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The influence of antenatal relaxation classes on perinatal psychological wellbeing and childbirth experiences: a qualitative study

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ABSTRACT

Background: There is growing evidence that antenatal education incorporating relaxation practices can positively influence perinatal psychological wellbeing. However, a paucity of qualitative research is evident. Gaining insight into how and why such education may influence childbearing women, can inform the design of effective educational interventions. This study aimed to explore the perspectives of women and their partners on how and why a single Antenatal Relaxation Class (ARC) might influence perinatal psychological wellbeing and childbirth experiences.

Method: In this descriptive qualitative study, 17 women and 9 partners participated in semi-structured in-depth interviews and the data were analysed using thematic analysis. The study was carried out in a Scottish NHS Health Board where ARC was provided to expectant parents.

Findings: Two themes were generated, namely: '*the turning point*', and *'recognition of an inner resource'*. Participants perceived ARC as '*the turning point*' when they became more confident, equipped, and less fearful and anxious towards childbirth. '*Understanding of the psychophysiological processes of childbirth*', '*positive stories*', and '*practice of relaxation techniques*' were reported as the main reasons for these positive changes. Participants explained ARC had enabled them to access a deep sense of calmness as *'an inner resource'* and motivated the use of relaxation techniques as a self-care behaviour throughout pregnancy and childbirth.

Conclusion: A single antenatal relaxation class has the potential to enhance perinatal psychological wellbeing and childbirth experiences. This study provides valuable insights for maternity services seeking to develop effective health-promoting antenatal education.

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Perinatal psychological wellbeing; childbirth experiences; antenatal relaxation education; confidence; fear & anxiety

Background

Approximately one in five women[1] experience perinatal mental health problems (Bauer et al., 2014; Department of Health, 2011; National Institute for Health and

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Care Excellence NICE, 2020; World Health Organization WHO, 2008). A reciprocal relationship between perinatal mental health problems and childbirth experiences[2] has been demonstrated in the literature. Whilst antenatal mental health problems are predictors of negative childbirth experience (Alder et al., 2011; Havizari et al., 2021), negative experience of childbirth is understood to lead to a variety of postnatal mental health problems such as postpartum depression and post- traumatic stress disorder (Ayers et al., 2016; Bell & Andersson, 2016).

Mental health is understood to involve both the absence of mental illness and the presence of psychological wellbeing[3] (Keyes, 2015). Psychological wellbeing[3] concerns optimal psychological functioning and experience (Tang et al., 2019). On the other hand, a positive childbirth experience can empower the mother and strengthen her self- esteem and self-confidence in the long-term (Simkin, 1991). Therefore, developing educational interventions to promote perinatal psychological wellbeing and prepare women for a positive childbirth experience must be a priority for maternity services. These interventions have the potential to improve childbirth experiences and outcomes (National Collaborating Centre for Mental Health, 2018).

Theoretical literature suggests a deliberate mental focus on the breath, bodily sensations or pre-selected pleasant images in relaxation practices is perceived to induce a physiological state of quietude, interrupt the stress-provoking thought processes, and improve psychological wellbeing (Benson & Proctor, 2011) and childbirth experiences (Dick-Read, 2004). There is growing quantitative evidence that antenatal education incorporating relaxation practices such as guided imagery and/or hypnosis, can positively influence perinatal mental health by reducing maternal anxiety (Beevi et al., 2016, 2019; Downe et al., 2015; Jallo et al., 2014; Khojasteh et al., 2016; Nasiri et al., 2018), maternal stress (Beevi et al., 2016, 2019; Flynn et al., 2016; Jallo et al., 2014; Kantziari et al., 2019) and fear of childbirth (Atis & Rathfisch, 2018; Bülez et al., 2018; Çankaya & Şimşek, 2021; İsbir et al., 2016). However, qualitative research exploring expectant parents' perspectives on the topic appears to be limited to a few studies that either viewed the education mainly as a pain management method for labour and birth (Abbasi et al., 2009; Finlayson et al., 2015) or investigated the influence of the education only antenatally and in a specific population of African American women (Jallo et al., 2015). Nevertheless, these studies indicated that education can potentially reduce stress during pregnancy (Jallo et al., 2015), anxiety and fear during labour and birth (Finlayson et al., 2015) and increase maternal confidence (Abbasi et al., 2009). In line with these findings, a more recent service evaluation of relaxation workshops for pregnant women suggested equipping women with relaxation techniques may enhance their confidence and promote positive experiences of childbirth (Tabib & Crowther, 2018). However, the latter was not a research study, and further qualitative studies are needed to gain a deeper insight into the influence of such education on maternal emotions and experiences, and how and why this influence occurs during the span of the childbirth continuum. Developing our understanding of these areas can contribute to the design of educational interventions that are more effective in promoting perinatal psychological wellbeing and meeting women's holistic needs. As such, this study aimed to gain a deeper understanding of the perspectives of women and their partners on how and why a single Antenatal Relaxation Class (ARC) might influence perinatal psychological wellbeing and childbirth experiences.

