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Women's experiences of induction of labour during the COVID-19 pandemic: a cross-sectional survey

Abstract

Background/Aims Induction of labour is an increasingly common intervention. This study's aim was to explore women's experiences of induction, in particular of decision making and choice. Methods A cross-sectional study was carried out with women who were induced with live, term infant(s) in two urban trusts. Their experiences were assessed using a postal survey that included the birth satisfaction scale and open questions on women's experiences. Chi-squared and Fisher's exact tests were used to test for associations between aspects of the induction process and women's characteristics (age, parity, ethnic group). Qualitative data were analysed thematically. Results Half (52.9%) of the respondents reported waiting to start induction. The majority felt sufficiently involved in decision making (62.1%) and choice (59.6%). Most reported having enough information about the reason for (82%) and process of (83%) induction. The qualitative themes were emotional response, communication, feeling unheard, quality of care and the negative impact of COVID-19 policies. Conclusions Women's overall experiences were positive. Improvements should focus on reducing delays to induction.

Keywords

Analgesia | Birth experiences | Decision making | Informed choice | Women's perspectives

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nduction of labour is a common global intervention (Vogel et al, 2015; World Health Organization, 2018; Seijmonsbergen-Schermers et al, 2020), with many countries reporting increasing rates of induction (Hedegaard et al, 2014; Marconi, 2019; Centers for Disease Control and Prevention, 2020; Ministry of Health, 2021). Data for England suggest that 33% of women underwent induction of labour in 2021/2022 compared to 22% in 2011/2012 (NHS Digital, 2022).

Induction is undertaken for various reasons, the most common being post-maturity and pre-labour membrane rupture (National Institute for Health and Care Excellence, 2021). Compared with awaiting spontaneous labour, induction at or beyond term, especially post-41 weeks is associated with fewer perinatal deaths, a probable reduction in caesarean sections and fewer neonatal intensive care admissions (Mishanina et al, 2014; Middleton et al, 2020). For some women, induction of labour is planned from the beginning of pregnancy, while for others, it is in rapid response to an acute situation.

The increasing induction rate presents a challenge for maternity services, as it is more resource intensive and requires longer hospital stays, although outpatient induction services can reduce this (Dong et al, 2020). Delays can occur at a number of points, including needing to wait for an available bed for induction or for transfer to the delivery suite for more intensive monitoring. To mitigate demand, and in response to women's requests, maternity units are increasingly offering outpatient induction (Sharp et al, 2016).

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Pre-pandemic, 54% of all UK units provided outpatient induction, although 28% of these units changed who was offered this option during the COVID-19 pandemic (Harkness et al, 2021). The pandemic exacerbated service pressures, and infection control policies impacted services and care given (Renfrew et al, 2020).

There have been reports of mixed reactions from women regarding proposed late-term induction of labour (Moore et al, 2014; Keulen et al, 2021). Induction can be a more challenging experience than spontaneous labour, in terms of pain (Hermus et al, 2009) and anxiety, especially when delayed (Jay et al, 2018), and has been reported to result in a less positive overall birthing experience (Hildingsson et al, 2011; Coates et al, 2019), although this is not always the case (Lou et al, 2021).

This study aimed to explore women's experiences of induction of labour in two UK urban NHS trusts, and was carried out during the COVID-19 pandemic. The study was a collaboration between researchers and clinicians, as part of an induction of labour quality improvement programme.

Methods

This cross-sectional survey study was carried out at two NHS trusts and involved a Patient and Public Involvement and Engagement group. The group was involved from the project start, and helped to define research questions and develop the survey and information that respondents received. The trusts have diverse populations and include three hospitals with 17 000+ births and approximately 5700 women undergoing induction each year.

All women for whom labour had been induced and who gave birth to a live infant(s) between 1 March and 25 April 2021 were invited to take part. Women whose baby had died or was on the neonatal unit at the time of the survey being posted were excluded. Postal surveys were sent to women approximately 10 days postpartum.

Induction of labour process

The usual induction of labour practice in the study sites was to offer a cervical 'sweep' at 40 and/or 41 weeks' gestation. If spontaneous labour did not occur, induction was recommended. Women were asked to telephone the unit at 8am on the day that the induction was booked for, to confirm bed availability. If no bed was available, women were asked to call back (sometimes the next day).

