all the apples in the trees…it was all so silent…*" ((31), p. 352).

II. Withdrawing within as labour intensifies

As the labour intensifies, women withdrew into an inner world where time seemed to be suspended. Women described how this inner space allowed them to concentrate on the labouring process, and this facilitated feeling that they could manage. The experience of control was complex and nuanced – for some, the sense of being in control was directed at making all of the decisions and for others, it was achieved by feeling safe enough to hand over control (or guardianship) to the midwife, so that they could retreat into their inner world of labouring.

Accepting the intensity of labour

When contractions became stronger and pain intensified, women felt the need to be fully focussed on the physical task (13). At this point women really needed to be with safe companions in a protected place. This was the moment to contact the midwife and /or move to the hospital.

> "*I´ve got to be somewhere where I can actually allow myself to feel what I am going through"* ((13), p. 373).

The pain experience was framed by accepting pain as a natural part of childbirth, and this was important for women (3,32). Two key elements in the response to pain were trusting in the body and working with pain (3,11). Mobility was important in this phase, and women needed to move around (32) or submerge themselves in water (33). The following quote is an example of how women framed the pain experience to reduce fear.

> *"I don't think it is explained very well what the pain is for. People just get frightened of the pain. If they could see it as something useful…the pain is there so as you can help them out, it's not frightening at all"* (, p.58).

Women described their desire to be in control, but this was different for the individual women. For some, control meant staying on top of things and deciding what they needed, whereas for others, control was the decision to hand over management to the midwives (33).

> *"Not having any experience of labour, I needed the midwife to tell me what to do. Because she was in control I felt I was too"* ((33), p. 33).

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Women expressed their need for a caring approach (3,11,13,33). The support from midwives helped women to face the vulnerability they experienced during labour.

Knowing the midwives so well makes you feel quite at ease, if you are scared and you haven t got anyone reassuring you, you are just panicking and it hurts a lot more (34) p 239)

"You are so incredibly vulnerable and I feel that you have such a need that someone is kind to you and shows you some interest. All your energy goes into giving birth to this child and you simply don't have energy left to argue with someone or make a fuss about something. You almost have to take whatever your surroundings offer you" ((11), p. 52).

All throughout she said to me: you are coping fine Linda, I felt assured. That was how she was making me feel calm All throughout she said to me: you are coping fine Linda, I felt assured. That was how she was making me feel calm(34) p239)

-*A woman giving birth is perhaps much most sensitive or vulnerable that when she is not in labour. If for example the midwife or member of the staff hurt her in some way or says something inappropriate, then it drastically offsets your labour* (11)p52

They also described how important their partner was.

"I felt he was my lifeline, he had the best analgesic effect on me and he did not leave me once" ((31), p. 352).

Sometimes they needed to be alone with their partners yet still able to reach their midwife whenever they needed (33,34).

"I felt like we were doing it ourselves which was nice. We didn't feel we needed the midwife all the time but she was there if we did"(33)p. 34).

Going to an inner world

Women described how they withdrew within themselves to an inner world, where they focused on the importance of living just in that moment. Words used included "*narrowed*", "*zone*", *"faraway place", "another planet"* and "*private*" (11-13,31).

"Nothing else matters and the universe kind of shrinks to this particular, you know this particular job that you have to do which is you know about birthing your baby"((13), p. 373).

"Like with both my labours, I took myself away, I need not to have people looking at me" ((12), p. 49).

Women described perceptions of an altered or suspended sense of time.

"My sense of time was completely lost, as if I had forgotten it in a drawer at home. It was a very strange feeling. There are a lot of people around you and yet you are in your own world. Even if we were in the same room we were not in the same world…" ((11), p. 52).

Over time as the intensity of the contractions and the pain increased, women described feelings of fear and desperation (13). Some felt exhausted and deprived of

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energy (11,32). The thought that they could not continue any more, expressing fears of death (11).

"I was so optimistic in the beginning of the latter birth…I had given birth before and I survived…so that you believe you will survive. However, in both births I had this feeling for some time that I would never survive this" ((11), p. 56).

"I was requesting for a caesarean, I was requesting for everything! Because I just wanted to get over with it. I just said I was going to die. At one point I felt like I was going to faint and stuff like that. I said: 'Please Sandra, I want pain relief.' I was actually begging her, 'Please, please, please.' I said, 'I'm going to die! I won't be able to do this!" ((34), p. 239).

Coming back to push

When starting to push, time was no longer suspended and women became more active (11,13).

"When I started to push, it was as if a curtain was drawn. A totally different perception, suddenly I was awake, alert and quite aware of timing" ((11), p. 55).

"… I was at the top of the mountain when I started to push. And then I had to get down again. And that was it !" ((3), p. 725).

III. Uniqueness of the birth experience

With the birth of their baby women described relief, joy at meeting their baby, and sense of transformation.

Reaching the glorious zenith

Directly after birth, women described feelings of pride and joy in achieving and experiencing natural childbirth (11,13,32,34).

"*So I was brave, I was strong!... So I was like, 'Yes, I have done it! Yes, I can do it!' I was so happy. I honestly never had this kind of joy since I was born. I don´t know where this joy came from. I don´t know how to describe the endless joy that came in me" ((34), p. 239).*

"What is most prominent in the birth experience as a whole is the sense of victory, the feeling of ecstasy when the baby is born. That feeling is unique, and in the last birth I was without all medication and therefore I could enjoy this feeling much better, well I enjoyed it completely" ((11), p. 57).

Women described the intensity of their feelings of childbirth as being their greatest, unparallelled achievement.

"It is an intense experience, a powerful life experience. It is naturally magnificent that you, just to find that you are capable of giving birth, to a child, that you can do it. To be such a perfect being that you can do it...the feeling you get when you get your new born child into your arms naturally is indescribable. It is a feeling you cannot compare with anything else. It is awe inspiring" (11)(p56).

Women also expressed feelings of spiritual closeness and gratitude.

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"*I had this holiness, being close to the universe. I feel such gratitude for the possibility to give birth at home*" ((31), p. 350).

Some women were also surprised and satisfied how effectively their body had taken them through the labour (13) and they were proud of how they managed their pain. This ability to manage labour pain positively influenced their confidence in becoming a mother (34).

"I can´t really explain. I'm very pleased, very pleased, that I did it naturally. I feel so proud, full of myself, I am very proud to have him naturally. I am very proud even now."((34), p. 239).

However, as well as being a unique and powerful experience, some women also expressed a need for a sense of peace, and of routine to ground themselves in the new reality of motherhood (32).

Meeting the baby

Women described the speed with which they assured themselves that their baby looked normal.

"*I remember particularly that as soon as the baby is born you think incredibly fast and you look incredibly fast whether there are, without all doubts, ten toes and ten finger and everything that is supposed to be in place is there and many other things*."(11)(p56).

Women with other children were impatient for them to meet their new sibling. It was important for them to involve other family members soon after birth to share this important moment with them (32).

"As soon as I had the baby I´d had my bath and everything and my mum and everybody arrived…we were all in the garden with the baby" ((32), p. 58).

Women described a sense of being 'cocooned' within the family soon after the baby was born (34) and this was expressed in the manner in which the new baby was welcomed by hugs, kisses and expressions of love (31).

