

**Woman-centered care: Women's experiences and perceptions of induction of labor for uncomplicated post-term pregnancy: A systematic review of qualitative evidence**

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## **1. Introduction**

The increase in medical interventions has resulted in woman-centered care becoming a core component of policy development in some countries like Australia and the United Kingdom (Australian Health Ministers Conference, 2011; National Maternity Review, 2016; Brady et al., 2017) and internationally (International Confederation of Midwives, 2014). Induction of labor (IOL), for example, has become routinized even for normal pregnancy depriving the woman's ability to exercise choice. Woman-centered care, therefore, seeks to provide each individual woman with the appropriate information in a manner that promotes participation and enhances informed decision-making (International Confederation of Midwives, 2014). It also puts emphasis on each individual woman's particular need and specific situation (Leap, 2009). However, are women experiencing woman-centered care when going through IOL for uncomplicated post-term pregnancy?

According to the National Institute for Health and Clinical Excellence (NICE) guideline, post-term pregnancy is when pregnancy exceeds 42 completed weeks of gestation according to gestational age established by an ultrasound scan in the first trimester or no later than 16 weeks (National Institute for Health and Clinical Excellence, 2008). It is associated with adverse maternal, fetal and neonatal outcomes, which include intrauterine fetal death, increased neonatal death (Heimstad et al., 2008; Stock et al., 2012) and a 20% risk of Caesarean Section (CS) (Ehrenthal et al. (2010).

To reduce the risks discussed, NICE recommends induction of labor (National Institute for Health and Clinical Excellence, 2008). IOL for post-term pregnancy is associated with fewer

intrauterine and perinatal deaths and no significant increase in CS (Gulmezoglu et al., 2006; Hermus et al., 2009). In spite of these benefits, there are disagreements in the definition of post-term pregnancy internationally and Wennerholm et al. (2009) assert that IOL cannot be recommended for nulliparous women due to lack of evidence to draw an evidenced-based conclusion. Besides for a high risk pregnancy, IOL at term is favored but the recommended gestational age for uncomplicated pregnancies remains controversial (Sanchez-Ramos et al., 2003). This notwithstanding, the rate of IOL has continued to rise over the past decade (Fitzpatrick et al., 2011; Bonsack et al., 2014) with a rate of 25% in developed countries (Shetty et al., 2005) and in some settings in developing countries (World Health Organization, 2011).

IOL is associated with a high risk of instrumental delivery, though it does not increase the risk of CS (Heimstad et al., 2007; Stock et al., 2012). However, Wood et al. (2014) discovered that IOL for women with intact cervix was associated with reduced risk of CS. This notwithstanding, the implications of IOL cannot be underestimated. IOL causes increased pain, as such the need for analgesia and anesthetics, hyper-stimulation and reduced maternal satisfaction with the birth experience (Shetty et al., 2005; Fok et al., 2006; National Institute for Health and Clinical Excellence, 2008; World Health Organization, 2011).

The outcomes of IOL often leads to women's dissatisfaction with the care provided (Bryanton et al., 2008) leading to a lack of woman-centered care (Baker et al., 2005). Every woman has a unique experience of the process of childbirth (Downe, 2008) and this should be taken into account in the provision of maternal healthcare. The woman-centered approach therefore, prioritizes women's ability to partake in discussions and make informed choices (National Collaborating Centre for Women's Children's Health, 2011). Informed choice utilizes best evidence in combination with individual healthcare needs, values, beliefs and preferences (Biesecker et al., 2013).

However, engaging woman in the decision-making process has become the major issue in the drive towards woman-centered care (Barry & Edgman-Levitan, 2012). As such adequate research should be carried out to know what services women need so that the care given will be holistic. Thus, evidence that is obtained from the assessment of women's experience becomes necessary in order to achieve this care even in situations where medicalization is extremely necessary. Therefore, this review aimed to explore women's experiences and perceptions of IOL for uncomplicated post-term pregnancy in a bid to provide a woman-centered approach to the care of women with uncomplicated post-term pregnancy.

## **2. Methods**

### **2.1 Review design**

The reviewers undertook a qualitative systematic review. The Joanna Briggs Institute (JBI) approach to the synthesis of qualitative evidence was used in analyzing the thematic data. JBI employs the Meta aggregation approach to the synthesis of qualitative evidence (Joanna Briggs Institute, 2014). This is sensitive to the primary author's findings and does not seek to reinterpret those findings. In this approach, the primary author's findings are aggregated into categories; the key concepts that arise from the aggregation of two or more similar findings. These categories are then further grouped into a synthesized finding which is the overarching group of statements that can be used to produce recommendations (Joanna Briggs Institute, 2014).

## **2.2 Inclusion and Exclusion criteria**

Studies were included if they elicited the perceptions and experiences of women going through IOL for uncomplicated pregnancy beyond 40 weeks gestation in a hospital setting. We included studies that had assessed women's experiences of IOL in general if most of their participants had uncomplicated post-term pregnancies. Studies were excluded if women were going through IOL for other reasons besides uncomplicated post-term pregnancy and IOL occurred in settings outside of health facilities.

## **2.3 Types of studies**

This review considered studies that had used qualitative designs such as phenomenology, grounded theory, ethnography and feminist research. The qualitative component of mixed method research was considered for inclusion, however, none was identified. Due to time and financial constraints, studies that were published only in English were included leading to an unavoidable language bias. This meant that, one study (Anon, 1977), that was available only in Afrikaans was excluded.

