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**Women's experiences of induction of labour: qualitative systematic review and thematic synthesis.**

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## **Abstract**

*Objectives:* To explore and synthesise evidence of women's experiences of induction of labour (IoL).

*Design:* Systematic review and thematic synthesis of peer-reviewed qualitative evidence. Relevant databases were searched from inception to the present day. Study quality was appraised using the Critical Appraisal Skills Programme (CASP) qualitative research appraisal tool.

*Setting and participants:* Low and high risk women who had experienced IoL in an inpatient or outpatient setting.

*Findings:* Eleven papers (representing 10 original studies) published between 2010 and 2018 were included for thematic synthesis. Four key analytical themes were identified: ways in which decisions regarding induction were made; women's ownership of the process; women's social needs when undergoing IoL; and the importance of place in the induction process. The review indicates that IoL is a challenging experience for women, which can be understood in terms of the gap between women's needs and the reality of their experience concerning information and decision-making, support, and environment.

*Key conclusions and implications for practice:* Providing good quality appropriately timed information and supporting women's self-efficacy to be involved in decision-making around IoL may benefit women by facilitating a sense of ownership or control of labour. Compassionate support from significant others and healthcare professionals in a comfortable, private and safe environment should be available to all women.

*Keywords:* Qualitative synthesis; induction of labour; outpatient induction; women's experiences; patient-centred healthcare; birth experiences

## **Introduction**

The number of women experiencing induction of labour (IoL) worldwide continues to rise. In the United Kingdom (UK) approximately 20% of women experienced IoL in 2006-7 and for 2016-17 the rate is approximately 29% (NHS Digital, 2017). The rate of increase varies by country but the trend is upward internationally (Chauhan and Ananth, 2012; Li et al., 2013; Vogel et al., 2015). Most studies on IoL concern safety and efficacy of different induction methods, and the consequences of their use on neonatal and maternal outcomes. Little attention has been paid to women's experiences of IoL, yet in the absence of evidence suggesting any 'best' method of IoL in terms of clinical outcomes, women's experiences should be an important factor in the decision-making process (Rauf and Alfirevic, 2014).

Quantitative research on women's experience of IoL is mainly limited to satisfaction measures and shows mixed results. In a randomised controlled trial (RCT) comparing immediate IoL at 41 weeks with expectant management by means of fetal monitoring every third day in Sweden, more induced women (74%) would choose the same method in a subsequent pregnancy than those experiencing expectant management (38%; Heimstad et al., 2007). Other studies indicate that women who laboured spontaneously were more 'satisfied' with their birth than those who experienced IoL (Shetty et al., 2005; Hildingsson et al., 2011). In a large UK survey, overall satisfaction with intrapartum care was similar for IoL and spontaneously labouring women, although IoL women were less happy with respect and kindness shown by healthcare practitioners and with the level of communication (Henderson and Redshaw, 2013).

Women report that they want to take part in decision making about their maternity care and IoL specifically, but need more information to do so (Emslie et al., 1999; Schwarz et al., 2016; Berger et al., 2015). Further concerns about IoL include delays to starting the process, getting pain relief, feeling neglected, worry about further intervention, worry about the baby, and overall negative birth experience (Nuutila et al., 1999; Waldenström et al., 2004; Henderson and Redshaw, 2013).

A further consideration about IoL is where it should take place. Outpatient IoL is currently or imminently available in approximately 18% of surveyed NHS trusts in the UK (Sharp et al., 2016).

Outpatient IoL involves the first, cervical ripening stage of IoL where a hormone pessary or specialised balloon is used to soften the cervix. The treatment is usually administered at a hospital and the woman then returns home for a specified period whilst waiting for the treatment to take effect before returning to hospital. In some settings and services, women undergoing outpatient IoL are able to labour in a midwifery unit rather than an obstetric unit, if no further intervention, such as artificial rupture of membranes or oxytocin infusion, is required. It has resulted in higher satisfaction scores than inpatient IoL (Biem et al., 2003; Turnbull et al., 2013) possibly because it enables a sense of control (Rauf and Alfirevic, 2014). However it is also possible that women may be more anxious in the outpatient setting because of the uncertainties surrounding IoL, and practicalities with getting back to hospital (Rauf and Alfirevic, 2014). Evidence from studies on women's experiences of latent phase of labour indicate that findings may not be predictable. In one study many women experienced anxiety in relation to admission to the labour ward, even when it was not clinically advised, and in another, a telephone triage and advice service was not found to allay women's anxieties (Cheyne et al., 2008; Beake et al., 2017).

Given that women's relationships with their baby, their sense of self, and their future reproduction may be influenced by their perception of their labour and birth, it is important to explore in more depth women's experiences of IoL with a view to improving this experience (Gottval and Waldenstrom, 2003; Lundgren et al., 2009). Quantitative research provides a starting point for understanding birth experience, however, it is unable to explore what 'satisfied' or 'acceptable' means to women; the birth of a healthy baby may be enough to lead women to report 'satisfaction' when measured quantitatively, but this does not necessarily mean that the experience was positive.

The aim of this review therefore, is to gather, analyse and synthesise the evidence on women's views on IoL and understand the factors that make the process and method acceptable and positive to women, or not. This may enable changes to or development of the IoL processes to benefit women.