"By three o'clock everybody had left except for just ourselves, the four of us, the whole family, we were just tucked up across my bed and I think in some ways that was the moment that felt that this is absolutely right, there´s nothing more right in the world. I was just all so peaceful, so ---why would do anything differently kind of feeling to it" (29, p. 58).

The birth of the placenta was only mentioned in one study (19). For some women, it was anti-climactic after the birth of the baby, while others considered it a part of the recovery process.

Empowered-self

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After processing their emotions, women described feeling different. They absorbed new knowledge and understanding about themselves and incorporated this into their sense of self. They talked about their birth as an empowering experience (12).

> *"…I felt I could sense right then, when minutes passed by, I felt that I (tearful) was a little bit different"* ((11), p. 56).

Women linked their pride about coping with pain to feeling strong and confident and to a positive start to new motherhood (34).

> *"When you do that as a woman, you know you can do anything … I realized how everything else in life is easy, if you can do that (enduring 70 hours of no sleep, wild contractions, etc.) you can do anything. I am sad that so many women don't get to understand this" ((12), p. 52).*

The empowering journey of giving birth

Constructing a line of argument is the next step in a meta-synthesis, based on the first, second and third order interpretations. For this study, the line of argument demonstrated 'the empowering journey of giving birth', encompassing the various emotions, thoughts and behaviours that women experience during labour.

Women's psychological journey originated with telling other women from their social network that labour had started, while staying cocooned in a familiar environment. Most women focused on maintaining self-confidence at the start of labour and tended to withdraw into an inner world as labour became more intense. As birth progressed women experienced an altered state of consciousness including a change in time perception and intense feelings such as fear of dying. Women described various ways of coping with the pain and keeping control, which paradoxically, included releasing control to the midwife where appropriate. With the urge to push, women felt that once again they became alert and more active. Immediately after the baby was born, feelings of joy and pride were predominant. The journey through childbirth meant a growth in personal strength. Some women described themselves as a changed person in the sense that they felt stronger, empowered, and ready to meet the demands of the newborn.

DISCUSSION

Our study offers new insights into women's psychological experience of physiologic childbirth as a systematic synthesis on this topic has not been previously reported. We created a model of the emerging psychological pattern of this journey that is designated in terms of emotions and behaviours. Women described birth as a challenging but predominantly positive experience which they were able to overcome with their own coping resources and the help of others. For them, this resulted in feelings of strength to face a new episode in their life with their family. Our findings confirm our main hypothesis: there is a common psychological experience of physiological labour. As far as we are aware, this has not previously been reported using womens accounts as primary data. Our findings suggest that birth is just as much a psychological journey as a physical one.

Although the whole event does not seem to have been described before on the basis of qualitative evidence, elements of our findings are coherent with those from

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other studies. The preference for familiarity of environment and people at the start of birth (35), the altered state of consciousness (36,37), the different time perception (38-40), the empowerment (6,41,42) and change (37,43) that come with childbirth have previously been described.

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).

Women´s psychological experience of physiological childbirth is strongly influenced by the people present at their birth. Women indicated that close relatives, mostly their partner and mother, as well as care providers were highly relevant for the way women experienced their birthing process. Women described the presence of their partner as the person with whom they most closely shared their experience and relied on for support, confirming that human birth is a social event (45). This is consistent with other studies that emphasized the decisive contribution partners can make to feelings of trust (46,47) and the woman's wish for a physiological birth (48).

Women indicated the midwife's presence as being critically important. At the beginning of the labour, women tended to want to be alone and at a distance from the midwife, but, as labour intensified, they wanted the midife to be more visible and present while supporting the woman's control, or taking control if women wanted to hand it over. Control was a key feature in our study. Over the years various researchers identified different internal and external dimensions of control (49,50). Women's internal control includes a sense of self-control, such as thoughts, emotions, behaviours and coping with labour pain. External control is described as the woman's involvement in what is happening during birth, understanding what care providers are doing, and having an influence on the decisions. What seems important to women is not so much 'having control', but rather the affective component of control, which is the 'feeling' of having influence (10), being able to have a say in what happens and having caregivers who are responsive to expressed wishes. Women's external control also seemed to arise from feeling that they were informed and could challenge decisions if the need arose (49).

Mixed feelings, both positive and negative were expressed regarding labour pain, and this is similar to several studies (51). Women experienced pain as meaningful in relation to their baby. They recognised its intensity but reframed it positively. This was also the case for other feelings that are usually interpreted negatively: (being exhausted, feeling overhelmed 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. Pain and coping with pain also contributed to gaining strength to cope with the demands of parenthood. Berentson-Shaw et al. (2009) indicated that stronger self-efficacy during birth explains a lower level of pain (44). Rijnders et al. (2008) showed that women who felt unsatisfied about their coping with pain had more negative emotions about their birth (52).

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What this meta-synthesis demonstrates is the enormous importance of having maternity care providers, including midwives, at the birth that are compassionate and support women to keep a sense of control that is adjusted to their personal needs and wishes. Care providers can strengthen women's sense of coherence in offering them emotional support, stimulating trust and confidence, and supporting meaningful others to be there during the birthing process. Labouring women need to be able to create a trustful bond with the midwives and obstetricians attending them that offers reassurance and enables them to feel in control. 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 included 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.Midwives and other caregivers, including obstetricians, can facilitate this process by demonstrating empathy, compassion and supporting a woman's belief in her own ability to birth. These are key skills and competencies identified in midwifery-led care, recommended to be implemented worldwide (53). These affective skills should be included in midwifery, nursing and medical education so that all caregivers have the same expertise in the emotional care of women during birth.

Most women in this synthesis indicated that, for them, birth was an enriching experience that gave them confidence in their own strength to face the challenges of motherhood.These emotions may be quite different when women are confronted with unexpected complications during childbirth, such as an emergency referral to obsteric care, an assisted vaginal birth, or an unplanned caesaran section, which tend to be associated with more negative emotions (54,55). Some women experience grief following a traumatic birth (which could include a birth without interventions, especially where women feel discounted, or actively abused). This grieving may well be the mourning over the loss of the experience which contributes to feelings of empowerment (56).

This study has several limitations. Close to half of the women in the sample had a home birth (39 of the 94 women). Women wishing a home birth seem to have less worries about health issues or fear of childbirth, and a greater desire for personal autonomy (57). Women planning a midwife-led birth also have lower rates of interventions which is also linked to positive experiences in birth (58).

The studies included in this meta-synthesis were from high income countries. The experiences of women in places with low-resourced maternity care systems may be different. Our sample was small and we lacked information on women's parity, preparation for birth, specific details of supporting professionals, partners and significant others which can be of major influence on women's experience of childbirth.

Further research is needed in women from different cultural backgrounds. Additionally, it is of great importance to gain insight into the psychological experience of birth in women with complications during pregnancy or childbirth. As childbirth is a neurobiological event directed by neurohormones produced both by the maternal and

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4 fetal brain (7), further research needs to address the interrelationship between
5 neurohormones, psychological experience and physiological labour and birth (59,60).
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7 Positive, physiological labour and birth can be a salutogenic event, from a
8 mental health perspective, as well as in terms of physical wellbeing. The findings
9 challenge the biomedical 'stages of labour' discourse and will help increase awareness of
10 the importance of optimising physiological birth as far as possible, to enhance maternal
11 mental health.. The benefits of this process can be maximised through physical,
12 emotional and social support for women, enhancing their belief in their ability to birth
13 and not disturbing physiology unless it is necessary.
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16 **CONCLUSIONS**
17 Giving birth physiologically in the context of supportive, empathic caregivers, is
18 a psychological journey that seems to generate a sense of empowerment in the transition
19 to motherhood. The benefits of this process can be maximised through physical,
20 emotional and social support for women, enhancing their belief in their ability to birth
21 without disturbing physiology unless there is a compelling need. Health care
22 professionals need to understand the empowering effects of the psychological
23 experience of physiological childbirth. Further research to validate the results from this
24 study is necessary.
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etiopathogenic model of perinatal neurobiological disorders. Front Neuroendocrinol 2014 Oct;35(4):459-472.

