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The lived experience of pregnant women receiving chiropractic care: a transcendental phenomenological approach

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Abstract

Background

Conventional obstetric care operates predominantly within a pathogenic framework. Many pregnant women turn instead to complementary and alternative medicine (CAM) therapies such as chiropractic care. These therapies are grounded in a salutogenic framework that emphasizes the origins of health and the optimization of function and adaptability. Chiropractic pregnancy care therefore extends beyond the management of musculoskeletal complaints and encompasses the broader functional demands of pregnancy. However, existing chiropractic research focuses almost entirely on musculoskeletal pain. This leaves a critical gap in how chiropractic impacts the everyday experience of pregnancy. The aim of this study was to examine the lived experience of pregnant women receiving chiropractic care.

Methods

Guided by Husserlian transcendental phenomenology, targeted sampling was used to recruit pregnant women for semi-structured interviews. The interviews were transcribed and analyzed using Moustakas's framework. The primary researcher practiced epoché (bracketing) to minimize bias. This study is reported in accordance with COREQ guidelines.

Results

Ten pregnant women (mean gestation: 34.3 weeks) participated, revealing three overarching essences of the lived experience of being pregnant. First, Self-Determination emerged as participants asserted autonomy over birth choices. Driven by a desire for conservative care, natural childbirth, and the Webster Technique, they navigated through barriers like costs and social skepticism, while past care and personal recommendations acted as facilitators. Second, an Enhanced Pregnancy Experience was achieved through met physical needs (e.g., improved low back/pelvic pain, sleep, and mobility) and positive interpersonal process of care experience. Clinics functioned as supportive communal hubs fostering belonging, where safety was reinforced by trust in their chiropractor's clinical expertise. Third, a Transformative Experience occurred through patient education and the clinical encounter. This nurtured self-awareness, enabling participants to proactively modify daily habits and build pregnancy competence for labor and delivery.

Conclusion

Chiropractic pregnancy care can serve as a holistic pathway toward self-determination, enhanced pregnancy experiences, and a transformation from passive observers to active, empowered participants. These findings emphasize chiropractic's value as a patient-centered prenatal approach within an interdisciplinary care team model. More research is needed to inform clinical practice and the development of referral pathways between chiropractors, midwives, and physicians.

Background

During pregnancy, a woman’s body undergoes profound, rapid anatomical and physiological changes. While this is necessary to support fetal growth, many of the changes adversely impact the physical, mental, and social wellbeing of the pregnant woman and result in common cases of maternal morbidity [1]. These include cardiovascular and circulatory complications (e.g., preeclampsia and eclampsia, gestational hypertension, cardiomyopathy and heart failure, and thromboembolism) [2], metabolic and endocrine issues (e.g., gestational diabetes and severe anemia) [3], systemic infection (e.g., puerperal sepsis) [4], and mental health issues (e.g., perinatal and postpartum depression) [5]. The increased levels of relaxin, thought to be responsible for increased ligament laxity to prepare a woman’s body for the birthing process, also result in compromised joint stability [6]. To compensate, the surrounding musculature compensates through increased and sustained contraction to maintain active stability, leading to muscle fatigue, hypertonicity and spasms [7]. As the uterus expands, the woman’s centre

of gravity shifts forward. Relaxin-induced laxity prevents the pelvis from rigidly supporting this new weight, forcing an exaggerated lumbar lordosis. This combination of mechanical instability, altered weight distribution, and sheer strain on the sacroiliac joints (SIJs) results in pregnancy-related low back pain (LBP) and pelvic girdle pain (PGP) [8–9].

Today, pregnant women attending medical care are managed following a pathogenic framework with a focus on risk of disease or pathology. During the perinatal period, there is an emphasis on screening for disease or deficiencies. During labour and birth, it is to monitore and measure labour progression with an emphasis on detecting obstetric normal from abnormal [10]. While women seeking standard obstetric care are situated within this pathogenic framework focused on risk screening, monitoring, and intervention preparedness [10], pregnant women also use complementary and alternative medicine (CAM). This utilization is motivated primarily by a desire for a natural and safe childbirth, symptom relief without pharmaceuticals, a sense of self-determination and because there is a close affiliation with the philosophical underpinnings of the CAM therapy used [11].

Of the practitioner-based CAM therapies, chiropractic is highly utilized by the general population. Globally, the median 12-month utilization of chiropractic services was 9.1% (IQR: 6.7%–13.1%). Most patients were female at 57.0% (IQR: 53.2%–60.0%), with a median age of 43.4 years (IQR: 39.6–48.0). The most common reported reasons for attending chiropractic care were LBP (median = 49.7%; IQR: 43.0%–60.2%), neck pain (median = 22.5%; IQR: 16.3%–24.5%), and extremity problems (median = 10.0%; IQR: 4.3%–22.0%) [12]. Given that the primary demographic of chiropractic users favors women of reproductive and maternal age, combined with chiropractic's proven focus on addressing musculoskeletal (MSK) complaints [13], it stands to reason that pregnant women would actively seek chiropractic care to address pregnancy-related MSK complaints. In a large cohort of Australian pregnant women (n = 2445), the most prevalent condition reported for consulting healthcare professionals was back pain (39.5%), for which 11.3% consulted with chiropractors [14]. A survey by Allaire et al. [15] of North Carolina certified nurse-midwives found that 57.3% of respondents actively recommended or referred pregnant patients to chiropractors, highlighting chiropractic care as one of the most frequently recommended complementary therapies for managing pregnancy-related musculoskeletal complaints like low back pain. While lumbopelvic pain is a common driver for pregnant women to use chiropractic care, they also utilize chiropractic to addresses other health challenges. This includes, although not an exhaustive list, fetal malposition/malpresentation [16], morning sickness, fatigue, sleep disturbance, headache, acid reflux, constipation [17], and general wellness care [18–19].

To date, only three qualitative studies have been published with a focus on pregnancy and chiropractic care [20–22]. Strydom et al. [20] interviewed new South African chiropractic graduates and found that they felt ill-prepared (e.g., lacked confidence in caring for women with pregnancy-related musculoskeletal complaints), citing a need for increased clinical exposure and expanded course offerings at the matriculation and postgraduate level. Using a grounded theory approach, Bernard-Giglio et al. [21] explored the lived experience, motivations, and barriers of Australian pregnant women seeking chiropractic care for MSK complaints. Four themes were identified in terms of care drivers (e.g., motivation for conservative pain relief), care barriers (e.g., financial costs, lack of medical support/referral), chiropractic care itself (e.g., positive experience), and response to care (e.g., relief of pain and increased function). Sadr et al. [22] utilized a thematic framework analysis to examine the treatment experience and perspectives of both pregnant patients presenting with MSK complaints and their attending chiropractors in Canada. Themes centred around treatment efficacy and symptom reduction for LBP and/or PGP, chiropractor-patient communication and setting clinical expectations, clinical presentation and tailoring the chiropractic approach to pregnant anatomy, safety considerations, the absence of adverse side effects, and patient self-care (e.g., prescribed home exercises).

The core similarities of the studies by Bernard-Giglio et al. [21] and Sadr et al. [22] lie in their qualitative evaluation of chiropractic care specifically for women with pregnancy-related MSK complaints. This focus is congruent with the existing body of chiropractic pregnancy literature, which remains heavily dominated by the clinical evaluation and management of pregnancy-related MSK complaints. The current research literature, therefore, lacks a comprehensive documentation of the rich, multifaceted, and everyday lived experience of pregnant women who view chiropractic as more than just for MSK pain complaints. Because their motivations are inherently diverse and deeply personal, there is an urgent need for transcendental

inquiry—to look past narrow clinical assumptions in an attempt to uncover the universal essence of a pregnant woman's holistic experience with chiropractic care within the wider maternity care landscape. Consequently, the purpose of this transcendental phenomenological study was to explore the comprehensive lived experience of pregnant women receiving chiropractic care.