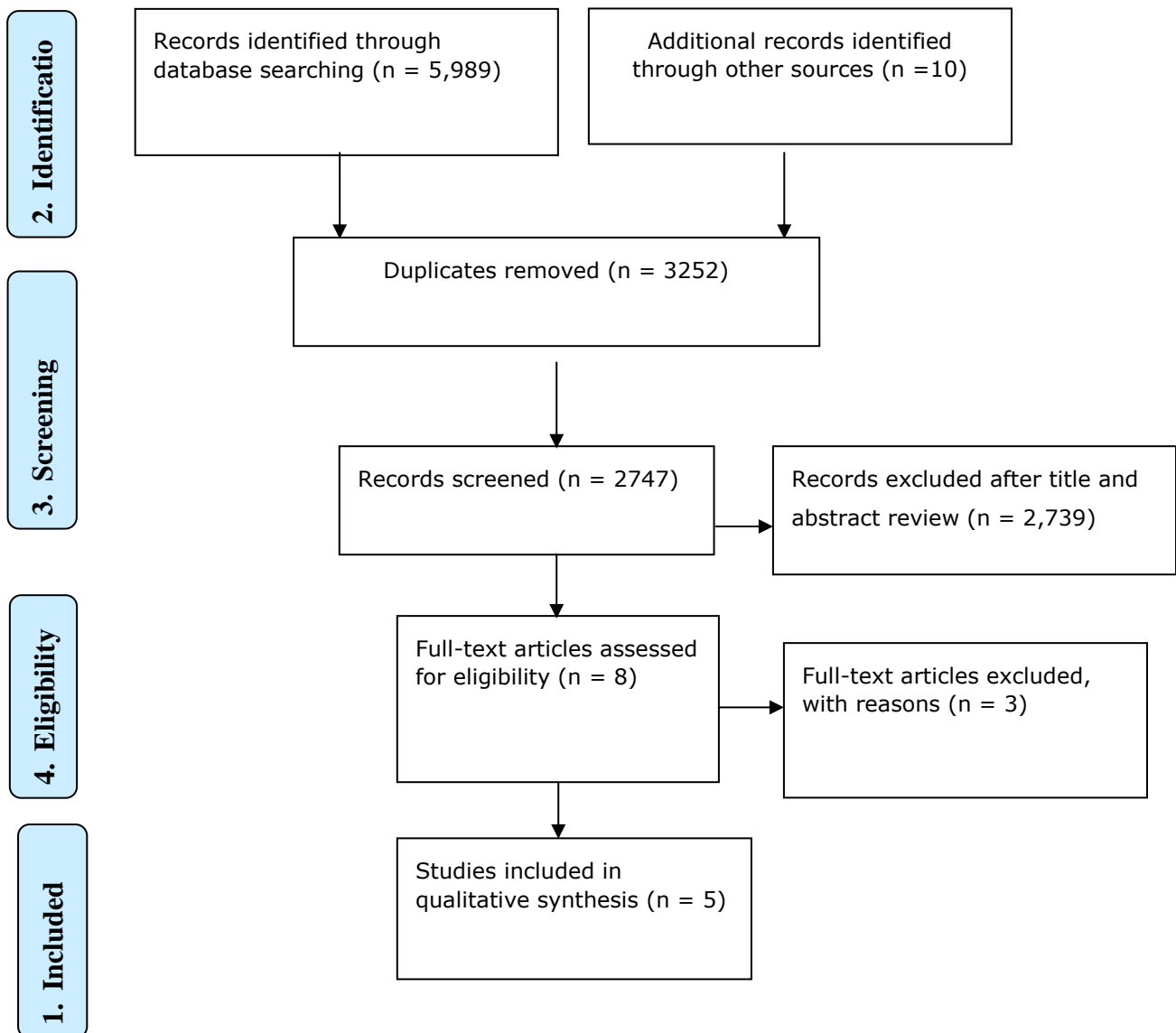
## **2.4 Search strategy**

The guidelines from JBI was used for the search conducted in the databases (JBI, 2014). The aim of the search strategy was to find published and unpublished data. A three-step approach was used. A limited search of CINAHL, Medline and JBI and analysis of the titles and abstracts for keywords and index terms used to describe the articles retrieved were carried out. Then all the included databases (ASSIA, JBI library, Embase, MEDLINE, CINAHL, Web of science, PsycINFO and Cochrane library) were searched using the identified keywords and search terms. Finally, a hand search of the reference lists of identified articles was conducted for additional studies that may have been missed during the systematic search. The search for unpublished data included: Literature review online, google scholar and ProQuest.

## 2.5 Result of the search

The result of the search conducted in the included databases has been presented in the Prisma flow diagram in figure 1.

Figure 1: Prisma 2009 Flow Diagram (Moher et al., 2009)



**Table 2: Excluded studies after reading full text**

| <b>No.</b> | <b>Study</b>  | <b>Reason for exclusion</b>  |
|------------|---|--|
| 1.         | Moore et al. (2014) Moving toward patient centered care: Women's decision, perceptions and experiences of the induction of labor process. | This study included participants who had pregnancies that were below term, it was not clear the reason for induction for the participants and it was difficult to extract findings for those who were post-term if any |
| 2.         | Fleissig (1991) Mother's experiences of induction   | Mother's experiences were assessed using a survey  |
| 3.         | Anon (1977) Induction of labor-Patient's view point   | Full version of article was only available in Africaanse   |

### **2.6 Assessment of methodological quality**

The studies were assessed by the reviewers for methodological quality prior to inclusion. The two reviewers used the JBI Qualitative Assessment and Review Instrument (JBI-QARI), made up of ten questions, to strictly and independently appraise the methodological quality of each of the included studies. The reviewers, upon discussions decided that, studies needed to rate 'Yes' for questions 2, 3, 4, 5, 8 and 9 to be considered of good quality (see supplementary paper II). No studies were excluded at this stage. This assessment was carried out by the two reviewers independently and disagreements were resolved through discussions before studies were included in the review.

## **2.7 Data extraction and meta-synthesis**

The standardized data extraction tool from JBI was used to extract data from the included studies. Findings extracted consisted of the inclusion and exclusion criteria specified. The primary reviewer extracted the findings and discussed with the second reviewer.

A total of 46 findings were extracted and appraised for their credibility by the two reviewers. The findings were limited to themes used by the researchers from the result section only, for all the included studies except (Westfall & Benoit, 2004) who did not have such themes as their results were categories under views in the third trimester and postpartum period. For this paper findings were extracted through reading the views of women in the post-partum period. Each finding, which was a verbatim extract of the author(s)'s analytic interpretation, was accompanied by a demonstration of the participant's voice (direct quotation) obtained from the same text that informed the finding.

Findings were aggregated by assembling them according to their quality. Statements were generated that were representative of the aggregated findings. Categorizations were created according to their similarity in meaning. In-depth synthesized findings that will be used as a basis for evidence-based practice were produced through meta-synthesis of the categories that were created.

## **3. Results**

### **3.1 Characteristics of included studies**

Five studies met the criteria for assessment of methodological quality and were included in the review. The characteristics of these studies are presented in table 3.



**Table 3: Characteristics of included studies**

| Author(s) and date           | Aim and objectives   | Research setting          | Participants  | Methodology and methods   | Reviewers' comments   |
|------------------------------|--|---------------------------|---|---|---|
| <b>Gammie and Key (2014)</b> | To elicit women's experiences of being prepared for induction of labor when their pregnancy is post-mature | NHS hospital in Scotland. | <p>7 primigravid women being induced for post-maturity.</p> <p>These women had been well in their pregnancies and their antenatal care had been provided by their community midwives.</p> | <p>Qualitative</p> <p>Phenomenological approach semi-structured qualitative interviews and data collection took place over a six-week period</p> <p>Women were recruited to the study on admission for IOL.</p> | <p>There is a lack of detailed presentation of the setting for the study, methodology and the methods.</p> <p>The findings present a very good source of information for practicing midwives</p> <p>The small sample size limit the generalizability of the results</p> |

| Author(s) | Aim and | Research | Participants | Methodology and | Reviewers' comments |
|-----------|---------|----------|--------------|-----------------|---------------------|
|-----------|---------|----------|--------------|-----------------|---------------------|

| and date                     | objectives  | setting   |  | methods   |   |
|------------------------------|---|---|--|---|---|
| <b>Gatward et al. (2010)</b> | To explore women's experience of being booked for induction of labor for a pregnancy greater than 41weeks | A tertiary referral hospital with antenatal care provided by midwives' and doctors' public clinics, team midwifery and a free-standing birth center | <p>18 healthy primigravidae with cephalic presentation of a singleton fetus booked for induction of labor were used as the induction group out of the 23 included in the study.</p> <p>The 5 women went into spontaneous labor were used as a comparison group</p> | <p>Qualitative-<br/>Exploratory approach</p> <p>Pre-induction interviews were conducted when the women were booked for induction and post-induction 24-48 hours after birth</p> <p>Those in the induction group were interviewed 30minutes to 2hours after insertion of the first dose of prostaglandin</p> | <p>Though the researchers mentioned a hospital as the setting, there was no mention of the country.</p> <p>There was no detail on how long the interviews lasted</p> <p>Interviewing women when induction has already started may affect their ability to articulate their experience especially when labor has started</p> <p>It is not clear if the women in the induction group were interviewed when booked for the induction and when induction had started or they were interviewed only after the procedure had started</p> <p>Data for synthesis in this review was extracted from the remaining 18 women induced for uncomplicated post-term pregnancy</p> |
| Author(s) and date           | Aim and objectives  | Research setting  | Participants   | Methodology and methods   | Reviewers' comments   |

