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Review Article

First-time fathers' experiences and needs during childbirth: A systematic review

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ABSTRACT

Objective: Fathers have been increasingly involved in childbirth since 1990. Attendance at childbirth is considered to benefit fathers' health as well as that of their partner and children. However, childbirth is a life event that parents may experience differently. First-time fathers' experiences have been barely studied and may differ from those of fathers who have already had a child. In order to adapt support and care during childbirth to the needs of first-time fathers, a deeper insight must be gained into their experiences and needs during childbirth.

Design: A systematic review of qualitative studies was conducted using PubMed, Embase and CINAHL as well as the snowball method. Quality appraisal was performed and evaluated using the Critical Appraisal Skills Programme. A thematic best evidence synthesis was performed.

Findings: Of 821 articles, eight qualitative studies and the qualitative data of one mixed methods study were included. amongst other feelings, fathers experience a lack of knowledge and a need to be better prepared. First-time fathers want to be more involved and need guidance, information and honest answers to help them fulfil a supportive role. Fathers disregard their own needs to focus on the needs of the mother. Meeting the baby for the first time changes the focus from the mother to the child, and fathers need time and privacy for this special moment.

Key conclusions and implications for practice: To adapt support and care during childbirth to the needs of first-time fathers, professionals must be aware of their needs. Professionals must realise the significant influence of their professional behaviour on first-time fathers' experiences. Care for first-time fathers should be formalised. Follow-up research must be conducted on integrating the preparation of first-time fathers into prenatal care. Education and training of professionals must be improved.

Introduction

Every minute, 258 births occur worldwide ("Indexmundi geboortecijfers," 2018). The average annual number of births in the Netherlands has been approximately 177,000 over the last 10 years, most of which are first children for the father (Perined, 2019). Childbirth is a life event for both parents. In the past, care during childbirth was primarily focused on the expectant mother (Dye, 1980). Much research has been published on mothers' experiences of childbirth (Aune et al., 2015; Beake RM, Chang BA, Cheyne RM, Spiby Mphil, Sandall RM, RM 2018; de Jonge et al., 2014; Dixon et al., 2014; Elmir et al., 2010; Hall et al.,

2018). Studies show the importance of attention to the individual needs and coping experiences of the mothers as factors for empowering new families. A holistic approach to care and support is essential for enabling mothers to cope with childbirth and have a positive childbirth experience (Aune et al., 2015; Hildingsson, I, Johansson, M, Karlström, A, I 2013; Hodnett, ED, Gates, S, Hofmeyr, G.J., Dakala, ED 2013).

Because parents experience childbirth differently, it is important also to consider the fathers' experiences (Belanger-Lévesque et al., 2017). Fathers have been more involved in the births of their babies since 1990 (Draper, 1997; Johansson et al., 2012a; Plantin, 2007). Although studying fathers' involvement during pregnancy is difficult due to se-

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lection effect of those not being present and since involvement might be a proxy for other factors such as low income families or unstable relationships (Kaye et al., 2014; Redshaw and Henderson, 2013). Being present at childbirth has been linked to a more emotionally engaged, mature fatherhood and has been described to benefit fathers' health and that of their partners and children (Johansson et al., 2012a; Plantin, 2007). It also might strengthen the relationship between couples and facilitates bonding between fathers and their babies (Callister, 1995; Johansson et al., 2012a). Paternal involvement in children's lives is associated with various child outcomes, including improved cognition and mental health (Allport BS, Johnson S, Aqil A, Nelson T, Kc A, Carabas Y, BS 2018).

This important role for the father increased interest in the fathers' experiences during childbirth. In 2015, Johansson et al. provided an overview of fathers' general experiences with childbirth in a meta-synthesis and showed that birth experiences of fathers were complex and multidimensional (Johansson et al., 2015). Childbirth was mostly considered a life-changing event, and professionals' positive, respectful behaviour and language greatly affected men's sense of involvement. Being kept informed was important in enabling fathers to feel safe and included. An implication for practice of the study by Johansson et al. was that couples should explore how expectations may influence their roles in labour (Johansson et al., 2015).

However, first-time fathers' experiences are less frequently researched and may differ from those of fathers who have had a child before. A 'first-time father' is defined as a biological father who lived with the expectant mother during pregnancy and has not experienced the live birth of his own child (Chandler and Field, 1997).

First-time fathers appear to require more information about the birth process, including a tour of the delivery room, compared to those who have had a child before (Eggermont et al., 2017). First-time fathers experience a multitude of feelings, including anxiety, due to the unknown event they are about to experience (Labrague et al., 2013).

In the Netherlands, no guidelines exist for managing and guiding first-time fathers. Books and courses are available; however, no national structural guideline exists. The guidance and care first-time fathers receive depend on the individual skills and attention of the professionals and questions the fathers ask.

In order to adapt our support and care during childbirth to the needs of first-time fathers, it is important to gain a deeper insight into their experiences and needs. Unlike that of Johansson et al. (Johansson et al., 2015), this systematic review provides an overview specifically of the reported experiences and needs of first-time fathers during childbirth.

Methods

This systematic review includes qualitative data focusing on first-time fathers' experiences and needs during childbirth. The preferred reporting items for systematic reviews and meta-analysis (PRISMA) statement were used (Moher et al., 2009).

Search strategy

Relevant articles were identified using the indexes of the PubMed, CINAHL and Embase electronic databases. No restrictions were placed on the date of publication. The search was performed until 15 February 2019 and a final search on 12 November 2020.

The search terms used were 'first-time', 'fathers', 'experiences', 'needs', 'childbirth' and synonyms of these terms. Parts of words extended by a star (*) were used to cover as many different conjugations as possible. The search terms contained subheadings (e.g. MeSH) and free-text words.

Recently published articles, where search terms have not yet been entered in databases, were also explored with the search terms in the title or abstract. Full search strings are provided (Appendix 1). To complete the search, additional articles were obtained using the snowball

method with backward citation chasing and electronic citation tracking using Scopus (Armstrong et al., 2005; Jalali and Wohlin, 2012).

Selection criteria

To answer the research question, articles that provided qualitative data on the experiences or needs of first-time fathers during childbirth were included. In English-language articles, labour and birth are sometimes divided into two different episodes. In this review, childbirth includes labour and delivery. Articles in Dutch, English and German were included. Births by caesarean section were excluded because they are different experiences (Chan and Paterson-Brown, 2002; Johansson et al., 2013, 2012b; Rosich-Medina and Shetty, 2007).

All the articles were imported into Rayyan, a web application (Ouzzani et al., 2016). Duplicates were removed. All articles were screened for title and abstract. The full texts of the remaining articles were obtained. If an article was not available in full text, its author was contacted to obtain a full-text article.

The full-text articles were read and included if they met the inclusion criteria and provided an answer to the research question (MV). Systematic reviews were excluded but informed the introduction and discussion sections. Articles whose eligibility was uncertain were independently screened by a second researcher (MHG). The selection of articles was discussed until consensus was reached (MV, MHG, AH). The reasons for exclusion were reported.

Data extraction

First, all the themes derived from the articles were listed for each article, accompanied by quotes representing the themes. Only data relevant to the research question were extracted. An example is provided (Appendix 2). Thus, the apparent relationships between the studies were initially identified. Concepts within themes were subsequently extracted and compared across studies. Main themes common to all studies were identified.

Synthesis

Thematic analysis was used (Thomas and Harden, 2008). Repeated reading of the text and constant comparison were used to identify similarities and differences in the data highlighting the themes. Categories were developed, with at least two findings from different articles per category. The main themes and categories were reviewed, and analytical themes were developed. The research group discussed the entire process until agreement was reached (MV, MHG, AH).

To describe the best evidence synthesis, the methodological quality of the studies and the evidence level of the findings were considered. Proper et al. recognised three levels of evidence (Proper et al., 2011):

- Strong evidence – findings are consistent in two or more high-quality studies;
- Moderate evidence – findings are consistent in one high-quality and at least one low-quality study, and;
- Insufficient evidence – findings are only available in one study, or inconsistent findings are available in two or more studies (Proper et al., 2011).