Method

This study was part of a larger mixed-method research study. The qualitative phase presented in this paper took a descriptive qualitative approach (Sandelowski, 2000) to obtain rich experiential data from women and their partners, capturing how and why they were influenced by antenatal relaxation education. Sandelowski (2000) presents qualitative description as a '*valuable method by itself*' (p. 335) that does not require a conceptual framework for the rendering of data. This provides the necessary freedom to allow the data to guide the enquiry without being restricted to a theoretical framework and suits an enquiry that is more complex than exploring one single phenomenon (Sandelowski, 2000).

Setting

The study setting was a specialist maternity hospital in an NHS Health Board in North-East of Scotland with around 5,000 births per annum. The setting was selected due to its existing provision of a single 3-hour Antenatal Relaxation Class (ARC) as a local initiative.

Antenatal relaxation class (ARC)

ARC was available to all pregnant women and their birth partners in the third trimester, although, attendance of women expressing anxiety or apprehension about childbirth was actively encouraged by their maternity care providers. This 3-hour face-to-face class was facilitated by two midwives trained in providing ARC. The class content was underpinned by theoretical and empirical evidence in the field (Figure 1) and guided by self-efficacy theory (Bandura, 1977, 2010). Bandura (1977, 2012) suggests four sources for self-efficacy including (1) the performance of accomplishments (e.g. practising relaxation exercises and experiencing a relaxed state), (2) vicarious experiences (e.g. narrating positive pregnancy/childbirth stories), (3) verbal persuasion (e.g. using an empowering language, affirmations, and analogies), and (4) physiological/emotional status (e.g. providing education on psychophysiological processes). The class and resources were free of charge for participants. A previous cost analysis study on classes of a similar length and taught by midwives estimated the cost of such classes to be around £5.00 per participant to the NHS (Downe et al., 2015). Figure 1 provides more details on the ARC content.

Sample

Purposive sampling with maximum variation was used to include a population of women that were diverse in terms of age, ethnicity, educational level, and parity to gather sufficient experientially rich accounts (Sandelowski, 1986; Smythe & Giddings, 2007). Selecting a target sample size of 14–18 women and their birth partners was guided by systematic consideration of the factors influencing 'information power' (Malterud et al., 2016). These factors included the broadness of the study aim, sample specificity, use of established theory, quality of dialogue in interviews and analysis strategy (Malterud et al., 2016).

Part 1 (60 min)

Participants are given an overview of:

- Physiology of the stress response versus the relaxation response (Benson and Procto, 2011; Benson and Klippre1975), and
- Fear-Tension-Pain theory (Dick-Read, 2004), and hormonal systems in childbirth (Buckley, 2015; Odent, 1992; Uvnäs-Moberg et al., 2019).

Part 2 (30 min)

- Share positive stories collected from previous ARC participants followed by a group discussion.

Part 3 (60 min)

- Practice four relaxation exercises including breathing, visualisation, hypnosis, and relaxation in labour (the scripts are available on request).

Part 4 (30 min)

- Sharing tips on the strategies that could induce a sense of relaxation and control during childbirth including mobilisation, upright positions during labour and birth, music, low lighting, water immersion, gentle massage, partner's support, and the benefits and side effects of epidural.
- Learning points are summarised and the importance of regular practice at home is highlighted.
- Leaflets and audios are provided, and participants are encouraged to practice at home.

Figure 1. Antenatal relaxation class (ARC) content.