Once a bed became available, women were admitted, assessed and monitored in induction of labour areas and began induction. The preferred method for induction was initially vaginal prostaglandins, which can be repeated 6 hours later if needed. If no spontaneous labour occurred, women were transferred to the delivery suite for artificial rupture of membranes. If necessary,

this was followed by intravenous oxytocin to stimulate contractions. During the COVID-19 pandemic, birth partners were only able to attend once women had moved to the delivery suite and could stay until the birth.

Data collection

Evidence-based methods were used to maximise responses to the survey, and included posters, two reminders and a prize draw (Edwards et al, 2009). Survey responses were given to researchers using pseudo-anonymised code to enable the trust to send reminders to non-responders only.

The survey had 31 questions and the topic headings included process of induction, decision to be induced, information about induction and labour. There were also open free-text questions, which gave respondents the opportunity to write more broadly about their experiences.

The birth satisfaction scale (revised indicator) (Martin et al, 2017) was included in the survey as a validated, short, easy-to-use measurement of women's experiences of labour and care satisfaction. The questions assessed stress and emotional response to labour and birth, and quality of care.

Data analysis

Completed survey data were entered into a Microsoft Excel database. Analysis was completed in Stata v16.1. For categorical measures, frequencies and percentages were reported. For numeric measures, means and standard deviations or medians and interquartile ranges were reported. For each of the six questions on the birth satisfaction scale, frequencies and percentages were reported. For the overall score, medians and interquartile ranges were used because of skewed distribution of scores.

Chi-square or Fisher's exact tests were used to test for associations between responses (being involved in decisions, choice, waiting times, where information about induction was obtained) and women's characteristics (age, parity and ethnic group) (*Table 1*).

Qualitative data were analysed thematically, using a template analysis approach (King, 2012). Data from all questions were combined for each participant and uploaded to NVivo for analysis. Following initial data familiarisation, an inductive coding index was developed, so that analysis was driven by the data and women's voices (Braun and Clarke, 2022). The index was refined in collaboration with the wider research team. Cross-case and cross-site (NHS trust) comparisons were undertaken. Codes were refined into five overarching themes and analytical summaries were written. Analysis was predominantly undertaken by the lead author. FCS, BT and SK met regularly to review analysis and resolve discrepancies.

Ethical approval

Ethical approval was obtained from the University of Birmingham Research Ethics Committee (approval number: ERN_20-1763). Individual consent was implicit on completion and return of the questionnaire. As this is a service evaluation, it did not require NHS ethical approval.

Quantitative results

There were 272 completed surveys returned of the 779 posted, a 34.9% response rate. The average age of respondents' babies at completion was 29 days (range: 11–72 days).

Baseline characteristics

To compare baseline characteristics of respondents and non-respondents, anonymous data were obtained from

the trusts. Respondent and non-respondent characteristics were similar, suggesting sample representativeness, with similar numbers of women responding from groups that were considered hard to reach, including deprived communities and non-English speakers (*Table 1*).

Induction waiting times

Table 2 outlines respondents' waiting times for induction of labour. Just over a third (37.8%) of respondents reported waiting for less than 1 day between making the decision for induction of labour and arriving in hospital. There were delays to hospital beds being available both at the start of induction and later on the delivery suite.

Over half of the respondents reported delays starting the induction of labour process (52.9%), with 8.5% waiting over 12 hours. A similar proportion of the Associations between induction waiting times and parity, age and ethnic group were explored. The time from the decision to have an induction to arriving in the hospital was associated with age (P=0.011), with more of those aged over 39 years waiting 7 days or more. Length of time waiting for a bed on the delivery suite was associated with parity (P=0.041), with more primiparous women waiting 3 days or more than multiparous women. There were no other associations between any of the waiting times and parity, age or ethnic group. The complete data are available from the authors on reasonable request.

Few (3.7%) respondents received outpatient induction. Almost half of primiparous (46.2%) and over a third of multiparous (37.0%) respondents received oxytocin. Use of analgesia included entonox (85.2%), epidural (35.2%), pethidine (21.3%), remifentanil (7.3%) and other types (6.9%), while 5.5% used no analgesia.