Methodological quality

The Critical Appraisal Skills Programme (CASP) for qualitative studies was adapted to appraise the evidence, and scores from 1–10 were allocated (BS Critical Appraisal Skills Programme, 2018). This tool was chosen because it contains only ten items and includes a user guide and the facility to add notes. Assessment agreements were reached by the research group (MV, MHG, AH). Consensus was reached on the interpretation of the CASP scores to classify the quality of the articles as

good (8–10), moderate (5–7) or low (1–4). Two researchers performed the appraisal (MV, MHG). Differences were discussed until consensus was reached (MV, MHG, AH).

Results

The complete search strategies (Appendix 1) provided 821 articles in total (Embase: 746, PubMed: 48 and CINAHL: 27). Additionally, five articles were obtained using the snowball method. After removing duplicates, 791 articles were screened for title and abstract, and 768 articles were excluded. The remaining 23 articles were obtained in full text. One article was not available in full text (Carbines, 2004). The first author of this article was contacted through ResearchGate; however, no answer was received. Articles that did not meet the criteria for inclusion were excluded. Excluded systematic reviews reported on fathers' experiences in general during birth and the transition to fatherhood (Hanson et al., 2009; Kunjappy-Clifton, 2007). Four quantitative articles were excluded (Bowman et al., 2013; Eggermont et al., 2017; Labrague et al., 2013; Schytt and Bergström, 2014), two articles were excluded for not reporting specific birth experiences (Backstrom et al., 2017; Darwin et al., 2017) and two for not being specific to first-time fathers (Chapman, 1991; Nichols, 1995). Three articles were excluded because they were available only in Chinese or Portuguese (Chou et al., 1994; Santo and Bonilha, 2000; Tzeng et al., 1993).

Eight qualitative articles were included in this study (Bäckström and Hertfelt Wahn, 2011; Chandler and Field, 1997; Ledenfors and Berterö, 2016; Longworth and Kingdon, 2011; Poh et al., 2014; Premberg et al., 2011; Sansiriphun et al., 2015; Sapkota et al., 2012) as well as one mixed methods study for which only qualitative data were taken into account (Howarth et al., 2017). The full selection process is shown in the Prisma 2009 Flow Diagram (Fig. 1) (Moher et al., 2009). Table 1 provides an overview of the articles. A final search was performed on 12 November 2020, and resulted in 329 studies deemed ineligible for inclusion.

Study characteristics

The nine included studies described a total of 271 first-time fathers from seven countries (Canada (Chandler and Field, 1997), England (Longworth and Kingdon, 2011), New Zealand (Howarth et al., 2017), Nepal (Sapkota et al., 2012), Singapore (Poh et al., 2014), Sweden (Bäckström and Hertfelt Wahn, 2011; Ledenfors and Berterö, 2016; Premberg et al., 2011) and Thailand (Sansiriphun et al., 2015)).

One mixed methods study was included due to an abundance of qualitative data (Howarth et al., 2017). In this study, a post-birth questionnaire was used, in which fathers were asked to write down their thoughts. Only qualitative data were extracted from this study.

The eight qualitative studies all used interviews. Semi-structured in-depth interviews (Ledenfors and Berterö, 2016; Longworth and Kingdon, 2011; Poh et al., 2014; Sansiriphun et al., 2015; Sapkota et al., 2012) were used in six studies. Of which one study initially used unstructured interviews and switched to semi-structured interviews after themes emerged (Chandler and Field, 1997). Other interview methods used were re-enactment (Premberg et al., 2011) and open-ended questions (Bäckström and Hertfelt Wahn, 2011).

Two studies provided information on issues other than childbirth; therefore, only data relevant to the research question were included (Poh et al., 2014; Sansiriphun et al., 2015). Seven of the eight qualitative studies reported that interviews were recorded (Bäckström and Hertfelt Wahn, 2011; Chandler and Field, 1997; Howarth et al., 2017; Ledenfors and Berterö, 2016; Longworth and Kingdon, 2011; Poh et al., 2014; Sansiriphun et al., 2015; Sapkota et al., 2012). Premberg et al. did not report recording but used verbatim transcripts of the interviews (Premberg et al., 2011). In two articles, the interview duration was not reported (Chandler and Field, 1997; Longworth and Kingdon, 2011). The reported duration ranged from 10–90 min. Thematic analysis was used in five studies (Chandler and Field, 1997; Ledenfors and Berterö,

2016; Longworth and Kingdon, 2011; Poh et al., 2014; Sapkota et al., 2012). The remaining studies used interpretative phenomenological analysis (Howarth et al., 2017; Premberg et al., 2011), analysis based on grounded theory (Sansiriphun et al., 2015) and qualitative content analysis (Bäckström and Hertfelt Wahn, 2011). In one study, the analysis process included checks by an expert and members (Chandler and Field, 1997). In all other studies, the analysis was performed by multiple analysts.

Methodological quality

The quality of all the included articles was assessed as good. The CASP scores ranged from 8–10 with a mean of 9.3. The total scores are presented (Table 1), and an overview of the evaluation of the different components is added (Table 2).

Results of individual studies

The results of the individual studies are reported based on their most important findings. Table 3 provides an overview of the main and sub-themes, together with the core conclusions.

Howarth et al. showed that fathers experienced the birth of their child as a life-changing event for themselves as well as the mothers (Howarth et al., 2017). They found that fathers needed to be included as participants in this process along with the birthing mothers.

Ledenfors and Bertero described the fathers' experiences of childbirth as a transformative experience (Ledenfors and Berterö, 2016). Difficulties with supporting their wives and being involved are described, as well various emotions caused by childbirth, and recommendations on how midwives can help first-time fathers.

Sansiriphun et al. described the process from childbirth to postpartum as 'the journey into fatherhood', dividing it into three phases: 'labour', 'delivery' and 'family beginning' (Sansiriphun et al., 2015). Family beginning largely transcended the experiences and needs of fathers during birth. This article emphasises the influence of local beliefs and traditions on fathers' experiences.

Poh et al. indicated that the experiences and needs of fathers in Singapore during pregnancy and childbirth were similar to those reported in studies in western countries (Poh et al., 2014).

Sapkota et al. reported that the attendance of first-time fathers at births was not culturally approved of in Nepal (Sapkota et al., 2012). If fathers attended the birth, they were overwhelmed with emotions. The authors suggest that better preparation may reduce negative emotional experiences and improve satisfaction with childbirth experiences.

Longworth and Kingdon described childbirth as the beginning of fatherhood for fathers (Longworth and Kingdon, 2011). Through lack of knowledge and perceived control, fathers struggle to find a role in childbirth. First-time fathers must prepare themselves. Midwives can help provide fathers with effective information and should be mindful of fathers' experiences and the importance of new families being together.

Premberg et al. reported that first-time fathers struggled to experience the mothers' pain and fear of the unknown (Premberg et al., 2011). These first-time fathers needed to be seen and supported as parents-to-be, emphasising the shared experience of childbirth for couples. Caregivers must acknowledge fathers as valued participants, based on their exclusive knowledge of the needs of the mother, and support their significant position.

The main theme outlined by Bäckström and Hertfelt Wahn (Bäckström and Hertfelt Wahn, 2011) was 'being involved or being left out'. The importance of fathers' interaction with the midwife and with their partner was highlighted. Additionally, fathers mentioned the importance of being able to choose to be involved or step back.