Methods

Study implementation was approved by the **Human Research Ethics Committee** of Southern Cross University (Approval #2021/112) (Lismore, New South Wales, Australia) and the Institutional Review Board of Life University (Marietta, Georgia, USA). Grounded in transcendental phenomenology, this study investigated the essential meanings of the individual experience by asking: 'What is the core structure of the lived experience of pregnant women under chiropractic care?' To address this question, pregnant women at various stages of pregnancy and receiving chiropractic care were interviewed. According to Husserlian phenomenology [23], researchers must attempt to set aside their biases, assumptions, and scientific facts about the external world in the process known as epoche or bracketing in order to uncover the fundamental essence of the lived experience. Intentionality (the property of conscious mental states to direct towards or about an object [24]) ensures that the experience is not just a random internal or external event. Husserl introduced two complementary elements of intentionality to further clarify how this directedness unfolds in practice - noesis and noema. Noesis is the specific mental operation that directs attention toward the phenomenon to make sense of the experience. Noema is the objective content or target of that conscious act [25]. In this instance, the lived experience of pregnant women receiving chiropractic care.

Participants and Recruitment

A criterion-based sampling strategy was implemented to select participants with predefined eligibility requirements. Inclusion criteria for study participation include women: (a) currently pregnant, irrespective of stage of pregnancy, (b) currently receiving chiropractic care, regardless of motivation, (c) proficient in reading and speaking English, (d) possess internet access and capable of video conferencing (i.e., Zoom). [26]

The primary researcher, a practicing chiropractor, leveraged his professional networks and engaged six colleagues from the United States known for providing care to pregnant women. These practitioners were asked to assist in inviting their patients to participate in semi-structured interviews to explore their experiences with chiropractic care. Recruitment materials, including informed consent forms and study information sheets, were distributed through these providers. Ultimately, participants were successfully secured from four urban chiropractic clinics located in Florida, Massachusetts, Pennsylvania, and Georgia.

Prior to their participation in this study, the primary researcher had no prior professional or personal relationship with any of the participants. The researcher was known to them only as a PhD candidate conducting research into the lived experience of pregnant women receiving chiropractic care.

Data Collection

Potential participants meeting the inclusion criteria contacted the principal investigator by text messaging or email. They provided a signed Informed Consent and agreed to interviews via Zoom [26–27] were scheduled. These interviews were conducted via Zoom from the private residences of both the researcher and the participants. No other individuals were present during the Zoom interviews. Interviews lasted approximately 30 to 45 minutes. No repeat interviews were conducted with participants. Prior to each interview, verbal consent was also obtained. Data collection relied on an interview guide (see Table 1) composed of open-ended questions to elicit authentic participant responses. Targeted follow-up questions encouraged participants to provide rich and in-depth descriptions of their experiences.

Prior to the semi-structured interviews, the primary investigator engaged in critical reflexivity to explicitly address how his comprehensive background in chiropractic pregnancy care—spanning clinical practice, post-graduate instruction, and clinical research— might influence his interaction with study participants. To document this internal assessment and accountability

and maintain transparency, a reflexive journal was utilized before and after each interview, mapping out personal reactions and thoughts to ensure the data collection remained focused purely on the narratives of the pregnant participants.

Table 1
Semi-structured interview guide

Question #	Leading question(s)	Follow-up question(s)
1	How did you become a chiropractic patient?	Did you do any research on chiropractic before you decided on chiropractic care during your pregnancy? Is chiropractic something that resonates with your view of health and healthcare? How does chiropractic fit in with other types of care you may be receiving? Did you experience any barriers (or facilitators) to becoming a chiropractic patient? If so, how did the facilitators help you to become a chiropractic patient? What barriers or challenges did you experience to becoming a chiropractic patient? How did you overcome these barriers? Did you feel that these barriers were out of your control? Without identifying your chiropractor, did your chiropractor or their staff help you in any way to overcome these barriers? If so, how did they do that?
2	What has been your experience with chiropractic care so far?	How has chiropractic addressed the complaints/symptoms you were experiencing? Are there other types of benefits have you experienced with chiropractic care? Now that you have experienced chiropractic care, do you feel that chiropractic care is safe? Have you ever experienced any symptoms that didn't feel good with the chiropractic adjustment? Are there things that stand out to you in the way your chiropractor or their staff treated you? If so, please tell me about them. Did you feel that you were part of the decision-making process with your care plan? Why or why not?

The interviews captured both audiovisual and audio data. **To ensure participant confidentiality, each interview file was labelled with a study code; for reporting, participants were assigned neutral codes (P1–P10) in random order, and the key linking codes to identities was stored separately and accessible only to the primary researcher.** At the beginning of each session, each participant provided their sociodemographic (e.g., age) and clinical information (their gestational age at the time of the interview and at the initiation of chiropractic care). The interviews were continued iteratively until data sufficiency [28] was achieved, ensuring the narratives possessed adequate breadth and depth to fully capture the phenomenon of interest.

Researcher Bracketing (Epoché)

Before beginning the data analysis phase, the primary researcher systematically enacted epoche (bracketing) to deliberately suspend his clinical, educational, and research expertise regarding chiropractic pregnancy care. Specifically, the investigator suspended following: (1) the biomechanical and pathophysiological lens, (2) the impact of trimesters of pregnancy, (3) expectations of chiropractic's therapeutic efficacy, (4) diagnostic and biomechanical frameworks regarding prenatal spinal

and overall health, (5) use of healthcare-centric jargon, and (6) a defensive professional stance regarding the validity of chiropractic pregnancy care. By consciously bracketing this clinical knowledge, the coding and thematic synthesis were insulated from the researcher's bias as far as possible, ensuring the final themes emerged directly from the genuine, lived experiences of the pregnant women.

Data Analysis

Audio recordings were transcribed using Microsoft 365 software (Microsoft, Redmond, WA). Transcripts were not returned to participants for comment or correction. Prior to conducting subsequent interviews, the primary researcher carefully reviewed each transcript and/or audio file to identify emerging insights and inform new lines of questioning. The transcripts were imported into the NVivo software (Version 14) for further analysis [29].

The data analysis followed the transcendental phenomenological method prescribed by Moustakas [30–31]. This process begins with epoche (bracketing), followed by familiarization with the data through repeated reading of the transcripts to initiate horizontalization, where every relevant statement was treated with equal weighing or value. Overlapping or redundant statements were eliminated to isolate invariant horizons (i.e., unique, essential statements). These invariant horizons were then clustered into core themes. Through imaginative variation (i.e., mentally varying the perspectives, frames of reference, and contexts of the invariant horizons), structural descriptions (depictions of how a phenomenon is experienced) were then derived from the textural descriptions (i.e., what was experienced). Finally, these textural-structural descriptions were fused to construct the essence(s) of the participants' lived experience.

Rigour and Trustworthiness

To establish rigour and trustworthiness in the data, four criteria were applied: credibility, dependability, confirmability and transferability [32]. Credibility was achieved by prolonged engagement with the data by the principal investigator and regularly scheduled peer debriefings with the co-authors, who possess clinical and methodological expertise in pregnancy care, chiropractic care, and phenomenology.

To ensure confirmability, the researchers documented each stage of data analysis and engaged in peer debriefings to neutralize any conscious or unconscious biases that could influence the findings. Dependability was achieved with explicit description of the methods applied in this study. Specifically, how participants were recruited, the interview setting, how the interviews were recorded and the audio files transcribed, and the use of NVivo. Transferability was established through the provision of a thick description of the participants' demographic and geographic backgrounds. Participants were women residing across diverse regions of the United States, capturing experiences from urban and suburban contexts. Thoroughly documenting these contextual boundaries, regional variations, and specific purposive sampling criteria provides sufficient detail to enable future researchers and clinicians to determine the applicability of these phenomenological findings to other geographic or clinical settings. Participants did not provide feedback on the study findings. The Consolidated Criteria for Reporting Qualitative Research or COREQ [33] was applied in the reporting of this qualitative study. A completed COREQ checklist is provided as Additional file 1

Findings

Participant Characteristics

A total of 10 pregnant women participated in the study. The participants' socio-demographic and clinical characteristics are summarized **in aggregate** in Table 2. At the time of the interview, the participants were at a mean week of gestation (WoG) of 34.3 weeks (SD = 4.4). **Chiropractic care was initiated in the first trimester by five participants, in the second trimester by two and in the third trimester by three, at a mean WoG of 15.4 weeks (SD = 14.3; n = 8).** The majority of participants (n = 9) were under chiropractic care **for** a mean of 18.8 weeks (SD = 10.5) at the time of the interviews.