## **Methods**

The protocol for this systematic review was registered on the International Prospective Register of Systematic Reviews (PROSPERO Ref: CRD42018093066) and methods were aligned with the

Enhancing Transparency in Reporting the Synthesis of Qualitative research (ENTREQ) guidelines, a set of evidence-based items designed to enhance confidence in syntheses of qualitative research (Tong et al., 2012).

#### *Search methods for identification of studies and screening*

The search strategy was pre-planned to identify all available peer-reviewed studies. A version of the PICo model for qualitative systematic review questions was used to frame the searches (Joanna Briggs Institute, 2014) where the population (P) was pregnant women, the phenomenon of interest (I) was IoL, and the context (Co) was inpatient or outpatient setting. The population, interest and context terms (see Table 1) were combined using Boolean terms “OR” (within columns), “AND” (between columns) and were searched as title/abstract except MeSH headings. Systematic searches of the following online databases were conducted from inception to date of searches (January 2018): MEDLINE; PsycINFO; PsychARTICLES; PubMed; Cumulative Index to Nursing and Allied Health Literature (CINAHL); EMBASE; Maternity and Infant Care Database (MIDIRS); Web of Science; SocIndex. We also searched ProQuest database and EtHOS for theses. The reference lists of identified articles were searched for additional studies, and we tracked citations of key studies.

Studies were selected in two stages: 1) Titles and abstracts were independently screened by two reviewers for meeting inclusion criteria (see Table 2), with any uncertainties resolved by discussion; 2) Full texts for studies that appeared to be relevant were obtained and final selection made first independently by two reviewers and then by discussion.

#### *Quality appraisal*

Two authors (GC & RC) independently rated the quality of all eleven included publications using the Critical Appraisal Skills Programme Qualitative Research Checklist (CASP; 2017). Disagreements were resolved by discussion. The checklist includes ten items addressing: research aims,

methodology, design, recruitment, data collection, participant-researcher relationship, ethical issues, data analysis, findings and value of the research. Answers to the first nine items are categorized as yes /partly / no. See Table 3 for quality appraisal overview. Studies were not excluded due to low quality as there is little evidence to suggest this is beneficial (Dixon-Woods et al., 2007; Thomas and Harden 2008; Carroll et al., 2011) but sensitivity analysis was conducted to explore the findings from low quality papers as compared with those of medium and high quality.

#### *Data extraction and analysis*

Data (all text labelled as ‘findings’ or ‘results’ from primary studies, including quotations) were extracted from eligible studies into NVivo 11 software. Thomas and Harden’s (2008) thematic synthesis approach was followed as it allowed for transparent summarising of existing qualitative research evidence, but also enabled the synthesis to go beyond the primary studies in generating new constructs and explanations. This was done in a three step process: 1) Two authors (RC and GC) independently coded existing findings line by line with new descriptive codes generated according to meaning and content of the data, and resolved any differences by discussion; 2) Codes were then grouped to capture their meaning, into a smaller set of new codes. All authors commented on this draft summary of findings and a final version was agreed; 3) Analytical themes which went beyond themes in the primary studies were generated inductively.

## **Findings**

#### *Results of the search*

A total of 3775 references were identified which we screened by title and abstract. Full texts of 30 of these papers were read after which 11 papers representing 10 studies remained for inclusion (see Figure 1. Flow Chart). For readability papers are numbered corresponding with Table 4.

### *Included studies: methods, participants, setting, time-frame, and analytic approach*

All 10 studies gathered data through in-depth interviews. Three of these were components of a mixed methods study where interview data were reported distinctly<sup>9, 10, 11</sup> (see Table 4 for details). Studies were published between 2010 and 2018, and included seven to 29 participants; overall 157 participants were represented. Two papers<sup>4, 5</sup> report on the same study sample. Six studies were from the UK<sup>1, 3, (4/5), 9, 11</sup>, two from Australia<sup>2, 10</sup>, and one each from Brasil<sup>6</sup>, USA<sup>7</sup>, and Ireland<sup>8</sup>. Five used a form of thematic analysis<sup>(4/5), 6, 9, 10, 11</sup>, three a form of phenomenological analysis<sup>1, 3, 8</sup>, one grounded theory<sup>7</sup> and one did not report the method of analysis<sup>2</sup>. Four studies did not report sampling methods<sup>1, 2, 8, 9</sup>; of those that did, methods were purposive<sup>3, (4/5), 6, 7</sup>, maximum variation<sup>10</sup>, and convenience<sup>11</sup>. Women were recruited after birth (five studies<sup>(4/5), 6, 9, 10, 11</sup>), at or within six hours of booking IoL (two studies<sup>2, 7</sup>), on admission for induction (one study<sup>3</sup>) and it was unclear when women were recruited / consented to participate in two studies<sup>1, 8</sup>. Two studies interviewed women before and after birth<sup>2, 7</sup>; the remaining eight interviewed women after birth only (2 weeks to 4 months after birth)<sup>1, 3, (4/5), 6, 8</sup>.