Finally, Chandler and Field reported that first-time fathers experienced many emotions and needed information, support, encouragement and to be involved (Chandler and Field, 1997). They believed that par-

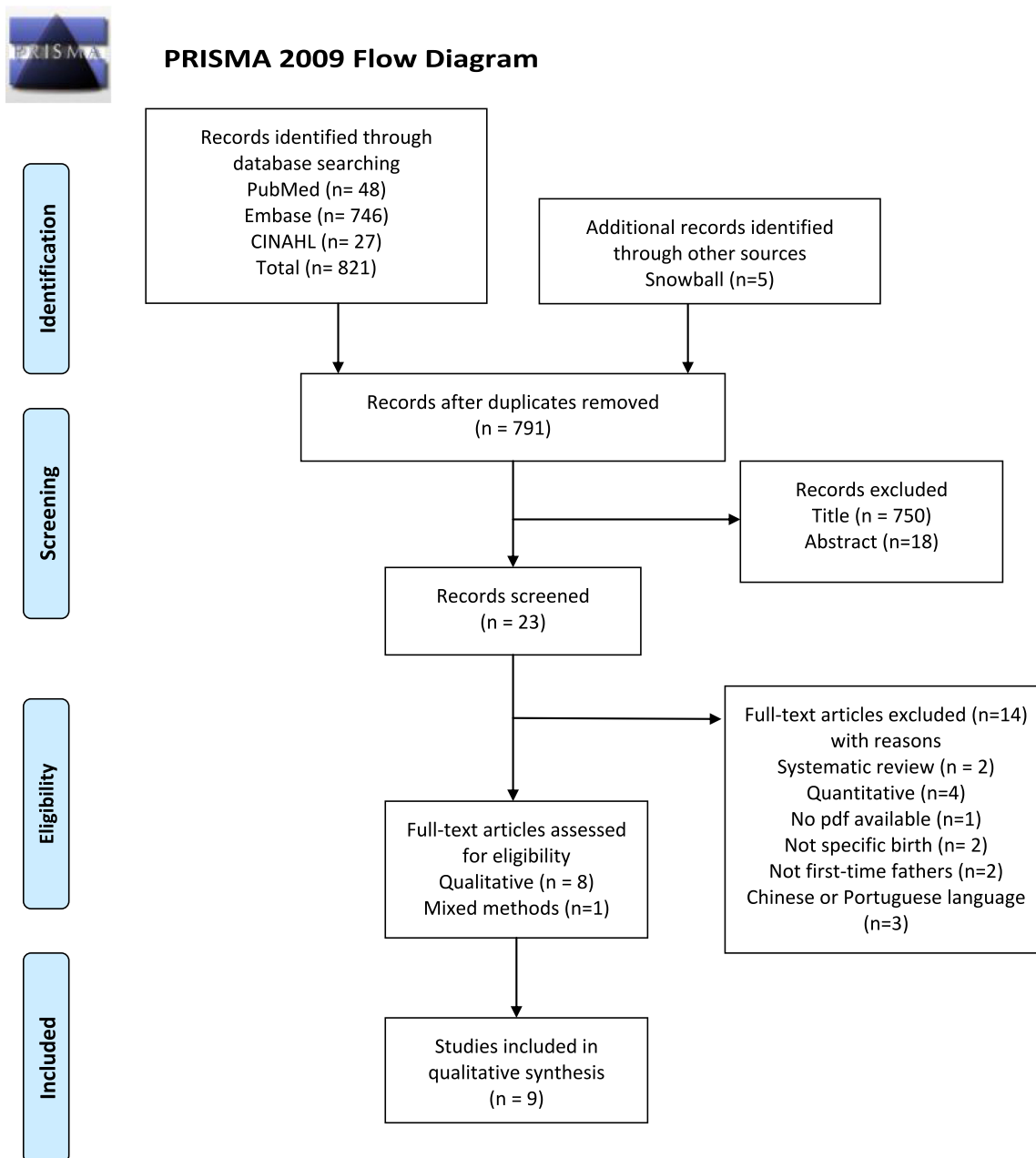


Fig. 1. Prisma Flow Diagram of study selection.

ents needed to be treated as a couple and as individuals with unique needs.

Synthesis of results

In the nine studies, 32 main themes and 34 subthemes were reported. Five analytical themes were derived from the synthesis process: ‘*The unknown*’, ‘*Many different feelings*’, ‘*Interaction with professionals*’, ‘*Part of the labouring couple*’ and ‘*Meeting the baby/ Bonding*’. Table 4 provides an overview of the categories that informed the analytical themes and lists the categories identified in each article. The synthesis of the results is reported according to the analytical themes and categories.

The synthesis described is also the best evidence synthesis. The methodological quality of all individual studies was assessed as good, and all findings are supported by at least two articles. Consequently,

this best evidence synthesis comprises only strong evidence as defined by Proper et al. (Proper et al., 2011).

You are in unknown territory. When you’re there, you know you really don’t know anything about this. I don’t know what’s going to happen. I was worried there would be no room for us; you know, the worst case scenario. We were prepared to have to go to a different hospital; you always expect the worst. I don’t think it matters how much you rely on your partner; it’s good to have an expert nearby, especially a woman. (IP5)

(Premberg et al. p.850)

The unknown

The unknown is divided into three categories: ‘totally new’, ‘knowledge’ and ‘preparation’.

Table 1
Characteristics of included articles.

Article	Methodology	Sample	Analysis	Quality CASP
Howarth et al., 2017, New Zealand,	Questionnaire Post-birth questionnaire, fathers were asked to write down their thoughts.	n = 155 Recruited by advertising.	Phenomenological thematic analysis informed by interpretative phenomenological analysis (IPA) Two analysts	9,5
Ledenfors and Bertero, 2016, Sweden,	Interviews – Interview guide – Digitally voice recorded – Duration: 10–60 min. median 23 min.	n = 8 Recruited at maternity wards, six different child welfare centres and three open days nurseries in a county in South east Sweden	Thematic analysis Two analysts	10
Sansiriphun et al., 2015, Thailand	In-depth interviews – Interviewed twice (n = 17) – Interviewed three times (n = 26), – Interviewed four times (n = 4) – Recorded – Duration: 70–90 min.	n = 41 Recruited from two hospitals in Chiang Mai. Theoretical sampling.	Analysis based on grounded theory. Four analysts and an expert.	9,5
Poh et al., 2014, Singapore	Semi-structured interviews. – Interview guide – Audiotaped – Duration 22–54 min mean 33 min	n = 16 Recruited from a tertiary hospital	Thematic analysis. Three analysts	9,5
Sapkota et al., 2012, Nepal	In-depth interviews, – Semi-structured interview guidelines. – Audio taped – Duration average 41.08 +/-7.9 min.	n = 12 (six had supported their wives during both labour and delivery, the rest only during labour by taking turns with another female member of the family/relative.)	Thematic Analysis Three analysts	8,5
Longworth and Kingdon, 2011, England	Semi-structured interviews – At two timepoints (antenatal and postnatal) – Similarity of questions – Tape recorded – Duration not reported	n = 11 Recruited at antenatal education with purposive sampling	Thematic analysis Two analysts	9,5
Premberg et al., 2011, Sweden	Re-enactment interviews – Recording not reported – Duration: 40–90 min	n = 10 recruited at Sahlgrenska University Hospital, Gothenburg with strategical selection	Phenomenological lifeworld approach Two analysts	8,0
Bäckström and Hertfelt Wahn, 2011, Sweden	Open-ended interviews. – Same opening question and same follow-up questions – Recorded – Duration: 20 to 50 min.	n = 10 Recruited at one hospital in a south-western county of Sweden	Qualitative content analysis Four analysts	9,5
Chandler and Field 1997, Canada	Interviews – At two timepoints (antenatal and postnatal) – Initially unstructured face-to-face interviews – After themes emerged, semi-structured interviews. – Tape recorded – Duration not reported	n = 6 and 6 secondary informants (for validation, check new themes and possible negative cases).	Thematic analysis resulting in a model showing relationships Expert for analysis Member check	9,5

Totally new

seen movies ... what is happening ... it was not like that at all! (7)

It went so quickly ... quickly and smoothly and well for us ... no problems, no complications, nothing ... everything just went on in one sweep ... nothing that spoiled it ... it was really nice ... much quicker and easier than I thought it would be ... expectations were different actually ... I thought it would be much worse ... in all ways ... so it was a relief. (8)

(Ledenfors and Bertero p.28)

The term 'totally new' refers to becoming a father as a completely new life-changing experience in an unfamiliar environment, with new people (Ledenfors and Bertero, 2016; Premberg et al., 2011; Sansiriphun et al., 2015) creating anxiety in the first-time father, who is unsure how he will react and cope (Premberg et al., 2011). Expectations do not reflect the reality (Chandler and Field, 1997; Ledenfors and Bertero, 2016).

Knowledge

Husbands should be mentally prepared. For instance, the birthing process could be discussed before pregnancy check-ups, and we

should be informed about how to help our wives. (21-year-old carpenter)

(Sapkota et al. p.48)

Knowledge refers to knowing what to expect, what to do or what is normal. Not knowing what to do made first-time fathers feel helpless and like an outsider (Bäckström and Hertfelt Wahn, 2011; Howarth et al., 2017; Ledenfors and Bertero, 2016). To understand labour and delivery and their roles in these processes, fathers must prepare themselves and gain information (Sansiriphun et al., 2015; Sapkota et al., 2012). Knowledge gained from preparation made fathers feel supported and calm and improved satisfaction (Bäckström and Hertfelt Wahn, 2011; Howarth et al., 2017).

