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Acceptability and feasibility of a midwifery intervention to promote active labour and decision-making: a qualitative study with women and nurse-midwives

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ABSTRACT

Objectives: To evaluate the acceptability and feasibility of a complex midwifery intervention, developed in line with the MRC Framework, designed to promote active labour and support informed decision-making.
Methods: A qualitative study was conducted within community-based childbirth preparation programmes. The intervention was delivered by nurse-midwives in primary care. Semi-structured interviews with participating women and nurse-midwives were retrospectively analysed to explore perceptions of acceptability and feasibility.
Results: Women generally perceived the intervention as highly acceptable, valuing the group format, experiential and reflective elements, and the sense of preparation and confidence gained. Many described enhanced self-efficacy and agency, often reinforced by partner support. However, some reported frustration when strategies could not be applied during labour, highlighting the limits of antenatal programmes in restrictive medical contexts. Midwives also considered the programme acceptable, recognising its innovative methodology, contribution to professional development, and positive impact on women. Feasibility was reflected in women's accounts of experiential learning, scenario-based reflection, and printed materials as mediators of practice, with reported outcomes including mobility, autonomy, and more meaningful birth experiences, though institutional constraints sometimes limited active strategies. Midwives emphasised feasibility through strong motivation, the intervention's low cost, and its integration into routine care, while also noting challenges such as limited space, large groups, and ambivalence towards the decision-making component.
Conclusion: The intervention was acceptable to women and midwives and feasible for integration into childbirth preparation. Divergent perspectives revealed areas for refinement, underscoring the limits of antenatal programmes in medicalised contexts while highlighting the potential of context-sensitive, evidence-based interventions to strengthen women's autonomy.

Introduction

A positive childbirth experience is a widely shared goal among pregnant women [1]. Active involvement in decision-making and a sense of control are key factors influencing how women perceive labour and birth [2]. Scientific evidence consistently links perceived control, whether internal or external, to more favourable childbirth outcomes [3]. Strategies such as freedom of movement and upright positions during labour enhance this sense of control. These practices also provide clinical benefits: a Cochrane meta-analysis associated upright positions with a shorter first stage of labour, lower caesarean rates, and fewer neonatal intensive care admissions. They also improve uterine contraction efficiency, optimize maternal-fetal circulation, reduce pain perception, and promote overall well-being for both mother and baby [4].

Despite these advantages, horizontal positions and restricted mobility remain common in many hospital settings [5–7]. While many women express a desire to participate actively in childbirth decisions [1], studies suggest their choices are often poorly informed or lack perceived significance. This disconnect may reduce self-efficacy and diminish the likelihood of a positive, empowering birth experience [5,7,8]. In light of this, the World Health Organization and other

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international bodies recommend supporting women to remain mobile and adopt comfortable positions, including upright ones, during labour [1,9]. The WHO also highlights the importance of antenatal education in empowering women throughout pregnancy [10]. A systematic review and meta-analysis show that such programs equip women with knowledge and tools to prepare for childbirth, improve self-efficacy, foster effective coping strategies, and promote informed decision-making, contributing to better maternal and neonatal outcomes [11]. Empowerment in childbirth involves helping women identify and mobilize internal resources. When informed about labour physiology and evidence-based practices, they are more likely to adopt behaviours that support natural labour, such as awaiting spontaneous onset, staying mobile, and avoiding unnecessary interventions [12]. Antenatal education should thus address not only the physical but also the psychological and neurohormonal aspects of labour. It should also enhance decision-making skills, enabling women to make informed and satisfying choices [13,14].

While numerous studies have explored ways to improve labour outcomes, few have systematically evaluated interventions specifically aimed at empowering women for active labour. New interventions should be theory-based, evidence-informed, and designed to generate actionable recommendations [15,16]. In this context, a complex intervention was developed using the Medical Research Council (MRC) Framework, designed for integration into antenatal education in community healthcare settings [15,16]. Its goal is to empower women for active labour, with a particular focus on decision-making. Previous publications have described the intervention's development and structure, including stakeholder contributions [17,18], while further work is under review.

This article presents a qualitative evaluation of the intervention, assessing its feasibility in terms of acceptability and practical implementation from the perspectives of the recipients, women, and the nurse-midwives who delivered it. The study addresses two research questions: 1) How do women evaluate the intervention, particularly regarding its impact on decision-making and birth experience? 2) How do nurse-midwives assess the intervention's feasibility, including acceptability and practical application?

Methods

The intervention was originally developed in line with the MRC Framework for Developing and Evaluating Complex Interventions [15,16], specifically Phase I – Development. The present qualitative study forms part of Phase II – Feasibility/Piloting, focusing on acceptability and feasibility from the perspectives of women and nurse-midwives.

Intervention design

The intervention, *I choose to move during my labour*, is a group-based, in-person program for pregnant women in their third trimester and their partners planning a vaginal birth. It integrates four core components: in-person group sessions; experiential learning; decision-making support; and a supportive environment fostered through positive communication. The program comprises two sequential 2.5-hour sessions designed to build participants' confidence, decision-making skills, and physical readiness for labour. The first session, *Moving during labour – my superpower!,* focuses on experiential learning through hands-on practice with labour positions and movement, aiming to enhance body awareness and self-efficacy. The second session, *I choose to move during labour!,* emphasizes decision-making. Through hypothetical scenarios, women explore different labour options, evaluate them, and make informed, autonomous choices about mobility and upright positions. A detailed description of the intervention is provided in a separate manuscript, currently under peer review. Table 1 presents a concise summary of the structure and main components.

Table 1
Summary of the structure and content of the intervention *"I choose to move during my labour"*.

Session	Focus & Core Components	Summary of Activities
Session 1: Moving during labour: my superpower! (2.5 h, group ≤ 8 women + significant others)	Experiential learning on mobility and upright positions; Relaxation practices; Positive communication; Supportive group environment; Evidence-based integration	• Practice of movements and upright positions • Body awareness and experiential exercises • Movements adapted to clinical settings (including in-bed positions) • Group reflection and sharing • Relaxation with mindfulness, affirmations, connection with the baby • Illustrated leaflet for home practice with partner
Session 2: I choose to move during labour! (2.5 h, sequential to Session 1)	Decision-making support; Reflection and dialogue; Experiential reinforcement; Supportive group environment; Evidence-based integration	• Exploration of hypothetical scenarios based on institutional practices, using the BRAIN model (Benefits, Risks, Alternatives, Intuition, Nothing) to guide reflective dialogue and support alignment of choices with personal values • Relaxation with mindfulness, affirmations, connection with the baby • Positive and respectful communication throughout

Study design and participants

Participants were recruited from four Community Care Units (UCCs) in Portugal that routinely offer childbirth preparation programmes (CPP). The intervention was embedded within these programmes and co-facilitated by the principal investigator and the local nurse-midwife to preserve group dynamics. A total of eight intervention groups were delivered across the four UCCs, resulting in 16 sessions conducted between November 2024 and February 2025.