Figure legends:

Figure 1. Flow chart

Table 1. Characteristics of selected studies

Table 2. Themes, subthemes and studies contributing/thematic table and studies contributing to each finding

Appendix 1. Search Terms

Supplementary File: CASP and COREQ tables

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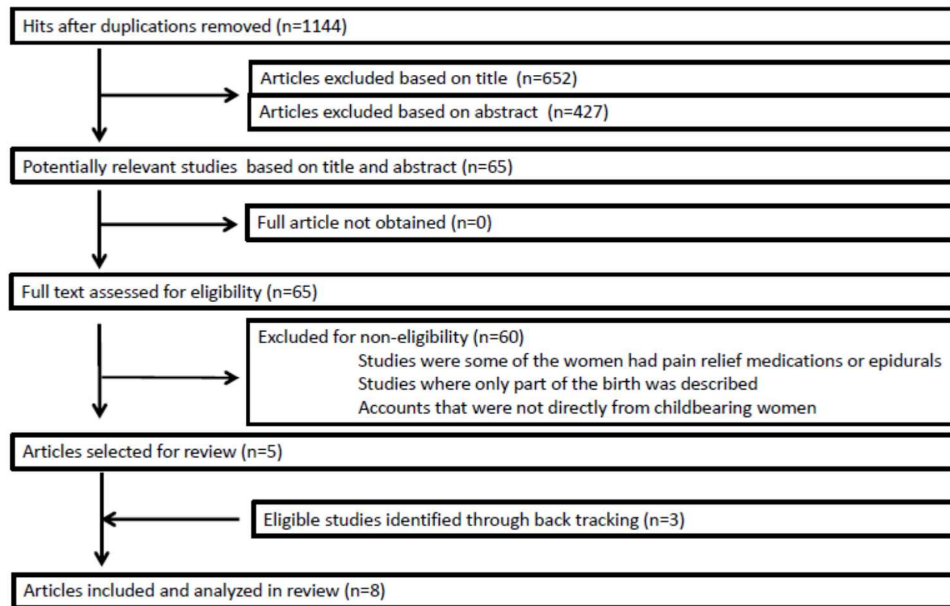

Figur 1. Flow Chart

1261x889mm (96 x 96 DPI)

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woman	AND experience	AND normal	AND childbirth	AND qualitative design
• wom* OR mother* OR maternal* OR primip* OR multip* OR paturient* OR female*	• experienc* OR percept* OR emotion* OR thought* OR feeling* OR view* OR opinion* OR recall* OR memor* OR satisfact* OR cognit* OR behavio* OR insight*	• normal OR natural* OR uncomplicat* OR undistrurb* OR physiologic*	• childbirth OR "child birth" OR child-birth OR birth* OR labour OR labor OR delivery OR intrapartum	• qualitat* OR interview* OR narrat*OR synthes* OR "focus group*" OR ethnograph* OR "grounded theory" OR phenomenolog* OR discourse

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CASP ASSESMENT.

PAPER	1. Aims	2. Methodology	3. Resarch design	4. Recuitment	5. Data collection	6. Researcher/ participant	7. Ethical issues	8. Data analysis	9. Findings	10. Valuable
1. Aune et al, 2015	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
2. Dixon et al, 2014	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
3. Hall SM &Halloway, 1998	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD
4. Hallsdorsdottr & Karlsdottir, 1996	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
5. Leap, 2010	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD
6 Ng M & Sinclair M. 2002	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD
7. Reed et al, 2016	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
8. Sjoblom et al , 2006	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD

CORE-Q TABLE Comprehensiveness of reporting assessment (consolidated criteria for reporting qualitative research checklist)

1 Aune et al. 2015 | 2 Dixon et al. 2014 | 3 Hall SM & Holloway IM. 1998 | 4 Halldorsdottir S & Karlsdottir SI. 1996 | 5 Leap et al. 2010 | 6 NG M & Sinclair M. 2002 | 7.Reed et al. 2016 | 8.Sjöblom I et al. 2006

Reporting criteria	Studies reporting each criterion
Characteristics of research team:	
- Interviewer or facilitator identified	4, 5, 7, 8
- Credentials	1, 2, 3, 4, 5, 6, 7, 8
- Occupation	1, 2, 3, 4, 5, 6, 7, 8
- Sex	1, 2, 3, 4, 5, 6, 7, 8
- Experience and training	1, 2, 3, 4, 5, 6, 7, 8
Relationship with participants:	
- Relationship established before study started	7
- Participant knowledge of interviewer	5, 8
Methodological theory identified	1, 2, 3, 4, 5, 6, 7, 8
Participant selection:	
- Sampling method (for example, snowball, purposive)	1, 2, 3, 4, 5, 6, 7, 8
- Method of approach	1, 2, 3, 4, 5, 6, 7, 8
- Sample size	1, 2, 3, 4, 5, 6, 7, 8
- Number or reasons for non-participation	8
Setting:	
- Setting of data collection	1, 3, 4, 5, 6, 7, 8
- Presence of non-participants	3
- Description of sample	1, 2, 3, 4, 5, 6, 7, 8
Data collection:	
- Interview guide	1, 2, 6, 8
- Repeat interviews	--
- Audio or visual recording	1, 2, 3, 4, 5, 6, 7, 8
- Field notes	4, 5, 7, 8
- Duration	1, 5, 7, 8
- Data saturation	1, 2, 3, 6, 7, 8
- Transcripts returned to participants	2, 4, 7
Data analysis	
- Number of data coders	2, 3, 4, 5, 6, 7, 8
- Description of coding tree	1, 2, 3, 4, 5, 6, 7, 8
- Derivation of themes	1, 2, 3, 4, 5, 6, 7, 8
- Use of software	7
- Participants' feedback or member checking	2, 4, 7
Reporting	
- Participant quotations provided	1, 2, 3, 4, 5, 6, 7, 8
- Data and findings consistent	1, 2, 3, 4, 5, 6, 7, 8
- Clarity of major themes	1, 2, 3, 4, 5, 6, 7, 8
- Clarity of minor themes	1, 2, 3, 4, 5, 6, 7, 8

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	6
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	22
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	21, 25
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	7
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	-
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	7

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	-
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	7
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	22
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	23
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	-
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	-
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	8
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	-
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	-
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	24
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	13
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	13
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	7

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

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WOMEN´S PSYCHOLOGICAL EXPERIENCES OF PHYSIOLOGICAL CHILDBIRTH: A META-SYNTHESIS

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Primary Subject Heading:	Obstetrics and gynaecology
Secondary Subject Heading:	Qualitative research
Keywords:	Childbirth, Physiological Childbirth, Lived experiences, Pyschological, empowerment, OBSTETRICS
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Women´s psychological experiences of physiological childbirth: a meta-synthesis.