Table 2
Summary of participant sociodemographic and clinical characteristics

Characteristic	Participants (n = 10)
Age, years, mean (SD)	**30.9 (4.9)**
Age group, n: <30 / 30–34 / ≥35 years	**2 / 6 / 2**
Weeks of gestation at interview, mean (SD)	**34.3 (4.4)**
Trimester at interview, n: second / third	**1 / 9**
Trimester at initiation of chiropractic care, n: first / second / third	**5 / 2 / 3**
Weeks of gestation at initiation of care, mean (SD)	**15.4 (14.3)**
Weeks under chiropractic care, mean (SD)	**18.8 (10.5)**
Trimesters defined as first < 14 weeks, second 14–27 weeks and third ≥ 28 weeks. n = 8; two participants reported a range (28–39 and 1–12 weeks) and were assigned to the third and first trimesters, respectively. n = 9; one participant reported a range (1–11 weeks).	

Overarching Essences

Phenomenological reduction revealed three overarching essences from the transcripts to capture the core essence and its constituent meaning units of the lived experience of pregnant women undergoing chiropractic care:

Self-determination

Participants utilized chiropractic pregnancy care as a means to assert their independence, ensure their ability to successfully navigate and control their pregnancy and birth preferences.

Enhanced pregnancy experience

Through chiropractic care, participants were able to actively maintain their daily functioning across physical, mental, and social dimensions, in a reassuring environment that optimized their overall pregnancy experience.

A transformative experience

The chiropractic clinical encounter and an understanding of chiropractic's underlying clinical framework for pregnancy care resulted in a cognitive shift - a transformation among participants - that fostered an entirely new perspective on chiropractic pregnancy care. Heightened levels of optimism, capability, and confidence about their pregnancy and their capacity for labor and childbirth was cultivated.

These themes and their subthemes are summarized in Fig. 1.

Overarching Essence 1: Self-Determination

Self-determination was the first overarching essence emerging from participant narratives. This was immediately apparent in the participants' strong desire to experience a specific pregnancy experience and in the type of prenatal care received.

I would say that I feel like I'm in the driver seat of the situation and I feel like I've made a lot of decisions that have made me feel better both physically and emotionally about how this pregnancy is going … but I think that I've made choices that support what I want or what I'm looking for out of this. (**P10** *).*

The overarching essence of self-determination was informed from three distinct but interconnected core themes: participant motivations for seeking care, the barriers encountered when accessing chiropractic services, and facilitators that enabled access to chiropractic care.

Core theme 1: Participants' Motivation for Chiropractic Care

Under the core theme of motivation for care, the analysis revealed constituent meaning units that reflect a deep sense of self-determination guided by deeply held beliefs, values, and attitudes toward health. For the majority of participants, these constituent meaning units were defined by an intentional preference for conservative, non-invasive, and non-pharmacological interventions, stemming from a fundamental belief in the body's innate ability for self-healing.

I like the idea of using less medical intervention or medications because of just the effects that they can have on your body during and after and that actually gives me more anxiety than just going for it the old-fashioned way. (**P8** *).*

This conservative healthcare paradigm naturally extended to the participants' approach to prenatal healthcare. This was heavily influenced by their concerns of adverse effects of medication exposure to their unborn child, a strong desire to experience a natural childbirth, to avoid a Caesarean birth and a birth without the use of epidural or opioid analgesia) or the use of induction (i.e., Pitocin).

I very much do not want to have a C-section so that's kind of first, and I also did not want to be induced and … I didn't want any sort of medical induction … which I feel like almost everybody that I know who's had babies in hospitals recently has been induced at 39 weeks. (**P10** *).*

Most participants chose a midwife as their prenatal provider to secure their desire for home births, viewing hospital deliveries as a threat to their personal autonomy and birth experience. They argued that institutional hospital care prioritizes risk management, legal liability, and bureaucratic policy over the physiological and emotional needs of the maternal-fetal dyad.

I don't necessarily consider myself to be a huge control freak, but I just feel like there is a lot of things in hospitals that are kind of like standard practice that aren't necessarily better for the baby or the mother and they're just kind of like protecting sometimes – I guess liability sometimes in a hospital setting and I don't want those to be the motivators. You and I understand there's … a degree of risk in any birth, regardless of your setting, but it's like I don't want the way it goes down to be dictated by a policy just because insurance says so, you know, so that is more my problem with it. I feel like if they weren't so rigid on policy type things or if it was truly always an evidence-based thing, then I wouldn't necessarily want to fight with all of it. I just don't think that it always leads to better outcomes. (**P10** *).*

With a focus on optimizing spinal alignment, pelvic balance, and nervous system function, chiropractic aligns well with a holistic approach to pregnancy since the approach treats the body as an interconnected system rather than a set of isolated symptoms.

The only thing that comes to mind, which is something that was already on my radar to some degree, but it's really just how everything is connected — and when he does adjustments somewhere else, then all of a sudden that's gonna make that feel better, way over there... just how everything is connected... in chiropractic care... So again I kind of had that mindset a little, but I ignore it sometimes if it's inconvenient... but actually seeing it in chiropractic care is pretty interesting and can be very surprising. (**P1** *).*

A subset of participants intentionally sought out a Webster-certified chiropractor, identified through a variety of ways such as independent online research, midwife referral, or social media parenting groups. This reflected a targeted effort to support their goal of a natural, low-intervention birth.

Yeah, I'm … in planning a home birth and my midwife told me, ah, what would be really important is to get a chiropractor that was familiar with Webster Technique. (**P9** *).*

Under the core theme of motivation for care, several constituent meaning units highlighted how escalating pregnancy-related MSK complaints (e.g., LBP and/or PGP) led many towards chiropractic as a natural choice. Their goal was twofold: both to restore their daily function and to prevent further disability. Furthermore, these constituent meaning units revealed an

underlying anxiety; participants worried that persistent pain might signal deeper, unknown risks to their unborn child that fell outside their own medical knowledge.

Core theme 2: Barriers to Receiving Chiropractic Care

Within the core theme of barriers to chiropractic care, several constituent meaning units emerged that directly threatened participants' self-determination. For the majority of participants, the most prominent of these constituent meaning units was the financial strain imposed by a lack of insurance coverage and prohibitive out-of-pocket costs.

Insurance is a big one. Money. For my last chiropractor I was paying a copay, and they did go through insurance up until I hit a certain amount and then I had to pay out of pocket. Then, with this office that I'm in now, there was no option to have them do any insurance paperwork and I had to pay up front for a certain number of visits out of pocket …. I felt that was the right decision for me and I decided to go ahead and pay out of pocket. But it took a while to think about that and make that decision and I can imagine people in other financial circumstances that that would just be a complete barrier to [chiropractic care]. (**P6** *).*

Another constituent meaning unit involved interpersonal barrier from family and friends as a result of bias against chiropractic, often fueled by anti-chiropractic sentiments on social media such as safety concerns regarding the adverse risks (e.g., stroke) of cervical spinal manipulation or others people's past negative experiences with chiropractic.

When I did tell relatives, they would tell me, 'I've gone to chiropractors before, and I've tried to do all these things and it just didn't help. It didn't do anything. I just think it's a made-up thing, I don't even know if they could actually really fix you.' (**P9** *)*

Someone even asked me, 'Are chiropractors even considered legit in a way? Are they even real or do they even do anything?' I had to fight back those things because it was the path that I was taking. (**P9** *).*

I didn't know the difference between a chiropractor who couldn't specialise with pregnant women as opposed to just going to a regular chiropractor; my friend actually helped me. She knew you have to look for their certification, actually talk to them and find out. For example, have they worked with pregnant women before … (**P8** *).*

Participants struggled to find practitioners within their geographic locale with the necessary chiropractic expertise, while simultaneously feeling overwhelmed by the time commitments with high-frequency visits, such as visiting a clinic three times a week.

I don't really have any prior experience with chiropractic care. This is my first chiropractor. The only chiropractor I've seen. When I think about how much the pregnant body is changing and preparing for labour and delivery, and obviously the recovery afterwards, it sort of made sense. Especially as an elderly primipara and I'm 39 weeks pregnant. So, it made sense to me to go more frequently to kind of keep everything sort of in tune. (**P8** *).*

Core theme 3: Facilitators in Accessing Chiropractic Care

Under the core theme of facilitators to chiropractic care, midwives became a convincing force within the participants' constituent meaning units. While social circles pulled participants in opposing directions to chiropractic care with some offering strong recommendations and others opposed, it was the professional recommendation of their midwives that carried the most significant weight, particularly with a chiropractor trained in the Webster Technique.