Participation in the programme was voluntary, and women were invited to take part in the study if they met the following criteria: age ≥ 18 years, nulliparity, low-risk pregnancy, attendance at both intervention sessions, and birth of a healthy, term newborn. Exclusion criteria (consistent with the feasibility study protocol) included inability to communicate in Portuguese, Edinburgh Postnatal Depression Scale (EPDS) score ≥ 12 at baseline, planned elective caesarean section, or postpartum complications.

For the qualitative component, purposive sampling was used to select participants. All nurse-midwives who facilitated the intervention (n = 4) were interviewed approximately one month after completing the implementation phase. Among women, at least one participant from each intervention group was invited, ensuring diversity in sociodemographic characteristics and birth experiences. In total, eight women were interviewed within the first month postpartum, allowing exploration of the intervention's perceived influence on decision-making and childbirth experiences, until data saturation was reached. Interviews with nurse-midwives were conducted in person, while interviews with women were conducted online via Zoom between December 2024 and March 2025. All interviews were conducted by the principal investigator, who was trained in qualitative interviewing.

Analytical approach

A thematic analysis was conducted following Braun and Clarke's six-step approach (2006), using a primarily deductive strategy guided by two theoretical frameworks: the Theoretical Framework of Acceptability

(TFA) [19] and the MRC Process Evaluation Framework [20]. This ensured that both acceptability and feasibility were assessed in real-world contexts, while remaining open to inductive insights. Transcripts were coded in NVivo by the first author and validated through team discussions until consensus on final themes was reached.

Ethical considerations

The study was approved by the Ethics Committee of the Central Regional Health Administration (CE ARSC/No. 52/2023). All participants provided informed consent prior to participation. Data collection and storage procedures ensured confidentiality and anonymity. Participation was voluntary, and women and nurse-midwives were informed of their right to withdraw at any time without consequences for their care or professional role.

Results

Participant characteristics

Nurse-midwives

Four female nurse-midwives from different CCUs participated, aged 42–62 years (M = 48.3, SD = 8.0). Their nursing experience ranged from 20 to 41 years (M = 26.3, SD = 8.6), and midwifery experience from 11 to 36 years (M = 18.5, SD = 10.2). Experience in designing and implementing CPP ranged from 9 to 33 years (M = 16.5, SD = 9.6). Interviews averaged 26 min (12–40 min).

Women receiving the intervention

Eight women, aged 28–39 years (M = 33.5, SD = 3.4), participated. The mean gestational age at intervention was 33.4 weeks (SD = 3.9), and at birth, 39.1 weeks (SD = 1.1). All were Portuguese, lived with a partner, and were employed. Educational levels included: four with bachelor's degrees, three with master's, and one with secondary education. Delivery types included four spontaneous vaginal births and four assisted vaginal births via vacuum extraction. Births occurred in three public hospitals and one private. Interviews averaged 32 min (20–50 min).

Main themes

Thematic analysis, guided by the Theoretical Framework of Acceptability (TFA) and the MRC Process Evaluation Framework, generated themes relating to the acceptability and feasibility of the intervention, as perceived by both women and nurse-midwives. Findings are presented according to these two dimensions of analysis and are described separately for each group of participants.

In terms of acceptability, women's perspectives were organised around two domains: their views of the programme and the perceived impact on childbirth. Within these domains, they highlighted feelings of satisfaction and well-being, the value of experiential learning, and the usefulness of reflection as a tool for decision-making. They also described enhanced self-efficacy and agency, emphasised the supportive role of partners, and, in some cases, pointed to challenges and unintended effects when strategies could not be applied as expected. Nurse-midwives emphasised elements they perceived as new and different practices, reported professional development and increased confidence in facilitation, and highlighted their perception of the intervention's impact on women's preparation and confidence.

With regard to feasibility, women identified several mediating factors, namely experiential learning, scenario-based reflection, and printed materials, which supported the translation of knowledge into practice. Reported outcomes included greater mobility during labour and a stronger perception of autonomy and control, although some participants also recognised constraints in sustaining active labour strategies within institutional contexts. Nurse-midwives described key facilitating factors, particularly their motivation and engagement and the low cost and easy integration of the intervention into routine childbirth preparation programme. They also identified constraining factors, including limited physical space, large group sizes, and some ambivalence toward the decision-making component (Fig. 1).

The main themes are presented below. To preserve anonymity, all participants were assigned pseudonyms.

Acceptability of the intervention from the perspective of participating women

Acceptability refers to how women perceived the relevance, value, and appropriateness of the intervention, including their emotional responses and sense of coherence. Two overarching categories emerged from their narratives: views of the programme itself and perceived impact on childbirth. Within the first, women emphasised three dimensions: satisfaction and well-being, experiential learning, and reflection as a tool for decision-making. Within the second, their accounts centred on self-efficacy and agency, the supportive role of partners, and challenges or unintended effects when strategies could not be applied as expected.

Views of the programme

Satisfaction and well-being

Women described the intervention as consistent with their values and expectations, reporting feelings of satisfaction, safety, and reassurance. The group format was especially valued for fostering shared experiences and mutual support in a welcoming environment:

> *"One thing I didn't expect to be so important was the fact that it was in a group… the sharing, the expectations, and even the doubts of the others ended up being very important. I felt that if it had been individual, it wouldn't have been the same." (Lily)*

The inclusion of partners was also highlighted as beneficial, as it encouraged joint reflection and discussion, contributing to a more confident and meaningful preparation:

> *"Those two sessions were really good, not just for me, but for my husband who attended. We discussed and shared because we really had no idea before." (Grace)*

Several participants found the sessions engaging and natural, noting that time passed quickly and expressing a desire for longer sessions:

> *"We didn't even notice the time passing. If we had had more time, we probably would have stayed longer because it was so interesting." (Grace)*

Experiential learning

Women identified the experiential component as central to the programme's relevance and coherence. Hands-on practice with movement and positions deepened their awareness of bodily resources and capacities. Tools such as the birthing ball and peanut ball were described as both comforting and confidence-building:

> *"Being able to try it out and understand how we feel and whether we can do it." (Lucy)*
> *"I used the peanut ball and realized that lying on my side with the peanut ball between my legs was a comfortable position for me." (Chloe)*

Experiential learning was further reinforced by strategies that promoted bodily awareness and connection with the baby, often supported by motivational language. For some, this was a deeply emotional and empowering experience:

> *"That part where the midwife says some words and we're just there relaxing, it's very introspective (…) I already had tears in my eyes (…) it really makes us feel the baby, I think those are words of encouragement and words that comfort us." (Grace)*

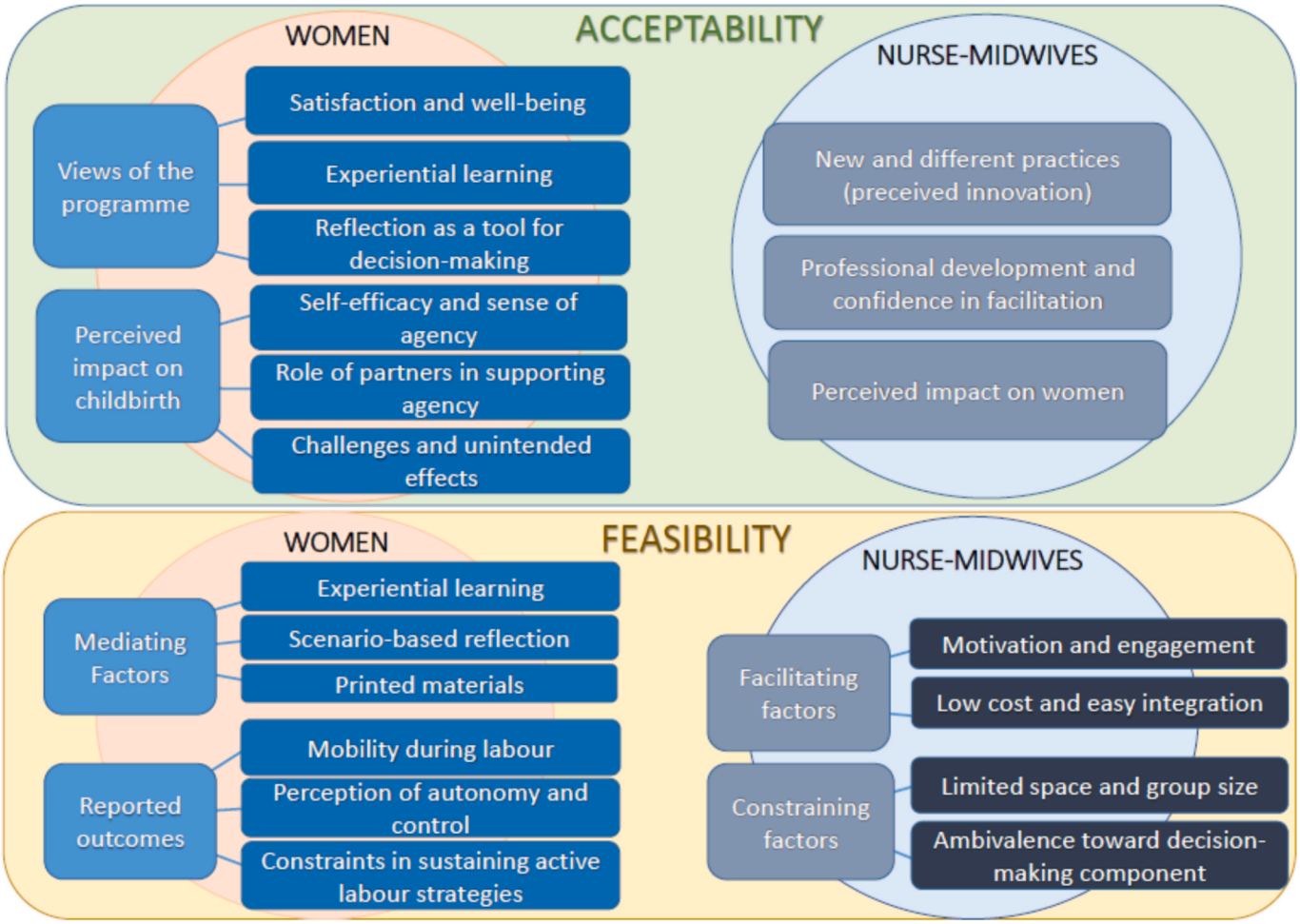

Fig. 1. Main themes emerging from participants' narratives on acceptability and feasibility.

Symbolic language, such as the metaphor of "superpowers," also resonated strongly, reinforcing women's sense of agency and transformation:

> *"I clearly remember the texts the midwife read, the way she said that we could handle things with our superpowers (…) then, when I saw my daughter being born with her little hand forward, I remembered Wonder Woman and thought – this really makes perfect sense!" (Emma)*

Reflection as a tool for decision-making

Women valued the opportunity to reflect on hypothetical scenarios that could influence mobility during labour. This strategy was described as both empowering and practical, as it prompted them to anticipate unfamiliar or previously unconsidered situations and prepare for unexpected events:

> *"There were some issues I hadn't even thought about, I didn't know that could happen. It made me think about what I would do if that happened to me (…) what I would decide." (Mia)*

By imagining themselves in these scenarios and reflecting on their own needs and preferences, participants broadened their awareness of possible experiences. This process enhanced their analytical thinking and increased their confidence in decision-making:

> *"I think it was important to have this discussion, these case studies, so we could reflect, put ourselves in those people's shoes, those examples, how would we react if it were us?" (Chloe)*

For some, this reflection also translated into practical confidence about decisions during labour that aligned with their values and preferences:

> *"If I was unsure whether to ask for the epidural right away and whether I could still move or not, then maybe I'd hold out a bit longer. This helped us reflect on the timing and what we could do on the day." (Grace)*

Perceived impact on childbirth

Self-efficacy and sense of agency

Self-efficacy, understood as the belief in one's ability to organise and carry out actions to achieve desired outcomes, emerged as the most prominent theme in women's accounts. Participants described feeling comfortable, safe, and supported during the intervention, with experiential learning and reflective practices fostering greater confidence and autonomy in staying active and aligning with their personal goals. The programme also reinforced women's awareness of their right to choose and express preferences, which was described as empowering and central to a positive birth experience:

> *"It's like being given permission to do things, to ask, to say, 'Actually, no, I'd prefer it another way' (…) the experience would have been completely different from the start if I hadn't had that information." (Lucy)*

Several women explained that they felt able to influence the course of labour by responding to bodily cues with confidence and calmness:

> "I think the speed of it (…) was due to the mindset I developed throughout the program (…) I was going to help the baby as much as possible to be born. I was really calm and knew exactly what was

happening (…) since I trusted myself, I knew what I was doing was right." (Grace)

Women also described drawing on internal resources such as positive thinking, emotional regulation, and focusing on what could be controlled. One participant undergoing induction recalled moments of discouragement, but reinforced her sense of agency through affirming self-talk and a strong emotional connection with her baby:

"On the first day I went in full of confidence (…) I was so upset (…) but I told myself: 'I'm the best person to do this, I'm going to bring my daughter into the world! I'm the mother my daughter wants to have.'" (Lily)

Finally, symbolic language, particularly the metaphor of "superpowers", resonated with some women, transforming fear into confidence and reinforcing their sense of strength and agency:

"I used to be terrified of dying in childbirth, but that thought never crossed my mind during labour because I was focused on discovering my superpowers and those of my daughter (…) that's what I kept thinking, and it was fantastic." (Emma)

Role of partners in supporting agency

The intervention encouraged partners to actively support women's mobility and birth preferences, combining emotional reassurance with the practical application of strategies rehearsed in the sessions. One participant described how her partner played a key role in sustaining mobility and reinforcing their shared birth plan:

"He was prepared too (…) in that moment when I kind of went into a trance (…) he put on music and pulled me up to dance… we danced, but it was him who got me moving, so I wouldn't stop (…) he even did squats with me. I think that if he hadn't been there, I wouldn't have had this experience (…) I probably would have asked for the epidural (…) but we had talked beforehand, and he knew I preferred not to have it if I could manage. He supported me, because he knew that's what I wanted. When I was unsure (…) he gave me strength to keep going with what we had planned." (Sophie)

Challenges and unintended effects

Although most participants felt empowered by the intervention, two women reported difficulties in applying the strategies as intended. Their accounts highlighted the limits of the programme's perceived impact when birth unfolded in unpredictable or challenging ways. For one, the strategies felt ineffective, creating frustration and self-doubt:

"What I take from this is that it's all a bit unpredictable. We can have this idea of how we want it to go, but things can change at any moment (…) I tried to apply some of the things we learned at home, but apparently it was all in vain (…) in my case, it didn't help at all. I wish I had had more control. If I had spoken up more, maybe I could have, but the truth is, at some point, I just couldn't anymore." (Hannah)

Acceptability of the intervention from the perspective of participating nurse-midwives

Acceptability, from the perspective of nurse-midwives, refers to the extent to which the intervention was perceived as relevant, appropriate, and valuable within their professional practice. Three overarching categories emerged: the perception of new and different practices, professional development and confidence in facilitation, and their views on the intervention's impact on women.

New and different practices

Nurse-midwives described the structured organisation of the intervention, combined with the use of practical and visual strategies, as central to its innovative character. These features were considered essential for enhancing women's understanding and for supporting the integration of knowledge and skills in a relevant and applicable way. The logical session flow was viewed as clear and coherent, while experiential learning was highlighted as critical for knowledge retention and for empowering women to make decisions during childbirth:

"The first session is fundamental for them to understand the potential of their bodies… so they can respond and be able to make a decision for the second one." (Maria)

Simple visual and tactile tools were particularly valued. The maze game, a wooden board with a movable ball used as an analogy for fetal descent through the pelvis, and anatomical models of the pelvis and fetal head were described as highly effective in helping women visualise the effects of mobility and positioning:

"The game with the little ball was an extra tool to help them better understand the importance of mobility (…) it helps them grasp the importance of moving during labour, because they end up visualising the effect of movement." (Teresa)
"When we just talk without anything to show, they imagine it. With this analogy, we reach our goal more easily." (Inês)

Printed leaflets were also highlighted as a practical resource for reinforcing messages and encouraging active involvement from both women and their partners:

"I give them the leaflet. I realised that having it on paper makes it more real for them. At least they have something in their hands, and I say: 'Take it to the delivery room, put it in your bag.'" (Maria)s
"It's a real added value for them to take it home (…) they can go back and check it." (Teresa)

Another innovative element was the early introduction of reflection on scenarios that could affect mobility. Nurse-midwives considered this strategy particularly valuable for helping women anticipate challenges and prepare to make autonomous, informed decisions:

"Being able to actually practice decision-making was definitely a plus, and I will keep using it." (Teresa)
"It's important that they feel capable of saying – 'Doctor, I want to stay active, but with pain relief' – women have the right to decide this!" (Maria)
"The practical cases helped them know what they could say, what they wanted to say (…) whether they felt comfortable with a certain option or not." (Inês)

Finally, the relaxation component was described as innovative compared with usual practice, since it integrated body awareness and movement rather than focusing solely on passive positions:

"That idea of awareness in any position they chose was also new. (…) Some women even changed positions during the relaxation, and I found that really interesting." (Teresa)

Professional development and confidence in facilitation

Nurse-midwives also emphasised the intervention's contribution to their own professional growth. They described it as reinforcing a more woman-centred approach to care and fostering a sense of fulfilment and professional validation:

"I'm very satisfied, it brought me more value, it helped structure what I might not have structured so well." (Teresa)

Several participants noted that the experience prompted changes in their clinical practice. In particular, they reported moving away from generic or information-heavy approaches and adopting a more tailored, experiential focus in their childbirth preparation sessions:

"I adapted my labour session, I reorganised it. I stopped having that session about explaining the types of birth (…) now it's more focused on their labour." (Maria)

Perceived impact on women

Midwives unanimously highlighted the positive impact of the intervention on women, particularly in terms of their openness, motivation, and readiness to apply the concepts introduced:

"In the later sessions, after they had completed the intervention, I noticed they were more open to talking about it, more aware of pelvic mobility, I saw a lot of interest and motivation." (Isabel)

Feedback received from women further reinforced these perceptions. According to the midwives, participants reported feeling better prepared, more confident, describing stronger self-efficacy, and a greater sense of control during labour:

"All of them had normal births. I think it was very positive, and they said it helped a lot (…) knowing more, being more confident, being able to stay at home more calmly (…) "when we got there we were already close to 5 cm dilation and went straight to the delivery room", that was the feedback they gave." (Teresa)

Overall, both women and midwives perceived the intervention as highly acceptable. For women, acceptability was reflected in the emotional resonance, experiential value, and perceived relevance of the programme for childbirth preparation. They described enhanced self-efficacy and agency, often reinforced by the active involvement of partners. At the same time, challenges and unintended effects highlighted that strategies could not always be applied as expected, underscoring both the empowering potential of the intervention and the contextual limitations that shaped their experiences. From the midwives' perspective, the intervention was recognised as both innovative and practical. They valued its structured organisation, experiential and reflective strategies, and the integration of new elements such as visual tools and body-centred relaxation. Beyond benefits for women, the programme also contributed to their professional development, reinforcing a woman-centred approach and strengthening confidence in facilitation. Observations during sessions and feedback from participants further consolidated their perception of the intervention's positive impact, particularly in fostering women's engagement, motivation, and preparedness for labour.