Induction decisions and choice

The people involved in decision making are shown in *Table 3*, with respondents able to select multiple options; the mean number of people involved was 1.9 for nulliparous and 1.7 for multiparous women, with doctors most frequently involved (65.1%). Over a third (39.3%) of respondents reported that they were involved in decision making, which was more common among primiparous (45.4%) than multiparous women (34.4%).

Most respondents felt that they were sufficiently involved in the decision to induce labour (62.1%) and were given enough choice (59.6%). Older women were more likely to report not having a choice (P=0.012; 50.0% of those aged 40–49 years, 21.7% of those aged 30–39 years, 15.2% of those less than 30 years old strongly disagreed or disagreed that they were given a choice). There were no other associations between respondents' characteristics and decisions about induction.

Information about induction

Hospital midwives were the most common source of information about induction (59.2%) (*Table 4*). The mean number of information sources was 2.1 for multiparous and 2.6 for primiparous women. Around one in 10 women (11.0%) received information leaflets while only one in 20 (5.9%) accessed information digitally on the local trusts' maternity app. Using the internet, maternity app and/or social media for information was associated with parity (P<0.001); almost twice as many primiparous women used the internet (41.3%) as multiparous women (20.5%). There were no other associations for information source.

Table 2. Induction of labour waiting times				
Question		Frequency, <i>n</i> =272 (%)		
How many days passed between the decision for induction of labour and arrival in hospital?	<1	103 (37.9)		
	2–7	115 (42.3)		
	>7	52 (19.1)		
	Not documented	2 (0.7)		
From when you first rang	No delay	113 (41.5)		
the hospital on the day your induction of labour was booked,	<4 hours	70 (25.7)		
how long did you have to wait for a bed before induction	4-12 hours	51 (18.8)		
could begin?	13-24 hours	15 (5.5)		
	2 days	4 (1.5)		
	≥3 days	4 (1.5)		
	Unsure	1 (0.4)		
	N/A	14 (5.1)		
Once you were in hospital for	No delay	98 (36.0)		
induction of labour, how long did you wait for a single room on the delivery suite?	<4 hours	28 (10.3)		
	4-12 hours	34 (12.5)		
	13-24 hours	35 (12.9)		
	2 days	30 (11.0)		
	≥3 days	15 (5.5)		
	Unsure	12 (4.4)		
	N/A	20 (7.4)		
How long did it take from the start of your induction until your baby was born?	<12 hours	101 (37.1)		
	12-24 hours	75 (27.6)		
	2 days	43 (15.8)		
	3 days	28 (10.3)		
	>3 days	20 (7.4)		
	Unsure	3 (1.1)		
	Not documented	2 (0.7)		

Most respondents agreed that they received enough information about why induction was recommended (82.3%), as well as the process before (83.4%) and during (86.7%) commencement. Most felt able to ask questions (81.6%) and had them fully answered (81.6%).

Labour

Most of the respondents reported that their dignity and privacy had often or always been maintained (91.9%) during labour. For the section of the survey on birth satisfaction, 258 of the 272 respondents completed all six questions and were included in the analysis (*Table 5*).

Table 3. Decision making and choice about induction				
Question		Frequency, <i>n</i> =272 (%)		
Who was involved in the decision about whether you should have an induction?	Doctor	177 (65.1)		
	Me	107 (39.3)		
	Hospital midwife	99 (36.4)		
	Community midwife	48 (17.6)		
	Birth partner	54 (19.9)		
I was not involved enough in decisions about my induction	Strongly agree	12 (4.4)		
	Agree	44 (16.2)		
	Neither agree nor disagree	44 (16.2)		
	Disagree	80 (29.4)		
	Strongly disagree	89 (32.7)		
	Not documented	3 (1.1)		
I was given a choice about whether to be induced or not	Strongly agree	67 (24.6)		
	Agree	95 (34.9)		
	Neither agree nor disagree	48 (17.6)		
	Disagree	47 (17.3)		
	Strongly disagree	12 (4.4)		
	Not documented	3 (1.1)		

Table 4. Source of information about induction of labour				
Source	Frequency, <i>n</i> =272 (%)			
Hospital midwives	161 (59.2)			
Doctors	133 (48.9)			
Internet	70 (25.7)			
Community midwives	69 (25.4)			
Family and friends	58 (21.3)			
Previous induction	33 (12.1)			
Antenatal class	33 (12.1)			
Information leaflet	30 (11.0)			
Maternity app	16 (5.9)			
Social media	14 (5.1)			
Books	11 (4.0)			
No information	8 (2.9)			

The highest score (highest satisfaction) related to staff communicating well during labour (82.7%). Most participants considered their labour experience positive (62.9%) with an overall score of 8 or higher (maximum score: 12; median score: 9; interquartile range: 6–10).