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Figure 1. Flow chart

Table 1: Characteristics of selected studies

Table 2: Themes, subthemes and studies contributing/thematic table and studies contributing to each finding.

Appendix 1: Search Terms

Supplementary File: CASP and COREQ tables

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Abstract

Objective: To synthesize qualitative studies on women's psychological experiences of physiological childbirth

Design: Meta-synthesis

Methods: Studies exploring women's psychological experiences of physiological birth using qualitative methods were eligible. The research group searched the following databases: MEDLINE, CINAHL, PsycINFO, PsycARTICLES, SocINDEX and Psychology and Behavioural Sciences Collection. Key authors were contacted, and we searched reference lists of collected articles. Quality assessment was done independently using the Critical Appraisal Skills Programme (CASP) checklist. Studies were synthesized using techniques of meta-ethnography.

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Results: Eight studies involving 94 women were included. Three third order interpretations were identified: 'maintaining self confidence in early labour', 'withdrawing within as labour intensifies' and 'the uniqueness of the birth experience'. Using the first, second and third order interpretations, a line of argument developed that demonstrated ´the empowering journey of giving birth´ encompassing the various emotions, thoughts and behaviours that women experience during birth.

Conclusion: Giving birth physiologically is an intense and transformative psychological experience that generates a sense of empowerment. The benefits of this process can be maximised through physical, emotional and social support for women, enhancing their belief in their ability to birth and not disturbing physiology unless it is necessary. Health care professionals need to take cognisance of the empowering effects of the psychological experience of physiological childbirth. Further research to validate the results from this study is necessary.

Strentgths and limitations

- Research protocol was registered (PROSPERO Registration CRD42016037072) and published.
- Strict inclusion criteria were applied so that only studies where all women had unmedicated births were included.
- Some births had occurred more than 10 years before. Parity was not differentiated as a criteria.
- All selected studies came from high income countries.
- All births were attended by midwives and a relatively large number of women included in this study had a home birth.

KEYWORDS: Physiological Childbirth, Psychology, Lived experience, Empowerment

Introduction

Childbirth is a profound psychological experience that has a physical, psychological, social and existential impact in both the short and longer term (1). It leaves lifelong vivid memories for women (2). The effects of a birth experience can be positive and empowering, or negative and traumatizing (3-5). Regardless of their cultural background, women need to share their birth stories to integrate fully an experience that is both physically and emotionally intense (6).

Neurobiologically, childbirth is directed by hormones produced both by the maternal and the fetal brain (7). During childbirth and immediately after delivery both brains are immersed in a very specific neurohormonal scenario, impossible to reproduce artificially. The psychology of childbirth is likely to be mediated by these neuro

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hormones, as well as by particular cultural and personal issues. The peaks of endogenous oxytocin during labour, together with the progressive release of endorphins in the maternal brain, are likely to cause the altered state of consciousness most typical of unmedicated labour that midwives and mothers easily recognise or describe as "labour land" but that has received little attention from neuropsychology.

Midwives and obstetricians require a deep understanding of the emotional aspects of childbirth in order to meet the emotional and psychosocial needs of labouring women. Factors that facilitate a positive birth experience include having a sense of control during birth, an opportunity for active involvement in care, and support and responsive care from others in relation to women´s experience of labour pain (8-10). There is limited research on women's lived experience of physiological childbirth, including their emotional response (11-13). This lack of knowledge concerning the psychological dimension of childbirth can lead to mismanagement of the birthing process. At the extreme, a lack of understanding of the psychology of childbirth can contribute to a traumatizing birth, which can be devastating to women even when the immediate outcome is a physically healthy mother and newborn (14). When women in labour encounter caregivers who do not incorporate emotional needs into their care, women can experience this as disrespect, mistreatment or in some instances, as a form of abuse (15) or obstetric violence (16). The problem of disrespect towards women in labour is a growing concern globally, as is also the over application of medicalized care practices for healthy women (17-19). 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% (20).

The medical model has traditionally divided labour into stages according to mechanical or physical changes such as dilation of the cervix and descent of the head as depicted on the traditional Friedman´s curve or WHO partograph (21). However, the subjective, emotional experience of labour does not conform to these mechanical descriptions of the body's changes. It is questionable that women experience specific stages or phases as traditionally described by professionals (22). Understanding the psychological experience in physiological childbirth can contribute to enhancing a salutogenic ('wellbeing') approach to health, can contribute to the promotion of healthy, happy family relationships in the longer run

The aim of this meta-synthesis is to locate and synthesise published qualitative studies that describe the psychological process of women during physiological childbirth, paying attention to the immanent psychological responses that emerge during the process of labour and birth. We hypothesised that there is a common psychological experience of physiological labour. We focus on laboring women's thoughts and feelings, and the meanings they ascribe to their perceptions of childbirth process and the surrounding environment, as reaction to both childbirth and to the surrounding environment are part of a single psychological process. We refer to the psychological process we are interested in by the Husserlian term "lived experience", adopting a phenomenological theoretical lens for the analysis of the data in the included studies.

Methods

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Design

We undertook a meta-synthesis. This is a process of reviewing and consolidating qualitative research, to create a summary of qualitative findings and allow for the development of new interpretations (Thomas & Harden, 2008). Qualitative synthesis of a number of qualitative studies provides robust evidence to inform health care practices. Meta-ethnography was deemed to most appropriate qualitative synthesis approach for this analysis in order to transcend the findings of individual study accounts in developing a conceptual model (23). This synthesis method has the potential to provide a higher level of analysis and generate new conceptual understandings (24). The research approach used for this meta-synthesis was the seven-step process described by Noblit and Hare (25,26), which uses meta-ethnographic techniques like reciprocal and refutational techniques as well as line of argument synthesis. The research group used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statements to inform the meta-synthesis (27). The research protocol was registered and published in the International Prospective Register of Systematic Reviews (PROSPERO) (Registration CRD42016037072) (28). Ethical approval was not required for this meta-synthesis.

Patients and public were not involved in the design, conception or conduct of this study.

Data sources

A systematic search was conducted in March 2016 and updated in October 2017. The following databases were included: EBSCOhost, including the database MEDLINE, CINAHL, PsycINFO, PsycARTICLES, SocINDEX and Psychology and Behavioural Sciences Collection. The search terms are given in appendix 1. (We used EBSCOHOST for the complete search and therefore did not use MeSH terms). Eligible papers were written in English, Spanish and Portuguese. Five groups of two authors independently read the abstracts and selected articles, and the decision to include an article was achieved by consensus. When there was disagreement, a third author provided assistance and input. The research team searched reference lists of the included articles to identify additional articles that were relevant to the study question. We sought suggestions from experts in the field and articles from other sources.

Eligibility criteria for selecting studies

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 or other pain relief medications. The inclusion criteria were: (1) original research of (2) women who had physiological childbirth and (3) described their experiences and behaviours during (4) the whole process of childbirth. Studies were excluded, if the experience of childbirth was (1) described by any source other than the woman who experienced the birth (e.g. from health care professionals), (2) described only a single stage in the birth process or (3) described births with major medical and surgical interventions or pain management, e.g. caesarean section.