Midwives delivering ARC accessed the NHS database system to identify and send invitations to women and their birth partners. Inclusion criteria for the women included being over the age of 16, being able to read, write and understand English, and that the woman had attended ARC in the third trimester of pregnancy and was receiving midwifery-led care at the point of recruitment. The latter criterion was selected to ensure childbirth experiences of a sufficient number of participants with spontaneous labour and birth were captured. However, women whose care pathway changed after recruitment were not excluded, this allowed further exploration of ARC's influence on complicated childbirth experiences. Women were excluded if they had severe mental health problems requiring medication or did not meet the inclusion criteria. Inclusion criteria for the partners included being over the age of 16, being able to read, write and understand English. Partners were invited to the study irrespective of their attendance at ARC, as the aim was to gain insight into their perspectives of ARC's influence on women's psychological wellbeing and childbirth experiences. Birth partners were excluded if they did not meet the inclusion criteria.

Ethics and governance

Informed written consent was obtained from the participants and full ethical approval was granted by the National Research Ethics Service (REC reference number: 17/LO/0666). Participation in the study was voluntary and participants could withdraw from the study

at any point prior to the completion of data collection, without giving any reason. Participants were assured that their responses would remain confidential unless there was a disclosure of intent to harm themselves or others. There were no breaches of confidentiality. Anonymity was maintained by replacing their names with a participant number.

Data collection

The data were collected between January and June 2020 using semi-structured in-depth interviews. In total, 64 women (and their birth partners) who had attended face-to-face ARC, were invited to participate in the study of whom 39 gave consent (60%). Ultimately, 17 responded to the text reminders following birth and took part in the interviews, giving a response rate of 26.5%. Nine birth partners (of women participants) attended the interviews, three of whom had attended ARC. Overall, 17 women participated in eight single, and nine joint (where women and their birth partners were interviewed together) interviews. The first seven interviews were conducted face-to-face, however, due to the COVID-19 pandemic the latter 10 were conducted via audio (2 women) and video (8 women) calls. Of 7 participants who attended face-to-face interviews, 5 chose to be interviewed in their homes, one in a private room in the hospital and 1 in a private room at the University. During the video/audio interviews, participants were in their homes. A topic guide was used for interviews which included the questions shown in Table 1. In joint interviews, where relevant, the same questions were asked of women and birth partners. The joint interviews allowed the couples to corroborate, supplement each other's accounts and introduce fresh themes and richer data (Bjørnholt & Farstad, 2014). The interviews were conducted by the chief investigator of the study, they lasted between 40 to 60 minutes, were digitally recorded, and transcribed verbatim.

Table 1. Topic guide.

Interview question guide for women and birth partners
Main interview questions
(1) Can you tell me about your experience of the antenatal relaxation class?
(2) Can you tell me about your labour and birth?
Supplementary and prompting questions
What caused you to attend the class? What were your expectations of the class? Did anything change for you as the result of attending the class? If so, what was it? If so, what do you think caused this change? How did you feel immediately after the class?
Did you practice the learned techniques during pregnancy? if so, what was the purpose of practising them?
How were you feeling about labour and birth before and after attending ARC? What caused that change? (if the feeling had changed)
Can you describe the moment of practicing the techniques? Can you tell me what you were thinking and how you were feeling then?
How were you feeling, when labour started?
Did you use any of the techniques during labour? What was your experience of labour pain? What pain reliefs did you use?
How did your labour progress?
When you think on your labour and birth of your baby how do you feel now?
How would you describe your overall experience of late pregnancy and childbirth?

Data analysis and interpretation

Reflexive thematic analysis (TA) (Braun & Clarke, 2019) was chosen as it provides a systematic, rigorous, and transparent approach to data management, analysis, and reporting. Reflexive TA procedures reflect the values of a qualitative paradigm, centring researcher subjectivity and the importance of deep reflection on data (Braun & Clarke, 2019). As recommended by Braun and Clarke (2019), a collaborative and reflexive approach was taken by a group of three researchers to develop a richer and more nuanced reading of the data, rather than just seeking a consensus on meanings. The six phases of TA included familiarisation; coding; generating initial themes; reviewing and developing themes; refining, defining, and naming themes; and writing up (Braun & Clarke, 2021). Interpretation of the data occurred as a recursive and iterative process and the overall approach to data coding and analysis was inductive and data driven. Keeping records of the raw data, field notes, transcripts, the stages of the study, and a reflexive journal were means of creating an audit trail and helped researchers systemise, relate, and cross-reference data (Korstjens & Moser, 2018), thus enhancing the trustworthiness of the study.