Preparation

You thought that you were prepared, but you were not ... not before you had ... had the child in your arms ... then you realized that you were not as prepared as you thought. (1)

(Ledenfors and Bertero. p.28)

Preparation refers to how fathers can prepare themselves for childbirth. First-time fathers can actively prepare themselves by gathering information, discussing childbirth, mentally preparing themselves and

Table 2
Appraisal of the articles.

	Howarth et al., 2017	Ledenfors and Bertero 2016	Samiriphun et al. 2015	Poh et al., 2014	Sapkota et al., 2012	Longworth and Kingdon 2011	Premberg et al., 2011	Bäckström and Hertfelt Wahn 2011	Chandler and Field 1997
Section A: Are the results valid?									
1. Was there a clear statement of the aims of the research?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is a qualitative methodology appropriate?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Was the research design appropriate to address the aims of the research?	?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4. Was the recruitment strategy appropriate to the aims of the research?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	?	<input checked="" type="checkbox"/>	?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5. Was the data collected in a way that addressed the research issue?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. Has the relationship between researcher and participants been adequately considered?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	?	?	<input checked="" type="checkbox"/>	?	?	?
Section B: What are the results?									
7. Have ethical issues been taken into consideration?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	?	<input checked="" type="checkbox"/>	?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8. Was the data analysis sufficiently rigorous?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9. Is there a clear statement of findings?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Section C: Will the results help locally?									
10. How valuable is the research?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Total out of ten items (max 10 points)	9,5	10	9,5	9,5	8,5	9,5	8,0	9,5	9,5

Yes (1 point) ? Can't tell (0,5 points) No (0 points).

Critical Appraisal Skills Programme (BS 2018). CASP Qualitative Checklist. [online] Available at: <https://casp-uk.net/casp-tools-checklists/> Accessed: 26-02-2019.

buying all the necessary items (Bäckström and Hertfelt Wahn, 2011; Poh et al., 2014; Sansiriphun et al., 2015; Sapkota et al., 2012). Some first-time fathers acknowledged their lack of knowledge but avoided acquiring further information (Longworth and Kingdon, 2011; Poh et al., 2014).

The most wonderful thing I have been through my whole life but also the most dreadful to see her suffer the way she did. (IP6)

(Premberg et al. p.850)

Many different feelings

The birth of a first child involves many different emotions, both negative and positive.

Negative feelings

I could not watch my wife so restless and crying. It was very difficult to control myself. It was so frustrating not being able to do anything while she was undergoing labour pains. It was like a sort of punishment, I would say. (23-year-old private business employee)

(Sapkota et al., p.48)

Feelings of insecurity, fear, powerlessness and inadequacy are frequently reported (Bäckström and Hertfelt Wahn, 2011; Howarth et al., 2017; Ledenfors and Berterö, 2016; Poh et al., 2014; Premberg et al., 2011; Sapkota et al., 2012). Clear information is needed to reduce fear and vulnerability (Howarth et al., 2017; Ledenfors and Berterö, 2016; Poh et al., 2014; Premberg et al., 2011; Sansiriphun et al., 2015). Fear, helplessness and frustration were more intense during labour than during delivery (Chandler and Field, 1997; Sapkota et al., 2012). Seeing the mothers in pain was a major burden and frustrated first-time fathers (Premberg et al., 2011; Sansiriphun et al., 2015).

Positive feelings

It was like everything! It was just relief, joy, everything! Kev (postnatal interview, normal vaginal birth, 48 h after birth)

You know, it's been the best experience of my life! Steve (postnatal interview, normal vaginal birth, eight days after birth)

(Longworth and Kingdon p.591)

First-time fathers were excited about the new situation and experienced many different feelings: satisfaction, pride, relief and gratitude that their wives and babies were healthy and safe (Bäckström and Hertfelt Wahn, 2011; Chandler and Field, 1997; Howarth et al., 2017; Ledenfors and Berterö, 2016; Poh et al., 2014; Sansiriphun et al., 2015). They experienced an unexpected outburst of feelings when the baby was born, including happiness, tears of joy and fascination with the wonder of life (Chandler and Field, 1997; Howarth et al., 2017; Ledenfors and Berterö, 2016; Longworth and Kingdon, 2011; Poh et al., 2014; Premberg et al., 2011; Sansiriphun et al., 2015).

First-time fathers may hide strong feelings behind a calm and secure façade to avoid worrying the mother during labour. However, when the baby is born, fathers can release their true feelings (Chandler and Field, 1997; Premberg et al., 2011; Sapkota et al., 2012).

I got a lot of support, especially when I broke down, standing there crying like a three-year-old boy in the corner. So they took care of me right away, all of them, the physician, the midwife; I got a lot of support but it was a little bit hard too; it affects your masculinity. It was really nice but I felt mixed feelings, nice to be comforted and that they cared so much and really checked up on me, but I am used to being a man, not being so sensitive. (IP5)

(Premberg et al. p.850)

Table 3
Results of individual studies; Themes, subthemes and core conclusions.

Article	Main themes and sub themes	Key conclusions
Howarth et al., 2017.	Core themes: – Safety of mother and baby – Understanding support role – Mother in control and managing pain – Care and communication after birth	Fathers commented on what impacted on their childbirth experiences and in so doing outlined their needs for a positive experience. Fathers experienced a high level of satisfaction along with a need to be involved and included.
Ledenfors and Bertero 2016.	Main theme: transformative experience. 4 subthemes: – Preparing for childbirth – Feeling vulnerable in a new situation – Being confirmed as part of a unit – Meeting their child for the first time.	The findings indicate that the needs of prospective fathers should be given more recognition during childbirth. The findings also show that the midwife is an important person for prospective fathers, both before and during the birth.
Sansiriphun et al., 2015.	The process from childbirth to postpartum is described as: “the journey into fatherhood”. The process had three phases: Labour – Seeking information confirming labour pain; preparing for the hospital – Focusing on their wife; supporting and encouraging; waiting with patience Delivery – Focusing on delivery process; supporting and encouraging – Focusing on baby; checking the baby Family beginning – Observing and learning the baby’s behaviours; seeking information – Devoting themselves to the child – Supporting their wife – Following traditional confinement – Eliminating the conflicts and difficulties of being a father – Balancing tasks	Within the process, there were various situations, challenges, and pressures, which caused many changes of mood and feelings for the first-time fathers. Throughout this process, they applied various strategies to manage their concerns and needs, in order to develop into masterly fathers.
Poh et al., 2014.	4 themes emerged from 16 subthemes: Emotional changes experienced; (1) Happy, excited and amazed, (2) Fascination with the wonder of life, (3) Shocked, (4) Anxious, worried and fearful, (5) Relaxed and relieved Adaptive and supportive behaviours adopted;(6) Following cultural practices, (7) Modifying daily routine, (8) Understanding, caring and supporting wife more, (9) Exercising self-control Social support received; (10) Tangible and intangible support from family and friends, (11) Support from work and environment, (12) Support from healthcare professionals Suggestions for improvement to the current maternity care; (13) Review of antenatal classes, (14) Provide more information, (15) Provide more professional support, (16) Administrative/ logistical issues	All fathers modified their behaviours for the sake of protecting their wives and unborn children. Support from their family, friends, workplaces and the health care professionals were invaluable and greatly appreciated.
Sapkota et al., 2012.	6 themes: – Being positive towards attendance – Hesitation – Poor emotional reactions – Being able to support – The need to be mentally prepared – Enlightenment.	The husbands’ experiences revealed that Nepalese husbands tend to experience over-whelming feelings in the labour or delivery room if they can attend the birth without prior preparation.
Longworth and Kingdon, 2011.	4 main themes: – Fathers’ disconnection with pregnancy and labour – Fathers on the periphery of events during labour – Control – Fatherhood beginning at birth and reconnection Control was evident both as a distinct and a cross-cutting theme.	Birth is the moment that fathers ascribe as the beginning of fatherhood. However, through their lack of knowledge and perceived control, they struggle to find a role there. Implications
Premberg et al., 2011.	4 constituents: – A process into the unknown – A mutually shared experience – To guard and support the woman – In an exposed position with hidden strong emotions.	Childbirth was experienced as a mutually shared process for the couple. The fathers’ high involvement in childbirth, in cooperation with the midwife, and being engaged in support and care for his partner in her suffering is fulfilling for both partners, although the experience of the woman’s pain, fear of the unknown and the gendered preconceptions of masculine hegemony can be difficult to bear for the father-to-be.
Bäckström and Hertfelt Wahn, 2011.	Main theme: being involved or being left out. 4 categories: – An allowing atmosphere – Balancing involvement – Being seen – Feeling left out.	Fathers perceived that they were given good support when they could ask questions during labour, when they had the opportunity to interact with the midwife and their partner, and when they could choose when to be involved or to step back. Fathers want to be individuals who are part of the labouring couple. If fathers are left out, they tend to feel helpless; this can result in a feeling of panic and can put their supportive role of their partner at risk.
Chandler and Field, 1997.	9 themes – It’s happening – It’s beginning – More work than anticipated – Increased fear – Hidden fears and emotions – Lack of inclusion – Increased excitement – Relief – We made it – Time to get acquainted.	Although the fathers expected to be treated as part of a labouring couple, they found that they were relegated to a supporting role. Initially the fathers were confident of their ability to support their wives, but they found that labour was more work than they had anticipated. They became fearful of the outcome, but hid these fears from their partners. Later, they found that their focus moved from their wives to their babies at the time of birth. The men all completed the experience with an enhanced respect for their wives. Fathers should be included in labour management plans and need support for their role as coach, particularly when their wives experience pain. They also need to be encouraged to eat and take a break from their wives’ labour when appropriate.