|                   |   |                                       |  |   |   |
|-------------------|---|---------------------------------------|--|---|---|
| <b>Jay (2015)</b> | To explore how first-time mothers experience induction of labor, with particular reference to acquiring information and decision-making | The maternity unit of an NHS hospital | <p>16 women were induced for post-term pregnancy out of the 21 recruited and interviewed</p> <p>Women aged between 26 and 41 years were interviewed.</p> <p>16 described their nationality as British, 1 Canadian, 1 Irish, 1 Lithuanian, 1 Hungarian and 1 Indian</p> <p>All the women had been classed as obstetrically low risk</p> | <p>Qualitative-phenomenological approach</p> <p>A semi-structured interview, using a flexible schedule of open-ended questions, single face-to-face interview with each participant</p> | <p>This study represents an in-depth investigation into women's experiences of IOL</p> <p>The setting for the research was not well defined</p> <p>5 out of 21 participants were induced for other reasons besides post-term but the study was included because majority of them were post-term</p> <p>Only the findings for the 16 who had uncomplicated post-term pregnancies were extracted for synthesis.</p> |
|-------------------|---|---------------------------------------|--|---|---|

| <b>Author(s) and date</b> | <b>Aim and objectives</b> | <b>Research setting</b> | <b>Participants</b> | <b>Methodology and methods</b> | <b>Reviewers' comments</b> |
|---------------------------|---------------------------|-------------------------|---------------------|--------------------------------|----------------------------|
|---------------------------|---------------------------|-------------------------|---------------------|--------------------------------|----------------------------|

|                                 |   |                                |  |   |  |
|---------------------------------|---|--------------------------------|--|---|--|
| <b>Murtagh and Folan (2014)</b> | To explore and describe the needs of women as identified by them throughout their induction of labor experience | Study was conducted in Ireland | <p>9 primigravid women over the age of 18 were considered for the study</p> <p>Participants were indicated for induction of labor for post-date pregnancy only</p> | <p>Qualitative study</p> <p>Phenomenological approach</p> <p>One-to-one semi-structured interview of 9 women included in the study</p> <p>Women were interviewed in a maternity unit</p> <p>Studies were transcribed verbatim</p> | <p>There was no in-depth description of the setting where the interview took place</p> <p>The small sample size may not allow for data saturation</p> <p>The use of the purposeful sampling allows for Information-rich cases from which one can learn a great deal about issues of central importance to the phenomenon of interest</p> |
|---------------------------------|---|--------------------------------|--|---|--|

| <b>Author(s) and date</b> | <b>Aim and objectives</b> | <b>Research setting</b> | <b>Participants</b> | <b>Methodology and methods</b> | <b>Reviewers' comments</b>                                   |
|---------------------------|---------------------------|-------------------------|---------------------|--------------------------------|--|
| <b>Westfall and</b>       | To discover               | British                 | 10 women who        | Qualitative                    | The study participants at the start of the initial interview |

|                             |   |                           |  |   |   |
|-----------------------------|---|---------------------------|--|---|---|
| <p><b>Benoit (2004)</b></p> | <p>birthing women's own views on prolonged pregnancy, whether they believe some kind of intervention is warranted, and if so when and what kind of intervention</p> | <p>Columbia in Canada</p> | <p>experienced post-term pregnancy out of 29 non-randomized (purposive) sample of women in their third trimester of pregnancy</p> <p>Participants ranged between the ages of 19-43, parity range of 0-3 and were from different places of birth and level of education.</p> <p>The study participants were purposively selected as interested in self-care</p> | <p>Two sets of semi-structured interviews (pre and postpartum) with a total of 50 interviews conducted</p> <p>Purposeful sampling used</p> <p>Interviews lasted 45-90 minutes and all were tape-recorded and transcribed.</p> <p>Research participants were allowed to review and revise transcripts before data were analyzed.</p> <p>Participants chose the location of the interview which were mostly homes with one done by phone, one by email and two in a coffee shop</p> | <p>had chosen modes of delivery that was mostly outside the norm in Canada which could give a prejudiced view of the phenomenon of interest.</p> <p>The choice of interview setting by research participants allows for autonomy and makes them more relaxed for it.</p> <p>The use of the purposive sampling method is good for the obtaining information central to the phenomenon of interest which was explicitly stated by the researcher</p> <p>The selection of women who espouse self-care may lead to bias in the responses.</p> <p>Out of the 23 interviews only 10 involved women who had post-term pregnancy. Therefore, only this number was included in the synthesis.</p> <p>Data was extracted for synthesis from women in the post induction interview only.</p> |
|-----------------------------|---|---------------------------|--|---|---|

### **3.2 Findings extracted from included studies**

Forty six findings were extracted (supplementary paper III), 39 were considered unequivocal (U) (i.e. findings accompanied by an illustration that is beyond reasonable doubt and therefore not open to challenge) whereas 7 were credible (C) (findings accompanied by an illustration lacking clear association with it and therefore open to challenge) (Joanna Briggs Institute, 2014). These were grouped into eight categories according to their similarity in meaning (wording and concept). The categories are as follows:

1. Information and communication influences women's knowledge and preparedness before and during the induction process
2. Perception of risk and the influences from health personnel and family on women's choice and decision-making about induction of labor
3. Women's understanding of 'time is up' when booked for and during induction of labor and their understanding of the reasons for it
4. Women's attitude towards routine intervention
5. Motivations for or against induction of labor
6. Women's experience of induction of labor is influenced by a variety of factors
7. Effects of induction of labor
8. Shifts in expectations during induction and after birth

The eight categories were further meta-synthesized into three synthesized and directive findings as follows:

1. Influences on choice and decision-making about induction of labor
2. Women's understanding of 'time is up' and attitude towards induction of labor
3. Factors influencing women's experience of induction of labor and its effects

### 3.2.1 Theme one: Influences on choice and decision-making about induction of labour

Categories one and two were used for this meta-synthesis (see figure 2). In category one, the findings revealed that the source of the information women received influenced their level of knowledge and preparedness before and during the induction process and the information was from varied sources. These included midwives, doctors, IOL information leaflets, family and friends, antenatal classes and the internet (Gammie & Key, 2014; Jay, 2015).

Four out of five studies identified the amount of information women received. This was clearly articulated by two women. One participant indicated *“the leaflet they gave you, I found that interesting and quite informative as well “ (participant 6) (Gammie & Key, 2014).* Another stated *“ I sort of scrambled for info from web and you read that it will be done and then done again in 6 hours if it doesn't work, and that wasn't actually what was done either so it was just like we didn't have a clue” Laura, (Murtagh & Folan, 2014 p.107).*

Some who had the information leaflets felt it was not an adequate source of information. One participant stated *“I could have done with some discussion because things happened that I feel the leaflet did mention but needed more discussion... things like pain and how bad it was ... and that you might not even be in labor.” Shauna (Murtagh & Folan, 2014 p.107)*

Category two revealed that, the influences from medical personnel and family members and the perception of risk contributed to women's choice and decision-making about IOL. Many of the participants in three studies articulated that, the reason for their IOL was simply because the doctor or midwife said so, they felt it was an unavoidable part of the care and the doctor's opinion was superior for which they did not probe further (Westfall & Benoit, 2004; Murtagh & Folan, 2014; Jay, 2015). For instance, one of the participants indicated *“well they make it sound like the best thing...I never even would think to question a doctor...like it's*

*their profession and I totally trust them to be telling me to do what is right for the baby.”*  
Lisa (Murtagh & Folan, 2014 p.108).