My midwife suggested this particular chiropractor … She was the one who referred me there and she personally had experience with seeing her [the chiropractor] through her pregnancy. So just knowing someone who had gone, and experienced relief was the biggest thing for me. (**P6** *).*

For many participants, previous experience with chiropractic care made its utilization during pregnancy a natural, logical progression.

Well, I think, even though I stopped going in high school, I feel like I had like kind of a general understanding that like maintenance type work is still good for you and that there's a benefit in going just beyond the 'I got the issue solved' kind of thing and … (a) I know that, but (b) I also [feel] like there's a little bit of fear of if I do not continue going regularly that the pain would come back … - maybe not right away, but like I would do something that would kind of trigger it to return - and so I feel more comfortable maintaining like regular visits than putting that up to chance again. Also I am planning to have, you know, a low intervention kind of medicine-free birth and I feel like if I can keep my hips happy, leading up to that point, then I think that that just works in your favor ... (**P10** *).*

Overarching Essence 2: Enhanced Pregnancy Experience

The second overarching theme identified from the interviews was an enhanced pregnancy experience. Chiropractic care facilitated the participants' ability to maintain a sense of physical, mental, and social normalcy. The participants felt a sense of safety for themselves and their unborn child along with a positive outlook towards their upcoming labour and delivery. This overarching essence was comprised of three distinct core themes: (1) a high patient satisfaction with chiropractic care, (2) perceived support during prenatal treatments, and (3) feelings of safety throughout the clinical experience.

Core theme 1: Experience of High Sense of Patient Satisfaction with Their Chiropractic Care

Participants expressed high levels of satisfaction with their chiropractor and the care they received. This positive sentiment was illustrated with statements such as:

… it's also been really nice, so like the practice that I go to. I really like the woman that I see and she's also been super… It's nice to have another person who like focuses on pregnancy kind of in my circle of care, because every day that I get there, like, she's always asking how I'm feeling… (**P10** *).*

I'm really thankful that I've found this practice (**P6** *).*

I've been really happy with my experience overall (**P7** *).*

Chiropractic care successfully addressed participants' primary motivation for seeking treatment, providing the expected relief for their LBP and PGP.

As far as my back pain [is concerned], it's definitely improved from going to chiropractic care. (**P2** *).*

Beyond achieving symptomatic relief, the participants also reported notable improvements in their overall quality of life (QoL). These included enhanced physical functioning, optimized sleep quality and duration, reduced anxiety levels, and the proactive prevention of future pain or physical disability.

I think it definitely positively impacted my wellness while pregnant just because … I had such issues getting around with standing up, sitting down, walking – and this was before I was really bearing any weight related to the pregnancy. So, it's definitely improved my quality of life there, but also I feel like I've got a lot of other lifestyle solutions too. (**P10** *).*

Beyond the technical process of care (e.g., spinal manipulation), participants highlighted a highly positive interpersonal process of care experience. They characterized their chiropractors as warm, friendly, and attentive listeners who actively addressed their clinical needs and concerns. Furthermore, the interpersonal dimension was strengthened by clear explanations of the procedures performed, which ultimately allowed patients to feel actively involved in the collaborative decision-making process.

I think that she's very warm and friendly. I don't know if I've said this to her directly, but on reflection it feels like a very therapeutic session for me to go into her office. There are massage chairs to sit in, which is really soothing. And just hearing from her. I think too, it's a lot to do with how she has set up her practice, and how she is as a person in addition to the chiropractic care itself. So, a little bit of the interpersonal relationship, the context or the environment, and the actual treatment. (**P4** *).*

Core theme 2: Feelings of Support During Their Pregnancy Care

Another core theme contributing to the women's enhanced pregnancy experience was the cultivation of comprehensive social support consisting of external and internal networks. Within the chiropractic setting, the clinic functioned as a communal hub allowing for interactions among the participants, chiropractors, office staff, and other patients. Participants indicated a profound sense of belonging. This community provided a venue for the participants to share and discuss their personal experiences with pregnancy and chiropractic care, allowing for information exchange and collaborative discussions regarding individual or mutual concerns.

The community spirit that has been fostered at the chiropractor's office, directly with the chiropractor, office manager, and then with the other people who are coming in and out of the office … that has been a real positive that I didn't know existed until I got started with chiropractic care. (**P4** *).*

Participants valued their interaction with their chiropractor beyond the technical process of care and voiced their positive interpersonal process of care experience with chiropractors that consistently monitoring the participants' well-being and demonstrated comprehensive, patient-centred communication.

Each time when I get there … she's always asking how I'm feeling … if there's anything new. … [I] feel like she's given me a lot of good advice outside of pregnancy. Some of it's related to alignment, and some not. It's just addressing … wellness while pregnant, so I feel it's been a really nice addition to my prenatal care beyond just the adjustment itself. (**P10** *).*

Core theme 3: Feelings of Safety with Chiropractic Care

Perceived safety of chiropractic care emerged as another core theme contributing to the participants' enhanced pregnancy experience. Their feeling of safety was rooted in three factors: trust in the chiropractor's specialized expertise, an underlying belief in the safety of chiropractic care, and a lack of concern following minor, self-limiting adverse events. The latter two factors likely originated from the participants' prior and ongoing experiences as chiropractic patients, which effectively normalized the care process.

I felt like the chiropractor, Doctor XXX specifically, he had done it for 30 years … nothing it seemed new was under the sun to him. So I just, in a way, I had a lot of confidence that whatever he was going to do, ... he's done it a million times before and I was just extremely comfortable and was ready to do whatever it took. (**P9** *).*

I think it's safe. A lot of people that do it … so I think for me surrounding myself with people that are kind of … are open to that … because I am open to that. I think is helpful because they're my pregnancy care doctors. (**P8** *).*

Overarching Essence 3: A Transformative Experience

The third overarching essence to emerge from participant interviews was a transformative experience. This transformation was driven by three core themes: (1) acquiring new knowledge and experience, (2) developing self-discovery and awareness, and (3) gaining an increased sense of pregnancy competence.

Core theme 1: New Knowledge and Experience

Chiropractors actively educated their patients on the importance of pelvic balance and reducing intrauterine constraint to optimize foetal positioning for birth, demystify the mechanical stresses caused by a shifting centre of gravity and the effects of the hormone relaxin, functional ergonomics, the importance of diet and exercise, etc.

From that vantage point, as far as balancing my pelvis, getting baby into the right position so that we can hopefully avoid a C-section, induction, things like that... Positioning and balancing of body to get baby into the right position (**P7** *)*

...as the relaxin kicked in... he gave me exercises (DAN1752).

Core theme 2: Self-Discovery and Awareness

Participants' experience with chiropractic care fostered a sense of self-discovery and increased bodily awareness. Specifically, participants became more conscious of their own posture, others' physical alignment, and how daily activities impacted their frames. This heightened awareness allowed them to actively recognize which daily habits either alleviated or worsened the structural stresses associated with the dynamic changes associated with pregnancy.

Obviously visible at first there were definitely some things that were out of place and I could not function right. Now I'm just extremely conscious about how I sit. How I'm walking. I don't like to put too much weight on one side. I like to stand up straight and try to evenly distribute my weight. No crossing legs when I'm sitting down. I just try to do a lot more things that I'm really conscious of and then when … I do those things, I can feel my mind say 'OK, don't do that 'cause you're just going to reverse whatever the chiropractor is trying to do. (**P9** *).*

Participants experienced far more than their presenting MSK pain complaints with chiropractic care. Beyond experiencing improved physical functioning and an improved QoL, participants reported relief from a broad range of concurrent pregnancy symptoms, such as headaches, heartburn, restless leg syndrome, and urinary incontinence. Additionally, the care provided a deep sense of general prenatal support that enhanced their overall wellbeing.

One of the first visits that I had with this chiropractor I had mentioned … that I was experiencing some urinary incontinence, and she was like, 'Oh, we can fix that with XYZ and make that better.' And I really just had no sense that those things were connected, that that could be solved by a chiropractor. And so I have definitely learned a lot more about how balance within your body can … affect things. In my mind I was like, 'Oh, it has to be managed by a urology doctor or whatever.' … So, I've learned a lot through my time. (**P4** *).*

Core theme 3: Increased Pregnancy Competence

Driven by their experience with chiropractic care and new knowledge, the participants demonstrated an increase in pregnancy competence. This empowerment allowed them to successfully navigate physical demands of pregnancy, protect their mental health by reducing anxiety and stress, and effectively prepare them for an easier, shorter labor and delivery process.