Findings

Sample characteristics

The interviews took place between 2–8 weeks following birth, depending on the participants' preferences and circumstances. Table 2 illustrates sample characteristics of the study participants. Three women were multiparous, and the rest were primiparous. The women were aged between 26 and 41 years (Mean age 31.94, *SD* 3.76) and were from a range of ethnic groups with the majority (68%) being white British. Most women participants (60%) were educated to degree level or above.

Table 2. Sample characteristics of study participants.

Participant No. (woman & birth partner)	Parity	Ethnicity	Level of education	Age
1&1a	1st	White British	MSc	32
2	1st	White British	MSc	33
3&3a	2nd	White British	BSc	33
4&4a	1st	White British	BSc	34
5	2nd	White Polish	MSc	32
6	1st	White British	BSc	34
7&7a	1st	Mixed raced Asian-British	MSc	28
8&8a	1st	White British	College HND	32
9&9a	1st	White British	MSc	33
10&10a	2nd	White British	College HNC	38
11	1st	African	MSc	31
12&12a	1st	White American	BSc	27
13&13a	1st	White British	PG diploma	28
14	1st	White British	PG degree	27
15	1st	Asian	PhD	41
16	1st	South American	BSc	32
17	1st	White British	HNC College	28

Table 3. Themes and sub-themes.

Themes	Sub-themes
1) The Turning Point	- Pre-class emotions towards childbirth - Change of emotions during & immediately after ARC - Factors contributing to change
2) Recognition of an inner Resource	- The inner resource in pregnancy - The inner resource in labour and/or birth

Considering that the focus of study was on *'maternal childbirth experience and psychological wellbeing'*, birth partners were not required to provide demographic details.

NB) Abbreviations used in the table included MSc (Masters of Science), BSc (Bachelor of Science), HNC (Higher National Certificate), HND (Higher National Diploma), PG (Postgraduate), SVB (Spontaneous Vaginal Birth). The numbers (e.g. 3) and numbers followed by letter 'a' (e.g. 3a) present the women participants and their partners respectively.

Thematic findings

As shown in Table 3 two major themes were generated during data analysis, namely: '*The turning point'*, and *'Recognition of an inner resource'*. After attending the class, participants considered ARC as *'a turning point'* when they experienced a positive shift in their emotions and recognised their own ability to induce an altered state of consciousness as an '*inner resource*'.

Theme 1: the turning point

ARC was described by the participants as a turning point, where women's emotions and their attitudes towards childbirth changed. Emotions of fear and anxiety particularly around childbirth shifted towards positive feelings of confidence, preparedness, and excitement. The participants attributed such changes to an enhanced *understanding of psychophysiological processes of childbirth*, *hearing positive stories*, and learning *relaxation techniques*.

Pre-class emotions towards childbirth

Before attending ARC, childbirth-related fears and anxieties were prevalent among the participants. Some expressed their fear and anxiety explicitly,

> Before the class, I was scared and nervous about labour. (Participant 8, Para[4] zero (P0))

Others stated that they had tried to avoid thinking about the upcoming birth.

> . . . I was sort of, like, ignorance is bliss. I didn't think about it too much, quite deliberately. (Participant 14, P0)

Women expressed a range of fears and anxieties including those around childbirth pain,

> I was very anxious before … I knew it was painful and all and I really worried about that. (Participant 11, P0)

The potential childbirth complications and medical interventions also caused anxiety,

> I was advised that I will get an induction on my due date, which, to be honest, I dreaded. (Participant 15, P0)

These fears and anxieties were influenced by the societal views portrayed in the media, the negative birth stories narrated by friends and family, and the information presented by health professionals.

> I just remember this scene in Friends [a popular sitcom] with like, Rachel pushing her baby out with her legs up and that seems to be the only image I have of giving birth and stuff. (Participant 7. P0)

> So, we saw consultant and it was quite overwhelming, we were given a lot of information, mainly about shoulder dystocia, that put the fear of guts in me even though it was very, very rare. (Participant 9, P0)

Change of emotions and attitudes towards childbirth

Women reported that following attending the class they had felt confident, equipped, empowered, and excited about the upcoming birth. The enhanced confidence was identified as resulting in the alleviation of negative emotions of fear and anxiety and more positive attitudes towards childbirth.

> It was that switch in mindset, (I realised) I was born to do this (childbirth), yeah, more confident, as opposed to seeing it like something to be feared … not be as scared and to like, have that realisation … I left feeling quite empowered, quite excited for my birth, kind of I want to labour, I want to birth my child, … and I felt it gave me the tools to be able to cope with labour. (Participant 2, P1)

The participants described such changes in their emotions as a '*breakthrough*'.