Data extraction and synthesis

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Data analysis included the following steps. The first order interpretation involved reading and re-reading all studies to become familiar with their content, feeling and tone. The first author (IO) conducted a line by line coding of the findings of all included studies. Quotes, interpretations and explanations in the original studies were treated as data. The coding categories included: feelings, behaviours (actions), signs (e.g. pain, contractions), relations (midwife, partner, baby, and relatives), time perception, cognitions (thoughts and knowledge), location (home, water, places, transferring). Based on the emerging data, these coding categories were sorted into (1) early labour, (2) intense labour, (3) pushing, (4) baby out (immediately), (5) placenta and (6) evaluation of the whole birth experience.

To achieve the second and third order interpretation, the collaborative authors reflected on the first order interpretations to identify the themes and subthemes that describe the emerging constructs grounded in the primary studies. This process included reciprocal (similarity) and refutational (contradictory) analysis which identified differences, divergences, and dissonance between the studies and then to synthesise these translations. Following this reflection process, the research team used a line of argument to create a model that best explains the psychological process of physiological childbirth, as described in the included studies.

Quality assessment

To ensure the quality of the findings in the study, all selected papers were screened on the methodological quality using CASP (29) and subsequently, all the included papers were assessed using COREQ (30) to ensure they had reported all the relevant details of their methodological and analytic approach.

Reflexivity

Throughout the research process, the authors identified and explored their own views and opinions as possible influences on the decisions taken. This was done because of the subjective nature of qualitative research to protect the methodological rigor of the study. All of the authors of this paper are part of an EU-funded COST Action specifically examining aspects of physiological birth. The research group/authors have chosen to participate in the COST Action because of strong beliefs in the importance of understanding physiological and psychological processes of childbirth, to enhance the capacity of women to labour and give birth normally where this was possible for them, and where it is their choice to do so. All the authors believe that birth is a profound physiological, psychological, and socio-cultural experience for most women and babies.

The research team included authors of multidisciplinary backgrounds. The contribution of each author, coming from different paradigms and perspectives on women's needs in labour ensured the interpretation of findings was grounded in the data and came from the data. The use of refutational analyses, as recommended by Noblit & Hare (20, 21) minimizes the risk of overlooking information because it did not fit with the authors pre-conceptions. This strengthens the trustworthiness of this research.

Results

Included studies

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The search identified 1520 articles in EBSCOhost. There were 376 duplicates, which were removed, leaving 1144 unique articles in the sample. Figure 1 demonstrates the selection process, which resulted in eight included studies. All of the selected studies met the quality screening and assessment criteria. Some very relevant papers had to be excluded because just one or a few participants did not have a physiological birth as defined for this study. CASP and COREQ assessments are detailed in the supplementary files.

The eight included studies involved 94 women, 28 primiparous and 22 multiparous women, although four studies did not identify parity in their sample. Of these, two studies had a mix of primiparous and multiparous women (half each) (17, 27) and two studies did not address parity for the sample at all (28, 29). Most of the interviews took place within a year after birth, but some studies had longer intervals, and in two studies, women were interviewed up to 10 or 20 years after birth (11,31). One study did not identify a time interval between the index birth and the interview (32). Thirty-nine of the women gave birth at home, four in a primary care unit and 51 in hospital. It seems that midwives were the primary carers of these women. Further characteristics of the studies can be found in Table 1.

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TABLE 1. Characteristics of selected studies

AUTHOR(S) / YEAR	TITLE	COUNTRY	METHODOLOGY	N PARITY	TIME AFTER BIRTH	BIRTH SETTING	OBJECTIVE
1. Aune et al. 2015(3)	Promoting a normal birth and a positive birth experience – Norwegian women's perspectives	Norway	Qualitative, focused on salutogenic principles	12 prim	5 -6 weeks	Hospital birth unit.	To understand factors important for a normal birth and positive birth experience
2. Dixon et al. 2014(13)	The emotional journey of labour-women's perspectives of the experience of labour moving towards birth	New Zealand	Critical feminist standpoint methodology	6 prim 12 multi	6 months	Midwifery continuity care: 7 homebirths, 4 primary care, 7 tertiary care.	To explore women´s experiences of birth
3. Hall & Holloway 1998 (33)	Staying in control: Women's experiences of labour in water	UK	Grounded theory, using the constant comparative method'.	9 (no parity given)	48 hours	Hospital (water birth)	To examine women´s attempt at control during labour in the water
4. Halldorsdottir & Karlsdottir 1996(11)	Journeying through labour and delivery: Perceptions of women who have given birth	Iceland	Phenomenological perspective	14 (mix of parity)	2 months to 20 yrs.	Hospital	To explore experience of giving birth
5. Leap et al. 2010(34)	Journey to confidence: Women's experiences of pain in labour and relational continuity of care	UK	Qualitative, descriptive, thematic analysis	5 prim 5 multi	4 weeks	Albany midwifery practice, home and hospital	To explore women´s view of continuity of care and pain in labour
6. Ng & Sinclair 2002(32)	Women's experience of planned home birth: A phenomenological study	UK	Phenomenological perspective	9 (no parity given)	Not mentioned	Homebirths	To explore women´s lived experiences of planned homebirth
7. Reed, Barnes & Rowe 2016(12)	Women´s experience of birth: Childbirth as a rite of passage	Australia	Narrative approach, rites of passage theory.	5 prim 5 multi	6 months	6 hospital births, 4 homebirths	To explore women´s experiences of physiological childbirth
8. Sjöblom et al. 2006(31)	A qualitative study of women's experiences of home birth in Sweden	Sweden	Phenomenological–hermeneutic method.	12 (mix of parity)	Less than 10 years	Homebirths	To illuminate the experience of giving birth at home

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Meta-synthesis analysis

Three main themes emerged: *maintaining self-confidence in early labour, withdrawing within as labour intensifies* and *the uniqueness of the birth experience.* A number of subthemes were identified within each of the three main themes, which are listed on Table 2.

TABLE 2. Themes, subthemes and studies contributing/thematic table and studies contributing to each finding

Main themes	Sub themes	Studies
Maintaining self-confidence during early labour		3,20-22,31, 32,34
	Experiencing the start of labour	3,20-22,31, 32,34
	Sharing the beginning of labour	3,20-22,31, 32,34
	Keeping life normal	3,21, 22,31, 32,34
Withdrawing within as labour intensifies		3, 20-22, ,32-34
	Accepting the intensity of labour	3, 20-22, 31, 32,34
	Going to an inner world	3,20-22,31,33
	Coming back to push	3,20-22,32, 34
Uniqueness of the birth experience		3,20-22, 31,32,34
	Reaching the glorious zenith	3,20-22, 31,32,34
	Meeting the baby	20-22, 31,32,34
	Empowered self	3,20-22, 31,32, 34
The empowering journey of giving birth		3, 20-22, 31,32, 34

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I. Maintaining self-confidence in early labour

This theme presents women's experiences when they realised that they were in labour. The accounts indicated that women knew when they were in labour and most preferred to wait calmly for progress, maintaining confidence by keeping a familiar routine and environment.

Experiencing the start of labour

Women described their feelings when they realised that they were in early labour. Some felt excited and others described a lovely feeling, comparing it to Christmas (13) (p372). A mixture of feelings emanated from the data at this time, including excitement, happiness, calm, sometimes mixed with apprehension and anxiety (3,11,34).

Women found it important to conserve their emotional strength and to maintain a positive attitude (3,11). Some described being happy with staying in their own home, and felt it was important to keep calm:

"*I felt confident by staying in my own living room" (3,* p.724).

They acknowledged the close and trustful relationships in their network at that time in their life (3,13,31).

