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Association of psychosocial–spiritual experiences around childbirth and subsequent perinatal mental health outcomes: an integrated review.

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Abstract

Background: Perinatal mental health is a substantial concern for women, families, communities and maternity care providers internationally. However, there is little understanding of poor perinatal maternal mental health and association with women's experiences of childbirth. Further understanding of psychosocial-spiritual experiences in childbirth and subsequent perinatal mental health is required.

Aim: To systematically identify and synthesise the range of evidence available on psychosocial-spiritual experiences around childbirth and foreground possible associations with subsequent perinatal mental health outcomes.

Method: Integrated analysis of a range of literature types including experimental, non-experimental and theoretical was undertaken. A comprehensive search strategy was created, and nine databases were searched from 2000-2018. Defined inclusion and exclusion criteria were applied independently by two reviewers. Critical appraisal was carried out independently by two reviewers and a third reviewer was brought in to resolve differences. The Ecology of Childbirth conceptual framework guided the review.

Findings: Six articles were included and four synthesised themes were developed: relationships and kinship matter; significance of childbirth and spiritual experiences; honouring spiritual growth and wellbeing, and physical manifestations and embodiment. Discussion of the themes using the Ecology of Childbirth framework highlight new perspectives and reveal phenomena lying within and beyond childbirth experiences that may influence perinatal mental health. A new conceptual model is proposed.

Conclusions: New insights highlight a paucity of research in the area of perinatal mental health and psychosocial-spiritual childbirth experiences. Further research needs to include

postnatal mood disorders and the possible associations with psychosocial-spiritual experiences.

Key words: Postnatal depression, Psychosocial factors, Emotional Childbirth, Perceptions

Introduction

Perinatal mental health is topical and is a substantial concern for maternity care providers globally and informs drivers for maternal health policy, professional guidance and education (Clarry & Carson, 2018; Howard, Megnin-Viggars, Symington, & Pilling, 2014; Jones, Cymru, & O’Leary, 2018; Maternal Mental Health Alliance, 2016; MBRRACE-UK, 2015; NICE, 2014; NMC, 2010; RCM, 2015; Ross-Davie, Elliott, Sarkar, & Green, 2006). (Note MBRRACE-UK is the acronym for Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries in the UK, NICE is National Institute of Clinical Excellence).

Depression and anxiety are the most common mental health problems in maternity, with approximately 12% of women experiencing depression and 13% experiencing clinical anxiety at some point; many women experience both. It is estimated that 15-25% of women during the childbirth year are affected by poor mental health (MBRRACE-UK, 2015; NICE, 2014). This appears to be increased in developing countries (WHO, (undated)). Depression has been ranked globally as the most significant disease burden for women between the ages of 15 and 44 years (Bergman, Sarkar, Glover, & O’Connor, 2010). Yet despite guidance at professional and policy level, the experiences and multi-factorial causes of poor maternal mental health and how to address this phenomenon remain unclear.

This integrated review contributes to further understanding about the experience and causality of perinatal mental health and identifies positive actions and care that may mitigate poor perinatal mental health. The aim is to systematically map, identify and synthesise the

range of evidence available on psycho-social and spiritual experiences of the antenatal period, labour and birth and foreground possible associations with subsequent perinatal mental health outcomes.

Conceptual framework

The theme of this literature review is broad and a coherent conceptual framework that addresses the multi-layered complexity of the phenomenon being examined was required. The Ecology of Childbirth conceptual framework (Crowther, 2017), emphasises the relationship of individuals to each other, themselves and the environment (figure 1). The framework includes six parts: contextuality, embodiment, relationality, temporality, spatiality and mystery. Mystery identified in this framework proffers a frame of reference to orientate the review to aspects of childbirth birth that are rarely explored and articulated. The ecology of childbirth conceptual framework therefore helped review the literature through a holistic lens that foregrounded a non-fragmented understanding of childbirth.

Position of figure 1: Ecology of birth (Author one, 2017). Reprinted here with permission

11th April 2019

Methodology

The study took the form of an integrated review to include analysis of a range of literature types including experimental, non-experimental and theoretical in their approach to more fully understand the topic of interest (Aveyard, Payne, & Preston, 2016). Two questions were developed for the review to systematically map, identify and synthesise the range of evidence available on psycho-social and spiritual experiences of childbirth.

- (i) What are the psycho-social and spiritual experiences of mothers during antenatal period and childbirth?
- (ii) What are the effects of psycho-social and spiritual experiences of women during antenatal period, and childbirth on postnatal wellbeing and mental health?

Search strategies

Databases searched for evidence were CINAHL, MEDLINE, MIDIRS, PsychARTICLES, Science Direct, OpenDissertations, DART Europe, EThOS and the Cochrane Library.

Searching was limited to identify papers published between 2000 and 2018. 2000 was chosen to ensure contemporariness and hand searching of reference lists of included studies. See box 1 for the key search terms. References were saved and shared through a RefWorks database and Dropbox folder.

Position of Box 1: Search terms

Position of Box 2: Inclusion and exclusion criteria

Inclusion and exclusion criteria were set to facilitate study selection (Box 2). Types of studies were of both qualitative or quantitative design, including, for example, phenomenology, ethnography, grounded theory, case study, randomised controlled trial, cohort study, case control study, regression analysis, and realist evaluations. Two reviewers (AIS, SC) carried out the database searches, and to ensure methodological rigour they both independently screened titles, abstracts and full text of selected articles for eligibility. A third reviewer (JH) was consulted in cases where reviewers disagreed. The PRISMA (figure 2) statement guided the study selection process (Moher, Liberati, Tetzlaff, & Altman, 2009). Seven papers were selected on screening and a further paper was excluded during data extraction because the participants of the study were not within our original inclusion criteria.

Position of Figure 2: PRISMA flow chart

Two reviewers (AIS and SC) assessed risk of bias and study quality independently. A third reviewer (JH) provided arbitration on disputed aspects. For qualitative studies (n = 3) the Joanna Briggs Institute (JBI) checklist for qualitative and interpretive and critical research was used (Aromataris & Munn, 2017). Quantitative studies (n = 2) were appraised using the Cochrane Pregnancy and Childbirth Group data extraction and appraisal form. One mixed method study was included for which both the qualitative and quantitative tools were used. Six articles were included in the final evidence synthesis.