Table 4
Reported categories and analytical themes in articles.

Articles	Analytical themes and including categories												
	The unknown		Many different feelings			Interaction with professionals			Part of the labouring couple		Meeting the baby/ Bonding		
	Totally new	Knowledge	Preparation	Negative feelings	Positive feelings	Support	Professionalism	Information	Feeling included and involved	Giving support	Leave attention to the mother	Shifting attendance from mother to child	Need space and time
Howarth et al., 2017		☑		☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Ledenfors and Bertero 2016	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	
Sansiripihun et al., 2015	☑	☑	☑	☑	☑					☑	☑	☑	
Poh et al., 2014	☑	☑	☑	☑	☑	☑	☑		☑	☑	☑		
Sapkota et al., 2012	☑	☑	☑	☑	☑				☑	☑	☑		
Longworth and Kingdon 2011		☑		☑	☑				☑	☑			
Premberg et al., 2011	☑	☑		☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Bäckström and Hertfelt Wahn 2011		☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	
Chandler and Field 1997				☑	☑	☑	☑	☑	☑	☑	☑	☑	☑

Interaction with professionals

Interaction with professionals comprises the following categories: ‘(provided) support’, ‘professionalism’ and ‘information’.

Support

We had a good relationship ... the midwife encouraged this good relationship and she gave me some tips about how to do things ... act with X, calm her, where I should hold her and how I should push ... pull her knees; I stood by the side and kept the head and pulled the knees; she showed me and that was very good. She instilled confidence and you felt that you did something helpful and, at the same time, it helped me to be in the position ... helping ... you could in some way help. (5)

(Ledenfors and Bertero p.29)

First-time fathers need guidance in their supportive role (Bäckström and Hertfelt Wahn, 2011; Chandler and Field, 1997; Howarth et al., 2017; Ledenfors and Bertero, 2016; Premberg et al., 2011). Adapting the level of involvement to the wishes of the fathers is important to enable them to experience good support (Bäckström and Hertfelt Wahn, 2011; Ledenfors and Bertero, 2016). The midwife being present in the room and cooperating with the father gave fathers a safe feeling (Bäckström and Hertfelt Wahn, 2011; Premberg et al., 2011).

Professionalism

I feel extremely grateful and have a lot of respect for all the people that helped us, especially all the midwives; they were fantastic. I don't have a lot of experience from healthcare, but I have never been better taken care of in any healthcare situation. (IP2)

(Premberg et al. p.851)

Health professionals appeared to have an impact on the feelings of the fathers (Bäckström and Hertfelt Wahn, 2011; Longworth and Kingdon, 2011; Premberg et al., 2011). First-time fathers experienced comfort and trust due to involved, experienced professionals who provided empathic care, worked together and communicated well (Howarth et al., 2017; Poh et al., 2014; Premberg et al., 2011; Sapkota et al., 2012).

Information

We were both well informed during each step and I felt our midwife and others provided information fast and clearly, which kept us both with the feeling that things were well under control. (099)

(Howarth et al. p.8)

First-time fathers need information about physiology, possible complications, how to cope and progress during labour (Bäckström and Hertfelt Wahn, 2011; Howarth et al., 2017; Poh et al., 2014; Premberg et al., 2011). First-time fathers must be able to ask questions (Bäckström and Hertfelt Wahn, 2011; Ledenfors and Bertero, 2016). Fathers need understandable and honest answers; otherwise, answers are deemed unreliable, and fathers may feel irritated and not taken seriously (Bäckström and Hertfelt Wahn, 2011; Premberg et al., 2011).

When she was pushing at the end, I held one hand behind her neck to give her strength and the other round her leg, so I held her together! I really felt part of it all and she said that afterwards in that sense it felt really good. I didn't feel left out at all! But I have to say that, even though I took part in the process, the focus must of course always be on the woman. (IP2)

(Premberg et al. p.850)

Part of the labouring couple

Feeling included and involved in the experience of childbirth is important for first-time fathers. First-time fathers support their labouring partners in the best way they can but allow the mother to be the centre of attention.

Feeling included and involved

They took over from me instead of helping me to help Laura. I began to feel like an appendage rather than being really involved.

(Chandler and Field p.21)

Childbirth is a shared experience in which both parents are important (Ledenfors and Berterö, 2016; Premberg et al., 2011). Fathers want to be included and involved and try to be part of the process in different ways. However, fathers often feel excluded from the labour (Bäckström and Hertfelt Wahn, 2011; Chandler and Field, 1997; Howarth et al., 2017; Ledenfors and Berterö, 2016). Fathers feel involved when included in conversations and asked for their opinions and when their personal needs are responded to and decisions are taken together (Bäckström and Hertfelt Wahn, 2011; Chandler and Field, 1997; Howarth et al., 2017; Premberg et al., 2011).

Communication with the mother, midwife and other healthcare professionals guided fathers to a more supportive and active role and improved the experienced level of control and involvement of fathers during childbirth (Bäckström and Hertfelt Wahn, 2011; Longworth and Kingdon, 2011). Fathers reported that intense communication between the mother and midwife decreased their feelings of involvement and increased their feelings of disconnection from their partner's labour (Ledenfors and Berterö, 2016; Longworth and Kingdon, 2011).

Giving support

It was a lot of patting on the back, holding and massaging. Trying to get her to drink a lot, water and juice ... a lot of talking and encouragement. (During pushing:) I'm sitting behind her on a stool and holding her under her arms, she's sitting on her haunches. I can press her together by bending myself, if I bend forward then she ends up like this with her chin on her chest in the right position and then when the contractions subside, she relaxes and stretches out backwards and then I can hold her ... it was hard physical work but it felt good to be able to do it. I'm used to physical work. (IP10)

(Premberg et al. p.851)

Fathers want something meaningful to do during childbirth: to support and encourage their partners (Ledenfors and Berterö, 2016; Poh et al., 2014; Premberg et al., 2011; Sansiriphun et al., 2015; Sapkota et al., 2012). Fathers need advice and guidance to provide better support (Howarth et al., 2017; Premberg et al., 2011; Sapkota et al., 2012). The support given by first-time fathers helped to soothe and reassure their wives during childbirth (Premberg et al., 2011; Sapkota et al., 2012).