<sup>11</sup>Concerning characteristics of pregnancy, six studies included only primiparas<sup>2, 3, (4/5), 7, 8, 11</sup> whilst four also included multiparas<sup>1, 6, 9, 10</sup>. One study focused on pregnancies classified as high risk<sup>6</sup>, one did not include risk criteria<sup>7</sup>, and the remaining eight concerned induction for prolonged pregnancy<sup>1-(4/5), 8-11</sup>. Seven studies considered inpatient IoL as part of usual care<sup>1-8</sup>; two studies focused exclusively on outpatient induction<sup>9, 11</sup> and one study included both inpatient and outpatient IoL<sup>10</sup>. Papers concerning outpatient IoL were specifically focused on women's experiences of the outpatient setting. Three studies did not report induction methods<sup>3, 7, 8</sup>; two used prostaglandin pessary<sup>1, 9</sup>; two used prostaglandin gel<sup>2, 10</sup>; two reported a variety or combination of methods<sup>(4/5), 6</sup>; and one used a self-administered vaginal nitric oxide donor<sup>11</sup>. One study focused on remote fetal monitoring for outpatient IoL<sup>9</sup>. For summary characteristics see Table 4.

### *Results of quality appraisal*



All of the studies clearly stated their aims, and highlighted the small number of studies that explore women's experiences of IoL in comparison with the literature on clinical outcomes. Qualitative methods were appropriate for all studies and most justified their choice of analytic approach. The quality of reporting caused concern in a number of ways, regarding the conclusions drawn. Most papers (six out of nine) did not report any consideration of researcher reflexivity. There was also minimal consideration of evidence for and against the researchers' findings, or reporting of contradictory cases in primary studies. If there were no contradictory cases, this also needs to be acknowledged and explored by the researchers. Finally, only four of the included studies mentioned processes for checking credibility<sup>1,7,9,11</sup>. A sensitivity analysis showed that lower quality papers did not provide any new findings and removing them did not affect the main themes in the analysis<sup>6,8</sup>.

#### *Main themes identified in the analysis*

Four analytical themes were identified: (1) Making decisions; (2) Women's ownership of the IoL process; (3) Social needs; (4) Place and the IoL process. See Table 5 for descriptions and subthemes.

#### *Making decisions*

##### *Clinical decisions made for her not with her (8/10 studies)*

Whether women were positive about induction or not, there was a prevailing sense that women were not involved in the decision about the type of birth they had. Studies described obstetricians<sup>1,5,7,8</sup>, and midwives<sup>2,4,5,8</sup>, as defining when a woman's "time had run out"<sup>2</sup>(p6). Some perceived that information which would assist with making a decision was withheld<sup>1,7</sup>, that a woman's feelings were not considered<sup>2</sup>, that dialogue with clinicians was minimal<sup>5,7</sup> or that the decision making process was rushed and therefore limited women's involvement<sup>2,5,7</sup>. Some women described being given a leaflet about induction at the same time that it was being booked<sup>5</sup>, that the decision was "presented as a choice, but they were definitely encouraging me to strongly consider it rather than waiting"<sup>5</sup> (p26) or that it was a "nondecision" because balanced information on risks and benefits had not been presented therefore preventing informed choice<sup>7</sup> (p143).

Trust in healthcare professionals (HCPs) was strong nonetheless. Many women reported they would “just go with whatever the medical people say”<sup>5</sup> (p26) because they “would never even think to question a doctor”<sup>8</sup> (p108), they did not know about medicine themselves<sup>5</sup>, or because they were confident their doctor would tell them the “correct information”<sup>7</sup> (p141) about induction because medical professionals “know best”<sup>8</sup> (p108). Some women believed that HCPs were guided more by IoL policy than by their individual circumstances<sup>1, 2, 5, 7</sup>. Feelings of resignation and acceptance at having to be induced were then described, as women perceived they no longer had a role in decision making<sup>1, 2, 5, 6</sup>. Some women were pleased about the IoL decision because they thought it was the right time for pregnancy to be over and IoL offered some certainty of an end<sup>2, 3, 5</sup> or because they were uncomfortable<sup>7, 11</sup>.

#### *Concern about intervention (10 /10 studies)*

Women were concerned about IoL because labour would not be spontaneous<sup>6, 9</sup> and because of the likelihood of further intervention<sup>2</sup>. When induction resulted in caesarean section, disappointment and sadness was expressed<sup>1, 6, 7</sup>. In the outpatient context some women were concerned that labour might start abruptly at home, that they would not administer the drug properly<sup>11</sup>, or that remote fetal monitoring technology was not working or not being monitored carefully enough<sup>9</sup>. Concern for the baby always overruled desire for minimal intervention<sup>2, 5-7, 10</sup>, and despite women feeling scared of and resistant to IoL, it was always “better to be induced than to cause harm to my baby”<sup>7</sup> (p141). However concern was raised that the baby may be forced out before it was ready<sup>2, 6</sup>. In one study women questioned why they were booked for IoL to reduce risk to the baby, only to experience hours of delays to the process starting<sup>4</sup>. In six of seven studies of inpatient care, women discussed how painful IoL was<sup>1, 2, 4-8</sup>, whereas the outpatient IoL studies did not.

#### *Understanding of why IoL is booked (6/10 studies)*

Women rarely demonstrated knowledge of risks to the mother or baby from induction, and were unclear on why IoL was booked. Discussion related largely to risk to the fetus / baby of pregnancy not being induced<sup>2, 5, 7</sup>. Some women believed that their pregnant body was impaired in its capacity to

support the baby, explaining that the placenta stopped functioning properly as pregnancy went on longer<sup>2</sup>, that the body was “not ready to push the baby out”<sup>2</sup> (*p*5), or that the baby needed to be out as soon as 42 weeks was reached<sup>5</sup>. A sense from HCPs<sup>2,5</sup>, women<sup>7</sup> or their partner<sup>5</sup> that ‘time was up’ was cited as a reason for IoL.