"Thought it was reassuring to be together with family in familiar surroundings" (3, p.724).

Sharing the beginning of labour

When women recognised the beginning of labour, they shared it with other women. Usually they called their mother or sister, before calling the midwife or the hospital (12,13). Few asked their midwife to be with them at this point.

"*At 10 o'clock in the morning I called the hospital. Of course, I had talked to my mom first*" (3, p. 274).

They indicated that it was important for them to know their midwife because it gave them confidence and trust (3,12,13,32,34)

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Keeping life normal

The most common behaviour at the onset of labour appeared to be continuing with the usual routine. There were many descriptions of wanting to remain at home, taking a shower, being aware of others' needs (like older children or even pets) and waiting happily. Their own home with their relatives and partners around them (3,11,34) was a tranquil place to be while their contractions were becoming more intense and the pain was increasing (3,11).

"*I was lying all night and with my labour pains and my dog came and lay by my feet…it was an incredible feeling, it was in September, all the apples in the trees…it was all so silent…*" ((31), p. 352).

II. Withdrawing within as labour intensifies

As the labour intensifies, women withdrew into an inner world where time seemed to be suspended. Women described how this inner space allowed them to concentrate on the labouring process, and this facilitated feeling that they could manage. The experience of control was complex and nuanced – for some, the sense of being in control was directed at making all of the decisions and for others, it was achieved by feeling safe enough to hand over control (or guardianship) to the midwife, so that they could retreat into their inner world of labouring.

Accepting the intensity of labour

When contractions became stronger and pain intensified, women felt the need to be fully focussed on the physical task (13). At this point women really needed to be with safe companions in a protected place. This was the moment to contact the midwife and /or move to the hospital.

"*I´ve got to be somewhere where I can actually allow myself to feel what I am going through"* ((13), p. 373).

The pain experience was framed by accepting pain as a natural part of childbirth, and this was important for women (3,32). Two key elements in the response to pain were trusting in the body and working with pain (3,11). Mobility was important in this phase, and women needed to move around (32) or submerge themselves in water (33). The following quote is an example of how women framed the pain experience to reduce fear.

"I don't think it is explained very well what the pain is for. People just get frightened of the pain. If they could see it as something useful…the pain is there so as you can help them out, it's not frightening at all" (, p.58).

Women described their desire to be in control, but this was different for the individual women. For some, control meant staying on top of things and deciding what they needed, whereas for others, control was the decision to hand over management to the midwives (33).

"Not having any experience of labour, I needed the midwife to tell me what to do. Because she was in control I felt I was too" ((33), p. 33).

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Women expressed their need for a caring approach (3,11,13,33). The support from midwives helped women to face the vulnerability they experienced during labour.

Knowing the midwives so well makes you feel quite at ease, if you are scared and you haven t got anyone reassuring you, you are just panicking, and it hurts a lot more (34) p 239)

"You are so incredibly vulnerable and I feel that you have such a need that someone is kind to you and shows you some interest. All your energy goes into giving birth to this child and you simply don't have energy left to argue with someone or make a fuss about something. You almost have to take whatever your surroundings offer you" ((11), p. 52).

All throughout she said to me: you are coping fine Linda, I felt assured. That was how she was making me feel calm All throughout she said to me: you are coping fine Linda, I felt assured. That was how she was making me feel calm (34) p239)

-*A woman giving birth is perhaps much most sensitive or vulnerable that when she is not in labour. If for example the midwife or member of the staff hurt her in some way or says something inappropriate, then it drastically offsets your labour* (11)p52

They also described how important their partner was.

"I felt he was my lifeline, he had the best analgesic effect on me and he did not leave me once" ((31), p. 352).

Sometimes they needed to be alone with their partners yet still able to reach their midwife whenever they needed (33,34).

"I felt like we were doing it ourselves which was nice. We didn't feel we needed the midwife all the time but she was there if we did" (33)p. 34).

Going to an inner world

Women described how they withdrew within themselves to an inner world, where they focused on the importance of living just in that moment. Words used included "*narrowed*", "*zone*", *"faraway place", "another planet"* and "*private*" (11-13,31).

"Nothing else matters and the universe kind of shrinks to this particular, you know this particular job that you have to do which is you know about birthing your baby"((13), p. 373).

"Like with both my labours, I took myself away, I need not to have people looking at me" ((12), p. 49).

Women described perceptions of an altered or suspended sense of time.

"My sense of time was completely lost, as if I had forgotten it in a drawer at home. It was a very strange feeling. There are a lot of people around you and yet you are in your own world. Even if we were in the same room we were not in the same world…" ((11), p. 52).

Over time as the intensity of the contractions and the pain increased, women described feelings of fear and desperation (13). Some felt exhausted and deprived of

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energy (11,32). The thought that they could not continue any more, expressing fears of death (11).

"I was so optimistic in the beginning of the latter birth…I had given birth before and I survived…so that you believe you will survive. However, in both births I had this feeling for some time that I would never survive this" ((11), p. 56).

"I was requesting for a caesarean, I was requesting for everything! Because I just wanted to get over with it. I just said I was going to die. At one point I felt like I was going to faint and stuff like that. I said: 'Please Sandra, I want pain relief.' I was actually begging her, 'Please, please, please.' I said, 'I'm going to die! I won't be able to do this!" ((34), p. 239).

Coming back to push

When starting to push, time was no longer suspended and women became more active (11,13).

"When I started to push, it was as if a curtain was drawn. A totally different perception, suddenly I was awake, alert and quite aware of timing" ((11), p. 55).

"… I was at the top of the mountain when I started to push. And then I had to get down again. And that was it !" ((3), p. 725).

III. Uniqueness of the birth experience

With the birth of their baby women described relief, joy at meeting their baby, and sense of transformation.

Reaching the glorious zenith

Directly after birth, women described feelings of pride and joy in achieving and experiencing natural childbirth (11,13,32,34).

"*So I was brave, I was strong!... So I was like, 'Yes, I have done it! Yes, I can do it!' I was so happy. I honestly never had this kind of joy since I was born. I don´t know where this joy came from. I don´t know how to describe the endless joy that came in me" ((34), p. 239).*

"What is most prominent in the birth experience as a whole is the sense of victory, the feeling of ecstasy when the baby is born. That feeling is unique, and in the last birth I was without all medication and therefore I could enjoy this feeling much better, well I enjoyed it completely" ((11), p. 57).

Women described the intensity of their feelings of childbirth as being their greatest, unparallelled achievement.

"It is an intense experience, a powerful life experience. It is naturally magnificent that you, just to find that you are capable of giving birth, to a child, that you can do it. To be such a perfect being that you can do it...the feeling you get when you get your new born child into your arms naturally is indescribable. It is a feeling you cannot compare with anything else. It is awe inspiring" (11) (p56).

Women also expressed feelings of spiritual closeness and gratitude.

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"*I had this holiness, being close to the universe. I feel such gratitude for the possibility to give birth at home*" ((31), p. 350).

Some women were also surprised and satisfied how effectively their body had taken them through the labour (13) and they were proud of how they managed their pain. This ability to manage labour pain positively influenced their confidence in becoming a mother (34).

"I can´t really explain. I'm very pleased, very pleased, that I did it naturally. I feel so proud, full of myself, I am very proud to have him naturally. I am very proud even now."((34), p. 239).