Process of data extraction and synthesis

A critical interpretive analysis technique was used to synthesise the findings of materials reviewed (Dixon-Woods et al., 2006). The aim of synthesis was to produce a plausible theoretical account of the domain grounded in the 6 included papers. Quantitative findings when not already converted into words were changed into word descriptions in order to facilitate synthesis (Aromataris & Munn, 2017). Whittlemore and Knafl (2005) recommend a process data reduction which involves techniques of extracting and coding data from primary sources to simplify, abstract, focus, and organize data into a manageable framework. This involved detailed reading of papers and extraction of key data enabling identification of recurring themes and early critiquing of the content of articles. The themes and subthemes were then subjected to quality assessment to improve the trustworthiness of the synthesis through each member of the review team independently checking the extracted data and synthesis. Bias was reduced through use of a third reviewer during this stage to both check the outcome of decisions and arbitrate between divergent opinions of the two primary reviewers for each paper. One reviewer was neither a midwife or engaged in any research related to childbirth or mental health. This helped ensure avoidance of prejudgements and

professional orientation to the topic but did not interfere with the process of the review. The process was guided by three steps advocated by Noblit, Hare and Hare (1988):

1. **Reciprocal translational analysis (RTA).** The key metaphors, themes, or concepts in each study report were identified. An attempt was then made to translate the concepts into each other. Judgements about the ability of the concept of one study to capture concepts from others were based on attributes of the themes themselves, and the concept that was "most adequate" chosen. This included converting numerical findings into words, using original author words when available then synthesising with the findings of the review overall.

2. **Refutational synthesis.** Contradictions between the study reports were characterised, and an attempt made to explain them. The purpose was to expose knowledge that may be obvious yet not stated and notice when bias in studies and use of author(s) language covered over something of significance to the review.

3. **Lines-of-argument synthesis (LOA).** This involved building a general interpretation grounded in the findings of the separate studies through an iterative process. The themes or categories that were most powerful in representing the entire dataset were identified by constant comparisons between individual accounts. This constant comparison of theoretical constructs, patterns, themes and variations in the data allowed specification of the categories of analysis and the relationships between them (Whittemore & Knafl, 2005). By noting patterns, commonalities, themes, clusters, contrasts and comparisons, relationships, chains of evidence, intervening factors and confounding factors we were able to generate a richer theoretical framework and appreciate the complexities across multiple styles of research methodologies and their findings individually and together (Dixon-Woods et al., 2006). Any conflicting or unresolved questions, including our individual and collective analytical hunches were foregrounded as these were recognised as a call to further questioning.

We ensured throughout that data confirmed the findings and our summation of the synthesis. The iterative process involved deconstruction and restructuring of themes until consensus was achieved. For example, the fourth theme of ‘Physical manifestations and embodiment’ had not been identified as a distinct theme in of itself in an early iteration. Once JH noted this omission, the team concurred with this insight when re-reading the data and the synthesised theme was added.

Although findings may not be completely reproducible, they are critically appraised and reflect the available evidence using a sustained focus on searching and foregrounding divergent and convergent insights. Conclusions were consistently grounded in the evidence. Our focus remained broad and orientated towards clarity of understanding and generation of new insights using the ecology of childbirth conceptual framework.

Findings

Although the process of data synthesis was dynamic, interactive and procedurally unbounded it required constant reflexivity to ensure our authorial voices and our conceptual positioning were explicit. The data extraction and subsequent synthesis is reported below in a series of tables:

- i. Table one. Summary of descriptive characteristics of the 6 included studies**
- ii. Table two. Methodological characteristics of the 6 included studies**
- iii. Table three. Themes represented across the 6 included studies**
- iv. Tables 4a-d present the thematic findings with supporting data**

These tables show how the data was converted from the extracted data of individual sources into displays that assemble the data from multiple primary sources around particular synthesised themes.

Table one: Summary of descriptive characteristics of the included studies

(Position of table 1)

Table two: Methodological characteristics of included studies

(Position of table 2)

Table three: Themes represented across the 6 included studies

(Position of table 3)

The aim was to maximise relevance to the review purpose and provide useful theoretical contributions. Tables' 4a-4d present the thematic findings, each named following our interpretation and synthesis of the data.

Table 4a. Synthesised theme: Relationships and kinship matter

(Position of table 4a)

Table 4b. Synthesised theme: Significance of childbirth and spiritual experiences

(Position of table 4b)

Table 4c. Synthesised theme: Honouring spiritual growth and wellbeing

(Position of table 4c)

Table 4d. Synthesised theme: Physical manifestations and embodiment

(position of table 4d)

Discussion

In discussing the four synthesised themes, we return to the conceptual framework of the ecology of childbirth (figure 1) and explore each of the six parts of the framework in relation to the four synthesised themes of this review.

Contextuality

Contextuality was strongly evidenced throughout the six included papers and four identified themes highlighting the diversity of cultures and cosmologies (e.g. religious and creation belief systems). In some of the papers there appears to be a fascination with difference and the exotic especially when contrary to westernised birthing practices. However, this difference does bring into relief something of significance. Dietsch et al (2011) dramatically highlights the importance of the context of care provision and how, when this is insensitive, emotional distress can ensue. Hanely and Brown (2014) emphasise the need to honour the cultural context and spiritual practices of individuals and communities. Cultures in which abstract reasoning inform cosmological understanding and associated beliefs, values and practices are often in sharp contrast with the scientific reasoning that informs much western biomedical maternity practices. This divergence enables us to see into different ways of understanding birth contextually, that is beyond our everyday points of reference.

Conversely, what became apparent was how such divergent cultures contributed to the final convergent themes, which resonated across cultures and geographical regions. The context in which childbirth unfolds includes cultural and spiritual qualities, people (family and care providers), places of care and how care is delivered. It is evident that context of childbirth experiences will always have influence on childbirth moods.

Spatiality

Although spatiality was not overtly a named theme in the review it was revealed through all four themes. Bennington (2010) describes different levels of energy through these childbirth experiences, namely – environmental energy; place and space of birth and the socio-cultural milieu that surrounds birth and how contextual particularity is crucial and needs to be honoured and balanced. Bennington also describes the individual energy as the woman connects with (or not) her own energy. Mitchell's (2012) study highlights women's need to find space within their childbirth experience to relax and integrate their experiences. Unsurprisingly the physical place of birth was also highlighted as significant. Two women in the Dietsch et al (2011) study were disturbed by the mood permeating some birth rooms, one expressing concern that the place was 'haunted'. In the same study women reported being emotionally distressed on admission to the hospital because of the feelings of separation from the familiar and the abusive treatment they received whilst there. It is apparent that receiving unkind care in an unfamiliar environment opens a space of isolation and fear. Unfortunately, disrespectful care occurs, and this has been described elsewhere (Birthrights, 2013; Bohren et al., 2015; Kirkup, 2015). Although this review is not focussed on place of birth it highlights how the mood of a place influences the perceptions of experience about places where childbirth care is undertaken; experiences previously recognised (Crowther, Smythe, & Spence, 2014). When considering how moods of a place can influence a woman's affective wellbeing it is important to acknowledge how the felt space in which childbirth care takes place attunes in a way that enables experiences to be positive, respectful and affirming.