A lack of awareness or absence of meaningful information about procedures was evident in all studies where IoL took place for low-risk postdates pregnancies as part of usual care except one<sup>3</sup>. Information was given but not adequate<sup>1,7,8</sup> or women did not remember it being given at all or it was given in a rush<sup>5,7,8</sup>, or too close to the time of induction<sup>7</sup>. Meaningful individualised conversations with healthcare practitioners were absent<sup>1,2,4,7,8</sup>. Women sought information from other sources including the internet<sup>2,4,8</sup>, books<sup>3</sup>, and friends and family<sup>2,3,5</sup>.

In the one study where women largely reported feeling prepared<sup>3</sup> women cited the information leaflet and opportunity for discussion with their midwife as important factors. One study reported frustration that antenatal classes did not include enough preparation for induction<sup>5</sup>.

### *Ownership of IoL*

#### *Understanding of the IoL process (5/10 studies)*

Some women felt under-prepared for the process of IoL. For example, it was unclear that they would have to stay in hospital after the treatment; whether drugs would be administered orally or vaginally; what the next steps would be in the process; that delays may happen during the process; how labour might be different on a ward as opposed to in a birth centre; how severe the pain would be; and that partners would not be able to stay with them overnight<sup>1,2,4,8</sup>. In five studies, women were not prepared for the length of the process, believing that the baby would be born the same day or soon after administration of the first pessary<sup>1,4,6,8</sup>, or having no idea how long it would take<sup>2</sup>. One woman, conversely, reported being shocked at the process being quick as she felt she had been “told so many times it might take 2–3 days”<sup>8</sup> (*p*107). Some women reported being informed about the drugs administered, that there would be a sequence of logistical steps to the process, or that IoL would

artificially start contractions. In the three interventional studies, little was reported about a lack of understanding of the process<sup>9-11</sup>.

#### *Control in labour and birth (9/10 studies)*

Some women felt like a number or part of a process and not an individual. Women felt lined up, part of a checklist, unaware of the parts of the hospital they were moved around according to their stage in the process, and in one case were told at what stage they would be allowed to have their baby<sup>1, 2, 4, 7</sup>.

Feelings of control over birth contrasted between women who felt they had more control by knowing when and where labour was scheduled and what options were available<sup>7, 8</sup>, and those who felt that being told this information relinquished control to medical professionals<sup>4, 6</sup>.

Being at home provided a sense of control for women in the outpatient IoL studies, partly due to the freedom to move around<sup>9-11</sup>. Although women were encouraged to mobilise in the hospital, they felt inhibited by ward rules<sup>1</sup>, and disturbed by the movements of other women<sup>4</sup>. One woman reported that having outpatient IoL gave her a sense of owning her labour in comparison to her previous inpatient induction<sup>9</sup>.

#### *Social needs*

##### *Relationships with healthcare providers (7/10 studies)*

Some women felt forgotten or alone in the hospital, but felt “embarrassed” to “pester” the midwives<sup>9</sup> (p328) who were perceived as being rushed<sup>1, 4, 6, 9</sup>. Some women reported feeling angry at staff, because they did not feel listened to<sup>1</sup>, they felt forced into having a vaginal birth<sup>6</sup>, or they felt that midwives did not believe their pain or their sense of how their labour had progressed<sup>1, 4</sup>. One woman was angry because a pessary had been inserted without her knowledge<sup>2</sup>. Conversely, some women felt that the negativity of undergoing IoL was “compensated for in the care”<sup>2</sup> (p8) received from HCPs throughout the process, who made women feel “comfortable”<sup>4</sup> (p67), prepared<sup>3</sup>, or who allowed women to pick a date for an elective induction<sup>7</sup>, or confirmed that birth would be by preferred caesarean section<sup>1</sup>.

### *Need for support in private (5/10 studies)*

The sense of being surrounded by others, yet still isolated was apparent in the hospital induction setting<sup>1, 4, 6</sup>. Presence of partners or family fostered a sense of security, whilst their absence was reported as prompting anxiety, fear and isolation<sup>1, 4, 6, 9-11</sup>. Even when women experienced support from friends and family, if they did not have privacy in which to experience it, they did not feel the benefits of support as strongly. Women were aware of the effect that their labouring noises would have on other women on the ward, and equally reported being disturbed by the sounds of nearby women in hospital<sup>1, 4, 9, 11</sup>.

### *Importance of place*

#### *Enduring the hospital (8/10 studies)*

Some women experienced the hospital as a place to be endured that was noisy, and busy, with a lack of privacy, and too many lights, machines and strangers to allow sleep, rest and concentration on their experience<sup>9-11</sup>. Hospitals were associated with delays, bad food, boredom, restricted freedom to move and to be with significant others<sup>1, 4, 6, 9-11</sup>. Feelings of dread, anxiety and panic were associated with the hospital for some women, and some drew attention to the hospital being an institutional, sterile place for sick people<sup>9-11</sup>. Ward rules did not favour women, as significant others had to leave them, sometimes distressed, when visiting hours ended and women were unsettled by being moved from one location to another within the hospital according to their stage of induction<sup>1, 2, 4, 11</sup>. However, the hospital was also seen as a place of safety and security because of expected prompt access to HCPs and technology<sup>7, 9-11</sup>. Some women reported apprehension about the safety of going home and concerns about whether they could recognise if something was wrong<sup>9-10</sup>.