> It (ARC) just changed things. I definitely thought it was a breakthrough. (Participant 9, P0)

Factors contributing to change

'*Understanding of the psychophysiological processes of childbirth*', '*positive stories*', and '*practice of relaxation techniques*' were reported as the main contributing factors to these positive changes.

Understanding of the psychophysiological processes of childbirth

Understanding how maternal emotions can influence childbirth physiology was perceived as one of the main contributors to the change in emotions. This understanding was viewed as a realisation, something that made sense and provided purpose and meaning to the challenges of childbirth.

> . . . describing the whole human chemistry, the science behind that . . . it's a cycle and it's all there for a purpose, it helped, because it gave me like, okay, I know what's going on, I know there is a purpose in it. (Participant 5, P1)

Understanding that they could impact the physiological processes in their body during childbirth seemed to alleviate women's childbirth-related fear and anxiety and gave rise to a sense of active participation in the process.

> I came home with the knowledge of like oxytocin's releasing . . . it was actually really effective . . . there was something I could do to help it . . . (Participant 1, P0)

The birth partners too, reported the emergence of a new understanding, Participant 3's husband said,

> Listening throughout the whole class I kind of went, you know, it actually makes sense, I can understand the theory behind it and kind of really got quite into it. (Participant 3a)

Positive stories

Narrating the positive stories of utilising the relaxation techniques in a range of situations (collected from previous ARC participants) were valued by participants. These stories reminded them of their own abilities and the positive nature of the childbirth experience.

> (I realised) people do have positive birth stories, you know, this is an amazing thing that you're going to be going through . . . it doesn't all have to be horror stories, you're absolutely fine with the right toolkit, you know, you can have a positive birth experience. (Participant 9, P0)

The stories created evidence and hope around the possibility of having a positive experience.

> If people have done it, and I've practised, you know, then I should be okay. (Participant 11, P0)

Practice of relaxation techniques

Women found that putting the discussed theory into practice, in the form of relaxation exercises resulted in experiencing a deep state of relaxation, a state of consciousness which was different from the one experienced during day-to-day life. In this state, they felt focused, calm, yet alert and aware.

> . . . to recognise like a deep state of relaxation. Being able to stop, reset yourself, you just feel so much calmer, but also so much more alert and aware. (Participant 7, P0)

This state was associated with reduced mind activity, relaxation in the body and a sense of being in the moment.

> Felt like I was able to empty my mind and just focus on the breathing and just be a part of that moment, it was so relaxing. (Participant 14, P0)

Participant 10 described the state as '*being present within the body*' and associated it with '*feeling good*',

> . . . when we did the meditation, that was really beneficial . . . to just, I don't know, enjoying my body at the time, be present within my body, it felt really good. (Participant 10, P1)

This state was also defined as an unusual, heightened awareness of one's own body, coupled with alleviated worries.

> It was an odd sensation to feel that you're totally relaxed, but you're not sleeping. I wasn't really thinking about anything, relaxed and aware of my bump, and my body. I wasn't really worrying, thinking about nothing . . . . (Participant 13, P0)

Participant 9 associated this body relaxation and reduced mind activity with a lessened fear of labour pain.

> . . . it was good to see, the techniques put in practice. Just letting go of the idea of pain, just allowing things to happen. Almost like turning it off I suppose. (Participant 9, P0)

Experiencing this focused state seemed to result in the recognition of an inner resource.

Theme 2: recognising an inner resource

The focused and relaxed state experienced during the relaxation exercises was viewed as an altered state of consciousness (ASC), a state that is not usually or naturally experienced during routine daily life. They recognised this relaxed state as an existing inner resource that they could actively evoke to deal with the challenges of pregnancy and childbirth.

Inner resource: during pregnancy

Relaxation practices were used widely during pregnancy and resulted in a range of benefits including reducing anxiety, controlling panic attacks, avoiding stress before undergoing medical procedures, and dealing with insomnia and physical pain. In addition, women and partners reported that entering this state helped maternal-foetal bonding and mental preparation for childbirth.

Participant 1a pointed out the influence of practice on his wife's anxiety,

> When you were pregnant, when she was anxious that would really help, kind of calm you down. I just think you were really relaxed and chilled out by it all. (Participant 1a to Participant 1, P0)

Several participants reported using the techniques for managing insomnia.