Embodiment

The significance of embodiment as part of spiritual wellbeing was revealed through the theme of physical manifestation and embodiment in three of the studies. Maternity care

providers need to be cognizant of the physical and emotional needs of childbearing women. Brinkley (2004) and Hanely & Brown (2014) show how rest and sleep are important to consider because not attending to physical needs, such as sleep, increases stress and may lead to lower moods postnatally. Brinkley (2004) also found that neglecting physical needs interferes with relationships and the ability to adapt to the changes occurring through childbirth. According to Hanely & Brown (2014), the risk of this occurring increased when there were other factors such as lack of familial support, poverty and a traumatic birth. Mitchell (2012) found that physical connection and touch was important. Her study highlights how women respond to sensitive touch because this helps them keep connected and 'in' their bodies. Mitchell contends that embodied connection may enable integration of the experiences of childbirth and nurture possibility for spiritual growth. This is akin to Parrett and Fahy's (2008) work that describes how a woman can access her own coping strategies, often strategies that she was not aware of prior to birthing that help her experience spiritual wellbeing.

Further, this can be related to behaviours that influence the health and physical wellbeing of the childbearing woman and infant(s). Jesse and Reed (2004) suggest that foregrounding and acknowledging spirituality and psychosocial wellbeing through pregnancy relates to improved lifestyle choices, such as smoking cessation. It is therefore imperative from a public health perspective that we address physical manifestation and embodiment. Childbirth spiritual experiences are integrated for spiritual growth to occur and staying embodied through childbirth may open potential for such growth. To ignore the significance of embodied experiences could potentially leave women at risk of emotional morbidity.

Relationality

Equally crucial is the quality of relationality that is woven through childbirth. Relationships and kinship matter and were major themes that resonated across all six studies. No other theme in this review traversed all included studies. Brinkley (2004) study found that women require help to self-care to maintain balance for interpersonal relationships to flourish and reported how poorer interpersonal relationships are associated with decreased opportunity for spiritual growth. The Hanely & Brown (2014) study revealed how connection with close relatives, particularly the partner (stated as husband in the study) is important to wellbeing and feeling spiritually safe. They found that women who felt alone, disconnected, uncared and supported by kin were left feeling powerless and helpless. Likewise, Lundgren (2002) highlights the importance of an anchoring companion (i.e. midwife) at birth because this enables the woman to release into her experience. This resonates with the findings of Mitchell's (2012) study in which the style of care others provide invokes transformation of experiences illustrating 'how' we are with women is crucial not just what we 'do'. Attitude of the caregiver is therefore significant. The caregiver who is respectful and is "sensitive, caring, kind, skilled, and competent" will lead a woman to experience a more positive birth experience (Oladapo et al 2018). As Lundgren (2002) shows trusting relationships with care providers helps nurture wellbeing through helping a woman to feel a sense of relief in the safety of that support that is there for her, as well as strengthening her self-confidence. In Brinkley's study this effect appears more pertinent the higher the parity.

In Hanely and Brown's study, the reported symptoms of Jinn possession were similar to the identified symptoms in western biomedical postnatal mood disorders. Hanely and Brown found that Jinn possession symptoms could be mitigated through positive connections to others. Moreover, the findings from Mitchell's (2012) study infer that relational connectedness does improve wellbeing. This implies that trusting relationships are significant

and help a woman feel understood and seen as a whole person facilitating positive birth experience and better relationships with her infant. It could be construed that this facilitates more positive postnatal moods.

Both Mitchell (2012) and Bennington (2010) stress the transformative energy as woman and infant come together and how the time of bonding/attachment is built upon foundations already laid down in the perceptions of positive birth experience. The Bennington (2010) study suggests that perceived birth experience has a stronger correlation and influence on maternal infant bonding than found with spirituality alone. How positive perceptions of birth experience are associated with better bonding with infants is not clear, though women in a different study discuss the meaningful transformation and connecting relationship created with the baby during birth (Callister and Khalaf 2010). In addition, further research has suggested links between good childbirth experiences and feeling more positive about being a mother, with less anxiety and stress around the role (Takehara et al 2009). Dietsch et al's (2011) study clearly shows how childbirth experiences are relational and those that are culturally and individually abusive can lead to potential for emotional morbidity. The protective effect of strong kinship and trusting relationships with care providers has been previously demonstrated (Davis-Floyd, 2017; Farry & Crowther, 2014; Kitzinger, 2012).

Cultural safety is concerned with relationships and is crucial in maternity care. The data in this review shows how psychosocial stressors are related to poor interprofessional working. Lack of value given to kinship and trusting culturally safe relationships around childbirth is detrimental and may result in stress that affects post-partum mood. It is evident that relationships matter and that cultural insensitivity and discordant interpersonal relationships around childbirth are harmful and may lead to spiritual distress and affect postpartum mood.

Temporality

Temporality is part of childbirth experience and is comprised of clock time and felt-time. However, this distinction can cause tension in contemporary maternity care. The theme *honouring spiritual growth and wellbeing* resonates with the importance of felt-time and the tension with clock time. Women spoke of how they need time to adapt, to attend to their own needs, and how they could feel rushed by the time measured protocols and institutional routines when in labour. In Lundgren's (2002) work women needed time to contemplate past, current and future relationships. In Lundgren's study childbirth was revealed as a special time requiring internal transformation that calls women to come into themselves. Being called to be externalised prematurely could be interrupting this 'going within' process of transformation and hinder emotional wellbeing. Mitchell's (2012) study highlights how women seek desperately to find time for themselves to integrate what is happening to them through the unpredictability of the childbirth year. Mitchell's study reveals how time is required to address spiritual wellbeing and how respecting the need for this time may reduce risk and need for biomedical interventions. If spirituality is concerned with meaning making and sense of purpose than the importance of respecting the felt-time nature of childbirth honours the meaning making for women. Other research recognises this spiritual quality of time in and around birth and how this needs to be treated with respect (e.g. Callister & Khalaf, 2010; Crowther, Smythe, & Spence, 2015; Delaporte & Martin, 2018; Hall, 2016; Lemay & Hastie, 2017; Moloney & Gair, 2015; Pembroke & Pembroke, 2008). It is plausible that policies and models of care based on clock time that lack respect for this integrating work can interrupt this quality of felt-time around childbirth leaving women vulnerable to perinatal mental mood disorders.

Mystery

All six studies acknowledge spirituality as part of childbirth, either as significant experience and/or opportunity for spiritual growth. The review highlighted how connection to the ineffability of childbirth could be manifested through relationship to divinity (in whatever form that took) and brought a sense of magic and feeling of connectivity to something greater than the self. Self-transcendence appeared to occur in which women could reach and extend beyond worldly everyday concerns and experience meaningful moments that were satisfying and fulfilling. The theme, *Significance of childbirth and spiritual experiences*, highlights how cultural and spiritual practices need to be honoured because they are central to a woman's understanding about childbirth and help bring meaning to her experience.

Hanely and Brown (2014) found childbirth to be more than a biomedical experience and that something beyond westernised maternity care interpretations was occurring, a finding that concurs with the work of Callister and Khalaf (2010). Participants in the Hanely and Brown study highlighted moods that were personified as malevolent spirit and how the influence of malevolent others affected their postnatal emotional and spiritual wellbeing. Childbirth can be understood as a time of spiritual vulnerability in which complications can cause malevolent otherness when there is lack of adherence to cultural taboos and practices.