#### *Keeping to established rhythms (3/10 studies)*

The importance to women of being able to carry on with their usual daily activities, or activities of their own choice, was highlighted in the three studies of outpatient IoL<sup>9-11</sup>. Home was more comfortable, and eating, sleeping, moving and bathing in familiar ways all contributed to distracting

women from awaiting the start of labour. Being at home allowed women to occupy themselves, benefit from social support, spend time with older children, not have to arrange childcare, rest, do housework, and cope better with contractions<sup>9-11</sup>. However, one woman reported the hospital as more comfortable because of not having to look after anyone else whilst there<sup>10</sup>.

## **Discussion**

The results suggest that IoL is a challenging experience for women, which can be understood in terms of the gap between women's needs and the reality of their IoL experience concerning information and decision-making, support, and environment. A feeling of lack of control in IoL booking and the IoL process, feeling part of a production line system, feeling unsupported and uncomfortable in their surroundings undermined women's experiences of labour and birth.

### *Information and decision-making*

Whether decision making was truly shared or informed was a prominent issue in this review.

Although women demonstrated a level of background knowledge about IoL, it is uncertain whether this level was sufficient to enable informed consent (Cooper and Warland, 2011). Understanding of why IoL takes place, the risks associated with IoL and with prolonged pregnancy, the time frame, doubts their partner would be with them throughout the whole process, and most basically, whether they had the right to refuse IoL, was limited (Cooper and Warland, 2011). Knowing specifically about the risks associated with IoL was reported in in just one of the studies<sup>11</sup>, concurring with the work done by Cooper and Warland, (2011) and Shetty et al., (2005). This finding is of particular concern in the light of the ground-breaking Montgomery v Lanarkshire ruling in 2015. This case concerned the labour and birth of a woman at higher risk for shoulder dystocia owing to diabetes. Nadine Montgomery's son developed cerebral palsy as a consequence of shoulder dystocia and it was argued that the obstetrician should have told her about the increased risk of this happening with vaginal delivery. Montgomery sued for negligence and the Supreme Court in the UK judged in her favour.

The results agree with previous evidence that some women do not feel that they make informed choices in their maternity care (O’Cathain et al., 2002; Declercq et al., 2006; Thompson and Miller, 2014). This suggests that healthcare providers although ostensibly advocating a woman-centred approach, are rather conforming to a protocol driven model when it comes to IoL, as has been indicated with midwives providing antenatal care (McCourt, 2006) and with presentation of information about epidural analgesia for example (Newnham et al., 2010). HCPs need to provide a balanced picture of the risks of inducing and the risks of not inducing, for a woman and her baby, in order to open a conversation that allows women to make an autonomous decision (Jomeen, 2007; Kotaska, 2017; O’Brien et al., 2017).

Most authors of the primary studies in this review concluded that more information should be given to women regarding the procedure to improve women’s experiences. It may also be that the way in which information is presented, and the time at which information is given, could benefit from being altered. Attempts have been made to provide information by less expensive means than clinician time, but it is repeatedly shown that whilst distributing written information may facilitate or come after a discussion, it cannot replace it (Stapleton et al., 2002; Nolan, 2009). “Interactional work” whereby midwives engage with women at multiple points to ensure they fully understand the procedure and can make a decision in the context of their own culture and lifestyle is necessary (Pilnick et al., 2004). As research by O’Cathain et al., (2002) and Stapleton et al., (2002) has shown if midwives do not have the time to explore written information with women, it is unlikely to be effective in promoting women’s informed choice. However, there is some systematic review evidence of (non-obstetric) patient information showing that a combination of written and verbal information resulted in increased understanding compared with verbal information alone (Johnson and Sandford, 2005). In a study specifically about IoL, providing women with written information about induction as they arrived for the procedure increased their knowledge about the action and timing of prostaglandins, possible side effects, and possible time frames to birth (Cooper and Warland, 2011). However, women in this study had already consented and arrived for the procedure without this knowledge; raising questions about the optimal time to give written information to women to assist their decision making.

Finally, it must be remembered that provision of, and engagement with, sufficient good quality information is necessary, but not sufficient to enable women to take part in shared or informed decision making. In line with the systematic review undertaken by Joseph-Williams et al. (2014), some women felt that HCPs' knowledge was superior, and assumed the role of the passive and compliant patient (Joseph-Williams et al., 2014). Intervention to support women to participate through building self-efficacy and challenging traditional patient roles may change this (Protheroe et al., 2013).

### *Support*

Social support from health care providers had a strong impact on women's experiences of IoL in this review. This corroborates the body of evidence that high quality support from healthcare practitioners and from significant others is one of the most important factors for women in coping with labour and childbirth pain (Ford et al., 2009; Van der Gucht et al., 2015) and confers psychological benefits in the postpartum period in adapting to motherhood and promoting positive mental health (Sauls, 2002; Ross-Davie and Cheyne, 2014). Conversely, women who feel unsupported when midwives focus on bio-medical rather than psycho-social aspects of care (often because of time pressure) may not have their psychosocial and emotional needs met (Baker et al., 2005; Boyle et al., 2016). It is possible that needs for providing reassurance, creating a sense of security and control, caring behaviour, informational support, or presence (Ford et al., 2009; Van der Gucht et al., 2015) may be higher for women experiencing IoL than for labour without IoL particularly if women do not feel in control of the process. Although women may feel a lack of control due to an intervention such as IoL, Ford et al., (2009) demonstrate that they may still have a positive experience if they are well supported. However, in the 'cervical ripening' stage of IoL as women are not classified as 'in labour' the default approach is often not to offer any support at all (McCourt, 2009). This is reflected in the theme of feeling alone. Further research on specific support needs for women undergoing IoL would be useful to understand how HCPs can best adapt their practice to improve women's experiences.