> When I was pregnant and struggling with the sleep . . . listened to the relaxation track and every time I would wake up with my headphones in and I had fallen asleep. (Participant 9, P0)

The practice was associated with a sense of wellness,

> You could just switch off and feel good about being pregnant, so it's just a lovely experience. *(Participant 10*, P1)

Some perceived the practice as a way of bonding with the unborn child.

> In the last weeks of pregnancy, I was really calm and when I was calm, she would move around a lot more. So, her movements showed she was calmer as well which was lovely to know. (Participant 6, P0)

Preparation for childbirth appeared to be one of the main motives for practice,

> I listened to the relaxation track most days and just tried to get myself in a good kind of mental space … for the procedure, and I really, really think it helped. (Participant 9, P0)

Inner resource: during labour and/or birth

All women participants stated they had used relaxation techniques during childbirth with the aim of getting into analtered state of consciousness (ASC) associated with feelings of control, calmness, and reduced pain. Participant 16 said,

> I can say I could control myself. I could control the pain … (Participant 16, P0)

The partners noticed such a sense of control in women too,

> You were in control of it all. (Participant 1a to Participant 1)

They frequently called this state '*the zone*'.

> As soon as I felt it (labour contractions) came on, that was when I got into the zone. (Participant 4, P0)

Women experiencing childbirth complications and requiring medical interventions employed their learned skills to induce a sense of calmness and emotional safety during these stress-provoking situations. Participant 6, who had a history of fear of medical procedures explained,

> While the surgeons were trying to patch me up, I knew the calmer I can stay, the better I will be … (Participant 6, P0)

Participant 9 who was extremely fearful of undergoing a caesarean, explained how the use of conscious breathing in the operating theatre helped her to cope with the procedure,

> … I kept breathing really deeply and … I didn't have any tension in my body at all … (Participant 9, P0)

The study participants had a range of childbirth outcomes from straightforward home births to emergency caesarean sections and complications such as major blood loss in theatre, post-partum infection, and long hospital stays. Nevertheless, all participants described their overall experience of childbirth as a positive one. Participant 9 commented,

> Although it wasn't the way I'd imagined having the baby, I don't think I would change it. It just blew me, a really positive experience, a big part of that has been the guidance and the materials from the class. (Participant 9, P0)

Discussion

These findings make a unique contribution to the limited existing knowledge by providing insight into 'how' attending ARC influenced maternal emotions and childbirth experiences. It is suggested that ARC enhanced women's positive emotions (including maternal confidence in her own coping abilities), led to more positive attitudes towards childbirth,

and reduced fear and anxiety. The findings also increased our understanding of 'why' such influence occurred by identifying the main factors that contributed to the influence. These factors were '*understanding the psychophysiological processes of childbirth*', '*hearing positive stories*', and the '*practice of relaxation techniques*'. Through the relaxation practices learned in ARC, women reported accessing an altered state of consciousness (ASC) as an inner resource, which had health-enhancing effects for them. They provided insight into the meaning of this state, an area that remains unexplored in previous research. Such insight suggests promoting and protecting this state during the childbirth continuum may have significant implications for the provision of maternity care. Considering the paucity of qualitative research in the field, these findings can play a unique role in informing the development of more effective educational interventions in the future.

The findings are congruent with an existing small body of qualitative evidence in the field that indicates the influence of education on reducing anxiety and fear during labour and birth (Finlayson et al., 2015) and increasing women's confidence in their own abilities to give birth (Abbasi et al., 2009; Tabib & Crowther, 2018). However, the present study adds to the existing evidence by suggesting that it is indeed the rise in confidence that reduces such fear and anxiety in childbearing women. This suggests the focus of future practice and research should be on promoting and examining childbirth confidence.

The previous quantitative research also suggests that antenatal education on relaxation practices can reduce anxiety and fear towards childbirth (Atis & Rathfisch, 2018; Beevi et al., 2016; Downe et al., 2015; Flynn et al., 2016; Hosseini Tabaghdehi et al., 2020; İsbir et al., 2016; Jallo et al., 2014) although the effect of education on childbirth confidence remains under-explored in quantitative studies.