However, as well as being a unique and powerful experience, some women also expressed a need for a sense of peace, and of routine to ground themselves in the new reality of motherhood (32).

Meeting the baby

Women described the speed with which they assured themselves that their baby looked normal.

"*I remember particularly that as soon as the baby is born you think incredibly fast and you look incredibly fast whether there are, without all doubts, ten toes and ten finger and everything that is supposed to be in place is there and many other things*."(11)(p56).

Women with other children were impatient for them to meet their new sibling. It was important for them to involve other family members soon after birth to share this important moment with them (32).

"As soon as I had the baby I´d had my bath and everything and my mum and everybody arrived…we were all in the garden with the baby" ((32), p. 58).

Women described a sense of being 'cocooned' within the family soon after the baby was born (34) and this was expressed in the manner in which the new baby was welcomed by hugs, kisses and expressions of love (31).

"By three o'clock everybody had left except for just ourselves, the four of us, the whole family, we were just tucked up across my bed and I think in some ways that was the moment that felt that this is absolutely right, there´s nothing more right in the world. I was just all so peaceful, so ---why would do anything differently kind of feeling to it" (29, p. 58).

The birth of the placenta was only mentioned in one study (19). For some women, it was anti-climactic after the birth of the baby, while others considered it a part of the recovery process.

Empowered-self

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After processing their emotions, women described feeling different. They absorbed new knowledge and understanding about themselves and incorporated this into their sense of self. They talked about their birth as an empowering experience (12).

> *"…I felt I could sense right then, when minutes passed by, I felt that I (tearful) was a little bit different"* ((11), p. 56).

Women linked their pride about coping with pain to feeling strong and confident and to a positive start to new motherhood (34).

> *"When you do that as a woman, you know you can do anything … I realized how everything else in life is easy, if you can do that (enduring 70 hours of no sleep, wild contractions, etc.) you can do anything. I am sad that so many women don't get to understand this" ((12), p. 52).*

The empowering journey of giving birth

Constructing a line of argument is the next step in a meta-synthesis, based on the first, second and third order interpretations. For this study, the line of argument demonstrated 'the empowering journey of giving birth', encompassing the various emotions, thoughts and behaviours that women experience during labour.

Women's psychological journey originated with telling other women from their social network that labour had started, while staying cocooned in a familiar environment. Most women focused on maintaining self-confidence at the start of labour and tended to withdraw into an inner world as labour became more intense. As birth progressed women experienced an altered state of consciousness including a change in time perception and intense feelings such as fear of dying. Women described various ways of coping with the pain and keeping control, which paradoxically, included releasing control to the midwife where appropriate. With the urge to push, women felt that once again they became alert and more active. Immediately after the baby was born, feelings of joy and pride were predominant. The journey through childbirth meant a growth in personal strength. Some women described themselves as a changed person in the sense that they felt stronger, empowered, and ready to meet the demands of the newborn.

DISCUSSION

Our study offers new insights into women's psychological experience of physiologic childbirth as a meta-synthesis on this topic has not been previously reported. We created a model of the emerging psychological pattern of this journey that is designated in terms of emotions and behaviours. Women described birth as a challenging but predominantly positive experience which they were able to overcome with their own coping resources and the help of others. For them, this resulted in feelings of strength to face a new episode in their life with their family. Our findings confirm our main hypothesis: there is a common psychological experience of physiological labour. As far as we are aware, this has not previously been reported using womens accounts as primary data. Our findings suggest that birth is just as much a psychological journey as a physical one.

Although the whole event does not seem to have been described before on the basis of qualitative evidence, elements of our findings are coherent with those from

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other studies. The preference for familiarity of environment and people at the start of birth (35), the altered state of consciousness (36,37), the different time perception (38-40), the empowerment (6,41,42) and change (37,43) that come with childbirth have previously been described.

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).

Women´s psychological experience of physiological childbirth is strongly influenced by the people present at their birth. Women indicated that close relatives, mostly their partner and mother, as well as care providers were highly relevant for the way women experienced their birthing process. Women described the presence of their partner as the person with whom they most closely shared their experience and relied on for support, confirming that human birth is a social event (45). This is consistent with other studies that emphasized the decisive contribution partners can make to feelings of trust (46,47) and the woman's wish for a physiological birth (48).

Women indicated the midwife's presence as being critically important. At the beginning of the labour, women tended to want to be alone and at a distance from the midwife, but, as labour intensified, they wanted the midife to be more visible and present while supporting the woman's control, or taking control if women wanted to hand it over. Control was a key feature in our study. Over the years various researchers identified different internal and external dimensions of control (49,50). Women's internal control includes a sense of self-control, such as thoughts, emotions, behaviours and coping with labour pain. External control is described as the woman's involvement in what is happening during birth, understanding what care providers are doing, and having an influence on the decisions. What seems important to women is not so much 'having control', but rather the affective component of control, which is the 'feeling' of having influence (10), being able to have a say in what happens and having caregivers who are responsive to expressed wishes. Women's external control also seemed to arise from feeling that they were informed and could challenge decisions if the need arose (49).

Mixed feelings, both positive and negative were expressed regarding labour pain, and this is similar to several studies (51). Women experienced pain as meaningful in relation to their baby. They recognised its intensity but reframed it positively. This was also the case for other feelings that are usually interpreted negatively: (being exhausted, feeling overhelmed 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. Pain and coping with pain also contributed to gaining strength to cope with the demands of parenthood. Berentson-Shaw et al. (2009) indicated that stronger self-efficacy during birth explains a lower level of pain (44). Rijnders et al. (2008) showed that women who felt unsatisfied about their coping with pain had more negative emotions about their birth (52).

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What this meta-synthesis demonstrates is the enormous importance of having maternity care providers, including midwives, at the birth that are compassionate and support women to keep a sense of control that is adjusted to their personal needs and wishes. Care providers can strengthen women's sense of coherence in offering them emotional support, stimulating trust and confidence, and supporting meaningful others to be there during the birthing process. Labouring women need to be able to create a trustful bond with the midwives and obstetricians attending them that offers reassurance and enables them to feel in control. 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 included 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 which facilitates the release of hormones and enables the maternal behaviours that are essential to progress a physiological labour and birth. Midwives and other caregivers, including obstetricians, can facilitate this process by demonstrating empathy, compassion and supporting a woman's belief in her own ability to birth. These are key skills and competencies identified in midwifery-led care, recommended to be implemented worldwide (53). These affective skills should be included in midwifery, nursing and medical education so that all caregivers have the same expertise in the emotional care of women during birth.

Most women in this synthesis indicated that, for them, birth was an enriching experience that gave them confidence in their own strength to face the challenges of motherhood.These emotions may be quite different when women are confronted with unexpected complications during childbirth, such as an emergency referral to obsteric care, an assisted vaginal birth, or an unplanned caesaran section, which tend to be associated with more negative emotions (54,55). Some women experience grief following a traumatic birth (which could include a birth without interventions, especially where women feel discounted, or actively abused). This grieving may well be the mourning over the loss of the experience which contributes to feelings of empowerment (56).

This study has several limitations. Close to half of the women in the sample had a home birth (39 of the 94 women). Women wishing a home birth seem to have less worries about health issues or fear of childbirth, and a greater desire for personal autonomy (57). Women planning a midwife-led birth also have lower rates of interventions which is also linked to positive experiences in birth (58).