Support from significant others was also paramount to women in this review and research consistently shows that birth experiences are better when a partner is present and able to boost emotional comfort



and decrease anxiety (Sauls, 2002; Hodnett et al., 2012). Changing hospital policies to allow partners to be present with women undergoing IoL may benefit women, and research by O'Dwyer et al., (2015) and Jay et al., (2017) has shown that some hospitals that have responded to this concern . Further research should elucidate subsequent experiences of such policy change.

### *Environment*

The wider literature suggests that not only the location of IoL (inpatient or outpatient) itself but the location of information-giving about IoL could have a substantial effect on women's experiences of the process (McCourt, 2006; Stapleton et al., 2002). For example, McCourt (2006) demonstrated that at routine antenatal appointments, communication between midwives and women under caseload midwifery care was more collaborative with women asking more questions, than those under conventional care who reported that they lacked information, choice and control in their care. It is likely that the pressures of the environment in which midwives work may also affect the way in which they frame information about induction (Stapleton et al., 2002). All of the discussions about induction in this review took place in the clinical context within models of care where continuity of carer is limited. The women in this review did not question professionals in the clinics and doctor's offices where induction is discussed.

The majority of the studies included IoL in hospital, indicating that hospital is still viewed as the appropriate place for women to give birth even if they are undergoing IoL for postdates pregnancy. A shift to giving birth in birth centres following outpatient IoL is possible and this may influence women's experiences of the process (O'Dwyer et al., 2015). The studies concerning outpatient IoL corroborate quantitative evidence that women give higher satisfaction ratings to outpatient rather than inpatient IoL (Biem et al., 2003), would choose outpatient IoL again (Bollapragada et al., 2009), and had more sleep than inpatients (Henry et al., 2013). However, outpatient and inpatient experiences are not directly comparable in all studies, for example Henry et al. (2013) compared outpatient balloon catheter with inpatient vaginal PGE2 making it uncertain whether the IoL agent or location or both led to improved satisfaction, and Bollapragada (2009) considered only outpatient IoL.

It must also be considered that the studies of outpatient IoL in this review were intervention studies, which may affect experience in a number of ways. Firstly, women may have different expectations of care as part of a research study, which may bias their subsequent experience (Oakley et al., 1990; McCourt, 2006). Secondly, HCPs may place greater emphasis on information provision through oral and written means, and may be trained in giving this information, in order for a study to gain ethical approval and adhere to ethical standards. Therefore, whilst the three studies of outpatient IoL in this study point to the home as a positive environment for IoL, further research exploring women's experience of usual care outpatient IoL is necessary. The findings also suggest that support from healthcare practitioners is important for outpatient IoL and plans need to be in place to ensure quick access to support. Finally, outpatient IoL is not preferable for all women, and individuals will have preferences about what constitutes a comfortable and safe environment for labour.

#### *Strengths and weaknesses*

As far as we are aware this is the first systematic review to focus specifically on women's self-reported experiences of IoL, including both inpatient and outpatient approaches, and direct conversation with women in the primary studies is a strength of the studies. The inductive approach to data analysis ensured key themes were derived directly from the data, and the independent analysis by two members of the team enhances credibility. The oldest of the included papers was published in 2010 highlighting the early stage of research about women's own reports of their experiences of IoL. It will be important to develop this body of research as IoL experiences will differ according to multiple variables, for example induction agents and policies can vary widely even within one geographic region. HCPs' views on IoL were not included, and research on how they present IoL to women and support them through the process would complement our findings. Whether HCPs also feel pressure to gain consent would benefit from examination.

#### **Conclusion**

This review has highlighted the interconnected themes of information and decision-making, support and location in influencing women's experiences of IoL. We found that women felt unable to be

involved in the decision-making process. A focus on providing good quality information in an appropriate format at the right time as well as supporting women's own self-efficacy at being involved may benefit women by enabling them to take part in informed or shared decision making which may in turn facilitate a sense of ownership or control of labour. Availability of compassionate support from significant others and HCPs in a comfortable, private and safe environment would also likely improve women's experiences of IoL.

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Table 1. Search terms

<b>Population</b>	<b>Phenomenon of interest</b>	<b>Context</b>
wom*n	induction of lab*	experience*
mother	Induced lab*	acceptability
		satisfaction
		dissatisfaction
		perception
		view*
		opinion*
		attitude*
		perspective*
		account*
		story
		stories

Table 2. Inclusion and exclusion criteria

	<b>Include</b>	<b>Exclude</b>
Participants	Women of any parity or mode of birth, high and low risk pregnancy, who have experienced induction of labour of any mechanical or pharmacological method	Women who experienced induction for fetal death Complementary therapeutic methods of induction of labour Experience of healthcare practitioners
Intervention	Women's experiences, views or accounts of the induction of labour	Focus solely on prospective views on induction of labour
Intervention setting	Inpatient, outpatient, hospital, birth centre, community, home, any country with routine access to hospital care	Studies in countries without routine access to hospital care
Study focus	Experiences and perceptions of the induction of labour method and process and support from healthcare practitioners	Focus on safety, effectiveness, or technical aspects only of induction of labour
Outcomes	Any	N/A
Study design	Primary qualitative studies including phenomenological, grounded theory, ethnography, action research, feminist research approaches, mixed methods studies with in-depth qualitative part	Quantitative studies, quantitative findings from mixed-methods studies, free text boxes from quantitative surveys
Time period	Any	Any
Publication type	Peer-reviewed published primary studies, theses, dissertations, research reports	Policy documents, conference abstracts, systematic reviews
Language	Papers written in English, Spanish, Portuguese or Italian language.	Papers not written in English, Spanish, Portuguese or Italian.