Participants reported a change of attitudes towards childbirth which motivated the wide use of relaxation exercises as a self-care behaviour for reducing stress throughout pregnancy. This is significant, considering the adverse effects of antenatal stress on the mental and physical health of the mother and child (Kenny et al., 2014). This self-care behaviour during labour enhanced women's coping abilities with labour pain and their childbirth experiences. In addition, women reported that using relaxation techniques during childbirth complications or operative births had positively influenced how they experienced the event. Evidence suggests women experiencing childbirth complications or operative births are often at greater risk of having negative childbirth experiences (Karlström et al., 2011; Waldenström et al., 2004). However, the influence of antenatal education incorporating relaxation practices on the childbirth experiences of these women remains unexplored in the literature. The current study has addressed this gap in the literature, indicating that utilising relaxation practices may protect women from negative emotions often associated with complicated childbirth. Given the increasing rate of complicated childbirth and operative births internationally (WHO, 2015), it is imperative to explore the experiences of these women.

Gaining an enhanced understanding of the psychophysiological processes of childbirth and how maternal emotions can influence childbirth physiology was empowering for women. This supports existing research findings that women's understanding of childbirth physiology can have a reducing effect on their fear and anxiety (Abbasi et al., 2009; Finlayson et al., 2015). Such an understanding seemed to have influenced women's emotional status and beliefs about their own ability to give birth. Emotional status is understood to be a source of self -efficacy (Bandura, 2012). The positive birth stories

shared in ARC provided evidence and hope of the possibility of having a positive experience. Generally, vicarious experiences are suggested to be influential in reducing fear in pregnant women (Stoll & Hall, 2013). Bandura (2012) considers vicarious experiences as one of the origins of self-efficacy.

Direct experience of relaxation practices in ARC provided participants with experiential evidence. They reported experiencing an altered state of consciousness (ASC) marked by alleviated worries and an enhanced sense of confidence and wellbeing. Experiencing this state through relaxation practices provided direct evidence of their capabilities in accomplishing the task. Performance of accomplishment is the most influential source of self-efficacy (Bandura, 2012). Previous research has implicitly identified this state, for example, Finlayson et al. (2015) reported how practice of self-hypnosis enabled women to generate a 'hypnotic state' that became both a source of strength and a place of refuge to manage feelings of anxiety. Nevertheless, the ontological meaning of such experience seems to remain underexplored. In the current study, participants suggested accessing this state (to various extents and not necessarily as a hypnotic state) resulted in a range of health benefits throughout pregnancy and childbirth. This state was considered a respite that they could enter whenever needed, whether it was for dealing with insomnia in pregnancy, coping with labour pain or obstetric interventions. This state was described by women as a deep sense of calmness associated with reduced mind activity and a sense of physical relaxation, a state which is not naturally experienced during routine daily life. Women's description of this ASC resonates with the definition of the Relaxation Response suggested by Benson and Klipper (1975) as '*the biological polar opposite of the Stress Response*' and *'an inducible, physiologic state of quietude'* (pxvii). Relaxation exercises are perceived to stimulate the Relaxation Response (Benson & Proctor, 2011; Dusek et al., 2008) marked with the dominance of the parasympathetic nervous system (Manocha, 2000), and the release of oxytocin in the brain (Ito et al., 2019).

Interestingly, the description of the Relaxation Response (and that of '*the zone*' provided by the current study participants) appear to be starkly like the description of an ASC that women may experience during undisturbed and physiological childbirth. Dahan (2021) describes this ASC as a psycho-physical state of focus associated with peaks in endogenous oxytocin (Uvnäs-Moberg et al., 2019) which increases feelings of calmness (Dahan, 2020), activates the parasympathetic system (Davis, 2017), decreases fear and stress levels, and induces pain relief (Uvnäs-Moberg et al., 2019). Olza et al. (2020) suggest this ASC experienced during physiological childbirth may well be the hallmark of birth in humans, enhancing psychological and physiological experiences of childbirth. However, with the increasing rate of complicated childbirth and operative births internationally (WHO, 2015), a very small minority of women may naturally experience this ASC.

The present study participants stated they used relaxation techniques to get into *'the zone'* when experiencing obstetric emergencies and operative births. These women, despite experiencing challenges, described their overall childbirth experience as positive. This raises a question that may have significant implications for future practice and research: *Could women learn to actively induce an ASC, similar to that experienced during undisturbed and physiological childbirth, regardless of their mode of birth?*

This question appears to remain unexplored in the literature. The neurobiological processes of an ASC during childbirth are known to be responsible for transformative psychological experiences of childbirth and a positive transition to motherhood (Davis,

2017; Hoekzema et al., 2017). Hence, it is plausible to assume that inducing an ASC, particularly during unexpected medical interventions may protect women against the negative childbirth experiences often associated with these interventions.