Feasibility of the intervention from the perspective of women

Feasibility refers to the processes and conditions that either supported or hindered the practical application of the intervention. Women identified several mediating factors, experiential learning, scenario-based reflection, and access to printed materials, that facilitated the translation of knowledge into practice and enabled them to remain active and assertive during labour. They also described outcomes associated with the intervention, including increased mobility during labour and a stronger perception of autonomy and control, while at the same time acknowledging contextual constraints that limited the sustained application of active labour strategies.

Mediating factors

Experiential learning

Experiential learning was considered essential for transforming abstract concepts into embodied strategies. Practical activities and tools, such as the maze game and pelvic model, made complex physiological processes more visible, easier to understand, and directly applicable, supporting women in linking movement to fetal progression:

"We could feel that part of the maze while doing the exercises on the birthing ball… I would never have thought of that, it really makes sense." (Emma)

"That activity of translating into something visual what happens inside us (…) when I went home and did the exercises on the ball, I thought, if I do this, I know my pelvis, that whole pelvic movement, is helping the baby get in there, just like in the game." (Grace)

"It really helps to understand how the baby's head fits, what our bones need to do, and that helps us. For example, when we're doing the exercises, we're visualising what's happening anatomically, it helps us understand and make the connection." (Sophie)

Scenario-based reflection

Reflecting on realistic situations was described as preparing women to make decisions in vulnerable moments. These discussions helped clarify preferences and anticipate how to communicate them during labour:

"There were some things I had never even considered (…) I started thinking about what I'd do if that happened to me." (Mia)

Printed materials

Access to leaflets reinforced knowledge retention and supported the application of strategies both at home and in hospital. Women described consulting these materials as a way to sustain activity and confidence:

"I had the papers stuck to the fridge until the day, then I put them in my bag when we went [to the hospital] (…) it's hard to remember everything, so it's all right there." (Sophie)

"That sheet was amazing. I took it with me and kept it with me the whole time (…) I was there for two and a half days [before birth], and believe it or not, we kept reminding ourselves of the exercises, for example, R. would read it and say 'Let's do this one, let's switch to that one.'" (Lily)

Reported outcomes

Mobility during labour

Most women perceived the intervention as helpful in supporting mobility during labour. They described freedom of movement as central to their confidence, comfort, and satisfaction:

"I entered the delivery room and didn't feel restricted; I felt completely at ease, I could move freely in whatever way I wanted." (Emma)

"I only had the epidural at the very end [7 cm] because I wanted to stay mobile until the end and I knew the epidural could limit me in some way." (Grace)

"That's when everything I had learned became important… knowing I didn't have to rush, that I could still handle the early stages of labour at home, and that's what I did." (Lucy)

Perception of autonomy and control

Many participants described a stronger sense of autonomy and control, often expressed through decision-making and negotiation with professionals. They felt empowered to voice their preferences and adapt care to their needs:

"When I arrived, I was 3.5 cm dilated. They suggested I go straight to the delivery room (…) but I thought I could manage, and luckily, I did (…) When they started putting me in that position, I immediately said: 'But can't I do it like this instead?'" (Lucy)

"The anaesthetist came in and didn't ask me anything, and I said – 'Look, I don't know if what you're going to give me will allow me to use the ball' (…) he changed it. (…) One of the aides came and took the ball out of the room, and I asked why (…) and I said, right, but if you don't mind, please leave it here." (Lily)

Autonomy was also linked to bodily awareness, with women describing mobility as both an intentional decision and a natural response:

"I did what my body asked of me. (…) I remember thinking: 'okay, if I shift my knees here, I can benefit from that.' It wasn't fully conscious, but I was aware in some moments." (Sophie)

Freedom to choose positions, even during the second stage, reinforced their sense of control and emotional involvement:

"At first, I was lying down with my legs elevated, then I squatted, holding onto the bed's headboard. I had complete freedom of movement (…) I even managed to pull my baby out myself, it was so cool." (Lily)

Confidence in managing early labour at home also emerged as a clear expression of agency, allowing women to approach the onset of labour calmly and with control:

"That's when everything I had learned became important… knowing I didn't have to rush, that I could still handle the early stages of labour at home, and that's what I did." (Lucy)

Most women felt the intervention contributed to a more meaningful and empowering birth. Even when complications or pain were present, reframing the experience often helped transform it into a source of strength:

"She came with her little hand in front, all closed up! (…) I said: 'It doesn't matter at all, what matters is that she's here, and she's bringing all her superpowers to transform everything' – those words really made sense to us. It was perfect!" (Emma)
"It was intense because it was fast, and I felt a lot of pain (…) but at the same time, it was a relief (…) Even my husband said – 'Wow, I had no idea you were that strong!'" (Grace)
"I feel that if I could go back, I'd make the same choice. I went in prepared to feel a lot of pain, and I did, but it passed." (Sophie)

Constraints in sustaining active labour strategies

While most women described positive experiences, a few encountered challenges in sustaining active labour strategies. For two participants, institutional routines and clinical instructions constrained their freedom of movement, making it difficult to apply what they had learned during the intervention.

"At the hospital, I didn't have any of that [mobility] (…) I remembered what we had talked about, but there were things I couldn't do (…) the pain was only in my back (…). At one point, they told me – 'you need to stay still for a bit, or you'll fall off the bed' – maybe if I had moved, it would have helped." (Mia)

These accounts highlight how external factors can undermine feasibility, even when women are motivated to remain active. They underscore the importance of institutional environments that enable autonomy and mobility.

Feasibility of the intervention from the perspective of nurse-midwives

Feasibility, from the perspective of nurse-midwives, refers to the extent to which the intervention could be realistically implemented within routine childbirth preparation, taking into account facilitators, barriers, and the practical integration of its core components. Their accounts highlighted both enabling conditions and contextual challenges, as well as differing views on specific elements of the programme.