Leave attention to the mother

All the focus is on her ... try to make it as good I can ... be a great support ... and just being two centimetres away, standing there ... feeling the hand or you could feel the ... voice ... well ... it ... it is a feeling of confidence and that is big for me ... I try to stand there stable by her side ... and calm ... which she is not able to be in that moment. That is my task – trying to be that ... that part in ... as a partner. Since this is ... this is our, this is our experience, it is our ... that is coming ... out of this. (4)

(Ledenfors and Bertero p. 29)

During childbirth, the fathers focus on the needs of the mothers, and disregard their own needs (Bäckström and Hertfelt Wahn, 2011; Ledenfors and Berterö, 2016; Premberg et al., 2011; Sansiriphun et al., 2015). Fathers want to be there, to protect the mothers and plead the case of the mother if conflicts emerge (Howarth et al., 2017; Premberg et al., 2011). Fathers hid their fears and did not discuss any irregularities or worrying signs to avoid upsetting the mothers in labour (Chandler and Field, 1997; Poh et al., 2014; Premberg et al., 2011; Sapkota et al., 2012).

Meeting the baby/ bonding

Difficult journey but overall helped me appreciate and love my wife more for it. ... The chance to deliver my son helped with bonding process. (034)

(Howarth et al. p.9)

The theme 'meeting the baby/bonding' comprises the following categories: 'shifting attendance from wife to child' and 'need time and space'.

Shifting attendance from mother to child

When I heard her voice 'Waa' I was very happy. I was so glad that I almost cried . . . I turned to the baby only . . . I took a look at his body. At first, I counted his fingers and toes. (c1, c3, c6, c12, c28, c37)

(Sansiriphun et al. p.463)

The moment the child is born is defined as amazing, indescribable, emotional, special and simply the best experience in life (Howarth et al., 2017; Ledenfors and Berterö, 2016; Longworth and Kingdon, 2011; Poh et al., 2014; Sansiriphun et al., 2015). Fathers report that from the moment the baby is born, the relief that childbirth is over will turn to worry whether all is well with the child (Chandler and Field, 1997; Ledenfors and Berterö, 2016; Sansiriphun et al., 2015).

Need time and space

[It] was heartbreaking when they said I couldn't stay the night. I had been with her that whole time and suddenly I had to go. (027)

(Howarth et al. p.9)

The time together with the baby immediately after the birth was important. Fathers needed space and privacy to get to know their newborn babies and their newborn family (Chandler and Field, 1997; Howarth et al., 2017; Longworth and Kingdon, 2011).

Discussion

In this review, findings from various articles providing qualitative data were integrated to answer the research question, 'What are the reported experiences and needs of first-time fathers during childbirth?' Five analytical themes were derived from the synthesis process: 'The unknown', 'Many different feelings', 'Interaction with professionals', 'Part of the labouring couple' and 'Meeting the baby/ Bonding'. First-time fathers experience much insecurity, anxiety and lack of knowledge in this unknown situation and need preparation. Interacting with professionals is important for first-time fathers to cope with both negative and positive feelings. Guidance in their supportive role, professionalism, information and honest answers are needed. First-time fathers want to feel involved; this can be achieved by involving them in communication and decision-making. Fathers may experience difficulties in their supporting

role, but first-time fathers focus on the needs of the mother and disregard their own needs. Meeting the baby shifts the attention from the mother to the child, and fathers need time and privacy for this special moment.

The results of this systematic literature review match those of the meta-synthesis by Johansson et al., which provides an overview of fathers' experiences in general but emphasises the greater need for information, guidance and support due to the inexperience of first-time fathers (Johansson et al., 2015).

Other studies also report the difficulties experienced by fathers in a new situation, for example, by identifying 'finding a place' as the main theme (Chin R., Daiches, 2011). Most fathers reported being anxious because of the unknown event (Labrague et al., 2013). First-time fathers more frequently reported an uncomfortable feeling during delivery (Vehvilainen-Julkunen and Liukkonen, 1998). Recommendations were made to increase knowledge and skills in antenatal classes (Labrague et al., 2013). In Sweden, for example, antenatal class content focused on childbirth preparation (67% of the entire course) and parenting preparation (33%) (Pålsson et al., 2019). Childbirth preparation increased parents' understanding of the childbirth process, birthing milieu, the partners' role, potential problems during delivery and pain relief advantages and disadvantages. Experiencing positive and negative feelings has also been reported for first-time fathers but also for fathers who have had a child before (Labrague et al., 2013; Sapountzi-Krepia et al., 2013; Vehvilainen-Julkunen and Liukkonen, 1998). First-time fathers not only disregard their own needs; in the most extreme cases, they even go along with the questions outside the guideline of their wives (Hollander et al., 2020).

The significant impact of professional support and professionalism on fathers' experiences is also reported in other studies (Johansson et al., 2015; Labrague et al., 2013; Sapountzi-Krepia et al., 2013). The association between professional behaviour perceived as negative and negative childbirth experiences has been highlighted, which also emphasises the important role of professionals (Wikander and Theorell, 1997). The association of good childbirth experiences of fathers with confidence in the staff has also been reported (Vehvilainen-Julkunen and Liukkonen, 1998). More attention should be devoted to supporting and providing guidance for the father during delivery (Eggermont et al., 2017; Vehvilainen-Julkunen and Liukkonen, 1998). Increased information needs by first-time fathers, because they have never experienced childbirth before (Eggermont et al., 2017), should be addressed with honest and clear information (Danerek and Dykes, 2008; Grobman et al., 2010; Johansson et al., 2015).

The strengths of this review are the structured methodology used and reproducibility achieved through its transparency and working in a research group. Discussing differences until consensus was reached increased the reliability of the study. Primary source quotes were used to generate a rich description and emphasise the original data.

This review has limitations. First, experiences after a caesarean section should have been excluded. However, in one article, it was difficult to separate the experiences of first-time fathers after a caesarean section from those after a normal birth. Some fathers' experiences after a caesarean section could have been included. However, the collection of excellent information from the article outweighs potential consideration of experiencing a birth by caesarean section. Second, articles that provided more information than experiences during birth yielded minimal information after relevant data were extracted. Sapkota focused on cultural influences on fathers' attendance at birth (Sapkota et al., 2012). Therefore, these specific findings, which are not present in other articles, are often not provided in this best evidence synthesis. Finally, the use of the CASP appraisal checklist was more difficult than expected. Much consultation and discussion within the research group were needed to determine the quality of the articles.

The importance of this review for clinical practice relates to its recommendations for professional awareness and care to be adapted to the specific needs of first-time fathers. Care for first-time fathers should be

formalised by devoting more attention to fathers within the antenatal care system. For example, structural attention should be given to first-time fathers' expectations, preparation, role and needs when debating a delivery plan and referring to existing or develop new paternity classes. The important influence of professional behaviour on the experiences of first-time fathers must be considered. Eggermont et al. reported various needs of fathers during childbirth and stated that professionals should adapt to these needs to provide a better childbirth experience for fathers (Eggermont et al., 2017). It is important to realise that these reported experiences of first-time fathers should not be overgeneralised. The expectant father must be seen as a unique person with unique experiences and needs.

Follow-up research must be conducted on how preparation of first-time fathers can be integrated into the prenatal care of couples. Despite variations in childbirth culture, similarities in first-time father experiences and needs are outlined. Translating the implications into local environments poses a challenge.

Professional education must consider the different needs of first-time fathers and fathers who have had a child before. It is also important to train professionals to improve their communication and supportive skills. An evidence-based professional training program should be developed and evaluated using the Medical Research Council framework (Craig et al., 2008; Hensch et al., 2013). It is recommended that the enriched development phase of the MRC framework is used to develop a training program that is well-adopted, effective and tailored to the context (Bleijenbergh et al., 2017).

In conclusion, strong evidence exists that first-time fathers experience much insecurity, anxiety and lack of knowledge in the unknown situation and need preparation and guidance. First-time fathers want to feel involved; this can be achieved by involving them in communication and decision making. Professionals must be aware of the specific needs of first-time fathers, and care must be adapted. Professionals must also realise the significant influence of their professional behaviour on first-time fathers' experiences. Care for first-time fathers should be formalised. Follow-up research must be conducted on integrating the preparation of first-time fathers into prenatal care.