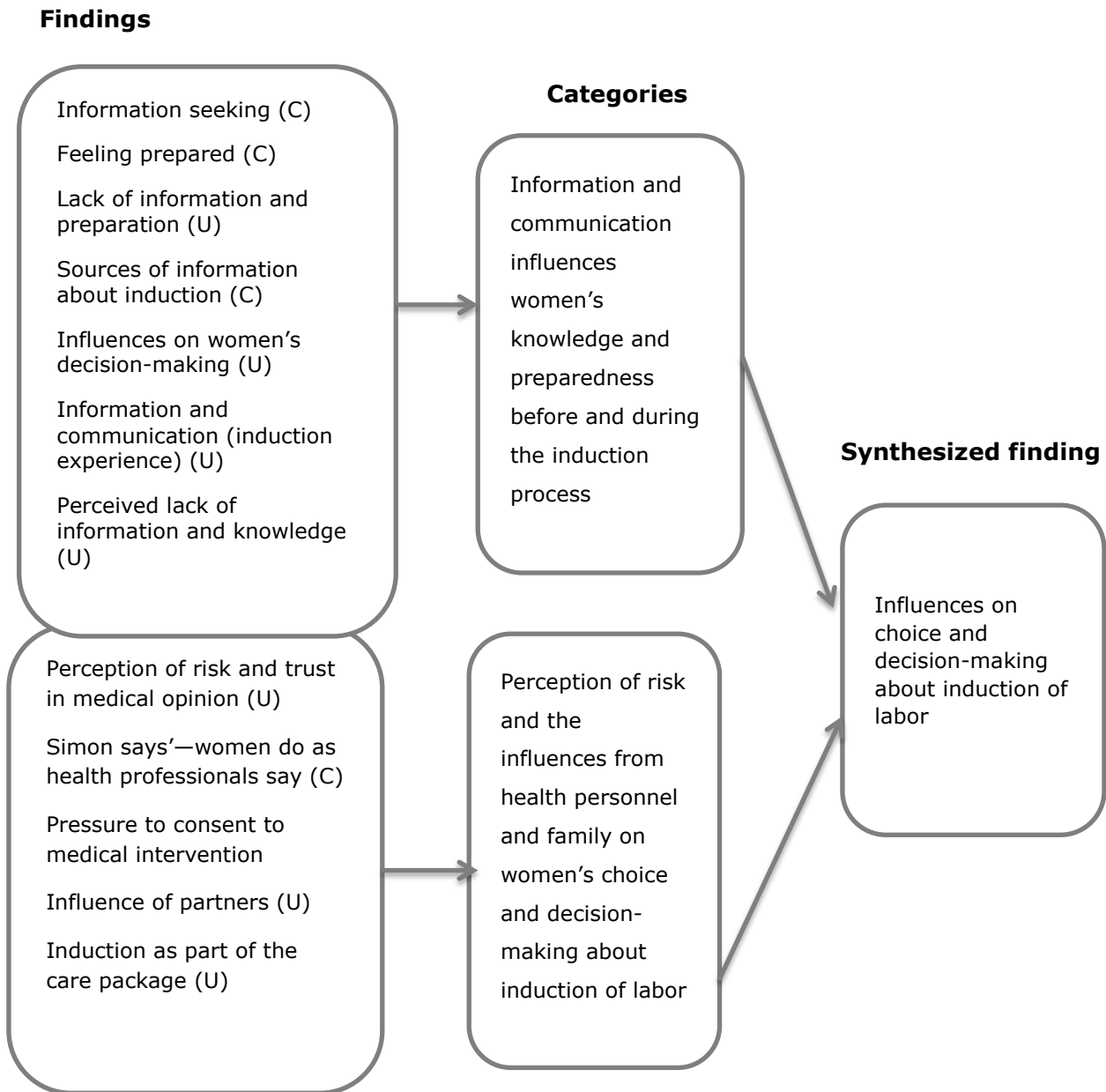
Whiles some trusted the opinion of health professionals, others who considered themselves to be within normal range felt pressured by their midwives who were no longer able to support their choice for a normal birth for an uncomplicated pregnancy beyond 42 weeks. One participant said *“with the pressure of their guidelines and their policies and procedures, it was really hard to stay focused and to stay positive.”* No name (Westfall & Benoit, 2004 p.1404).

Besides the pressure from health professionals, some women felt the pressure to induce came from family members. The partners of the women particularly played important roles in the decision-making process as one participant indicated *“...and when I spoke to (partner), he was the one to sort of realize I needed a bit of a prod and, you know [...] they’re saying to your baby is ready...so we need to do it [...] as soon as we heard that the benefits for the baby are not as great as the risk of infection, he said, “You haven’t got a choice,” which was the pushing over the cliff sort of thing”* Jasmine (Jay, 2015 p.125)

Another influence on women’s decision-making was the perception of risk. Women did not specify the risks they perceived, however, those aged 40 saw their age as a risk factor as one indicated *“I actually know of two people who have had stillbirths, so that was a kind of shadow that hangs over us, hangs over me and one of them was quite, fairly recent and so I just thought “gosh, you know” and they were older, they were my age so I thought I don’t want my placenta to wear out and I’m a bit of an anxious person”* Emily (Jay, 2015 p.125). Others also saw their bodies as the risk factor as one participant described it: *“It means to me that my body is not ready to push the baby out so it’s just the way of helping my baby out in a time frame that’s known to be good”* Lisa (Gatward et al., 2010 p.5).



Figure 2: Summary of findings related to meta-synthesis one



**3.2.2 Theme two: Women’s understanding of ‘time is up’ and attitude towards induction of labor**

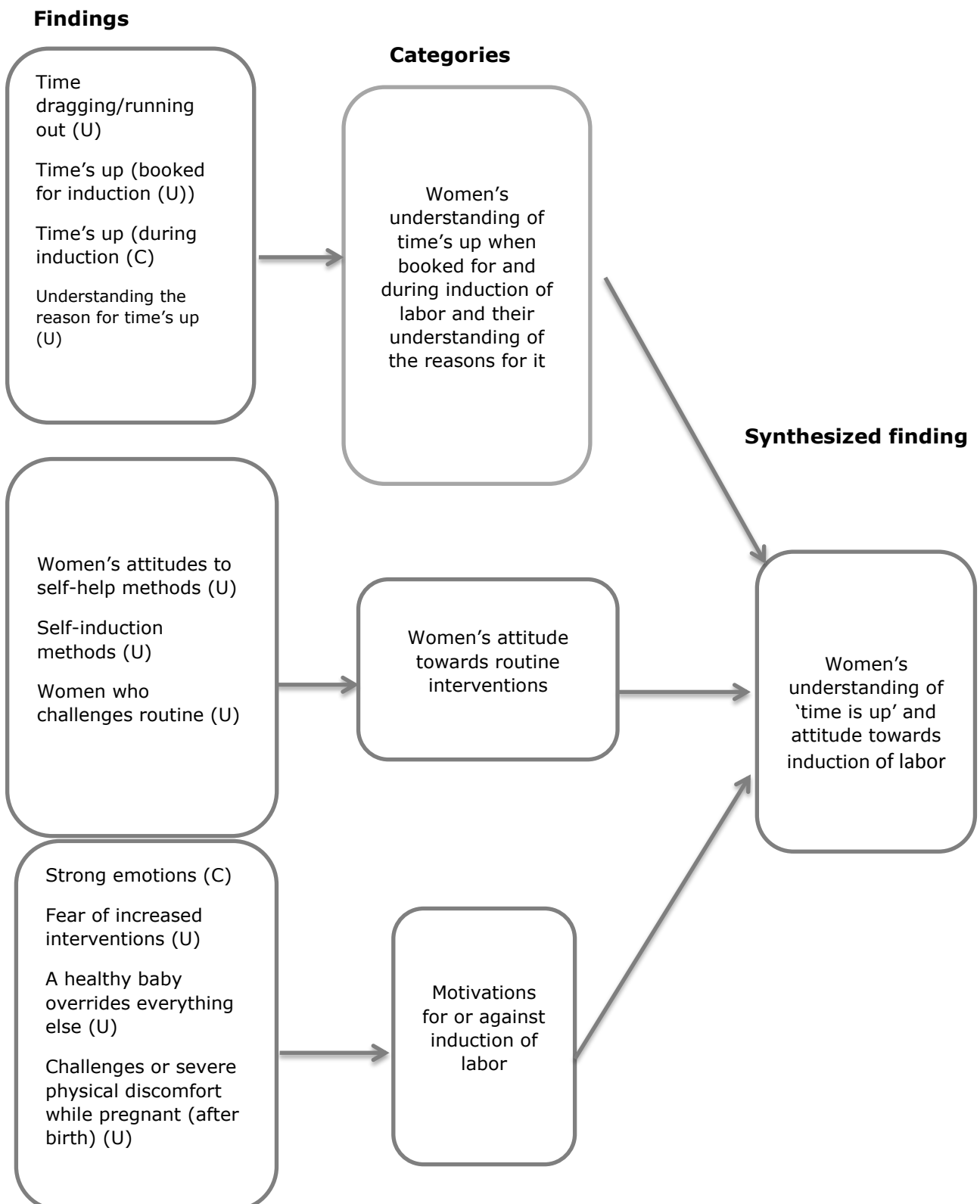
Categories three, four and five were used to create this meta-synthesis (see figure 3). Findings from category one presented women’s views on what it meant for their time to be up and the reasons for it. Two studies (Gatward et al., 2010; Gammie & Key, 2014) out of five had assessed this phenomenon and women had different approaches to what