Facilitating factors

Motivation and engagement

Nurse-midwives unanimously considered the intervention feasible within their clinical settings. Their active involvement in its design and implementation, together with their professional motivation, were seen as central to its success. The structured and experiential approach marked a departure from previous models centred mainly on theoretical content. This shift enhanced their confidence in preparing women for labour and was described as transformative for professional identity and communication style. One midwife explained that moving from a theoretical to a more experiential approach represented a meaningful update to her practice, while also inspiring her to actively foster women's autonomy and self-belief:

"It brought change. For me, it was a way to really update myself. It introduced two sessions more focused on the pelvis and the dynamics of labour (…) I used to have a more theoretical approach, but not anymore (…) if you go down [to the prep room], you'll see I have three phrases posted. They arrive and say: 'I'm strong, I'm capable, I'm a mother!' I wrote them and put them on the wall because I believe it empowers them." (Maria)

Low cost and easy integration

The intervention required the purchase of four new essential tools (maze game, pelvic model, peanut ball, balance disc) at a total cost of €90. All other materials, such as mats and birthing balls, were already available in the CCU. Durable printed materials reinforced knowledge retention, and the sessions were easily integrated into existing childbirth preparation programmes within usual timeframes. No significant adjustments to scheduling were required. This modest cost and adaptability confirmed feasibility, making the intervention a sustainable option for broader integration in CCUs without additional institutional burden.

Midwives further emphasised that this ease of integration extended beyond resources to the structure of the sessions themselves. They described how the programme could be seamlessly incorporated into their routine childbirth preparation, reinforcing both feasibility and confidence in facilitation:

"I had session number 2, which became the intervention, and I split it into 2A and 2B because they follow one another (…) I think it fit beautifully." (Ana)

Constraining factors

Limited space and group size

Restricted physical space was identified as a barrier to full implementation of some activities, particularly mobility-based exercises and relaxation. This limitation was often compounded by larger group sizes, which reduced opportunities for individual engagement and constrained the supportive environment needed for open discussion:

"External factors we cannot change (…) we couldn't get all of them to experience it the way we wanted (…) The relaxation part assumes that the woman can choose whichever position she wants, but that's not possible because the room is tiny (…) their freedom becomes more conditioned by us." (Maria)

Ambivalence toward the decision-making component

One midwife expressed reservations about the decision-making activities. While she acknowledged that women engaged actively in discussions, she worried that reflecting on real-life scenarios too deeply could create anxiety. She preferred a shorter, more informative approach:

"The scenarios are very real (…) Maybe it's not applicable to all women (…) it might create more fears or insecurity (…) I noticed that some women participated actively in the discussions, which I thought was positive. Still, I probably wouldn't make it so long or extensive. Maybe just introduce it by saying: 'This might happen, or that might happen.'" (Inês)

However, such a perspective risks undermining a central aim of the intervention: enabling reflective and autonomous decision-making in a safe environment. While intended to adapt to women's needs, reducing the depth of reflection may dilute the programme's purpose and reflect discomfort with more participatory and critical approaches.

Overall, both women and nurse-midwives considered the intervention feasible, though shaped by contextual factors. For women, feasibility was reflected in the processes that supported the translation of knowledge into practice, particularly experiential learning, scenario-based reflection, and access to printed materials. These mediating factors enabled them to remain active and assertive during labour, and reported outcomes included enhanced mobility, a stronger sense of autonomy and control, and more meaningful birth experiences. At the same time, some women described constraints in sustaining active labour strategies, pointing to the influence of institutional routines and clinical instructions. From the nurse-midwives' perspective, feasibility was supported by their motivation and engagement, the adaptability of the programme, and its low cost. They emphasised how easily the intervention could be integrated into existing childbirth preparation programmes, while also acknowledging barriers such as limited space, large group sizes, and ambivalence toward the decision-making component. Taken together, these findings point to the potential for scaling up the intervention, while underscoring the importance of addressing contextual and professional constraints to ensure fidelity to its core principles.

Discussion

This intervention, developed following the MRC Framework, aimed to empower women for active labour and was well received by both women and nurse-midwives. It was deemed feasible for clinical implementation.

Women described it as comfortable and appropriate, particularly valuing the group format for facilitating shared experiences. This underscores the importance of safe, welcoming environments that foster connection and active listening. Group composition should prioritize interaction over logistical convenience, balancing diversity with participation. These findings align with previous research on the value of community in CPP, where peer support and shared learning offer reassurance, especially when experienced mothers informally mentor first-time mothers [21,22]. Studies consistently show that women prefer in-person CPP over digital formats due to the emotional support and reliable, evidence-based information they provide [23–25].

Experiential activities, such as observing hand movements in the maze, exploring pelvic mobility, and practising body positions, supported meaningful, practical learning for labour. These outcomes reinforce evidence supporting Kolb's experiential learning theory [26,27], which advocates learning through reflection and action rather than passive instruction. In this model, healthcare providers act as facilitators, supporting skill development and shifts in attitudes more effectively than traditional, theory-based teaching [26]. Programmes like Mindfulness-Based Childbirth Education embody this model, integrating autonomy, adult learning principles, and real-life application [27]. Similarly, this intervention included structured opportunities for practice, reflection, and guided use of strategies, promoting both women's self-efficacy and midwives' facilitation skills.

Midwives appreciated the intervention's innovative, enriching methodology. Innovation was tied to sensory-based learning, using the maze to simulate fetal movement and exploring body positions to illustrate pelvic dynamics. These activities encouraged joint reflection and made content directly relevant. Compared to didactic approaches, this method proved more effective. These findings align with Borer and Dubovi [28], whose evaluation of the ICAP cognitive engagement model (Interactive, Constructive, Active, Passive) showed that constructive and interactive strategies led to higher knowledge, positive attitudes, and greater self-efficacy related to labour mobility. The intervention integrated techniques at the ICAP model's highest levels.

Another influential aspect was the use of supportive language, metaphors, guided visualisation, and affirming suggestions that highlighted women's internal strengths. Women described this approach as comforting and empowering, particularly during challenging phases like prolonged inductions. The WHO [1] promotes empathetic, intentional language to foster mutual understanding, yet studies show midwives often default to informative or negatively framed communication with limited use of positive affirmations [29,30]. This warrants reflection, as provider messages, positive or negative, strongly influence women's perceptions. Positive affirmations may act as psychological placebos, enhancing confidence and resilience, whereas negative or careless language may have nocebo effects, weakening women's sense of agency and preparedness [31–34].