Likewise, Dietsch et al (2011) show how childbirth is experienced as spiritually and psychosocially unsafe when disconnected from beliefs and values. They highlight how anxiety can be caused through non-adherence to local beliefs and practices leading to emotional morbidity and feelings of unsafeness and vulnerability. Brinkley (2004) also foreground the significance of cultural cosmologies and spiritual practices and highlight the potential to harm women when these beliefs and practices are undermined or rejected by others. In addition, Dietsch et al noted that women were empowered when they had a choice

to adhere or reject these practices. Childbirth can be unpredictable and outcomes uncertain, navigating these experiences requires that a woman's beliefs and values be honoured.

Lundgren (2002) suggest that childbirth is marked by a time of transitions in which care provision needs to be congruent with the woman's own beliefs and values in order to guide women through a process involving releasing and relieving encounters. Mitchell (2012) further emphasised the importance of finding care providers who resonate with one's own worldview to avoid being left feeling vulnerable and bereft of the type of support and guidance needed. Mitchell contends that finding the right support and guidance can mitigate the unpredictability of childbirth experiences providing reassurance, help and peace of mind. This speaks of a quality of relational care that Lundgren refers to as stillness and presence that facilitates positive transformations through a woman's childbirth experiences.

Bennington (2010) define spirituality as an awareness of purpose, meaning in life, sense of connectedness and awareness of a pervasive creative force and highlight how perception of birth (POB) experiences are important and may be influenced by spirituality. However, it is not clear in their study how POB and spirituality can be separated. What is evident is that the significance of POB is associated with spirituality in some way that influences parenting and in turn may be influencing postnatal moods. What is evident in this review is that childbirth is a transitional time overflowing with transformations, existential meaning that touches a feeling of mystery that is reflected in the wider literature (Delaporte & Martin, 2018; Lahood, 2007e.g. ; Wojtkowiak & Crowther, 2018).

A new conceptual model

This review enhances the everyday understanding of childbirth and reveals to us phenomena that lie within and beyond spoken childbirth experiences. Remaining firmly with one perspective and providing scientific reasoning only serves to inhibit our ongoing explorations

of childbirth. Orem (2001) identifies three components comprising our wellbeing: contentment, pleasure, and happiness. These relate to spiritual experiences that influence normalcy, balance, and sense of purpose and meaning in life. It is plausible that childbirth experiences affect a woman's overall state of health and emotional wellbeing. Orem's conceptual analysis provides an opportunity to think more widely about childbirth beyond the narrow biomedical focus. From the four themes identified in this review and subsequent interpretation, using the ecology of childbirth framework, a new conceptual model has emerged (see figure 3).

Position of Figure 3: Findings presented in the form of a conceptual model

The conceptual relationships in this new conceptual model highlight a level of vulnerability inherent in childbirth. The importance of the models' constituent parts when left unattended and unacknowledged could be leaving women vulnerable to varying degrees of emotional morbidity. However, caution is needed in claiming any causation or indeed association.

Although this review has not established robust proof of any association (that is not our intention) it can be construed that moods around birth are influenced by the themes presented in this review. The new conceptual model illuminates an array of influences on postnatal mood disorders inviting another perspective.

Each of the four themes deserve attention in future studies, for example, the significance of personal embodiment and the impact on birth experience, exploring the concept of time to women during labour and birth and the importance of nurturing quality relational continuity in and around childbirth. The findings have immediate implications for maternity care practice in terms of 'how' we set up systems of care and provide care, as well as 'how' we deliver education (to health care providers and parents) in terms of personal and cultural

safety. We suggest that this is where future research on postnatal mood disorders needs to focus more attention.

Strengths and Challenges

This review followed a robust process through identification of a clear aim for the study and identification of a conceptual framework. The conceptual framework enabled testing of the themes in relation to existing understanding and provided strength to synthesis and interpretation and building of the subsequent new conceptual model. The experienced research team worked independently on study selection and appraisal and came together collaboratively on all aspects of the review. This involved identifying and interpreting the terms and language used to describe the phenomenon in the literature and comprehending the myriad methodologies in the selected papers during data extraction and interpretation of findings. In addition, no study specifically addressed the questions posed for this review and several readings of each article was required prior to inclusion. The inclusion of unpublished literature may be a limitation of the review. However, rather than standing against published studies from which original data were unavailable, the inclusion of unpublished material may enable communication with a wider audience (Aromataris and Munn 2017).

Conclusion

This review proffers a critical analysis and synthesis of the literature that informs further thinking and generates provocative research questions for the future despite being the review of previous research. We brought different questions to the available literature and examined subsequent extracted data using a specific conceptual framework. We have integrated existing ideas with fresh insights through synthesising research together to focus on core issues and produced a new conceptual framework through emersion in the topic and related issues. This review has highlighted existing deficiencies in the available literature revealing a

paucity of focus on postnatal mood disorders and childbirth other than known associations with predisposing risk factors such as pre-existing mental health concerns. We recognise that there will be other individual contexts that will be factors influencing this development and that the answers to this issue will be multifactorial. However, this review contributes possible explanations that need further inquiry and provides stimulus to think differently and ask different research questions.

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Table 1: Summary of descriptive characteristics of the 6 included studies

Study no.	Data base *	Full reference	Type of report accessed	Aim or/and objectives	Setting	Participants
1	Open Thesis	Brinkley, R.L. (2004) The correlation between perceived stress and health promoting self-care behaviours in high-risk third trimester pregnancies Thesis	Whole thesis accessed https://pdfs.semanticscholar.org/ce5/8ff23b85a99983579d47ab9cf95fc020130b.pdf	To explore the impact of maternal perceived stress in high-risk pregnancy on participation in health promoting self-care	USA	69 women
2	CINAHL	Hanely, J., & Brown, A. (2014). Cultural variations in interpretation of postnatal illness: Jinn possession amongst Muslim communities. Community Mental Health Journal, 50(3), 348-353.	Full article doi:10.1007/s10597-013-9640-4	Explore maternal experience of Jinn possession and draw parallels with Western interpretations of postnatal illness.	Arabian Gulf state	10 women
3	Open Thesis	Lundgren, I. (2002) Releasing and relieving encounters: Experiences of pregnancy and childbirth Thesis	Whole thesis accessed https://www.diva-portal.org/smash/get/diva2:161654/FULLTEXT01.pdf	Describe and analyse these childbirth experiences from the women's perspective as well as the encounter between the woman and the midwife, and the possibility that a birth plan might improve women's experience of childbirth.	Sweden	581 women 9 midwives
4	Open Thesis	Mitchell, M. (2012) Narrative accounts of women who use complementary and alternative medicine in pregnancy: 'Forewarned, forearmed and relaxed' . Thesis	Whole thesis accessed http://eprints.uwe.ac.uk/18485/1/Narrative%20Accounts%20of%20Women%20who%20use%20Complementary%20and%20Alternative%20Medicine%20in%20pregnancy.pdf	To explore the experiences of women who use CAM during pregnancy and childbirth in an attempt to understand the meaning they ascribe to CAM use.	UK	14 women
5	CINAHL	Bennington, L. (2010). The relationship among maternal infant bonding, spirituality, and maternal perception of childbirth experience. Thesis	Whole thesis accessed https://scholarscompass.vcu.edu/cgi/viewcontent.cgi?referer=https://scholar.google.co.uk/&httpsredir=1&article=3241&context=etd	3 objectives a) Examine the relationship between a woman's perceived birth experience and maternal–infant bonding; (b) Examine the relationship between spirituality and maternal–infant	Internet survey Global	402 women