I hope it'll be similar to my past experiences and again, I realise I'm … a lucky duck … I don't have the whole day of labour so I'm hoping for a relatively quick labour and delivery. And hopefully the chiropractic piece will help with the baby positioning and the round ligament stuff … I don't know … I'm not a medical professional, but just positioning and preparing my body for labour, just hoping it'll make it a little bit easier. (**P5** *).*

Participants' experience with chiropractic also increased their belief in their ability to manage their own prenatal health. Ultimately, the combination of patient education and verbal encouragement from their chiropractor successfully enhanced their competence in self-care.

I suppose there's some mental reassurance that goes along with that, you know, knowing that you're doing everything that you can, and, you know, things that I suppose helped more from a mental well-being standpoint. (**P7** *).*

Discussion

Summary of Core Findings

This phenomenological study found three essences of the lived experience of pregnant woman receiving chiropractic care. The first was self-determination, as explicitly mirrored in Self-Determination Theory (SDT). The core principle of SDT is that human beings have an innate tendency towards growth and health, which is unlocked when three basic psychological needs are met: autonomy, competence, and relatedness [34]. In the context of this study, chiropractic care fulfilled their needs for autonomy (e.g., the ability to make healthcare decisions to align with one's values, preferences, and needs regarding their pregnancy), competence (e.g., having the self-efficacy and mastery required to meet the physical and physiological demands

of pregnancy) and relatedness (i.e., a sense of belonging and having a connection through interpersonal relationships) [34–35]. By actively seeking out a conservative and holistic approach to pregnancy care that aligned with their values such as a planned natural home birth and the use of the Webster Technique to optimize pelvic alignment and reduce soft-tissue tension during pregnancy, the core theme of “motivation for chiropractic care” reflects participants’ autonomy and competence. In contrast, barriers to chiropractic care such as cost and financial constraints and social bias against chiropractic compromised participants’ sense of relatedness. Conversely, facilitators to chiropractic care such as positive past experience with chiropractic fostered a sense of competence while recommendations from midwives, friends and family as well as membership in a community nurtured relatedness.

The finding that self-determination serves as the overarching essence of the lived experience of pregnant women under chiropractic care aligns with foundational principles of maternal advocacy supporting a woman’s right to autonomy, informed choice, and active participation in their pregnancy and childbirth [36]. However, the institutionalization and medicalization of pregnancy and childbirth have transformed this process into a pathological scenario requiring unnecessary interventions [37]. Mascarenhas Silva et al. [37] found that a woman’s ability to decide care related to maternity and the choice of method of childbirth was impacted by several elements despite their right to choose. These include the maternity care model (e.g., medical/pathogenic versus midwifery/salutogenic), interactions with health professionals (e.g., hierarchical or medical practitioner-centred), and the influence of family and friends, along with the women's own favorable or unfavorable experiences.

Several studies, both qualitative and quantitative, have demonstrated that self-determination impacts a woman's pregnancy and birth journey. A 2016 scoping review of what women want, need and value in pregnancy found that positive pregnancy experiences depended on women having autonomy and competence in navigating pregnancy/motherhood and being validated in one's own beliefs and embodied interpretations of pregnancy rather than having care imposed as a purely biomedical process [38].

The core themes of patient satisfaction, feelings of support, and perceived safety collectively operationalize what the World Health Organization’s guidance for antenatal care for pregnant women considers a positive pregnancy experience [39]. The findings from this study demonstrate that when a participant’s expectations of their healthcare needs are met that includes high interpersonal process of care experience, they are highly satisfied. Participants believed that chiropractic care is safe, giving them peace of mind. This in turn fostered their clinical encounter into a secure, empowering space that optimized their pregnancy and pregnancy care experience. Social support (e.g., feeling cared for, receiving knowledge or guidance, practical tangible help, and positive or constructive feedback) created a sense of community among participants. According to Downe et al. [38], a sense of community fosters health education, confidence, the sharing of information and allows the community as a whole to address problems and take action. Ultimately, social support acted as the catalyst that operationalized the enhanced pregnancy experience. For example, a strong support network (e.g., chiropractor, family, and other pregnant women) validated the participants’ choices, resulting in an emotional safety shield that helped her feel physically safe and relaxed during her chiropractic visits.

The second core essence was that chiropractic care resulted in an enhanced pregnancy experience characterized by high patient satisfaction, a sense of safety, and feelings of support that directly resonates with the themes of contemporary obstetric and midwifery literature. Pregnant women receiving midwifery-led continuity of care (MLCC) reported significantly higher satisfaction across key prenatal domains (e.g., personal treatment and education and information), had superior birth experiences (e.g., 88.5% of women in the MLCC group rated their birth experience as "very positive" or "outstanding," compared to 74.4% in the standard care group), greater overall satisfaction (e.g., overall care satisfaction during labor and birth was significantly higher for the MLCC group (96.2%) than for the standard care group (84.8%) and greater overall satisfaction[40].

To examine the concept of emotional safety in maternity care, O’Reilly et al.’s [41] systematic review found that the results of emotional safety for pregnant women were a “positive impact on experience”, “feeling empowered”, and “improved outcomes”. Several studies have demonstrated that pregnant women who perceived adequate social support during

pregnancy were less likely to report stress, distress, or symptoms associated with anxiety and depression, whereas low social support was positively correlated with antenatal depression and antenatal anxiety [42].

The final core essence, transformative experience, was described by participants as a progression that began with new knowledge and experience, followed by self-discovery and awareness, and lastly, increased pregnancy competence. Participants described how the experience of pregnancy and attending chiropractic care shaped their understanding of their pregnancy and its associated health challenges. The chiropractic clinical encounter involved patient education, including the how and why of the Webster Technique, and assigned home exercises/activities such as home stretching routines, pelvic floor stabilization exercises, and prenatal posture modifications. This transformed a pregnant woman from a passive recipient of healthcare into an informed, active participant in her and her unborn child's health, giving her foundational new knowledge and experience. Participants described how new knowledge and experience did not remain static, but were internalized and reflected upon, prompting self-discovery and increased awareness. For instance, participants explained that as chiropractors educated them on prenatal biomechanics, posture, pelvic alignment, and the purpose/intent of the Webster technique, they gained a deeper understanding of their own bodies during pregnancy — an awareness they described as unexpected or newly gained. This assisted the pregnant women to develop a heightened sense of their own body and to transition from a passive observer to an active interpreter of their own body, learning to move differently, and how to maintain good posture given their changing physical structure. Our findings suggest that ultimately, this transformation culminates in increased pregnancy competence. The woman transitions into an empowered agent so that when physical discomfort arises, she no longer acts as a passive patient waiting to be "fixed" by their chiropractor. Instead, they utilize home stretches, self-correcting their posture, instituting proper ergonomics, and attending their scheduled chiropractic visits.

The overarching essence of a transformative experience for the pregnant women as outlined above directly mirrors the transformative factors identified by continuous maternal care models, which demonstrated that educating pregnant women about their bodies, physiological changes, and internal signals (e.g., body literacy) and autonomy-supported care shifts a woman's self-concept from a passive consumer to one that actively commands their pregnancy [43], and directly addresses the critical need of cultivating maternal self-efficacy which has been documented in broader obstetric literature [44].

Clinical Implications

Although by no means an exhaustive list, the findings from this study offer valuable insights and guidance for shaping, refining, and optimizing chiropractic pregnancy care.

Self-determination

The overarching essence of self-determination shifts the focus of chiropractic pregnancy care from a purely physical and passive clinical treatment to one that empowers the patient throughout their pregnancy and beyond. Chiropractic care should be framed "beyond neck pain and LBP" as an approach to care that supports a woman's self-determination to achieve their desire for a natural pregnancy and birthing experience. Misinformation about chiropractic pregnancy care should be mitigated with chiropractors providing clear, evidence-based educational resources regarding the safety [45–46] and effectiveness of chiropractic care [47–49]. Proactively alleviating anxieties about the safety of chiropractic care for both the mother and fetus involves demonstrating to the patient the use of pregnancy pillows for patient comfort and a modified, low-force technique such as the drop table or the Activator instrument is essential before initiating care. The patient should be offered transparent, flexible scheduling to accommodate individual schedules and provide a childcare-friendly clinical environment to alleviate logistical stress. To mitigate any financial stress, payment structures should be transparent.