The intervention notably enhanced women's self-efficacy and sense of agency. Participants reported greater confidence in interpreting bodily sensations, managing early labour at home, understanding the role of movement in fetal descent, and applying learned strategies. They also felt more capable of making decisions, negotiating preferences, and communicating with professionals. These findings echo evidence from a recent systematic review showing that childbirth education improves psychological readiness, coping, and informed decision-making, all associated with better maternal and neonatal outcomes [11]. Women shared examples of negotiating during labour, such as epidural timing or preferred birth positions, demonstrating how informed decision-making can shape institutional routines and foster shared authority.

However, not all participants shared this positive trajectory. Mia and Hannah, described frustration and disappointment when institutional routines limited their ability to apply mobility strategies, leaving them feeling underprepared and, at times, self-blaming. These accounts highlight the unintended effects of antenatal interventions when the expectations they create are not matched by the realities of medicalised maternity care [35].

Autonomy emerged as a central theme. The freedom to move was often cited as key to this sense of autonomy. Studies confirm that perceived agency and active participation are key determinants of positive birth experiences, with movement and upright positions particularly effective [2,3]. Yet, these outlier perspectives remind us that individual preparation is insufficient without supportive institutional contexts. Programmes like this can foster confidence and readiness, but their impact will be constrained unless maternity systems also enable women to enact their choices.

The decision-making component, though more abstract and potentially challenging, was widely perceived as both innovative and impactful. Grounded in real-life scenarios involving restricted mobility, it encouraged women to reflect on values, anticipate challenges, and prepare informed choices. The BRAIN tool (Benefits, Risks, Alternatives, Intuition, Nothing) supported this process and was valued by both women and midwives, particularly in hospital contexts often shaped by rigid protocols. For these strategies to be effective, however, women must feel supported to express their preferences. Without such support, decision-making may feel superficial, as also highlighted in Lopes et al. [17], where midwives reported ambivalence about promoting autonomy in inflexible systems. In this light, one midwife's hesitation toward the decision-making component is especially relevant. Introducing critical reflection into childbirth education challenges traditional, paternalistic care models and may initially feel unfamiliar for both women and professionals. Its value lies not in pre-determining fixed choices, but in fostering thoughtful reflection that integrates evidence with personal values while acknowledging the unpredictability of labour [14].

This ambivalence illustrates a broader shift from directive to participatory models of care. Transitioning to autonomy-focused education requires not only new tools but also a redefinition of the provider's role, from information-giver to facilitator of emancipated decision-making. Though such change may generate initial discomfort,

it is essential for delivering woman-centred care that affirms women's capacity to lead their own birth experiences.

Strengths and limitations

This study presents several strengths. First, it offers an innovative contribution to childbirth preparation by evaluating the acceptability and feasibility of an intervention guided by the MRC Framework, with a distinctive focus on informed decision-making, an area still underrepresented in the literature. Second, it incorporated perspectives from both women and nurse-midwives, capturing both user and provider experiences. Conducting interviews postpartum allowed women to reflect not only on the sessions but also on their practical relevance during birth. This timing provided insights into real-world outcomes, beyond initial impressions. The inclusion of midwives' perspectives enriched the analysis by addressing professional development and implementation challenges. Finally, the researcher's consistent presence supported fidelity to the protocol and added rigour through immediate clarification of procedures.

Nonetheless, some limitations must be acknowledged. The researcher's presence may have influenced participant responses through observation or social desirability bias. As a small-scale feasibility study with a non-representative sample, findings remain context-specific and cannot be generalised. Importantly, while most women described enhanced self-efficacy and agency, others reported frustration when unable to enact strategies in medicalised settings. These outlier accounts underscore that antenatal programmes alone cannot overcome institutional constraints and may risk creating expectations that are difficult to realise in practice. Larger studies are needed to confirm effectiveness, evaluate scalability, and examine how such interventions interact with different maternity care contexts.

Conclusions

This study evaluated the acceptability and feasibility of an antenatal intervention developed in alignment with the MRC Framework to promote active labour and informed decision-making. The intervention was well received by both women and nurse-midwives and was feasible for integration into routine practice. Women reported increased self-efficacy, autonomy, and decision-making capacity, while midwives valued the interactive methodology, its contribution to professional development, and its adaptability. At the same time, outlier perspectives revealed important limitations: some women felt underprepared for restrictive institutional practices, and one midwife expressed ambivalence toward reflective components. These insights highlight the importance of refining the programme to manage expectations, strengthen contextual adaptability, and address the structural barriers that shape women's birth experiences.

Despite its exploratory design and small sample, the study demonstrates the potential of evidence-based, context-sensitive interventions to support women's autonomy in childbirth. Further research is warranted to replicate this intervention in diverse settings with larger populations, assessing not only clinical outcomes but also experiential indicators of empowerment and satisfaction.

CRediT authorship contribution statement

Marlene Isabel Lopes: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Margarida Vieira:** Writing – review & editing, Validation, Supervision, Conceptualization. **Alexandrina Cardoso:** Writing – review & editing, Validation, Supervision, Formal analysis, Conceptualization.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