Table 3. Quality assessment of included studies (modified from CASP, 2017)

Author, year	1. Clear statement of the aims of the research?	2. Was a qualitative methodology appropriate?	3. Was the research design appropriate for the aims?	4. Was the recruitment strategy appropriate for the aims?	5. Were the data collected in a way that addressed the research issue?	6. Has the relationship between researcher and participants been adequately considered?	7. Have ethical issues been taken into consideration?	8. Was data analysis sufficiently rigorous?	9. Is there a clear statement of findings?	10. How valuable is the research?
Brown & Furber, 2015	Yes	Yes	Yes	Partly	Yes	Yes	Yes	Partly	Yes	High
Gatward et al., 2010	Yes	Yes	Yes	Partly	Partly	No	Partly	Partly	Partly	High
Gammie & Key, 2014	Yes	Yes	Partly	Partly	Partly	No	Partly	No	Partly	Medium
Jay et al., 2017	Yes	Yes	Yes	Partly	Yes	No	Yes	Partly	Partly	High
Jay et al., 2018	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partly	Partly	High
Lima et al., 2016	Yes	Yes	Partly	Partly	Yes	Partly	Partly	No	Partly	Low
Moore et al., 2014	Yes	Yes	Partly	Yes	Yes	No	Yes	Partly	Partly	Medium
Murtagh & Folan, 2014	Yes	Yes	Yes	Partly	Partly	Partly	Yes	Partly	Partly	Low
O'Brien et al., 2013	Yes	Yes	Yes	Partly	Partly	No	Yes	Partly	Yes	Medium
Oster et al., 2011	Yes	Yes	Yes	Partly	Yes	No	Yes	Partly	Partly	High
Reid et al., 2011	Yes	Yes	Yes	Partly	Yes	No	Yes	Partly	Partly	Medium

Items 1-9 scored as Yes, No, or Partly. Item 10 scored as Low, Medium or High

Table 4. Characteristics of included studies.

Study	Country	Aims	Treatment, context of care	Setting	Participants (number, parity, high/low risk, method of delivery)	Study design; sampling; data collection and analysis	Key results	
1	Brown & Furber, 2015	UK, Wales	To explore women's experience of cervical ripening as part of usual care	Prostaglandin pessary for cervical ripening; Usual care	Inpatient; 1 hospital antenatal ward	7 women (age group 18-40), primiparae and multiparae, singleton low risk prolonged pregnancy only	Standalone qualitative study; sampling method not reported, unclear when women consented to participate; In-depth interviews; 4-6 weeks after birth, at home; Interpretative phenomenological analysis	<b>Support and comfort from significant others undermined; understanding of the procedure undermined; perception of own physiological sensations undermined; sense of freedom within the ward environment undermined</b>
2	Gatward et al., 2010	Australia	To explore women's experience of being booked for induction for pregnancy longer than 41 weeks	Prostaglandin gel for cervical ripening; Usual care	Inpatient; 1 hospital antenatal ward	23 women aged 20–39 (18 induced, 5 laboured before induction), primiparae singleton low risk prolonged pregnancy	Standalone qualitative study; sampling method not reported, recruited at booking for IoL; Interviews; at booking, 30-120 minutes after first dose of prostaglandin, and 24-48 hours after	<b>Time's up; shifting expectations</b>

							birth; analysis not named	
3	Gammie & Key, 2014	UK, Scotland	To explore women's experiences of preparation for IoL	Treatment not reported; Usual care	Inpatient; 1 hospital antenatal ward	7 primigravid women being induced for 'post-maturity'	Standalone qualitative study; purposive, recruited on admission for IoL; Interviews; timing/location not reported; phenomenological approach	<b>Strong emotions; Information seeking; Time dragging/running out; Feeling prepared</b>
4	Jay et al., 2017	UK, England	To explore the overall phenomenon of induction from the woman's perspective	16 x vaginal prostaglandin, 4 x ARM and synthetic oxytocin, 1 x synthetic oxytocin only; Usual care	Inpatient; 1 hospital antenatal ward	21 women aged 18+ classed as low risk at beginning of pregnancy, primiparae, 4 spontaneous vaginal births, 6 instrumental, 11 caesarean	Standalone qualitative study; Purposive, recruited on postnatal ward; Open-ended interviews 3-6 weeks after birth, at home; Thematic analysis	<b>Delays and anxiety; being in a strange place surrounded by strangers; feeling alone and forgotten; information and communication; professionals in control</b>
5	Jay et al., 2018	UK, England	To explore how first time mothers acquire information on induction of labour and give consent	Same sample as Jay et al., (2017) above	As above	As above	As above	<b>Sources of information on induction; involvement in decision making; risk awareness; influence of partners</b>
6	Lima et al., 2016	Brasil	To describe how women with a high-risk pregnancy experience	Misoprostol / oxytocin. Labour induced due to established medical	Inpatient, university hospital centre for monitoring	10 women aged 29-40 years old, high-risk (diagnoses included preeclampsia,	Standalone qualitative study; Purposive, recruited in hospital after birth; Semi-structured interviews	<b>Acceptance and resignation; Pain, fear and dissatisfaction</b>