it meant. In the study by Gatward et al. (2010.p5), all the women described 'time is up' as being defined by hospital policy, as one woman articulated "*I feel like I was on someone else's clock*" (Lara). On the contrary, in the study by Gammie and Key (2014.p16), many women described 'time is up' in terms of being tired with the pregnancy. One participant stated "*I'm sick now (of being pregnant)*" (participant 4).

In category two, the findings indicated that women either challenged routine interventions or took proactive measures like self-help methods in order to avoid medical induction. One woman illustrated very well why she did not want medical induction "*I'm not one for the medical... way of life really, I never take medicine, ever, I never go to the doctor and I'm never sick...*" (Nina) (Jay, 2015 p.128). These methods, however did not work for them as they eventually were induced.

Findings from category three showed that women had motivating factors for or against IOL. These included the expression of strong emotions towards IOL like the fear of increased interventions and fear of the unknown (Gatward et al., 2010; Gammie & Key, 2014). "*I always looked at birth as like a natural thing. I don't like the thought of anything interfering with giving birth. It just scares me being touched or probed having to bring it on. I would rather it just go by itself. It's a very scary thought that I have to be put on a drip and the drugs they give even though they are not harmful*" (Mary) (Gatward et al., 2010 .p6). Other factors were the desire for a healthy baby and challenges or severe physical discomfort while pregnant. One of the participants indicated "*I was so ready to be done. I had bad edema, and half an hour after [my husband] let go of my ankles, there were still thumbprints there.*" (No name) (Westfall & Benoit, 2004 p.1404).

Figure 3: Summary of findings related to meta-synthesis two



### **3.2.3 Theme three: Factors influencing women's experience of induction of labor and its effects**

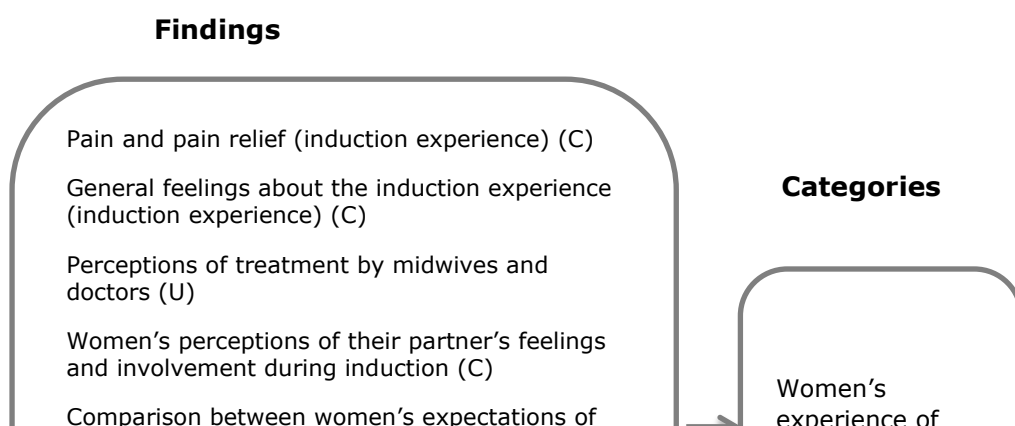
Meta-synthesis three comprised of categories six, seven and eight (see figure 4). Findings pooled to create category one illustrated that, women's experiences of IOL were influenced by a variety of factors. These factors included treatment by midwives and doctors, partner's feelings and involvement during induction, choice and involvement in decision-making during induction among others. These factors either gave the women a positive outlook of the IOL process or left them dissatisfied. For instance, many women felt they did not have much choice in the process *"I still don't think we really had a choice, I don't think there was any choice, it had to happen. [...] Possibly we weren't told exactly what to expect, and it's more the information about what's going to happen than having the choice (Megan) (Jay, 2015 .p153)*. Women who had good experiences with their health professionals had positive outlook of the experience. One woman articulated her views saying *"...you couldn't have paid for this...they were so caring...You know, we said it's the heart and soul parts that you can't buy on BUPA" (Jasmine) (Jay, 2015 .p168)*.

In category two, the findings illustrated the effects that IOL had on women. This illustration was put under various themes such as, women's feelings about future pregnancies, effects of the induction experience on early motherhood and relationship between events during labour: all of which emerged from only one study. These, however, indicated that, the events that took place during IOL had the possibility of having lasting impacts on women's health and their relationship with their babies (Jay, 2015). This is confirmed by the statements of two participants *"[...] as soon as something wasn't right (baby) was straight into SCBU, and that kept us in hospital for*

*three days. [...] I know it wasn't their fault, they had the crash caesareans, but because of that it just was a nightmare; silly things, like (baby) now won't breastfeed as a result of having to have a tube down (baby)'s nose" (Megan) (Jay, 2015 p.170).*

Category three also indicated that, the women had a change in what they were expecting during IOL and after birth. For example, the study by Gatward et al. (2010) illustrated the shift the women had to go through from their original plan of labor and birth *"I visualized all through my pregnancy that I will have my pre-labor at home that I would go into labor spontaneously. I prepared myself emotionally for that, so it was quite confronting to realize that time had run out. I would be induced. It meant quite a shift in my expectations. It is a pride, going into labor" (Erica) (Gatward et al., 2010 p.6).*

Figure 4: Summary of findings related to meta-synthesis three



#### **4. Discussion**

This review sought to investigate women's perceptions and experiences of IOL for an uncomplicated post-term pregnancy in the light of woman-centered care. From the findings of the five included papers that were synthesized through meta-aggregation, three themes

were identified that were representative of the findings. This review highlights that women's perceptions and experiences of IOL for uncomplicated post-term pregnancy are shaped by various circumstances. The first meta-synthesized finding show that the amount of information, medical personal, family members and the perception of risk influenced women's choice and decision making about IOL.

Women reported a lack of adequate information on process involved at the time they were booked for IOL which is consistent with studies by Hodnett et al. (2007); Moore et al. (2014) Schwarz et al. (2016). In most western countries, informed choice occupies central place in maternity care and underpins debates particularly in relation to the increased rates of interventions (McAra-Couper et al., 2012). Information is thus seen as vital for women's ability to make choices and informed decisions about their care. The quantity, quality and appropriate timing of information is also highly important (Tsouroufli, 2011) as the quality of information was also seen as inadequate by some women. Information leaflets, which are widely used, were an inadequate source of information and women considered the additional information from the health professional as indispensable. Similarly, in the listening to mother's survey III carried out in the United States, women considered clinicians as the most important source of reliable information about IOL (Declercq et al., 2013). Though it cannot be ascertained if this information has the capacity to alter women's decision to have IOL or not, according to Deave et al. (2008), it has the potential to affect their mental preparedness for the process.