[1] WHO. recommendations: Intrapartum care for a positive childbirth experience. Geneva: World Health Organization; 2018.
[2] Cook K, Loomis C. The impact of choice and control on women's childbirth experiences. J Perinat Educ 2012;21(3):158–68. https://doi.org/10.1891/1058-1243.21.3.158.
[3] Downe S, Finlayson K, Oladapo O, Bonet M, Gülmezoglu AM. What matters to women during childbirth:aA systematic qualitative review. PLoS One 2018;13(4): e0194906. https://doi.org/10.1371/journal.pone.0194906.
[4] Lawrence A, Lewis L, Hofmeyr GJ, Styles C. Maternal positions and mobility during first stage labour. Cochrane Database Syst Rev 2013;(10). https://doi.org/10.1002/14651858.CD003934.pub4.
[5] Shorey S, Chan V, Lalor JG. Perceptions of women and partners on labour and birth positions: a meta-synthesis. Birth 2022;49(1):19–29. https://doi.org/10.1111/birt.12574.
[6] Irvin L, De Leo A, Davison C. Stand and deliver: an integrative review of the evidence around birthing upright. Br J Midwifery 2022;30(3):172–7. https://doi.org/10.12968/bjom.2022.30.3.172.
[7] Kjeldsen LL, Dahlen HG, Maimburg RD. Expectations of the upcoming birth - a survey of women's self-efficacy and birth positions. Sex Reprod Healthc 2022 Dec; 34:100783. https://doi.org/10.1016/j.srhc.2022.100783.
[8] Huschke S. 'The system is not set up for the benefit of women': Women's experiences of decision-making during pregnancy and birth in Ireland. Qual Health Res 2022;32(2):330–44. https://doi.org/10.1177/10497323211055461.
[9] Committee on Obstetric Practice. Committee Opinion No. 687: Approaches to Limit Intervention During Labour and Birth. Obstet Gynecol. 2017;129(2):e20-e28. doi: 10.1097/AOG.0000000000001905.
[10] WHO recommendations: Recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization; 2016.
[11] Demirci AD, Kochan M, Kabukcuoglu K. Effect of antenatal education on childbirth self-efficacy: a systematic-review and meta-analysis. Curr Psychol 2023;42(14): 11367–77. https://doi.org/10.1007/s12144-021-02418-8.
[12] Lothian J. Does childbirth education make a difference? J Perinat Educ 2016;25(3): 139–41. https://doi.org/10.1891/1058-1243.25.3.139.
[13] Cardoso A, Aires C, Machado S, Silva C, Grilo AR. Guidelines for best Practices: Birth Preparation. Lisbon: Ordem dos Enfermeiros; 2023.
[14] Lopes MI, Wittmann-Price RA. The wittmann-price theory of emancipated decision-making in women's health care: an analysis based on McEwen. Holist Nurs Pract 2025;39(3):141–50. https://doi.org/10.1097/HNP.0000000000000704.
[15] Craig P, Dieppe P, Macintyre S, Michie S, Nazareth I, Petticrew M. Developing and evaluating complex interventions: the new Medical Research Council guidance. BMJ 2008;337:a1655. https://doi.org/10.1136/bmj.a1655.
[16] Skivington K, Matthews L, Simpson SA, et al. A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. Int J Nurs Stud 2024;154:104705. https://doi.org/10.1016/j.ijnurstu.2024.104705.
[17] Lopes MI, Vieira M, Cardoso A. Women's empowerment for active labour: A qualitative study with nurse-midwives in antenatal education for childbirth. Eur J Midwifery. 2024;8:10.18332/ejm/188117. Published 2024 Aug 22. doi:10.18332/ejm/188117.
[18] Lopes MI, Vieira M, Cardoso A. Empowering women in decision-making about mobility during labor: Insights from experts. Eur J Midwifery. 2025 Jul 29;9. doi: 10.18332/ejm/205673. PMID: 40740981; PMCID: PMC12308558.

[19] Sekhon M, Cartwright M, Francis JJ. Acceptability of healthcare interventions: an overview of reviews and development of a theoretical framework. BMC Health Serv Res 2017;17(1):88. https://doi.org/10.1186/s12913-017-2031-8.
[20] Moore GF, Audrey S, Barker M, Bond L, Bonell C, Hardeman W, Moore L, O'Cathain A, Tinati T, Wight D, Baird J. Process evaluation of complex interventions: Medical Research Council guidance. BMJ. 2015;Mar 19;350:h1258. doi: 10.1136/bmj.h1258.
[21] Fisher C, Hauck Y, Bayes S, Byrne J. Participant experiences of mindfulness-based childbirth education: a qualitative study. BMC Pregnancy Childbirth. 2012;12:126. Published 2012 Nov 13. doi:10.1186/1471-2393-12-126.
[22] Campbell VR, Nolan M. A qualitative study exploring how yoga for pregnancy teachers impact women's self-efficacy for labour and birth. Women Birth 2016;29 (1):3–11. https://doi.org/10.1016/j.wombi.2015.04.007.
[23] Spiby H, Stewart J, Watts K, Hughes AJ, Slade P. The importance of face-to-face group antenatal education classes for first-time mothers: a qualitative study. Midwifery 2022;109:103295. https://doi.org/10.1016/j.midw.2022.103295.
[24] Wright A, Elcombe E, Burns ES. "Paper, face-to-face and on my mobile please": a survey of women's preferred methods of receiving antenatal education. Women Birth 2021;34(6):e547–56. https://doi.org/10.1016/j.wombi.2020.10.014.
[25] Larkai E, Davies A, Toolan M, Lynch M, Plachcinski R, Larkin M, et al. What do antenatal women want from their antenatal education? a national survey. Maternal Child Health J 2025;29(3):324–37. https://doi.org/10.1007/s10995-025-04048-z.
[26] Gresh A, Abrams ET, Chirwa E, et al. Experiential training workshops for group antenatal care in Malawi. J Midwifery Womens Health 2022;67(6):759–69. https://doi.org/10.1111/jmwh.13436.
[27] Hauck Y, Fisher C, Byrne J, Bayes S. Mindfulness-based childbirth education: incorporating adult and experiential learning with mindfulness-based stress reduction in childbirth education. J Perinat Educ 2016;25(3):162–73. https://doi.org/10.1891/1058-1243.25.3.162.
[28] Borer H, Dubovi I. Fostering childbirth education on upright positions and mobility during labour in nulliparous women. BMC Pregnancy Childbirth. 2023;23(1):870. Published 2023 Dec 16. doi:10.1186/s12884-023-06166-4.
[29] Cutajar L, Miu M, Fleet JA, Cyna AM, Steen M. Antenatal education for childbirth: Labour and birth. Eur. J Midwifery 2020;4:11. https://doi.org/10.18332/ejm/120002. Published 2020 Apr 23.
[30] Cutajar L, Cyna AM. Antenatal education for childbirth-epidural analgesia. Midwifery 2018;64:48–52. https://doi.org/10.1016/j.midw.2018.04.024.
[31] Bagnis A, Meeuwis SH, Haas JW, et al. A scoping review of placebo and nocebo responses and effects: insights for clinical trials and practice. Health Psychol Rev. Published online March 3, 2025. doi:10.1080/17437199.2025.2471792.
[32] Caliskan EB, Bingel U, Kunkel A. Translating knowledge on placebo and nocebo effects into clinical practice. Pain Rep 2024;9(2):e1142. Published 2024 Mar 25.
[33] Huynh KN, Rouse-Watson S, Chu J, Lane AS, Cyna AM. Unheard and unseen: The hidden impact of nocebo communication in the Intensive Care Unit. J Intensive Care Soc. 2023;25(2):128-130. Published 2023 Nov 29. doi:10.1177/17511437231214148.
[34] Hotelling BA. The nocebo effect in childbirth classes. J Perinat Educ 2013;22(2): 120–4. https://doi.org/10.1891/1058-1243.22.2.120.
[35] Shiindi-Mbidi TSN, Downing C, Temane A. Midwives' and women's experiences with respectful maternity care around the globe: a meta-synthesis. Women Birth 2023;36(5):e461–70. https://doi.org/10.1016/j.wombi.2023.04.002.