The lowest score was for the question regarding distress in labour; 30.7% of respondents disagreed that they did not feel at all distressed.

Qualitative results

Most of the respondents left at least one comment in the survey's free-text section (95.2%).

Emotional response to induction of labour

Some respondents expressed disappointment and distress about the prospect of induction and for some, this continued through induction and labour.

'After already having a baby, naturally I was not prepared for an induction and found it all quite distressing... The pessaries and internals were very uncomfortable. The monitoring after my waters were broke were very intrusive and distressing... Very disappointed I could not have a water birth and induction took that choice away'. A193

Waiting for induction of labour or experiencing delays after starting, especially when there were significant risk factors, resulted in additional anxiety.

'Making ladies wait for a bed. They scare you regarding risks, then make people wait 3+ days for a bed and don't let you leave! How is that OK?' A143

A few of the respondents were relieved to have had a better experience than anticipated

'Thank you to the staff during induction and delivery for supporting me, which eased the anxiety I had leading up to labour'. B421

Communication

Information

Many respondents felt that they needed better preparation or communication with healthcare professionals to help them make informed decisions about induction.

'I wish I knew more about induction beforehand either via the prenatal class or talking to a doctor. It was decided to have an induction and booked for the next day in the morning... The more I was reading, the less convinced I was that this was the right action. I expressed these concerns the next day with a doctor...she dismissed them without much explanation'. A130

Some respondents had to ask for information, were insufficiently informed about the risks or the process, or were informed too late.

123 (48.4)

However, others reported that they had received effective communication.

'Community midwife talked to me about induction, in case I needed it, well before I was induced'. C641

Decision making

There was wide variation in women's responses to induction of labour decision making. Most reported understanding the reason for the induction.

'Doctor explained reasoning for induction and risks that were involved if they didn't induce me. Ensured I understood and gave me opportunity for questions'. C070

Many other respondents were given limited or pressurised choices about induction.

'It was always made clear that it was my choice to be induced, but I did feel pressure and guilt to not wait too long as I would increase my risk of stillbirth'. A002

Some responses indicated that the respondents delegated decision making to healthcare professionals.

'I was induced at 37+5 weeks because a scan showed restrictive blood flow from the umbilical cord to the placenta. I didn't question it and went along with what the doctors said'. C341

Not feeling heard

Many respondents stated how painful induction was, with some feeling unheard in their need for analgesia. While some had access to prompt, effective analgesia, others commented on the lack of effective analgesia, particularly in early stages.

'I was in labour with no pain relief except for the TENS machine, which I had hired. My delivery suite midwife was not very nice and I get the impression that she thought I shouldn't be in much pain because I was only 1–2cm dilated, but it is different in induction because the contractions are artificial and mine were really strong'. A462

'I am still a bit confused about why I wasn't given pethidine after I asked for it. Did I need to be more demanding? Had labour progressed too far? I don't

Table 5. Birth satisfaction scale - revised indicator questions					
Domain	Question	Answer	Frequency, n=254 (%)		
staff during and birth The staff communicat	I felt well supported by	Agree	200 (78.7)		
	staff during my labour and birth	Agree to some degree	44 (17.3)		
		Disagree	10 (3.9)		
	The staff communicated well with me during labour	Agree	210 (82.7)		
		Agree to some degree	33 (13.0)		
		Disagree	11 (4.3)		
all during I found gi	I was not distressed at	Agree	83 (32.7)		
	all during labour	Agree to some degree	93 (36.6)		
		Disagree	78 (30.7)		
	I found giving birth a	Agree	58 (22.8)		
	distressing experience	Agree to some degree	92 (36.2)		
		Disagree	104 (40.9)		
Attributes	I felt very anxious during my labour and birth	Agree	71 (27.9)		
		Agree to some degree	97 (38.2)		
		Disagree	86 (33.9)		
	I felt out of control during my birth experience	Agree	46 (18.1)		
		Agree to some degree	85 (33.5)		

Disagree

really understand whether there are any other pain relief options once things have progressed to a certain point (other than gas and air)'. C641

Some respondents did not feel heard or believed about progress of labour during induction and wanted more checks, updates (especially about delays) and options. This was particularly the case when labour was rapid.