Contrary to this, Cooper and Warland (2011) suggest that, information brochures that are specifically designed to explain IOL in plain language have the capacity to improve women's knowledge about the procedure. This quasi experimental study however, lacked randomization making it susceptible to bias and they presumed that every reader is literate and able to understand the contents of written information. Unfortunately, the communication



of information on IOL has been centered on the risk of prolonged pregnancy without recourse to the risks of the intervention itself making decision about IOL risk averse (Cheyne et al., 2012).

This perception of risk resulted in some women perceiving their bodies as incapable of supporting normal birth — a consequence of the technocratic view of the woman's body as intrinsically defective and untrustworthy under the influence of nature (Davis-Floyd, 2001). Therefore, the assumption is that rational human beings will avoid risk by following the advice of experts and any resistance is seen as irrational and risky (Zinn, 2008). This stance, however, does not take the social and individual needs of women into consideration. According to Mitchell (2010), this impacts on women by causing fear, anxiety and doubt about whether they were doing the right thing or causing harm to their babies. Consequently, women's decision-making became that of 'informed compliance' (Jay, 2015) based on limited information, instead of informed choice as women tend not to prefer IOL when they are given non-directive information about it (Stevens & Miller, 2012). The duty, therefore, behooves on health professionals to offer substantial evidence-based information verbally using a woman-centered approach that is tailored towards women's individual needs. It is also important that information is offered in the most accurate way as it affects women's informed choice and engagement in the decision-making process.

The concept of 'time is up' represents the core reason for IOL for post-term pregnancy, as such women's understanding of it had impact on their attitude towards IOL. Though, there exist varying views and certain discrepancies about the length of gestation and the most appropriate gestational age at which to induce labor, most government and hospital policies allude to IOL between 41 and 42 weeks gestation (Royal College of Obstetricians and Gynaecologists, 2001; American College of Obstetricians and Gynaecologists, 2004). This strict adherence to medicalized policy and procedures is deeply entrenched in the medical

model of care that views pregnancy as a risk with the need to take actions to ameliorate it (Bryers & Van Teijlingen, 2010). This affected women's understanding of 'time is up' in the second theme. Women viewed it in light of hospital policy and as one participant referred to it as being on 'someone else's clock' (Gammie & Key, 2014 p.5) This, however, can affect women and lead to attitudes such as fear of increased interventions as revealed in this review.

This notwithstanding, others also preferred to be induced and were motivated to do so because their understanding of 'time is up' was hinged on the discomforts they felt with the pregnancy and for the safety of their babies. This finding concurs with that of studies by Declercq et al. (2007); Declercq et al. (2013); Moore et al. (2014) and buttresses the assertion by Skyrme (2014) that, making women agree to IOL for the sake of their babies is well entrenched in medical practice. Others too felt their age was the motivating factor for IOL as evidence reports increased risk such as the risk for still birth associated with increased maternal age (Reddy et al., 2006; Hoffman et al., 2007). This may have motivated them to have IOL and the result of the review as most of the studies included women who were 40years and above. Nevertheless, causing a mother to agree to IOL for the safety of their baby, presents an emotional blackmail (Kitzinger, 2006) and an indication of injudicious use of medical intervention at the expense of woman-centered care.

Medicalization has received strong criticism mainly because of its negative impact on women's satisfaction with the birth experience (Declercq et al., 2007). Similar to the findings of the study by Hildingsson et al. (2011) and Schwarz et al. (2016), this review revealed that women with post-term pregnancy were less satisfied with the birth experience and their needs and expectations regarding IOL were widely unmet. These studies however, used quantitative methodologies which does not allow for in-depth investigation of the phenomenon of interest. However, their findings are noteworthy.

The lack of choice and involvement in the decision-making process also influenced women's experience of IOL. Women felt that IOL was an imposition on them from hospital policy, implying a lack of control and woman-centered care (O'Hare & Fallon, 2011). The inability of women to make decisions during the process itself affected their overall perception of IOL as a situation where there is very little choice, thereby confirming the rhetoric of choice asserted by researchers (Kirkham, 2004; Jomeen, 2012).

Women's partners also had an influence on their decision-making about IOL and their experience of it. In recent times, labor and birth have become as significant for fathers as they for mothers (Longworth et al., 2015) and so has their influence in childbirth decision-making (Dejoy, 2011). They are often witnesses, passive observers or have active supporting and coaching roles which often helps women have a more positive birth experience (Gungor & Beji, 2007). In this review, partners played an active role in the decision to induce and accept further interventions like pain relieve during labor. Their role in the decision-making process was however, not explored in-depth in the included studies or in other literature in terms of their effect on woman-centered care.

In spite of these rather unsatisfying experiences, the treatment by midwives and doctors were of great significance for women and was described as 'priceless'. Evidence indicates that care giver support greatly improves birth outcome (Hodnett et al., 2007) and this has been confirmed by this review as women who did not want induction but expressed positive experiences did so based on the support and care they received from health professionals. The quality of this relationship to a large extent influences the woman's autonomy and this is also influenced by the midwives' ability to practice autonomously (Mander & Melender, 2009). An empowering organizational environment for the midwife thus facilitates this process. However, the notion of prevention and avoidance of risk attached to the culture of blame puts the midwife at risk when supporting a choice that is contrary to policy (Bryers & Van

Teijlingen, 2010). Therefore, midwives are often unable to support women's choice to avoid IOL for post-term pregnancy (Westfall & Benoit, 2004).

#### **4.1 Strengths and limitations**

This review is important because the questions asked are timely and of great importance to policy and healthcare decisions in terms of woman-centered care. No systematic review was identified that had assessed women's perceptions and experiences of IOL for post-term pregnancy, therefore the findings obtained presents novelty in this area.

All the included studies were conducted in developed countries and the findings may not be applicable to developing countries where the IOL rates are generally lower and experiences of women in IOL and maternal healthcare in general may be different. The review also included studies that had assessed the experiences of women who were not being induced for post-term pregnancy and participants who were purposively selected to include women who espoused self-care. However, they were included because, majority of the women were post-term and only the findings of the women who were induced for uncomplicated post-term pregnancies were extracted for synthesis.

#### **5. Conclusion**

This systematic review on women's perceptions and experiences of IOL for uncomplicated post-term pregnancy has highlighted women's understanding of IOL, influences on choice and decision-making about IOL and the factors that influence their satisfaction with IOL. The information women received had a significant impact on their choice and decision-making about IOL. Therefore, women require in-depth and clear unbiased individualized information and education on alternatives and details of procedures as well as risks and benefits which should not be a tick box exercise (Henderson & Redshaw, 2013). Different women subscribe to different philosophies, ideologies and understanding about post-term pregnancy and its

management. Health professionals should therefore, adopt an individualized and woman-centered approaches to care during interventions such as IOL for uncomplicated post-term pregnancy. In addition, tools such as high-quality decision aids, critical appraisal skills and support in utilizing the maternity care system should be offered (Declercq et al., 2013).

The role of partners in the decision-making about medicalization especially in uncomplicated post-term pregnancy and how it impacts on woman-centered care should also be carefully considered. Finally, the continuous care giver support should continue to be offered as it has been shown to be of utmost importance to women.

## **References**

American College of Obstetricians and Gynaecologists. 2004. ACOG practice bulletin. Clinical management guidelines for obstetricians-gynecologists. Number 55, september 2004 (replaces practice pattern number 6, october 1997). Management of Postterm Pregnancy. *Obstet Gynecol*, 104, pp: 639-646.

Anon. 1977. Induction of labour-Patient's view point. *South African Medical Journal*, 2 pp: 990.

Australian Health Ministers Conference. 2011. National maternity services plan (2010). Commonwealth of Australia Retrieved from [https://www.health.gov.au/internet/main/publishing.nsf/content/8AF951CE492C799FCA257BF0001C1A4E/\\$File/maternityplan.pdf](https://www.health.gov.au/internet/main/publishing.nsf/content/8AF951CE492C799FCA257BF0001C1A4E/$File/maternityplan.pdf).