The studies included in this meta-synthesis were from high income countries. The experiences of women in places with low-resourced maternity care systems may be different. Our sample was small and we lacked information on women's parity, preparation for birth, specific details of supporting professionals, partners and significant others which can be of major influence on women's experience of childbirth.

Further research is needed in women from different cultural backgrounds. Additionally, it is of great importance to gain insight into the psychological experience of birth in women with complications during pregnancy or childbirth. As childbirth is a neurobiological event directed by neurohormones produced both by the maternal and

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4 fetal brain (7), further research needs to address the interrelationship between
5 neurohormones, psychological experience and physiological labour and birth (59,60).
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7 Positive, physiological labour and birth can be a salutogenic event, from a
8 mental health perspective, as well as in terms of physical wellbeing. The findings
9 challenge the biomedical 'stages of labour' discourse and will help increase awareness of
10 the importance of optimising physiological birth as far as possible, to enhance maternal
11 mental health.. The benefits of this process can be maximised through physical,
12 emotional and social support for women, enhancing their belief in their ability to birth
13 and not disturbing physiology unless it is necessary.
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15
16 **CONCLUSIONS**
17 Giving birth physiologically in the context of supportive, empathic caregivers, is
18 a psychological journey that seems to generate a sense of empowerment in the transition
19 to motherhood. The benefits of this process can be maximised through physical,
20 emotional and social support for women, enhancing their belief in their ability to birth
21 without disturbing physiology unless there is a compelling need. Health care
22 professionals need to understand the empowering effects of the psychological
23 experience of physiological childbirth. Further research to validate the results from this
24 study is necessary.
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27 **CONTRIBUTOR SHIP STATEMENT**
28
29 All authors conceived and designed the study. Marianne Nieuwenhuijze and Patricia
30 Leahy Warren organised and conducted the search. Ibone Olza, Patricia Leahy-Warren,
31 Yael Benyamini, Marianne Nieuwenhuijze, Esther Crespo, Andria Spyridou, Maria
32 Kazmierczak, Lea Takacs, Margaret Murphy and Sia Jonsdottir participated in the
33 selection of the relevant articles. Ibone Olza and Esther Crespo Mirasol performed the
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35 and drafted the manuscript. Ibone Olza, Patricia Leahy-Warren, Yael Benyamini,
36 Marianne Nieuwenhuijze, Andria Spyridou, Maria Kazmierczak, Sia Jonsdottir, Inga
37 Karlsdottir , Priscilla Hall and Soo Down interpreted the results, critically revised the
38 manuscript for important intellectual content, and contributed to and approved the final
39 version. Marianne Nieuwenhuijze, Soo Downe and Patricia Leahy Warren supervised
40 the project. Yael Benyamini, Priscilla J.Hall, Soo Downe, Maria Kasmierczak, Patricia
41 Leahy-Warren, Marianne Nieuwenhuijze and Ibone Olza made the changes and
42 corrections suggested by the reviewers.
43
44
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46
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Figure legends:

Figure 1. Flow chart

Table 1. Characteristics of selected studies

Table 2. Themes, subthemes and studies contributing/thematic table and studies contributing to each finding

Appendix 1. Search Terms

Supplementary File: CASP and COREQ tables

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AND / AND / AND / AND

woman	experience	normal	childbirth	qualitative design
• wom* OR mother* OR maternal* OR primip* OR multip* OR paturient* OR female*	• experienc* OR percept* OR emotion* OR thought* OR feeling* OR view* OR opinion* OR recall* OR memor* OR satisfact* OR cognit* OR behavio* OR insight*	• normal OR natural* OR uncomplicat* OR undistrurb* OR physiologic*	• childbirth OR "child birth" OR child-birth OR birth* OR labour OR labor OR delivery OR intrapartum	• qualitat* OR interview* OR narrat*OR synthes* OR "focus group*" OR ethnograph* OR "grounded theory" OR phenomenolog* OR discourse

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CASP ASSESMENT.

PAPER	1. Aims	2. Methodology	3. Resarch design	4. Recuitment	5. Data collection	6. Researcher/ participant	7. Ethical issues	8. Data analysis	9. Findings	10. Valuable
1. Aune et al, 2015	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
2. Dixon et al, 2014	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
3. Hall SM &Halloway, 1998	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD
4. Hallsdorsdottr & Karlsdottir, 1996	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
5. Leap, 2010	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD
6 Ng M & Sinclair M. 2002	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD
7. Reed et al, 2016	YES	YES	YES	YES	YES	YES	YES	YES	YES	EXCELLENT
8. Sjoblom et al , 2006	YES	YES	YES	YES	YES	YES	YES	YES	YES	GOOD

CORE-Q TABLE Comprehensiveness of reporting assessment (consolidated criteria for reporting qualitative research checklist)

1 Aune et al. 2015   2 Dixon et al. 2014   3 Hall SM & Holloway IM. 1998   4 Halldorsdottir S & Karlsdottir SI. 1996   5 Leap et al. 2010   6 NG M & Sinclair M. 2002   7.Reed et al. 2016   8.Sjöblom I et al. 2006

Reporting criteria	Studies reporting each criterion
Characteristics of research team:	
- Interviewer or facilitator identified	4, 5, 7, 8
- Credentials	1, 2, 3, 4, 5, 6, 7, 8
- Occupation	1, 2, 3, 4, 5, 6, 7, 8
- Sex	1, 2, 3, 4, 5, 6, 7, 8
- Experience and training	1, 2, 3, 4, 5, 6, 7, 8
Relationship with participants:	
- Relationship established before study started	7
- Participant knowledge of interviewer	5, 8
Methodological theory identified	1, 2, 3, 4, 5, 6, 7, 8
Participant selection:	
- Sampling method (for example, snowball, purposive)	1, 2, 3, 4, 5, 6, 7, 8
- Method of approach	1, 2, 3, 4, 5, 6, 7, 8
- Sample size	1, 2, 3, 4, 5, 6, 7, 8
- Number or reasons for non-participation	8
Setting:	
- Setting of data collection	1, 3, 4, 5, 6, 7, 8
- Presence of non-participants	3
- Description of sample	1, 2, 3, 4, 5, 6, 7, 8
Data collection:	
- Interview guide	1, 2, 6, 8
- Repeat interviews	--
- Audio or visual recording	1, 2, 3, 4, 5, 6, 7, 8
- Field notes	4, 5, 7, 8
- Duration	1, 5, 7, 8
- Data saturation	1, 2, 3, 6, 7, 8
- Transcripts returned to participants	2, 4, 7
Data analysis	
- Number of data coders	2, 3, 4, 5, 6, 7, 8
- Description of coding tree	1, 2, 3, 4, 5, 6, 7, 8
- Derivation of themes	1, 2, 3, 4, 5, 6, 7, 8
- Use of software	7
- Participants' feedback or member checking	2, 4, 7
Reporting	
- Participant quotations provided	1, 2, 3, 4, 5, 6, 7, 8
- Data and findings consistent	1, 2, 3, 4, 5, 6, 7, 8
- Clarity of major themes	1, 2, 3, 4, 5, 6, 7, 8
- Clarity of minor themes	1, 2, 3, 4, 5, 6, 7, 8

PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	5
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	5
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	6
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	22
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	21, 25
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	7
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	-
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	7

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PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	-
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	7
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	22
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	23
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	-
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	-
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	8
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	-
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	-
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	24
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	13
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	13
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	7

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