Strengths and limitations

The focus of the study being on the influence of antenatal relaxation education on maternal psychological wellbeing addresses the gap in previous qualitative research which has mostly investigated the influence of education as a pain management method for labour. The study is unique in providing rich data on the underexplored influence of such education on the childbirth experiences of women undergoing childbirth complications and operative births. This insight enhances our understanding of how women's learning could be materialised in the realities of contemporary maternity services and practices. The diversity of the study participants in terms of age, ethnicity, educational attainments, and parity increases external validity of the study (Rambaree, 2007). Furthermore, including birth partners in the interviews was novel as they are underrepresented in previous research in the field, particularly in the context of the UK NHS maternity services.

The high-fidelity level of the utilised education (ARC) along with its delivery by midwives may facilitate the replicability of it in other settings for future research. Finally, the study is the first one in the field that investigates the influence of a single antenatal relaxation class. Delivering the education as a single session as opposed to multiple sessions prevents attrition and may facilitate the delivery of the education as intended. Previous studies have included multiple sessions or more extensive programmes that may impact the feasibility of the service delivery in the national health systems including NHS maternity services.

The study has some limitations too. Firstly, the findings may be subject to volunteer bias, given that participants volunteered to participate in the study. It is possible that women who responded and took part in the interviews are those who had benefitted more from ARC, particularly given a response rate of 26.5%. Despite including a diverse population of women in terms of ethnicity and educational attainment, over sixty percent of the participants were highly educated white British women. It is acknowledged that the findings might have differed, had the sample been more diverse or from a more disadvantaged socio-economic background. Additionally, it is important to acknowledge the context in which the study data were collected. Although all study participants took part in face-to-face ARC classes held prior to COVID-19 pandemic, some participants gave birth or were interviewed during the pandemic which may have impacted women's anxiety levels (Lebel et al., 2020; Oddo-Sommerfeld et al., 2022) and thus their responses to the interview questions.

An inherent limitation of qualitative approaches is that their findings cannot be extended to wider populations with the same degree of certainty that quantitative studies can. Therefore, a follow-up quantitative study will be conducted to test some of the findings of the current study in a larger sample.

Conclusion

Education on the psychophysiological processes of childbirth along with relaxation practices and narrating positive stories (as vicarious experiences) can change how women view childbirth and the role they play in it. In the current study, the participants' feelings of fear and anxiety towards childbirth changed to confidence, empowerment, and a sense of wellness. The education seems to enable participants to actively induce an altered state of consciousness (ASC) associated with the dominance of the parasympathetic nervous system. Accessing this state to various extents in pregnancy, labour, and childbirth complications appears to have health-enhancing effects, positively influencing maternal wellbeing and childbirth experiences. These findings indicate investment in such low-cost educational interventions by equipping expectant parents with self-care skills may reduce health services utilisation and contribute to efficient health care delivery, especially in the context of the current financial pressures on health services. Further, the study suggests including education on childbirth physiology in an accessible language, stories of positive childbirth experiences, and simple relaxation techniques in childbirth practitioners' conversations with expectant parents may positively influence childbirth psychological outcomes.

Further qualitative research is needed to develop a deeper understanding of ASC, identifying the kind of childbirth education and practices that can promote and protect this state during childbirth. Additionally, examining the influence of antenatal relaxation education on more diverse populations of childbearing women can provide greater insights and lead to tailoring the education to these needs. In conclusion, making antenatal education incorporating relaxation practices accessible to expectant parents may have significant implications for the provision of maternity services.

Notes

1. Using a gender-inclusive language in perinatal related texts is of paramount importance. However, as in the current study none of the participants identified themselves otherwise, the terms 'woman' and 'women' have been used throughout the thesis.
2. Childbirth experience is a woman's subjective perception of the events and feelings connected with the birthing process.
3. Psychological wellbeing may be defined as including hedonic (enjoyment, pleasure) and eudaimonic (meaning, fulfilment, happiness) as well as resilience (coping, emotion regulation, healthy problem solving) (Community Translational Science Team CTST, 2016; NIH Report, 2018).
4. 'Para' or parity, indicates the number of previous births (beyond 20 weeks of pregnancy), for example a woman who has never carried a pregnancy beyond 20 weeks is considered as para zero.

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