Baker, S. R., Choi, P. Y., Henshaw, C. A., & Tree, J. 2005. 'I Felt as though I'd been in Jail': Women's Experiences of Maternity Care during Labour, Delivery and the Immediate Postpartum. *Feminism & Psychology*, 15(3), pp: 315-342. doi: <https://doi.org/10.1177/0959-353505054718>

Barry, M. J., & Edgman-Levitan, S. 2012. Shared decision making—the pinnacle of patient-centered care. *New England Journal of Medicine*, 366(9), pp: 780-781. doi: 10.1056/NEJMp1109283

Biesecker, B. B., Schwartz, M. D., & Marteau, T. M. 2013. Enhancing informed choice to undergo health screening: a systematic review. *American journal of health behavior*, 37(3), pp: 351-359. doi: <https://doi.org/10.5993/AJHB.37.3.8>

Bonsack, C. F., Lathrop, A., & Blackburn, M. 2014. Induction of labor: update and review. *Journal of midwifery & women's health*, 59(6), pp: 606-615. doi: <http://dx.doi.org/10.1111/jmwh.12255>

Brady, S., Bogossian, F., & Gibbons, K. 2017. Development and piloting the Woman Centred Care Scale (WCCS). *Women and Birth*, 30(3), pp: 220-226. doi: <https://doi.org/10.1016/j.wombi.2016.10.010>

Bryanton, J., Gagnon, A. J., Johnston, C., & Hatem, M. 2008. Predictors of Women's Perceptions of the Childbirth Experience. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 37(1), pp: 24-34. doi: <http://dx.doi.org/10.1111/j.1552-6909.2007.00203.x>

Bryers, H. M., & Van Teijlingen, E. 2010. Risk, theory, social and medical models: a critical analysis of the concept of risk in maternity care. *Midwifery*, 26(5), pp: 488-496. doi: <https://doi.org/10.1016/j.midw.2010.07.003>

Cooper, M., & Warland, J. 2011. Improving women's knowledge of prostaglandin induction of labour through the use of information brochures: A quasi-experimental study. *Women and Birth*, 24(4), pp: 156-164. doi: <https://doi.org/10.1016/j.wombi.2010.10.003>

Davis-Floyd, R. 2001. The technocratic, humanistic, and holistic paradigms of childbirth. *International Journal of Gynecology & Obstetrics*, 75, Supplement 1, pp: S5-S23. doi: [http://dx.doi.org/10.1016/S0020-7292\(01\)00510-0](http://dx.doi.org/10.1016/S0020-7292(01)00510-0)

Deave, T., Johnson, D., & Ingram, J. 2008. Transition to parenthood: the needs of parents in pregnancy and early parenthood. *BMC pregnancy and childbirth*, 8(1), pp: 1. doi: <https://doi.org/10.1186/1471-2393-8-30>

Declercq, E. R., Sakala, C., Corry, M. P., & Applebaum, S. 2007. Listening to mothers II: report of the second national US survey of women's childbearing experiences: conducted January–February 2006 for childbirth connection by Harris Interactive® in partnership with Lamaze International. *The Journal of perinatal education*, 16(4), pp: 9. doi: <http://doi.org/10.1624/105812407X244769>

Declercq, E. R., Sakala, C., Corry, M. P., Applebaum, S., & Herrlich, A. 2013. Listening to Mothers III: Pregnancy and Birth; Report of the Third National US Survey of Women's Childbearing Experiences. New York, NY: Childbirth Connection, pp.

Dejoy, S. 2011. The Role of Male Partners in Childbirth Decision Making: A Qualitative Exploration with First-Time Parenting Couples. (Dissertation), University of South Florida, Retrieved from <http://scholarcommons.usf.edu/etd/3720/>

Downe, S., 2008. Normal childbirth: evidence and debate. Churchill Livingstone Elsevier, Edinburgh.

Ehrenthal, D. B., Jiang, X., & Strobino, D. M. 2010. Labor induction and the risk of a cesarean delivery among nulliparous women at term. *Obstetrics & Gynecology*, 116(1), pp: 35-42. doi: 10.1097/AOG.0b013e3181e10c5c

Fitzpatrick, C., Robson, M., Coulter-Smith, S., Flood, K., Malone, F., Murray, A., . . . Breathnach, F. 2011. Induction of labour: A growing trend. *Am J Obstet Gynecol*, pp. doi: <https://doi.org/10.1016/j.ajog.2010.10.313>

Fleissig, A. 1991. Mothers' experiences of induction of labour. *Journal of Obstetrics and Gynaecology*, 11, pp: S11-S15.

Fok, W. Y., Chan, L. Y.-S., Tsui, M. H. Y., Leung, T. N., Lau, T. K., & Chung, T. K. H. 2006. When to induce labor for post-term?: A study of induction at 41 weeks versus 42 weeks. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 125(2), pp: 206-210. doi: <http://dx.doi.org/10.1016/j.ejogrb.2005.07.005>

Gammie, N., & Key, S. 2014. Time's up! Women's experience of induction of labour. *The practising midwife*, 17(4), pp: 15-18.

Gatward, H., Simpson, M., Woodhart, L., & Stainton, M. C. 2010. Women's experiences of being induced for post-date pregnancy. *Women and Birth*, 23(1), pp: 3-9. doi: <https://doi.org/10.1016/j.wombi.2009.06.002>

Gulmezoglu, A. M., Crowther, C. A., & Middleton, P. 2006. Induction of labour for improving birth outcomes for women at or beyond term. *Cochrane Database Syst Rev*, 4, pp. doi: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004945.pub2>

Gungor, I., & Beji, N. K. 2007. Effects of Fathers' Attendance to Labor and Delivery on the Experience of Childbirth in Turkey. *Western Journal of Nursing Research*, 29(2), pp: 213-231. doi: <https://doi.org/10.1177/0193945906292538>

Heimstad, R., Romundstad, P. R., & Salvesen, K. Å. 2008. Induction of labour for post-term pregnancy and risk estimates for intrauterine and perinatal death. *Acta obstetricia et gynecologica Scandinavica*, 87(2), pp: 247-249. doi: <http://dx.doi.org/10.1080/00016340701743165>

Heimstad, R., Skogvoll, E., Mattsson, L.-Å., Johansen, O. J., Eik-Nes, S. H., & Salvesen, K. Å. 2007. Induction of labor or serial antenatal fetal monitoring in postterm pregnancy: a randomized controlled trial. *Obstetrics & Gynecology*, 109(3), pp: 609-617. doi: 10.1097/01.AOG.0000255665.77009.94

Henderson, J., & Redshaw, M. 2013. Women's experience of induction of labor: a mixed methods study. *Acta obstetricia et gynecologica Scandinavica*, 92(10), pp: 1159-1167. doi: <http://dx.doi.org/10.1111/aogs.12211>

Hermus, M. A. A., Verhoeven, C. J. M., Mol, B. W., de Wolf, G. S., & Fiedeldeij, C. A. 2009. Comparison of Induction of Labour and Expectant Management in Postterm Pregnancy: A Matched Cohort Study. *Journal of Midwifery & Women's Health*, 54(5), pp: 351-356. doi: <http://dx.doi.org/10.1016/j.jmwh.2008.12.011>

Hildingsson, I., Karlström, A., & Nystedt, A. 2011. Women's experiences of induction of labour—findings from a Swedish regional study. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 51(2), pp: 151-157. doi: <http://dx.doi.org/10.1111/j.1479-828X.2010.01262.x>

Hodnett, E., Gates, S., Hofmeyr, G., & Sakala, C. 2007. Continuous support for women during childbirth (Review). *The Cochrane database of systematic reviews*, 3, pp. doi: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD003766.pub2>

Hoffman, M. C., Jeffers, S., Carter, J., Duthely, L., Cotter, A., & González-Quintero, V. H. 2007. Pregnancy at or beyond age 40 years is associated with an increased risk of fetal death and other adverse outcomes. *American journal of obstetrics and gynecology*, 196(5), pp: e11-e13. doi: <https://doi.org/10.1016/j.ajog.2006.10.862>

International Confederation of Midwives. 2014. Philosophy and Model of Midwifery Care Retrieved from <http://internationalmidwives.org/knowledge-area/icm-publications/icm-core-documents.html>.