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References

- Allport, B.S., Johnson, S., Aqil, A., Nelson, T., Kc, A., Carabas, Y, M.A., 2018. Promoting Father involvement for Child and Family health. *Acad. Pediatr.* 18, 746–753. doi:10.1016/j.acap.2018.03.011.
- Armstrong, R., Jackson, N., Doyle, J., Waters, E., Howes, F., 2005. It's in your hands: the value of handsearching in conducting systematic reviews of public health interventions. *J. Public Health (Bangkok)* 27, 388–391. doi:10.1093/pubmed/fdi056.
- Aune, L., Marit Torvik, H., Selboe, S.T., Skogås, A.K., Persen, J., Dahlberg, U., 2015. Promoting a normal birth and a positive birth experience - Norwegian women's perspectives. *Midwifery* 31, 721–727. <https://doi.org/10.1016/j.midw.2015.03.016>

- Bäckström, C., Hertfelt Wahn, E., 2011. Support during labour: first-time fathers' descriptions of requested and received support during the birth of their child. *Midwifery* 27, 67–73. doi:10.1016/j.midw.2009.07.001.
- Backstrom, C., Thorstensson, S., Martensson, L.B., Grimming, R., Nyblin, Y., Golsater, M., 2017. To be able to support her, I must feel calm and safe": pregnant women's partners perceptions of professional support during pregnancy. *BMC Pregnancy Childbirth* 17, 234. doi:10.1186/s12884-017-1411-8.
- Beake, R.M., Chang, B.A., Cheyne, R.M., Mphil, Spiby, Sandall, R.M., B.D., 2018. Experiences of early labour management from perspectives of women, labour companions and health professionals A systematic review of qualitative evidence. *Midwifery* 57, 69–84. doi:10.1016/j.midw.2017.11.002.
- Belanger-Lévesque, M.-N., Dumas, M., Blouin, S., Pasquier, J.-C., 2017. That was intense! Spirituality during childbirth: a mixed-method comparative study of mothers' and fathers' experiences in a public hospital. *MIDIRS Midwifery Dig* 27, 68–77. doi:10.1186/s12884-016-1072-z.
- Bleijenberg, N., de Man-van Ginkel, J., Trappenburg, J., Ettema, R., Sino, C., Heim, N., Hafsteindóttir, R., Richards, D., Schuurmans, M., 2017. Increasing value and reducing waste by optimizing the development of complex interventions: enriching the development phase of the Medical Research Council (MRC) Framework. *Int. J. Nurs. Stud.* 79, 86–93. doi:10.1016/j.ijnurstu.2017.12.001.
- Bowman, S., McDonald, S., Fitzgerald, L., 2013. An epiphany in a paddock: the role and experience of first-time fathers during labour and birth. *Women & Birth* 26. doi:10.1016/j.wombi.2013.08.165, S23–S23.
- Callister, L.C., 1995. *Becoming a father*. J/ Perinat. Educ 4, 1–8.
- Carbines, M., 2004. *The experience of first-time fathers during childbirth*. In: *New Zealand College of Midwives 8th Biennial National Conference, 16-18 September 2004*, Wellington Convention Centre, Wellington, New Zealand. Tutor, Nursing Programme, Unitec, p. 34.
- Chan, K.K.L., Paterson-Brown, S., 2002. How do fathers feel after accompanying their partners in labour and delivery? *J. Obstet. Gynaecol. (Lahore)*. 22, 11–15. doi:10.1080/01443610120101628.
- Chandler, S., Field, P.A., 1997. Becoming a father: first-time fathers' experience of labor and delivery. *J. Nurse. Midwifery*. 42, 17–24. doi:10.1016/S0091-2182(96)00067-5.
- Chapman, L., 1991. Searching: expectant fathers' experiences during labor and birth. *J. Perinat. Neonatal Nurs.* 4, 21–29. doi:10.1097/00005237-199103000-00006.
- Chin, R., Daiches, A., 2011. *A qualitative Exploration of First-time Fathers' Experiences of becoming a Father*. *Community Pract* 84, 19–23.
- Chou, F., Chao, Y., Yee, D., 1994. The lived experience of expectant fathers accompanying wives throughout labor and birth. *Nurs. Res.* 2, 359–370.
- Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., Petticrew, M. Medical Research Council Guidance, 2008. *Developing and evaluating complex interventions: the new Medical Research Council guidance*. *BMJ* 337, 1–6. doi:10.1136/bmj.a1655.
- Critical Appraisal Skills Programme, 2018. *Casp Qualitative Checklist* [WWW Document]. URL <https://casp-uk.net/casp-tools-checklists> (accessed 2.28.19).
- Danerek, M., Dykes, A.K., 2008. A theoretical model of parents' experiences of threat of preterm birth in Sweden. *Midwifery* 24, 416–424. doi:10.1016/j.midw.2006.07.011.
- Darwin, Z., Galdas, P., Hinchliff, S., Littlewood, E., McMillan, D., McGowan, L., Gilbody, S. Born and Bred in Yorkshire (BaBY) team, 2017. Fathers' views and experiences of their own mental health during pregnancy and the first postnatal year: a qualitative interview study of men participating in the UK Born and Bred in Yorkshire (BaBY) cohort. *BMC Pregnancy Childbirth* 17, 45. doi:10.1186/s12884-017-1229-4.
- de Jonge, A., Lagro-Janssen, A.L., Klop, T., Geerts, C.C., Twisk, J.W., van Dillen, J., 2014. Birth setting, transfer and maternal sense of control: results from the DELIVER study. *BMC Pregnancy Childbirth* 14. doi:10.1186/1471-2393-14-27.
- Dixon, L., Skinner, J., Foureur, M., 2014. The emotional journey of labour-Women's perspectives of the experience of labour moving towards birth. *Midwifery* 30, 371–377. <https://doi.org/10.1016/j.midw.2013.03.009>
- Draper, J., 1997. Whose welfare in the labour room? A discussion of the increasing trend of fathers' birth attendance. *Midwifery* 13, 132–138. doi:10.1016/S0266-6138(97)90003-6.
- Dye, N., 1980. *History of childbirth in America*. *Signs J. Women Cult. Soc.* 6, 97–108.
- Eggermont, K., Beekman, D., Van Hecke, A., Delbaere, I., Verhaeghe, S., 2017. Needs of fathers during labour and childbirth: a cross-sectional study. *Women Birth* 30, e188–e197. doi:10.1016/j.wombi.2016.12.001.
- Elmir, R., Schmied, V., Wilkes, L., Jackson, D., 2010. Women's perceptions and experiences of a traumatic birth: a meta-ethnography. *J. Adv. Nurs.* 66, 2142–2153. doi:10.1111/j.1365-2648.2010.05391.x.
- Grobman, W.A., Kavanaugh, K., Moro, T., Derognier, R.A., Savage, T., 2010. Providing advice to parents for women at acutely high risk of periviable delivery. *Obstet. Gynecol.* 115, 904–909. doi:10.1097/AOG.0b013e3181da93a7.
- Hall, P.J., Olza, I., Karlsdóttir, S.I., Downe, S., Benyamini, Y., Spyridou, A., Nieuwenhuijze, M.J., Leahy-Warren, P., Kazmierczak, M., Takács, L., Crespo-Mirasol, E., Murphy, M., Jonsdóttir, S.S., 2018. Women's psychological experiences of physiological childbirth: a meta-synthesis. *BMJ Open* 8, 1–11. doi:10.1136/bmjopen-2017-020347.
- Hanson, S., Hunter, L.P., Bormann, J.R., Sobó, E.J., 2009. *Paternal Fears of Childbirth: a Literature Review*. *J. Perinat. Educ.* 18, 12–20. doi:10.1624/105812409X474672.
- Henoch, I., Strang, S., Browall, M., Danielson, E., Melin-Johansson, C., 2013. Development of an existential support training program for healthcare professionals. *Palliat. Support. Care* 13, 1701–1709. doi:10.1017/S1478951515000632.
- Hildingsson, I., Johansson, M., Karlström, A.F.J., 2013. Factors associated with a positive birth experience: an exploration of Swedish women's experiences. *Int. J. Childbirth* 3, 153–164. doi:10.1891/2156-5287.3.3.153.