Enhanced Pregnancy Experience

The chiropractor should expand clinical success metrics beyond standard pain scales to include quality-of-life indicators, such as improved sleep quality, increased mobility, and overall daily comfort during pregnancy [19, 50]. Good interpersonal process of care (IPC) experience is critical to ensuring patient satisfaction [51]. The attending chiropractor should ensure good doctor-patient communication. For example, the chiropractor should eliminate ambiguity by presenting examination

findings/diagnosis, treatment pathways, and mechanical risks in a language that the patient understands. Patient concerns should be elicited and responded to appropriately. The chiropractor should actively listen and take seriously the patient's questions, fears and pregnancy goals and allow the patient to be part of the clinical decision-making process. Patients who fully understand why a specific procedure or care protocol is being recommended and that they are part of the decision-making process report higher confidence in their provider [52–53]. The clinic environment should be welcoming with communal seating areas where pregnant women and other patients interact with each other, turning the waiting room and treatment room (i.e., an open-adjusting environment) into an organic social hub.

Transformative Experience

Patient education is a widespread component of practical chiropractic care. A scoping review by Pritty et al. [54] demonstrated that chiropractors routinely integrate direct instruction on topics like lifestyle, ergonomics, diagnosis, and pain education into their multimodal treatment plans. The chiropractor should provide detailed instructions on the correct and safe way to perform stretching and strengthening protocols, proper lifting techniques, sleep positions, and daily biomechanics/ergonomics to eliminate mechanical triggers and prevent re-injury. The pregnant woman should also be counselled on holistic wellness and lifestyle factors. What has become apparent in this study is that pregnant women present for chiropractic care beyond pregnancy-related MSK complaints. For example, in addition to providing advice on hydration and sleep and rest strategies, chiropractors have sufficient training to advise on a variety of adjunctive therapies that include weight management, and diet and nutrition.

Chiropractic pregnancy care operates on the foundational premise that an intimate relationship exists between spinal structure and neurological function such that proper biomechanical alignment is essential for the nervous system's capacity to self-regulate and heal [55]. Chiropractic care, utilizing a multi-modal approach (e.g., chiropractic spinal manipulative therapy and mechanical traction), effectively restores objective biomechanical parameters including cervical lordosis [56–57], lumbar curvature [58], and pelvic alignment [59–60]. In this respect; *g*iven its widespread clinical adoption, the Webster Technique has, in fact, become a recognized standard of care within prenatal chiropractic practice. The clinical and theoretical framework of the Webster Technique is to reduce the effects of subluxation and/or dysfunction of the sacroiliac joint to restore the neurobiomechanical function in the sacral/pelvic region [55]. By correcting the underlying structural deficiencies in the pelvis and the rest of the spine, chiropractors can successfully transition patients into active rehabilitation. For example, patients are systematically taught to be mindful in self-evaluating their posture, gait, and pelvic alignment, thereby translating passive clinical care into active, long-term body awareness and control. The chiropractor can also educate the pregnant woman that psychologic and social stressors act as "volume knob" for LBP and/or PGP [47, 61].

Ultimately, this synthesis of passive structural correction and active patient education fosters a highly transformative prenatal experience. Through chiropractic care, the pregnant woman is equipped to be aware of their changing body and instructed in holistic self-management tools, so that they have pregnancy competence, transforming their pregnancy experience from being passive participants to active decision-makers who are physically, mentally, and emotionally optimized for childbirth.

Study Context or Comparison with Existing Literature

To our knowledge, this is the first phenomenological study examining the lived experience of pregnant women receiving chiropractic care. Two other qualitative studies by Sadr et al. [22] and Bernard-Giglio et al. [21] specifically targeted pregnant women seeking chiropractic care for pregnancy-related LBP and/or PGP. The present study enrolled pregnant women regardless of their presenting complaints or underlying motivation for chiropractic care.

Despite these shared similarities, the two studies differed in their thematic scope. Sadr et al. [22] highlighted the central importance of clinician-patient communication, while Bernard-Giglio et al. [21] shed light on the structural barriers and facilitators pregnant women face when seeking chiropractic care. Ultimately, the themes identified by Sadr et al. [22] and Bernard-Giglio et al. [21] resonate with the core themes uncovered in the present study. However, by utilizing a

phenomenological approach, this study provided an in-depth, holistic exploration of the lived experiences of pregnant women under chiropractic care and the unique meanings they ascribe to them.

Strengths and Limitations

The findings of this study emerged from the interviews of 10 pregnant women about their experiences with receiving chiropractic care. Consequently, these findings are context-dependent and are not intended to be generalized. Participants in this study did not constitute a homogeneous population and differed in many respects, most notably in terms of their age, parity, trimester of pregnancy, marital status, and socioeconomic status. These differences may have influenced their individual experiences with chiropractic care, ultimately shaping the overarching essence and core-themes generated from our analysis. Furthermore, participants in this study self-selected to share their stories and experiences, which introduces an element of selection bias. Despite these limitations, the findings of this study provide valuable insights into the core essence of the lived experience of pregnant women under chiropractic care. The use of epoche/bracketing minimized researcher bias. The structured analytical framework of Moustakas provided a clear, step-by-step guide for data collection and analysis.

Conclusions

This qualitative study demonstrated that chiropractic care during pregnancy fosters self-determination, enhances the overall pregnancy experience, and initiates a transformative shift for the pregnant woman from being a passive recipient of care to an active, informed participant in their own healthcare through new knowledge, self-discovery, and increased pregnancy competence. These findings suggest that chiropractic pregnancy care offers significant opportunities for practitioners and researchers to advance conservative, holistic, evidence-informed prenatal healthcare strategies.

Abbreviations

CAM
complementary and alternative medicine
COREQ
COnsolidated criteria for REporting Qualitative research
IPC
interpersonal process of care
IQR
interquartile range
LBP
low back pain’ MLCC:midwifery-led continuity of care
MSK
musculoskeletal
PGP
pelvic girdle pain
QoL
quality of life
SD
standard deviation
SDT
Self-Determination Theory
SIJ
sacroiliac joint
WoG
week of gestation

Declarations

Ethics approval and consent to participate:

This study was approved by the **Human Research Ethics Committee** of Southern Cross University (Lismore, NSW, Australia; Approval #2021/112) and the Institutional Review Board of Life University (Marietta, GA, USA). **All methods were performed in accordance with the relevant guidelines and regulations, including the Declaration of Helsinki and the National Health and Medical Research Council's National Statement on Ethical Conduct in Human Research (2007, updated 2018). All participants provided written informed consent prior to participation.**

Consent for publication:

All participants provided written informed consent for their anonymized data, including direct quotations, to be used and published in this manuscript.

Competing Interests

JA is a member of the ICPA Board of Directors and receives fees for teaching postgraduate seminars on behalf of the ICPA, the organization through whose practice-based research network study participants were recruited. The remaining authors declare no competing interests.

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Author Contribution

In partial fulfilment for a PhD degree, JA conceived the study and designed the qualitative methodology. JA performed the participant recruitment and conducted the semi-structured interviews. JA performed the transcription and carried out the transcendental phenomenological data analysis. SPM, as the primary PhD supervisor along with EE and SG as secondary supervisors, provided overarching academic oversight and guided the phenomenological theoretical framework and contributed to the initial drafts of the manuscript. SPM, EE and SG verified the qualitative data analysis to ensure data trustworthiness. EE and SG, as co-supervisors, contributed to the methodological design and participated in peer debriefings to mitigate researcher bias. EE and SG assisted in data interpretation. All the authors participated in the preparation of the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials:

The transcribed interviews and additional data are available from the corresponding author on reasonable request.

Competing interests: JA is a member of the ICPA Board of Directors and receives fees **as Research Director and** for teaching postgraduate seminars on behalf of the ICPA, the organization **whose member chiropractors assisted with participant recruitment**. The remaining authors declare no competing interests.