Jay, A. M. 2015. Women's experiences of induction of labour: a qualitative study. University of Hertfordshire, England, Retrieved from [http://researchprofiles.herts.ac.uk/portal/files/10116260/Thesis\\_Dr\\_Annabel\\_Jay\\_2016.pdf](http://researchprofiles.herts.ac.uk/portal/files/10116260/Thesis_Dr_Annabel_Jay_2016.pdf)

Joanna Briggs Institute. 2014. Joanna briggs institute reviewers' manual: 2014 edition. The Joanna Briggs Institute, Adelaide.

Jomeen, J. 2012. The paradox of choice in maternity care. *Journal of Neonatal Nursing*, 18(2), pp: 60-62. doi: <http://dx.doi.org/10.1016/j.jnn.2012.01.010>

Kirkham, M., 2004. *Informed choice in maternity care*. Palgrave Macmillan.

Kitzinger, S., 2006. *Birth crisis*. Routledge, London.

Leap, N. 2009. Woman-centred or women-centred care: does it matter? *British Journal of Midwifery*, 17(1), pp. doi: <https://doi.org/10.12968/bjom.2009.17.1.37646>

Longworth, M. K., Furber, C., & Kirk, S. 2015. A narrative review of fathers' involvement during labour and birth and their influence on decision making. *Midwifery*, 31(9), pp: 844-857. doi: <https://doi.org/10.1016/j.midw.2015.06.004>

Mander, R., & Melender, H.-L. 2009. Choice in maternity: rhetoric, reality and resistance. *Midwifery*, 25(6), pp: 637-648. doi: <https://doi.org/10.1016/j.midw.2007.10.009>

McAra-Couper, J., Jones, M., & Smythe, L. 2012. Caesarean-section, my body, my choice: The construction of 'informed choice' in relation to intervention in childbirth. *Feminism & Psychology*, 22(1), pp: 81-97. doi: <https://doi.org/10.1177/0959353511424369>

Mitchell, M. 2010. Risk, pregnancy and complementary and alternative medicine. *Complementary therapies in clinical practice*, 16(2), pp: 109-113. doi: <https://doi.org/10.1016/j.ctcp.2009.10.005>

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & and the, P. G. 2009. Preferred reporting items for systematic reviews and meta-analyses: The prisma statement. *Annals of Internal Medicine*, 151(4), pp: 264-269. doi: 10.7326/0003-4819-151-4-200908180-00135

Moore, J. E., Low, L. K., Titler, M. G., Dalton, V. K., & Sampsel, C. M. 2014. Moving Toward Patient-Centered Care: Women's Decisions, Perceptions, and Experiences of the Induction of Labor Process. *Birth*, 41(2), pp: 138-146. doi: <http://dx.doi.org/10.1111/birt.12080>

Murtagh, M., & Folan, M. 2014. Women's experiences of induction of labour for post-date pregnancy. *British Journal of Midwifery*, 22(2), pp. doi: <https://doi.org/10.12968/bjom.2014.22.2.105>

National Collaborating Centre for Women's Children's Health. (2011). Woman-centred care. <https://www.ncbi.nlm.nih.gov/books/NBK115308/>

National Institute for Health and Clinical Excellence. 2008. Induction of labour. London: NICE Retrieved from <http://www.nice.org.uk/guidance/CG070>.

National Maternity Review. 2016. Better Births, Improving Outcomes of Maternity Services in England 5 Year Forward View for the Maternity Services

O'Hare, J., & Fallon, A. 2011. Women's experience of control in labour and childbirth. *British Journal of Midwifery*, 19(3), pp. doi: <https://doi.org/10.12968/bjom.2011.19.3.164>

Reddy, U. M., Ko, C.-W., & Willinger, M. 2006. Maternal age and the risk of stillbirth throughout pregnancy in the United States. *American journal of obstetrics and gynecology*, 195(3), pp: 764-770. doi: <https://doi.org/10.1016/j.ajog.2006.06.019>

Royal College of Obstetricians and Gynaecologists. 2001. Induction of labour: Evidence-based clinical guideline number 9. London: : RCOG press.

Sanchez-Ramos, L., Olivier, F., Delke, I., & Kaunitz, A. M. 2003. Labor induction versus expectant management for postterm pregnancies: a systematic review with meta-analysis. *Obstetrics & Gynecology*, 101(6), pp: 1312-1318. doi: [http://dx.doi.org/10.1016/S0029-7844\(03\)00342-9](http://dx.doi.org/10.1016/S0029-7844(03)00342-9)

Schwarz, C., Gross, M. M., Heusser, P., & Berger, B. 2016. Women' s perceptions of induction of labour outcomes: Results of an online-survey in Germany. *Midwifery*, 35, pp: 3-10.

Shetty, A., Burt, R., Rice, P., & Templeton, A. 2005. Women's perceptions, expectations and satisfaction with induced labour—A questionnaire-based study. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 123(1), pp: 56-61. doi: <https://doi.org/10.1016/j.ejogrb.2005.03.004>

Skyrme, L. 2014. Induction of labour for post-term pregnancy. *British Journal of Midwifery*, 22(6), pp. doi: <https://doi.org/10.12968/bjom.2014.22.6.400>

Stevens, G., & Miller, Y. D. 2012. Overdue choices: How information and role in decision-making influence women's preferences for induction for prolonged pregnancy. *Birth: Issues in Perinatal Care*, 39(3), pp: 248-257. doi: <http://dx.doi.org/10.1111/j.1523-536X.2012.00554.x>

Stock, S. J., Ferguson, E., Duffy, A., Ford, I., Chalmers, J., & Norman, J. E. 2012. Outcomes of elective induction of labour compared with expectant management: population based study. *BMJ : British Medical Journal*, 344, pp.

Tsouroufli, M. 2011. Routinisation and constraints on informed choice in a one-stop clinic offering first trimester chromosomal antenatal screening for Down's syndrome. *Midwifery*, 27(4), pp: 431-436. doi: <https://doi.org/10.1016/j.midw.2010.02.011>

Wennerholm, U. b., Hagberg, H., Brorsson, B., & Bergh, C. 2009. Induction of labor versus expectant management for post-date pregnancy: Is there sufficient evidence for a change in clinical practice? *Acta obstetricia et gynecologica Scandinavica*, 88(1), pp: 6-17. doi: <http://dx.doi.org/10.1080/00016340802555948>

Westfall, R. E., & Benoit, C. 2004. The rhetoric of "natural" in natural childbirth: childbearing women's perspectives on prolonged pregnancy and induction of labour. *Social science & medicine*, 59(7), pp: 1397-1408. doi: <https://doi.org/10.1016/j.socscimed.2004.01.017>

Wood, S., Cooper, S., & Ross, S. 2014. Does induction of labour increase the risk of caesarean section? A systematic review and meta-analysis of trials in women with intact membranes. *BJOG: An International Journal of Obstetrics & Gynaecology*, 121(6), pp: 674-685. doi: <http://dx.doi.org/10.1111/1471-0528.12328>

World Health Organization. 2011. WHO recommendation for induction of labour. Geneva: WHO.

Zinn, J. O. 2008. Heading into the unknown: Everyday strategies for managing risk and uncertainty. *Health, risk & society*, 10(5), pp: 439-450. doi: <http://dx.doi.org/10.1080/13698570802380891>