'When I felt like I was ready to push and called midwife for checks (and for how dilated I am), she said that normal labour contractions are in the middle of the tummy and not at the bottom. I said that I have given birth before and I feel like pushing (I felt I wasn't taken too seriously). My contractions were very strong... I was offered pethidine as I had been told that I was only 1cm dilated and not ready for labour yet. Four minutes after the injection with pethidine, my water broke and four minutes later I gave birth'. C221

Quality of care Supportive care

Many respondents expressed gratitude for excellent care and positive experiences, even if things did not go to plan.

Key points

- Most respondents to this cross-sectional survey of 272 women reported a
 positive experience of labour and birth after induction of labour.
- Older respondents were more likely to report not having choice about induction of labour.
- Over half of the respondents experienced delays to starting their induction.
- Nearly a third of respondents were delayed for more than 12 hours in getting a bed on the delivery suite to continue induction after starting the process.
- Many of the respondents accepted but struggled with restricted birth partner access during the COVID-19 pandemic.

'A very supportive, friendly and kind team of midwives. I had some questions after the birth about what had happened during, and my birth midwife took the time to talk it through'. B641

Others considered that good care was dependent on specific individuals.

'I had two different midwives during my labour. One of them was brilliant, the other didn't seem interested at all and gave me no advice and didn't speak to me much'. A652

A few of the respondents felt that there was a need for more staff to provide the necessary level of care.

'In the night shift, only 1 midwife/nurse is on duty and many pregnant women are in the room. Everyone needs her and she is the only one to manage so many people, so I have to wait for longer periods of time. Increase more night duty staff in room'. A890

Positive environment

Some respondents appreciated having space or privacy and somewhere to walk. A few reported having insufficient or dirty bathroom facilities or wanting access to snacks or more nutritious food, while others wanted things to do while waiting.

'I think women should not be left to the beds while they wait for a bed on the delivery suite. They should have a programme of options to help them prepare for imminent labour eg birth ball exercises, expressing colostrum, massages, aromatherapy etc'. A710

COVID-19 pandemic

Most respondents accepted the limited birth partner access that was required to minimise infection during the COVID-19 pandemic, although they expressed sadness, disappointment or loneliness about this.

'Difficult being alone due to COVID-19 restrictions but I understand why this is being enforced'. A440

For some, the restrictions caused anxiety, fear, anger and/or frustration, which negatively impacted wellbeing and the overall induction and childbirth experience.

'Our induction was stalled after my baby's heart rate kept dropping - I was on my own surrounded by doctors and midwives. Very frightening on your own. If the birthing mother is having to have a COVID-19 test prior to admissions, why can't partners?' C420

Respondents reported that their partners' emotional support and physical care was hugely missed when not present. They also described instances where staff compensated for this.

'The care I received from all the midwives was outstanding. They were all extremely kind and caring, especially when I felt so anxious being alone'. C280

A few of the respondents complained that there was a lack of adaptation or flexibility in the COVID-19 rules, or disagreed with the policy that limited partner involvement.

'I was extremely poorly after birth and due to COVID-19, my partner could not support me with our newborn even after having negative tests. I think in serious circumstances, these rules need to be looked at in future'. A920

Discussion

This study of women's induction of labour experiences found that over half of respondents experienced delays in starting the process, and a third experienced delays of over 12 hours to being given a delivery suite bed for more intensive monitoring. Two-thirds felt sufficiently involved in induction of labour decision making and choice, with more women aged 40 or more years old reporting not having choice. Most respondents felt that they had sufficient induction of labour information from staff, mainly hospital midwives. Overall, there was high birth satisfaction, with the highest score in communication in labour and lowest in feeling distressed (associated with analgesia). The qualitative data suggested that many women struggled with separation from birth partners because of COVID-19 policies.