			induction of labour	diagnosis; Usual care	high risk pregnancies	hypothyroidism, thalassemia), 'most' multiparous, 37-38 weeks at induction, 'nearly all' deliveries vaginal	in rooming-in setting in hospital post-birth; Thematic content analysis	
7	Moore et al., 2014	USA	To identify factors that influence pregnant women's decisions about IoL and to explore postpartum women's experience of IoL	Methods of IoL not reported; Usual care	Inpatient; 1 academic medical centre	29 women aged 21-41, primiparae, all women scheduled for IoL 34-41 weeks gestation, no risk criteria	Standalone qualitative study; Purposive, recruited within 6 hours of booking IoL; first interviews within 6 hours of booking IoL and 4 weeks after IoL; Modified grounded theory	<b>Safety of baby; women's trust in their clinicians; relief of discomfort and/or anxiety; diminished potential or actual risks; lack of informed decision making; IoL as part of checklist; happy with IoL decision; opportunities to improve the experience of the IoL process</b>
8	Murtagh & Folan, 2014	Ireland	To explore and describe the needs of women as identified by them throughout their IoL experience	Methods of IoL not reported; Usual care	Inpatient; 1 hospital maternity unit in Ireland	9 women; 18 years +, ages not reported; primiparae; IoL for post-date pregnancy only	Standalone qualitative study; sampling and recruitment unclear; semi-structured interviews, interview timing not reported; descriptive phenomenological approach using	<b>Experience did not meet expectations; perceived lack of information and knowledge; Simon says – women do as health professionals say;</b>

							Giorgi's (1985) method of analysis	<b>a healthy baby overrides everything else</b>
<b>9</b>	O'Brien et al., 2013	UK, England	To gain insight into women's experiences and preferences for IoL in the home	Slow release dinoprostone pessary; research study	Outpatient; 1 large maternity hospital	15 women; aged 18-40; primiparae and multiparae < 4 with healthy singleton pregnancy; IoL for prolonged pregnancy; 11 spontaneous vaginal births, 2 instrumental, 1 emergency caesarean	Part of prospective cohort study evaluating remote continuous monitoring of outpatient IoL; qualitative sampling unclear, recruited after birth; semi-structured interviews, interview timing not reported; Thematic analysis	<b>Labouring within their comfort zone; the next best thing to a normal labour; a virtual presence required for remote reassurance</b>
<b>10</b>	Oster et al., 2011	Australia	To explore women's experiences of inpatient and outpatient cervical priming for IoL	Vaginal prostaglandin gel; research study	9 x inpatient and 7 x outpatient from 2 urban tertiary maternity care centres	16 women aged 20-35; healthy singleton pregnancy at term; two thirds primiparous and highly educated; 8 spontaneous vaginal births, 3 assisted vaginal deliveries, 5 emergency caesareans	Part of RCT comparing inpatient and outpatient cervical priming for IoL with vaginal prostaglandin; maximum variation purposive sampling, recruited after birth; semi-structured interview at home 7 weeks – 4 months after birth; Thematic analysis	<b>Comfort; Safety; Negotiating between the home and hospital for cervical priming</b>
<b>11</b>	Reid et al., 2011	UK, Scotland	To explore women's experiences of cervical	Vaginal nitric oxide donor (isosorbide mononitrate [IMN]) self-	Outpatient; 1 maternity hospital	20 women; aged 19-32; primiparae with singleton pregnancy; IoL for	Part of RCT comparing nitric oxide donor with placebo to improve economic, clinical and	<b>Women's understanding of the drug; motivation to participate in the</b>

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ripening in the home	administered; research study	prolonged pregnancy	women's satisfaction IoL outcomes; convenience sample, recruited within 24 hours of birth; interviews at home at least 2 weeks after birth; analysed for themes fitting interview schedule	<b>trial; views about hospital</b>
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Notes: ARM = artificial rupture of membranes; IoL = induction of labour; RCT = randomised controlled trial

Table 5. Analytical themes and subthemes

Analytical themes and description	Sub-themes
<p><b>1. Making decisions</b>  <b>How women came to make the decision to go ahead with IoL, their concerns about the intervention and about their own bodies, understandings about why IoL takes place and their involvement (or not) in decision making</b></p>	<p>1.1 Clinical decisions made for her, not with her            1.2 Concern about intervention            1.3 Understanding of why IoL is booked</p>
<p><b>2. Ownership of IoL</b>  <b>How women understood and experienced the stages of the IoL process and tried to regain control of a procedure which was managed by medical professionals</b></p>	<p>2.1 Understanding of the IoL process            2.2 Control in labour and birth</p>
<p><b>3. Social needs</b>  <b>Relates to the necessity for social support from significant others and healthcare professionals</b></p>	<p>3.1 Relationships with healthcare providers            3.2 Need for support in private</p>
<p><b>4. Importance of place</b>  <b>Positive and negative views about the home and hospital setting</b></p>	<p>4.1 Enduring the hospital            4.2 Keeping to established rhythms</p>

Figure 1. PRISMA flow diagram



## Women's experiences of induction of labour: qualitative systematic review and thematic synthesis PRISMA Flow Diagram