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				bonding; (c) Examine the relationship between perceived birth experience, spirituality, and maternal–infant bonding.		
6	Science Direct	Dietsch, E., Martin, T., Shackleton, P., Davies, C., McLeod, M., Alston, M. J. (2011). Australian Aboriginal kinship: a means to enhance maternal well-being. Women & Birth. 24(2), 58-64. Australian Aboriginal kinship: A means to enhance maternal well-being	Full article https://doi.org/10.1016/j.wombi.2010.06.003	Explore the multi-faceted dichotomy related to the mental health of postnatal Aboriginal women in relation to kinship.	Rural Australia	3 Aboriginal women 1 partner

*Some papers were located in more than one database – this indicates the database where the study was first located

Table 2: Methodological characteristics of included studies

Study No.	STUDY	STUDY DESIGN/METHODOLOGY	SAMPLING METHODS	DATA COLLECTION	DATA ANALYSIS PROCESSES
1	Brinkley (2004)	Descriptive correlational	Secondary analysis of de-identified data from a larger study	Single interviews with pregnant women.	Secondary qualitative analysis which allowed for examination of data from questions not previously posed. Analyzed data from PSS (measures the degree an individual perceives his or her life situations as stressful) and HPLP II (assesses holistic self-care behaviours including spiritual growth & stress management).
2	Hanely & Brown (2014).	Qualitative. Exploratory study.	Purposive sampling	Individual interviews conducted in Arabic	Inductive thematic descriptive analysis informed by Sandelowski. Two independent coders with 90 % agreement of final themes.
3	Lundgren (2002)*	Mixed methods: hermeneutic phenomenology & questionnaires	Purposive sampling from 7 maternity units using consecutive recruiting strategies	39 women interviewed before and after birth 542 women questionnaires 9 midwives' interviews	Interpretive hermeneutic analysis and statistical analysis using SPSS cross-tabulation program was used for the calculations of differences (chi-squared) and a p-value of less than 0.05 was considered significant. In the result the extreme answers, i.e. 1+2 (almost or totally disagree) and 5+6 (almost or totally agree) are presented. All scores (1-6) were used in the calculation of Chi-Square. Both studies lead to synthesised themes
4	Mitchell (2012)	Narrative inquiry	Purposive sampling and snowballing	Interviews 1-2 hours (each women 2-3 times)	Narrative analysis employing a four stage approach leading to themes
5	Bennington (2010).	Quantitative. retrospective, cross-sectional, correlational and descriptive	Convenience sample	Women received survey (Survey Monkey) questionnaires via website. Instruments used: (a) Measurement of Spirituality (Bennington, 2003), (b) Perception of Childbirth Experience scale (Marut & Mercer, 1979), (c) Maternal Attachment Inventory (Müller, 1994)	Statistical analysis included both multivariate and correlation analysis using Pearson's r or Spearman's rho and multiple regression analysis. The variables investigated in this research were: (a) Spirituality—-independent variable (b) Women's Perceived Birth Experience— independent variable (c) Maternal Infant Bonding—dependent variable.

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6	Dietsch, et al (2011).	Qualitative Descriptive		In-depth interviews. Published paper reports on a sub-set of interview data. The larger study explored 42 women's experience of having to leave their rural communities to birth.	Data analysis was thematic and conducted by individual research team members and then by research team pairs. Only those themes identified by paired-consensus were submitted to the research team for discussion, debate and considered inclusion.
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*Note: Lundgren, I (2002) is a thesis by publication reporting on five published papers. This review has examined these papers and data from three of them has been extracted and indicated in the findings below. Lundgren, I. and Dahlberg K (2002) Midwives' experience of the encounter with women and their pain during childbirth. *Midwifery*, 2, 155-164; Lundgren I, Dahlberg K (1998) Women's experience of pain during childbirth. *Midwifery*, 14, 105-110 and Lundgren, I., Wahlberg, V. 1999. The experience of pregnancy: a hermeneutical/ phenomenological study. *The Journal of Perinatal Education*, 3, 12-20.

Table 3: Themes represented across the 7 included studies

SYNTHESISED THEMES	STUDY 1	STUDY 2	STUDY 3	STUDY 4	STUDY 5	STUDY 6
Relationships and kinship matter (table 4a)	X	X	X	X	X	X
Significance of childbirth & spiritual experiences (table 4b)		X	X	X	X	X
Honouring spiritual growth and wellbeing (Table 4c)	X		X	X		
Physical manifestations and embodiment (Table 4d)	X	X		X		

Table 4a. Synthesised theme: Relationships and kinship matter

STUDY NO.	STUDY AUTHOR THEMES/ INTERPRETATIONS	REVIEWERS INTERPRETATIONS	SUPPORTING DATA
1	Interpersonal relationships are disrupted and stress increases when a woman is exhausted and has no adequate opportunity to rest. Adequate rest is correlated with positive relationships	Interpersonal relationships matter.	Higher levels of stress reported when inadequate rest periods. Need for maintaining balance specifically with sleep deprivation correlated with increasing parity. Lack of rest and sleep correlated with poorer interpersonal relationships (N=68, r=.300, p=.013) and less spiritual growth (N=68, r=.249, p=.04) and stress management (N=68, r=.280, p=.021). Proper rest positively correlated with interpersonal relations and stress management (p.41).
2	<ul style="list-style-type: none"> • shared knowledge of Jinn possession, • symptoms of possession, • risk factors for possession • preventing and treating Jinn possession. 	<p>Social support is crucial.</p> <p>Risk factors for jinn possession are being alone, isolated. Symptoms of possession include being unable to connect with others. Loss of appetite, losing weight and tiredness are common physical effects of Jinn possession, perhaps mirroring post natal depression symptoms in western cultures.</p>	<p><i>I am lonely because I love my husband very much but he is always away at sea and I don't see him very often.</i> [Woman participant]</p> <p><i>I cannot rely on my family to help me as they are wrapped up in themselves.</i> [Woman participant]</p> <p><i>I have no energy and I cannot look after my baby</i> [woman participant]</p> <p><i>When the baby was born I did not want to see her...I cried and cried.</i> [Woman participant]</p>
3	<ul style="list-style-type: none"> • Releasing and relieving encounters <ul style="list-style-type: none"> ○ Anchored companion 	The way health care providers practice around childbirth is significant and affects the woman's experience.	<i>To use the woman's capacity. What they think about. It takes different time for different women, but I think most women can do this if you give them enough support. And afterwards they can say: 'I can do this. Good Lord, what I can do. My body is capable.' You get so aware of your body's capability. I think this is good for the women.</i> (Lundgren 2002, 159)