The present study's findings indicated that respondents felt they had sufficient involvement in induction decision making and choice, and sufficient information about the reason for and process of induction (although for

In contrast with the present study's findings on induction understanding, choice and information, Coates et al's (2019) systematic review found that sic out of 10 studies identified a lack of understanding about why induction of labour was booked, and five reported a lack of meaningful and timely information about the induction of labour process. Few respondents in the present study reported receiving written information and fewer still accessed information on the maternity app. This may be because hospitals are becoming paperless and using an app requires women to have a phone, data and knowledge of where to find information. Services need to ensure that information for women is available in multiple formats (Patient Information Forum and Norgine Pharmaceuticals Ltd, 2021). This maximises their chance of accessing and understanding information that is essential to informed decision making. Rahman et al (2022) identified that those who watched a short animated educational video before induction of labour had increased satisfaction and knowledge about induction than those who received an 'institutionally standardised induction of labour information packet' only.

The present study's findings about distress at separation from family has been described by others (Karavadra et al, 2020; Panda et al, 2021; Cullen et al, 2021; Riley et al, 2021). The separation policies put in place during the pandemic may have resulted in the reported increase in abuse of staff during the pandemic (Royal College of Midwives, 2020). However, most respondents in the present study reported an overall positive experience of induction of labour, as also reported by Lou et al (2021), although this interview study included those induced for post-maturity only.

These findings contrast with pre-pandemic study findings (Hildingsson et al, 2011; Coates et al, 2019; 2020). Harkness et al (2023) described a positive experience in conjunction with supportive staff only. Inversetti et al (2021) found that overall satisfaction with childbirth experience was not impacted by the pandemic,

CPD reflective questions

- What systems are in place to support women's information needs from the beginning and throughout the induction of labour process?
- What systems are in place to support women's emotional/support needs during the induction of labour process?
- What about the induction process works well at your unit?
- What could be done to improve support for women and their families throughout the induction of labour experience?
- What from this article could you take forward into your practice?

and limiting visitors was reported to increase women's feelings of safety in maternity units (Cullen et al, 2021). Some midwives suggested that exclusion of visitors created a more relaxing environment on postnatal wards, encouraging rest and bonding with the baby (Panda et al, 2021; Thomson et al, 2022). Overall satisfaction with care may have been influenced by public gratitude to the NHS during the pandemic (Mohdin, 2020) or post-birth relief at having a healthy baby (Murtagh and Folan, 2014).

The present study found no association between ethnicity and induction of labour choice, decision making, delays or information, although this may be influenced by the small groups of respondents in some ethnic groups. In contrast, Peters et al (2022) conducted a post-pandemic survey of 1340 women who identified as Black or Black mixed heritage, and found that negative experiences of maternity services were more frequently reported than positive ones. Hamm et al (2019) found that Black women were at risk of lower induction of labour satisfaction than non-Black women.

Although delays in induction of labour are not new (Jay et al, 2018; Robertson et al, 2021), the present study showed the reported number of hours spent delayed in the induction of labour process before the start of induction, which have not been examined in other studies. Delays to a bed being available on the delivery suite for more intensive monitoring was more frequent among primiparous than multiparous women, who may be expected to give birth more quickly and prioritised.

Some repsondents reported feeling ignored or that they were not believed following induction, particularly in early labour and when requesting analgesia. These findings are supported by other studies (Brown and Furber, 2015; Jay et al, 2018; Dupont et al, 2020, Coates et al, 2019; Harkness et al, 2023). Busy wards that only have one midwife available to provide care for several women, and fewer choices of analgesia being available before transfer to the delivery suite, may contribute to the feeling of not being listened to.

Strengths and limitations

Postal surveys reach more people than interviews but there is an inability to explore nuance. To mitigate this, the authors included comment boxes to add detail to quantitative responses (Singer and Couper, 2017). The survey was developed with women, clinicians and academics, to increase relevance and accessibility.

A possible weakness was the 35% response rate, although this is similar to other UK maternity surveys (Care Quality Commission, 2019; Harrison et al, 2020). However, respondent demographics were similar to non-respondents, including non-English speakers.

Conclusions

This survey reports broadly positive induction of labour experiences for women, despite the COVID-19 pandemic. Nevertheless, many women reported anxiety about restricted access for birth partners and some felt unheard in their request for analgesia or progress of labour checks, especially in the early stages. The findings specifically highlight delays in induction of labour before starting the process and the perceived lack of choice about induction from women aged 40 years and older, which warrant further investigation. BJM

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