References

1. Say L, Chou D, Gemmill A, Tunçalp Ö, Moller AB, Daniels J, Gülmezoglu AM, Temmerman M, Alkema L. Global causes of maternal death: a WHO systematic analysis. Lancet Glob Health. 2014;2(6):e323–33. https://doi.org/10.1016/S2214-109X(14)70227-X.
2. Arnott C, Patel S, Hyett J, Jennings G, Woodward M, Celermajer DS. Women and cardiovascular disease: pregnancy, the forgotten risk factor. Heart Lung Circ. 2020;29(5):662–67. https://doi.org/10.1016/j.hlc.2019.09.011.
3. Parrettini S, Caroli A, Torlone E. Nutrition and metabolic adaptations in physiological and complicated pregnancy: focus on obesity and gestational diabetes. Front Endocrinol (Lausanne). 2020;11:611929. https://doi.org/10.3389/fendo.2020.611929.
4. Shields A, de Assis V, Halscott T. Top 10 pearls for the recognition, evaluation, and management of maternal sepsis. Obstet Gynecol. 2021;138(2):289–304. https://doi.org/10.1097/AOG.0000000000004471.
5. Howard LM, Molyneaux E, Dennis CL, Rochat T, Stein A, Milgrom J. Non-psychotic mental disorders in the perinatal period. Lancet. 2014;384(9956):1775–88. https://doi.org/10.1016/S0140-6736(14)61276-9.
6. Dehghan F, Haerian BS, Muniandy S, Yusof A, Dragoo JL, Salleh N. The effect of relaxin on the musculoskeletal system. Scand J Med Sci Sports. 2014;24(4):e220–9. https://doi.org/10.1111/sms.12149.
7. Daneau C, Abboud J, Marchand AA, Houle M, Pasquier M, Ruchat SM, Descarreaux M. Mechanisms underlying lumbopelvic pain during pregnancy: a proposed model. Front Pain Res (Lausanne). 2021;2:773988. https://doi.org/10.3389/fpain.2021.773988.
8. Kepley JM, Bates K, Mohiuddin SS, Physiology. Maternal Changes. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan-. https://www.ncbi.nlm.nih.gov/books/NBK539766/. Accessed [28 May 2023].
9. Yoo H, Shin D, Song C. Changes in the spinal curvature, degree of pain, balance ability, and gait ability according to pregnancy period in pregnant and nonpregnant women. J Phys Ther Sci. 2015;27:279–84. https://doi.org/10.1589/jpts.27.279.
10. Muggleton S, Davis D. Applying salutogenesis in midwifery practice. In: Mittelmark MB, Bauer GF, Vaandrager L, et al. editors. The handbook of salutogenesis. 2nd ed. Cham: Springer; 2022. Chapter 42. https://doi.org/10.1007/978-3-030-79515-3_42.
11. Bowman RL, Davis DL, Ferguson S, Taylor J. Women's motivation, perception and experience of complementary and alternative medicine in pregnancy: a meta-synthesis. Midwifery. 2018;59:81–7. https://doi.org/10.1016/j.midw.2017.11.007.
12. Beliveau PJH, Wong JJ, Sutton DA, Simon NB, Bussières AE, Mior SA, French SD. The chiropractic profession: a scoping review of utilization rates, reasons for seeking care, patient profiles, and care provided. Chiropr Man Th. 2017;25:35. https://doi.org/10.1186/s12998-017-0165-8.
13. Trager RJ, Bejarano G, Perfecto RT, Blackwood ER, Goertz CM. Chiropractic and spinal manipulation: a review of research trends, evidence gaps, and guideline recommendations. J Clin Med. 2024;13(19):5668. https://doi.org/10.3390/jcm13195668.
14. Steel A, Adams J, Sibbritt D, Broom A, Gallois C, Frawley J. Utilisation of complementary and alternative medicine (CAM) practitioners within maternity care provision: results from a nationally representative cohort study of 1,835 pregnant women. BMC Pregnancy Childbirth. 2012;12:146. https://doi.org/10.1186/1471-2393-12-146.
15. Allaire AD, Moos MK, Wells SR. Complementary and alternative medicine in pregnancy: a survey of North Carolina providers. Obstet Gynecol. 2000;95(1):19–23. https://doi.org/10.1016/s0029-7844(99)00481-5. PMID: 10636495.
16. Alcantara J, Ohm J, Kunz D. The Webster Technique: Results from a practice-based research network study. J Pediatr Matern Fam Health - Chiropr. 2012;2012(1):16–21.
17. Alcantara J. The sense of coherence and associated factors of the lived experience of pregnant patients attending care in a chiropractic practice-based research network [PhD thesis]. Lismore (NSW): Southern Cross University; 2024.

18. Alcantara J, Ohm J, Kunz D, Alcantara JD. The characterisation and response to care of pregnant patients receiving chiropractic care within a practice-based research network. Chiro J Aust. 2012;42(2):60–7.
19. Alcantara J, Nazarenko AL, Ohm J, Alcantara J. The use of the patient reported outcomes measurement information system and the RAND VSQ9 to measure the quality of life and visit-specific satisfaction of pregnant patients under chiropractic care utilizing the Webster Technique. J Altern Complement Med. 2018;24(1):90–8. https://doi.org/10.1089/acm.2017.0162.
20. Strydom T, Sibiya MN, Varatharajullu D. Experiences and perceptions of newly graduated chiropractors from a South African university in their clinical management of pregnant women. J Chiropr Educ. 2025;39. https://doi.org/10.7899/JCE-24-13. :eJCE-24-13.
21. Bernard-Giglio M, French SD, Myburgh C, de Luca K. Drivers, barriers, and response to care of Australian pregnant women seeking chiropractic care for low back and pelvic girdle pain: a qualitative case study. Chiropr Man Th. 2023;31(1):43. https://doi.org/10.1186/s12998-023-00516-x.
22. Sadr S, Pourkiani-Allah-Abad N, Stuber KJ. The treatment experience of patients with low back pain during pregnancy and their chiropractors: a qualitative study. Chiropr Man Th. 2012;20(1):32. https://doi.org/10.1186/2045-709X-20-32.
23. Byrne T. The phenomenological reduction in qualitative research and philosophy: Bytautas and Husserl. Int J Qual Methods. 2026;25:1–12. https://doi.org/10.1177/16094069261440750.
24. Neuman P. Some comments on the distinction between intention and intentionality. Behav Anal. 2007;30(2):211–6. https://doi.org/10.1007/BF03392156.
25. Rassi F, Shahabi Z. Husserl's Phenomenology and two terms of Noema and Noesis. Int Lett Soc Humanist Sci. 2015; 53: 29–34. https://doi.org/10.18052/www.scipress.com/ILSHS.53.29
26. Zoom Z. & PIPEDA/PHIPA compliance guide. 2021. https://explore.zoom.us/docs/doc/PIPEDA_PHIPA%20Canadian%20Public%20Information%20Compliance%20Guide.pdf. Accessed [12 Aug 2022].
27. Archibald MM, Ambagtsheer RC, Casey MG, Lawless M. Using Zoom videoconferencing for qualitative data collection: perceptions and experiences of researchers and participants. Int J Qual Methods. 2019;18:1–8. https://doi.org/10.1177/1609406919874596.
28. Vasileiou K, Barnett J, Thorpe S, Young T. Characterising and justifying sample size sufficiency in interview-based studies: systematic analysis of qualitative health research over a 15-year period. BMC Med Res Methodol. 2018;18(1):148. https://doi.org/10.1186/s12874-018-0594-7.
29. NVivo., QSR International. ; 2020. https://web.archive.org/web/20200420000009/https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home. Accessed Mar 14, 2020.
30. Moustakas C. Phenomenological research methods. Thousand Oaks. CA, USA): Sage Publications, Inc; 1994.
31. Kautz SV. The Emotional Experience of Parental Incarceration from the African-American Adolescent Perspective. J Child Adolesc Trauma. 2018;12(2):187–99. https://doi.org/10.1007/s40653-018-0232-x.
32. Adler RH. Trustworthiness in qualitative research. J Hum Lact. 2022;38(4):598–602. https://doi.org/10.1177/08903344221116620.
33. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19(6):349–57. https://doi.org/10.1093/intqhc/mzm042.
34. Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. Am Psychol. 2000;55(1):68–78. https://doi.org/10.1037//0003-066x.55.1.68.
35. Patrick H, Williams GC. Self-determination theory: its application to health behavior and complementarity with motivational interviewing. Int J Behav Nutr Phys Act. 2012;9:18. https://doi.org/10.1186/1479-5868-9-18.
36. Association of Women's Health, Obstetric and Neonatal Nurses. Respectful maternity care framework and evidence-based clinical practice guideline. J Obstetric Gynecologic Neonatal Nurs. 2022;51:e3–54.