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			<i>don't have that feeling. It was perfect in every way and I definitely think I have a much better relationship with him because it was so nice'. (Alexandra 2 nd interview) p125</i>
5	Bonding	Perceived birth experience had strong correlation to maternal infant bonding and was found to have a stronger influence on bonding than spirituality. (NB. Care needs to be taken not to conflate bonding with attachment, see discussion)	<i>'the strongest influence on maternal infant bonding (MFA) in the regression analysis was a woman's perception of her birth experience (POBS) as revealed by an R-squared of 0.055, p < 0.01, which represents 5.5% of the proportion of variation in maternal infant bonding. Furthermore, the correlation analysis between POBS and MFA demonstrated a correlation of 0.234, p< 0.01. ' p83</i> <i>'spirituality had an R-squared of 0.014, p<0.05 which means 1.4% of the proportion of variation in maternal infant bonding is explained by this variable. The correlation between MFA and Spirituality was 0.162, p<0.01. The moderately high mean of the spirituality survey for the respondents was 49.61 and SD of 7.85. Although spirituality was noted to be of significance it was a weaker predictor of maternal infant bonding than POBS.'p84</i>
6	<ul style="list-style-type: none"> • Racial abuse and bullying • Emotional stressors including feelings of intense loneliness, incarceration and abject fear which were exacerbated by the participants' sense of solation • Protective impact of strong kinship 	<p>Kinship and quality of relationships relate to perinatal mental wellbeing.</p> <p>Culturally insensitive health care providers can cause spiritual harm to childbearing women that may contribute to postnatal mood disorders.</p>	<p>Well, I knew I was going to [centralised hospital], and once I got there I just cried, because I got really depressed (Kerry).</p> <p><i>She left here bright and happy and looking forward to the future, and came back like an old woman, like a broken woman. That's what she was like. I really think it scarred her. I think it's really brutal, it's shocking. It's disgusting, the way they were treating her.</i></p> <p>[Husband – Henry]</p>

Table 4b. Synthesised theme: Significance of childbirth and spiritual experiences

STUDY NO.	STUDY AUTHOR THEMES/ INTERPRETATIONS	REVIEWERS' INTERPRETATIONS	SUPPORTING DATA
2	<ul style="list-style-type: none"> risk factors for possession 	<p>Cultural and spiritual practices and cosmologies are significant in and around childbirth. This could in turn negatively influence postnatal moods.</p>	<p><i>Perhaps it was your fault that you have the Jinn. Perhaps you walked on the land of the Jinn or drank from their well. [Women]</i></p> <p><i>As for any postnatal woman I was kept in the dark behind the curtain and I didn't like it. I got some relief when I pulled up the curtains and got some light. I got sick from the moment I give birth. I couldn't act like a postnatal woman. [Rural woman with Wuqabi]</i></p>
3	<ul style="list-style-type: none"> Meeting one's life situation Meeting something inevitable Preparing for the unknown Be supported and guided on one's own terms Stillness and presence (being in the moment) 	<p>Childbirth is an experience of unpredictability and transitions that can be challenging. The releasing and relieving encounters (overarching themes in this work) gesture transitions.</p> <p>Vital that care providers provide care, support and guidance congruent with one's own beliefs and values through these transitions.</p>	<p><i>You see things totally different afterwards, you have another way of understanding.., you accept things differently, you become stronger, you can cope with things better than before.., before petty details could ruin life, and now you just shake it off your shoulders, you don't become another personality.., but you mature and become a stronger personality, when you've had a baby and have gone through that pain. I think that is the purpose of it, what the meaning of life is. I think it is to protect our children, to be stronger, a way of managing everyday life and become stronger, and that it is a life from your own flesh and blood and that too helps you to go through the delivery. (Lundgren 1998, 108)</i></p> <p>For the woman a releasing and relieving encounter constitutes an encounter with herself as well as with the midwife. A releasing and relieving encounter also implies stillness as well as change. Stillness is expressed as being in the moment; exemplified as presence and being one's body. Change is expressed as transition; to the unknown and to motherhood. (p36)</p>
4	<p>Values and beliefs with dominant childbirth care may be conflicting with individual woman who then seek holistic support from CAM practitioners who are</p>	<p>Congruence with one's belief's and values about childbirth are important because childbirth and spiritual experiences are significant. Therefore, need to find care providers who resonate with one's own</p>	<p><i>'the horror stories, managed labour, slicing and dicing. If you're in labour, if you don't give birth in 7 hours you will get a section and that you are forced into routes that you don't want to. Everybody I knew ended up with a section, absolutely everybody. I don't know of one person that has given birth naturally in the ...(local trust). (Stephanie, 2nd interview)</i></p> <p><i>Alexandra practised hypnobirthing techniques in</i></p>

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	<p>congruent with their belief beliefs about childbirth.</p> <p>Uncertainty has a profound effect on women and can lead to fear and anxiety impacting their confidence initiating support seeking beyond state health care system.</p>	<p>orientation lest one is left feeling vulnerable and bereft of the type of support and guidance needed. The right support and guidance can mitigate the unpredictability of childbirth and provide reassurance and the experience helping to provide peace of mind.</p> <p>Perhaps lack of congruence between beliefs/values and dealing with high levels of unpredictability affects emotional wellbeing and may lead to post-natal mood disorders.</p>	<p><i>labour and was convinced this contributed to her positive birth experience: 'It was so easy during labour. It was a bit like fleeing into that other world which was full of calm and serenity. I just didn't have to think about the labour at all, about the pain, it was just not there really. I was so calm'. (Alexandra, 1st interview)</i></p> <p><i>was so clear what I wanted but also because you have no idea what is going to happen. Your body is about to go through something and you have no idea can it? will it?, will it go well?, will I be one of those lucky women who just breathe this baby out?, will I have some horrendous hospital experience?, will it be traumatic?, Will I be the same?, will I recover from this? I mean you go through every question in the world'. (Riley, 1st interview)</i></p>
5	<ul style="list-style-type: none"> • Overall sense of spirituality • Woman's perception of her birth (POB) experience and spirituality can have an influence on maternal infant bonding. • Women's sense of spirituality is through pregnancy through to post birth. 	<p>Spirituality is significant in childbirth year. Spirituality and POB experiences affect the relationship between mother and infant.</p>	<p>The mean score for spirituality was 49.61, SD of 7.85 (possible range of 12-60) suggesting an overall sense of spirituality as previously defined for the respondents.</p> <p>Spirituality has some influence on MFA at a significance value of 0.05 ($p < 0.05$). Spirituality as being of equivocal significant at a level of 0.05 when examined individually as a predictor of MFA and when used in conjunction with POBS demonstrates a significance level of 0.233, while the significance level for POBS remains consistent at 0.001. Correlations between MFA and POBS of 0.23 significant at 0.001; between MFA and Spirituality of 0.162 significant at 0.004; and between POBS and Spirituality of 0.204 significant at 0.001. However regression analysis demonstrated that a woman's perceived birth experience has more influence on maternal infant bonding than spirituality.</p>