- Hodnett, E.D., Gates, S., Hofmeyr, G.J., Dackala, C., 2013. Continuous support for women during childbirth. *Cochrane Database Syst. Rev. Database Syst. Rev. art. no CD003766*. doi:10.1002/14651858.CD003766.pub5.
- Hollander, M., de Miranda, E., Smit, A.-M., de Graaf, I., Vandenbussche, F., van Dillen, J., Holten, L., 2020. 'She convinced me'- partner involvement in choosing a high risk birth setting against medical advice in the Netherlands: a qualitative analysis. *PLoS ONE* 15, 1–21. doi:10.1371/journal.pone.0229069.
- Howarth, A.M., Scott, K.M., Swain, N.R., 2017. First-time fathers' perception of their childbirth experiences. *J. Health Psychol.* 1–12. doi:10.1177/1359105316687628.
- Indexmundi geboortcijfers [WWW Document], 2018. URL <https://www.indexmundi.com/nl/wereld/geboortcijfer.html> (accessed 2.26.19).
- Jalali, S., Wohlin, C., 2012. Systematic literature studies: database searches vs. backward snowballing. *Int. Symp. Empir. Softw. Eng. Meas.* 29–38. doi:10.1145/2372251.2372257.
- Johansson, M., Hildingsson, I., Fenwick, J., 2013. Important factors working to mediate Swedish fathers' experiences of a caesarean section. *Midwifery* 29, 1041–1049. doi:10.1016/j.midw.2012.09.009.
- Johansson, M., Lecturer, S., Fenwick, J., Premberg, Å., 2015. A meta-synthesis of fathers' experiences of their partner's labour and the birth of their baby. *Midwifery* 31, 9–18. doi:10.1016/j.midw.2014.05.005.
- Johansson, M., Rubertsson, C., Rådestad, I., Hildingsson, I., 2012a. Sexual & Reproductive Healthcare Childbirth – An emotionally demanding experience for fathers. *Sex. Reprod. Healthc.* 3, 11–20. doi:10.1016/j.srhc.2011.12.003.
- Johansson, M., Rubertsson, C., Rådestad, I., Hildingsson, I., 2012b. Childbirth - An emotionally demanding experience for fathers. *Sex. Reprod. Healthc.* 3, 11–20. doi:10.1016/j.srhc.2011.12.003.
- Kaye, D.K., Kakaire, O., Nakimuli, A., Osinde, M.O., Mbalinda, S.N., Kakande, N., 2014. Male involvement during pregnancy and childbirth: men's perceptions, practices and experiences during the care for women who developed childbirth complications in Mulago Hospital. Uganda. *BMC Pregnancy Childbirth* 14, 1–8. doi:10.1186/1471-2393-14-54.
- Kunjappy-Clifton, A., 2007. *Pregnancy. And father came too...a study exploring the role of first time fathers during the birth process and to explore the meaning of the experience for these men*. *MIDIRS Midwifery Dig* 17, 507–512.
- Labrague, L.J., Cariño, J.R., Catap, R.C., Uy, M.N.B., 2013. *Exploring First-Time Fathers' Feelings and Experiences during Labor - Delivery of their Partner/Wife*. *Int. J. Caring Sci.* 6, 217–226.
- Ledenfors, A., Berterö, C., 2016. First-time fathers' experiences of normal childbirth. *Midwifery* 40, 26–31. doi:10.1016/j.midw.2016.05.013.
- Longworth, H.L., Kingdon, C.K., 2011. Fathers in the birth room: what are they expecting and experiencing? A phenomenological study. *Midwifery* 27, 588–594. doi:10.1016/j.midw.2010.06.013.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., Altman, D., Antes, G., Atkins, D., Barbour, V., Barrowman, N., Berlin, J.A., Clark, J., Clarke, M., Cook, D., D'Amico, R., Deeks, J.J., Devereaux, P.J., Dickersin, K., Egger, M., Ernst, E., Gøtzsche, P.C., Grimshaw, J., Guyatt, G., Higgins, J., Ioannidis, J.P.A., Kleijnen, J., Lang, T., Magrini, N., McNamee, D., Moja, L., Mulrow, C., Napoli, M., Oxman, A., Pham, B., Rennie, D., Sampson, M., Schulz, K.F., Shekelle, P.G., Tovey, D., Tugwell, P., 2009. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement (Chinese edition). *J. Chinese Integr. Med.* 7, 889–896. doi:10.3736/jcim20090918.
- Nichols, M., 1995. Adjustment to new parenthood: attenders versus nonattenders at prenatal education classes. *Birth* 22, 21–28. doi:10.1111/j.1523-536x.1995.tb00549.x.
- Ouzzani, M., Hammady, H., Fedorowicz, Z., Elmagarmid, A., 2016. Rayyan-a web and mobile app for systematic reviews. *Syst. Rev.* 5, 1–10. doi:10.1186/s13643-016-0384-4.
- Pålsson, R., Kvist, L.J., Persson, E.K., Kristensson Hallström, I., Ekelin, M., 2019. A survey of contemporary antenatal parental education in Sweden: what is offered to expectant parents and midwives' experiences. *Sex. Reprod. Healthc.* 20, 13–19. doi:10.1016/j.srhc.2019.01.003.
- Perined, 2019. *Perined Jaarboeken* [WWW Document]. URL <https://www.perined.nl/publicaties/publicaties/jaarboeken> (accessed 9.1.19).
- Plantin, L., 2007. *Fatherhood and Health outcomes in Europe: WHO Regional Office for Europe. World Health Organization. Regional Office for Europe, Copenhagen*.
- Poh, H.L., Koh, S.S.L., Seow, H.C.L., He, H.-G., 2014. First-time fathers' experiences and needs during pregnancy and childbirth: a descriptive qualitative study. *Midwifery* 30, 779–787. doi:10.1016/j.midw.2013.10.002.
- Premberg, Å., Carlsson, G., Hellström, A.L., Berg, M., 2011. First-time fathers' experiences of childbirth-A phenomenological study. *Midwifery* 27, 848–853. doi:10.1016/j.midw.2010.09.002.
- Proper, K.I., Singh, A.S., van Mechelen, W., Chinapaw, M.J.M., 2011. Sedentary Behaviors and Health Outcomes Among Adults. *Am. J. Prev. Med.* 40, 174–182. doi:10.1016/j.amepre.2010.10.015.
- Redshaw, M., Henderson, J., 2013. Fathers' engagement in pregnancy and childbirth: evidence from a national survey. *BMC Pregnancy Childbirth* 13, 1. doi:10.1186/1471-2393-13-70.
- Rosich-Medina, A., 2007. Paternal experiences of pregnancy and labour. *Br. J. Midwifery* 15, 66–70. doi:10.12968/bjom.2007.15.2.22783.
- Sansiriphan, N., Kantaruksa, K., Klunklin, A., Baosuang, C., Liamritrat, S., 2015. The journey into fatherhood: a grounded theory study. *Nurs. Health Sci.* 17, 460–466. doi:10.1111/nhs.12216.
- Santo, L., Bonilha, A., 2000. *Expectations, feelings and experiences of the father during the delivery and birth of his baby*. *Rev. Gauch. Enferm.* 21, 87–109.
- Sapkota, S., Kobayashi, T., Takase, M., 2012. Husbands' experiences of supporting their wives during childbirth in Nepal. *Midwifery* 28, 45–51. doi:10.1016/j.midw.2010.10.010.
- Sapountzi-Krepia, D., Lavdaniti, M., Dimitriadou, A., Psychogiou, M., Sgantzios, M., He, H.-G., Faros, E., Vehviläinen-Julkunen, K., 2013. Fathers' Feelings and Experience Related to their Wife/Partner's Delivery in Northern Greece. *Open Nurs. J.* 4, 48–54. doi:10.2174/1874434601004010048.

- Schytt, E., Bergström, M., 2014. First-time fathers' expectations and experiences of childbirth in relation to age. *Midwifery* 30, 82–88. <https://doi.org/10.1016/j.midw.2013.01.015>
- Thomas, J., Harden, A., 2008. Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Med. Res. Methodol.* 8, 1–10. doi:10.1186/1471-2288-8-45.
- Tzeng, Y., Wang, L., Shih, Y., 1993. Preliminary study of the behavioral response and nursing care needs in labor and delivery process of the expectant fathers. *Nurs. Res.* 1, 279–289.
- Vehvilainen-Julkunen, K., Liukkonen, A., 1998. Fathers' experiences of childbirth. *Midwifery* 14, 10–17. doi:10.1016/S0266-6138(98)90109-7.
- Wikander, B., Theorell, T., 1997. Fathers' experience of childbirth and its relation to crying in his infant. *Scand. J. Caring Sci.* 11, 151–158. doi:10.1111/j.1471-6712.1997.tb00448.x.