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6	<ul style="list-style-type: none"> Emotional stressors including feelings of intense loneliness, incarceration and abject fear which were exacerbated by the participants' sense of isolation Protective impact of strong kinship 	<p>Adhering to spiritual and cultural practices helps women feel safe yet also restricts them.</p> <p>Cultural taboos and perceived influences of supernatural agency can lead to emotional distress</p> <p>Childbirth experience is connected to contextual particularity and individual values and beliefs.</p>	<p><i>Honest to God, when I walked in to the place where you give labour, where they inspected me. Straight, I walked out of there and it was like a depressing thing just come over me instantly. It is so, it's like you can feel it's haunted, man, because I walked in and, at the same time . . . Yeah, I reckon this place is haunted. We all agreed. It's just that feeling (Kerry).</i></p> <p><i>She left here bright and happy and looking forward to the future, and came back like an old woman, like a broken woman. That's what she was like. I really think it scarred her. I think it's really brutal, it's shocking. It's disgusting, the way they were treating her (Henry). (p61)</i></p>
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Table 4c. Synthesised theme: Honouring spiritual growth and wellbeing

STUDY NO.	STUDY AUTHOR THEMES/INTEPRETATIONS	REVIEWERS INTERPRETATIONS	SUPPORTING DATA
1	Opportunity for spiritual growth decreases stress levels in the perinatal period.	Spiritual growth helps reduce stress levels in the perinatal period and may influence emotional morbidity postnatally. Opportunities for spiritual growth requires attention by care providers. Care providers need to promote self-care and help women to maintain balance for spiritual wellbeing. Interventions for facilitating spiritual growth are of particular importance in women experiencing high risk childbirth.	The three specific categories of the HPLP II negatively correlated with the composite score on the PSS, were spiritual growth, interpersonal relations and stress management. This implies that those with higher levels of perceived stress rated lower levels of spiritual growth, interpersonal relations, and a decreased ability to manage stress. P.42
3	Experiences of childbirth are existential and meaningful	Childbirth is a significant time of personal reflection for women and their relationships to the world and the relationships around them – past present and future.	<p><i>I needed much time for myself in the beginning, several hours a day to think about myself, my parents, my childhood, and my fiancé, there wasn't time for any intellectual work the first months. I was completely absorbed by my life history and I thought more about the past than the future (Lundgren and Wahlberg 1999, 15)</i></p> <p><i>Very uncommunicative, enjoying myself and just being. Feeling better and better. I don't think about anything special. Everything is magic. (Lundgren and Wahlberg, 1999, 16)</i></p>
4	<p>CAM contributed to a positive experience of pregnancy and childbirth facilitating personal growth, fulfilment and recognition of the emotional and spiritual aspects of pregnancy and childbirth.</p> <p>CAM's potential is to support transformation</p>	Personal and spiritual growth are interrelated and connected with overall wellbeing and can be supported with a variety of modalities that help facilitate fulfilment in the childbirth experience. Honouring these aspects of childbirth can lower feeling of unpredictability.	<p><i>'[CAM] opens you up in a very powerful way to something that your body is capable of [Riley]</i></p> <p><i>'It was a really difficult time. Having that space where we could talk about it and also a place of deep relaxation as well that helped us visualise where would we be when we had the baby. It sort of took us out of the situation we were in and gave us tools that we could use together. That was very transformative really' (Erin, 1st interview) p70</i></p> <p><i>'I was so at ease within myself and I was thinking I will be able to do this, I believe in my ability to give birth without having all those other things. I did it all by myself, just the breathing, just the</i></p>

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			<p>concentration and everything. Without the hypnotherapy I would have definitely felt more out of control and a lot more scared and not so confident in my own abilities'. (Alexandra, 1st interview) p119</p> <p>'it (labour and birth) was very easy. I was doing all the breathing and I think that was why I was so calm and quiet. It was just perfect. It was lovely and it was very positive and I have a warm glow about it and it certainly left me, the birth left me quite happy I would do it all again'. (Stephanie, 1st interview)p119</p>
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Table 4d. Synthesised theme: Physical manifestations and embodiment

STUDY NO.	STUDY AUTHOR THEMES/INTEPRETATIONS	REVIEWERS INTERPRETATIONS	SUPPORTING DATA
1	<p>High levels of stress meant less spiritual growth.</p> <p>Higher levels of stress led to poor health promoting behaviours in 3rd trimester</p>	<p>Rest and sleep matter for reducing stress in complicated pregnancies and promoting spiritual growth that in turn could be associated with less depression.</p>	<p>Higher levels of stress reported when inadequate rest periods. Need for maintaining balance specifically with sleep deprivation correlated with increasing parity. Lack of rest and sleep correlated with poorer interpersonal relationships (N=68, r=.300, p=.013) and less spiritual growth (N=68, r=.249, p=.04) and stress management (N=68, r=.280, p=.021). Proper rest positively correlated with spiritual growth, interpersonal relations and stress management. (p. 41)</p>
2	<ul style="list-style-type: none"> • Physical malaise • Anxiety and sadness 	<p>Spiritual connection to sadness, anxiety and physical malaise during the postnatal period.</p>	<p><i>'She makes me feel very tired all the time, I have no energy and I cannot look after my baby I have to ask my mother and she told me she felt the same way as I do' p350</i></p> <p><i>"She may stay inside you for months...I do not know if she will ever go." P351</i></p>
4	<p>Physical connection and touch</p>	<p>Physical connection- on touch and understanding and awareness of their bodies.</p>	<p><i>'I think because it's a hands on therapy, having that touch on the body helps you to be in your body. Often before a treatment I might have had lots of worries or concerns going on in my head so part of the shiatsu treatment definitely helped me to stay in my body rather than in my thoughts'. [Rachel, 2nd interview; p. 45].</i></p>

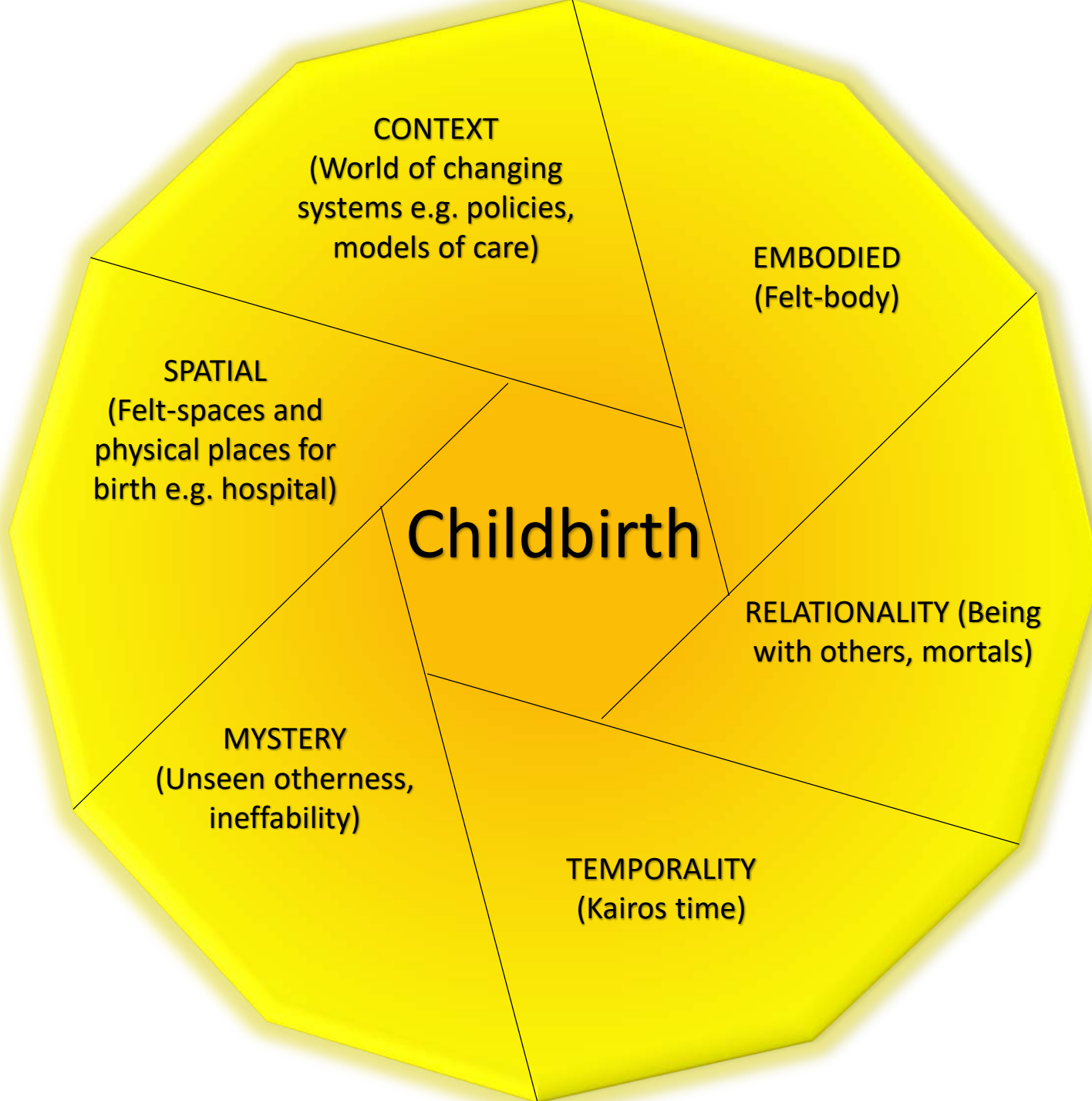
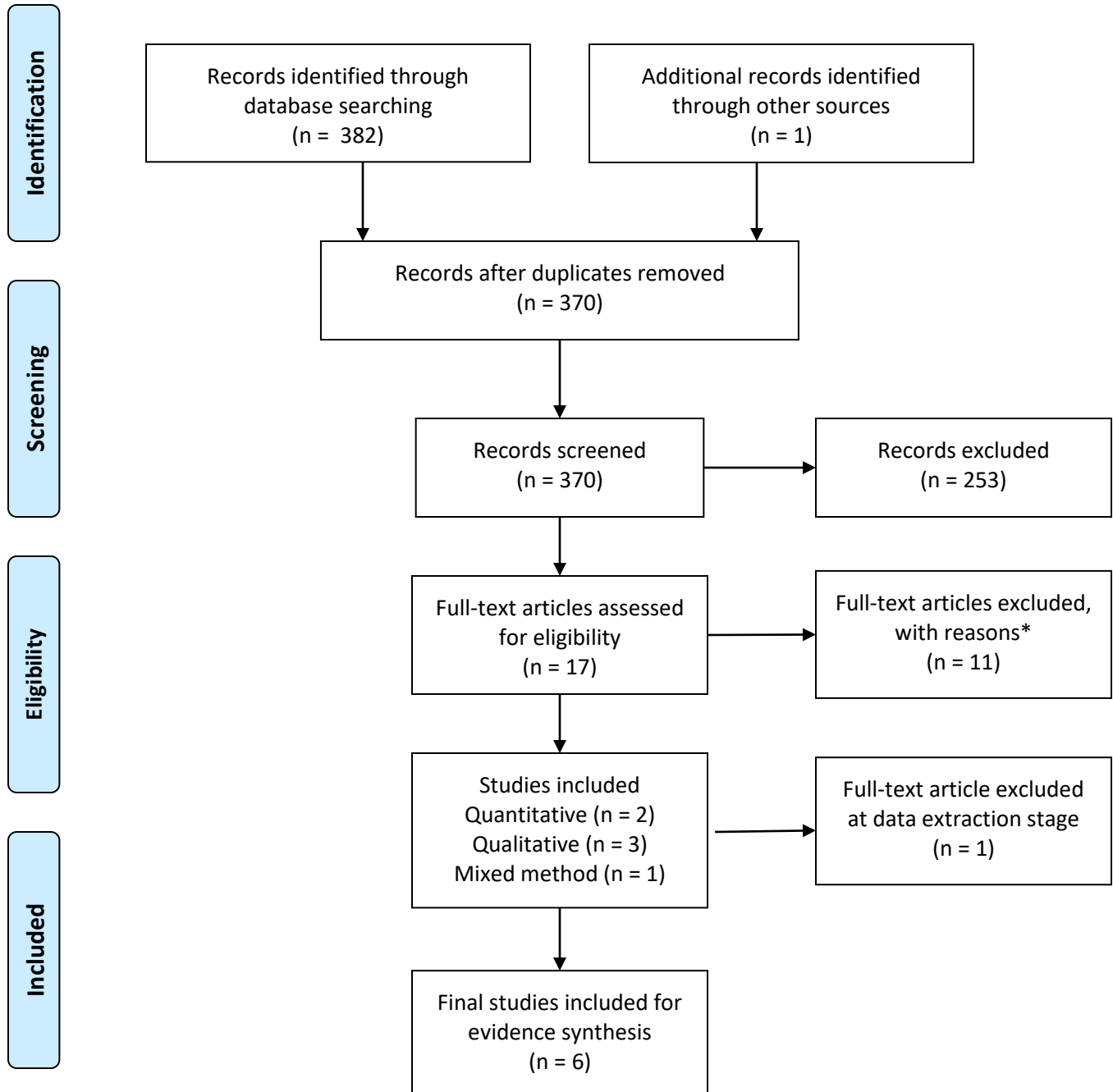


Figure 2. PRISMA 2009 Flow Diagram



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

For more information, visit www.prisma-statement.org.

Figure 3. Conceptual model: Psychosocial and spiritual experiences around childbirth and relationship to potential postnatal mood disorders