37. Mascarenhas Silva CH, Laranjeira CLS, Pinheiro WF, de Melo CSB, Campos E, Silva VO, Brandão AHF, Rego F, Nunes R. Pregnant women autonomy when choosing their method of childbirth: Scoping review. PLoS ONE. 2024;19(7):e0304955. https://doi.org/10.1371/journal.pone.0304955.
38. Downe S, Finlayson K, Tunçalp Ö, Metin Gülmezoglu A. What matters to women: a systematic scoping review to identify the processes and outcomes of antenatal care provision that are important to healthy pregnant women. BJOG. 2016;123(4):529–39. https://doi.org/10.1111/1471-0528.13819.
39. World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization. 2016. https://iris.who.int/bitstream/handle/10665/250796/9789241549912-eng.pdf. Accessed [28 Aug 2024].
40. de Wolff MG, Ladekarl M, Pagh NB, Overgaard C. Women's care satisfaction and birth experiences in a Danish urban university hospital: A comparative cross-sectional study on midwifery-led continuity of care and standard midwifery care models. Midwifery. 2025;142:104301. https://doi.org/10.1016/j.midw.2025.104301.
41. O'Reilly E, Buchanan K, Bayes S. Emotional safety in maternity care: an evolutionary concept analysis. Midwifery. 2025;140:104220. https://doi.org/10.1016/j.midw.2024.104220.
42. Al-Mutawtah M, Campbell E, Kubis HP, Erjavec M. Women's experiences of social support during pregnancy: a qualitative systematic review. BMC Pregnancy Childbirth. 2023;23(1):782. https://doi.org/10.1186/s12884-023-06089-0.
43. Deliktas Demirci A, Ahmedova P, Kabukcuoglu K. Maternal experiences of women who had received salutary childbirth education: A descriptive qualitative study. J Adv Nurs. 2025;81(3):1529–42. https://doi.org/10.1111/jan.16359.
44. Zaman A, Fadlalmola HA, Ibrahem SE, Ismail FH, Abedelwahed HH, Ali AM, Abdelgadim NH, Mustafa AMA, Ahmed IH, Ahmed NM, Eltyeb AA, Gaafar DA, Alnassry SM, Adam AA, Yasin NS, Ali RA, Fadlalla AA, Eltayeb AE, Saad AM. The role of antenatal education on maternal self-efficacy, fear of childbirth, and birth outcomes: A systematic review and meta-analysis. Eur J Midwifery. 2025;9. https://doi.org/10.18332/ejm/200747.
45. Stuber KJ, Wynd S, Weis CA. Adverse events from spinal manipulation in the pregnant and postpartum periods: a critical review of the literature. Chiropr Man Th. 2012;20:8. https://doi.org/10.1186/2045-709X-20-8.
46. Weis CA, Stuber K, Murnaghan K, Wynd S. Adverse events from spinal manipulations in the pregnant and postpartum periods: a systematic review and update. J Can Chiropr Assoc. 2021;65(1):32–49. PMID:34035539.
47. George JW, Skaggs CD, Thompson PA, Nelson DM, Gavard JA, Gross GA. A randomized controlled trial comparing a multimodal intervention and standard obstetrics care for low back and pelvic pain in pregnancy. Am J Obstet Gynecol. 2013;208(4):295. https://doi.org/10.1016/j.ajog.2012.10.869. .e1-7.
48. Peterson CK, Mühlemann D, Humphreys BK. Outcomes of pregnant patients with low back pain undergoing chiropractic treatment: a prospective cohort study with short term, medium term and 1 year follow-up. Chiropr Man Th. 2014;22(1):15. https://doi.org/10.1186/2045-709X-22-15.
49. Weis CA, Pohlman K, Barrett J, Clinton S, da Silva-Oolup S, Draper C, Lee J, Kumar R, O'Beirne M, Stuber K, Hawk C. Best-practice recommendations for chiropractic care for pregnant and postpartum patients: results of a consensus process. J Manipulative Physiol Ther. 2022;45(7):469–89. https://doi.org/10.1016/j.jmpt.2021.03.002.
50. Alcantara J, Alcantara JD, Alcantara J. The use of validated outcome measures in the chiropractic care of pregnant patients: A systematic review of the literature. Complement Ther Clin Pract. 2015;21(2):131–6. https://doi.org/10.1016/j.ctcp.2015.01.003.
51. Stewart AL, Nápoles-Springer AM, Gregorich SE, Santoyo-Olsson J. Interpersonal processes of care survey: patient-reported measures for diverse groups. Health Serv Res. 2007;42(3 Pt 1):1235–56. https://doi.org/10.1111/j.1475-6773.2006.00637.x.
52. Siebinga VY, Driever EM, Stiggelbout AM, Brand PLP. Shared decision making, patient-centered communication and patient satisfaction - A cross-sectional analysis. Patient Educ Couns. 2022;105(7):2145–50. https://doi.org/10.1016/j.pec.2022.03.012.

53. Strokes N, Lloyd C, Girardin AL, Santana CS, Mangus CW, Mitchell KE, Hughes AR, Nelson BB, Gunn B, Schoenfeld EM. Can shared decision-making interventions increase trust/trustworthiness in the physician-patient encounter? A scoping review. Patient Educ Couns. 2025;135:108705. https://doi.org/10.1016/j.pec.2025.108705.
54. Pritty S, Schwartz K, Farrell C, Anderson J, Walters S, Rae L. Prevalence and delivery of pain education interventions in the chiropractic setting: a scoping review. J Manipulative Physiol Ther. 2025;48(6–9):895–903. https://doi.org/10.1016/j.jmpt.2025.10.028.
55. Ohm J, Alcantara J. The Webster Technique: definition, application and implications. J Ped, Matern & Fam Health - Chiropr. 2012; 2012: 49–53.
56. Oakley PA, Ehsani NN, Moustafa IM, Harrison DE. Restoring cervical lordosis by cervical extension traction methods in the treatment of cervical spine disorders: a systematic review of controlled trials. J Phys Ther Sci. 2021;33(10):784–94. https://doi.org/10.1589/jpts.33.784.
57. Suwaidi ASA, Moustafa IM, Kim M, Oakley PA, Harrison DE. A Comparison of Two Forward Head Posture Corrective Approaches in Elderly with Chronic Non-Specific Neck Pain: A Randomized Controlled Study. J Clin Med. 2023;12(2):542. https://doi.org/10.3390/jcm12020542.
58. Oakley PA, Ehsani NN, Moustafa IM, Harrison DE. Restoring lumbar lordosis: a systematic review of controlled trials utilizing Chiropractic Bio Physics® (CBP®) non-surgical approach to increasing lumbar lordosis in the treatment of low back disorders. J Phys Ther Sci. 2020;32(9):601–10. https://doi.org/10.1589/jpts.32.601.
59. Gubbels CM, Werner JT, Oakley PA, Harrison DE. Reduction of thoraco-lumbar junctional kyphosis, posterior sagittal balance, and increase of lumbar lordosis and sacral inclination by Chiropractic BioPhysics® methods in an adolescent with back pain: a case report. J Phys Ther Sci. 2019;31(10):839–43. https://doi.org/10.1589/jpts.31.839.
60. Oakley PA, Ehsani NN, Harrison DE. Non-surgical reduction of lumbar hyperlordosis, forward sagittal balance and sacral tilt to relieve low back pain by Chiropractic BioPhysics® methods: a case report. J Phys Ther Sci. 2019;31(10):860–64. https://doi.org/10.1589/jpts.31.860.
61. Gregoor M, Peuskens E, Geerits E, Aldabe D, Geraerts I, De Baets L, Bogaerts A, Gyselaers W, Goossens N, Janssens L. Psychological risk factors for lumbopelvic pain before, during, and after pregnancy: a systematic review. BMC Pregnancy Childbirth. 2026;26(1):534. https://doi.org/10.1186/s12884-026-09029-w.

Figures

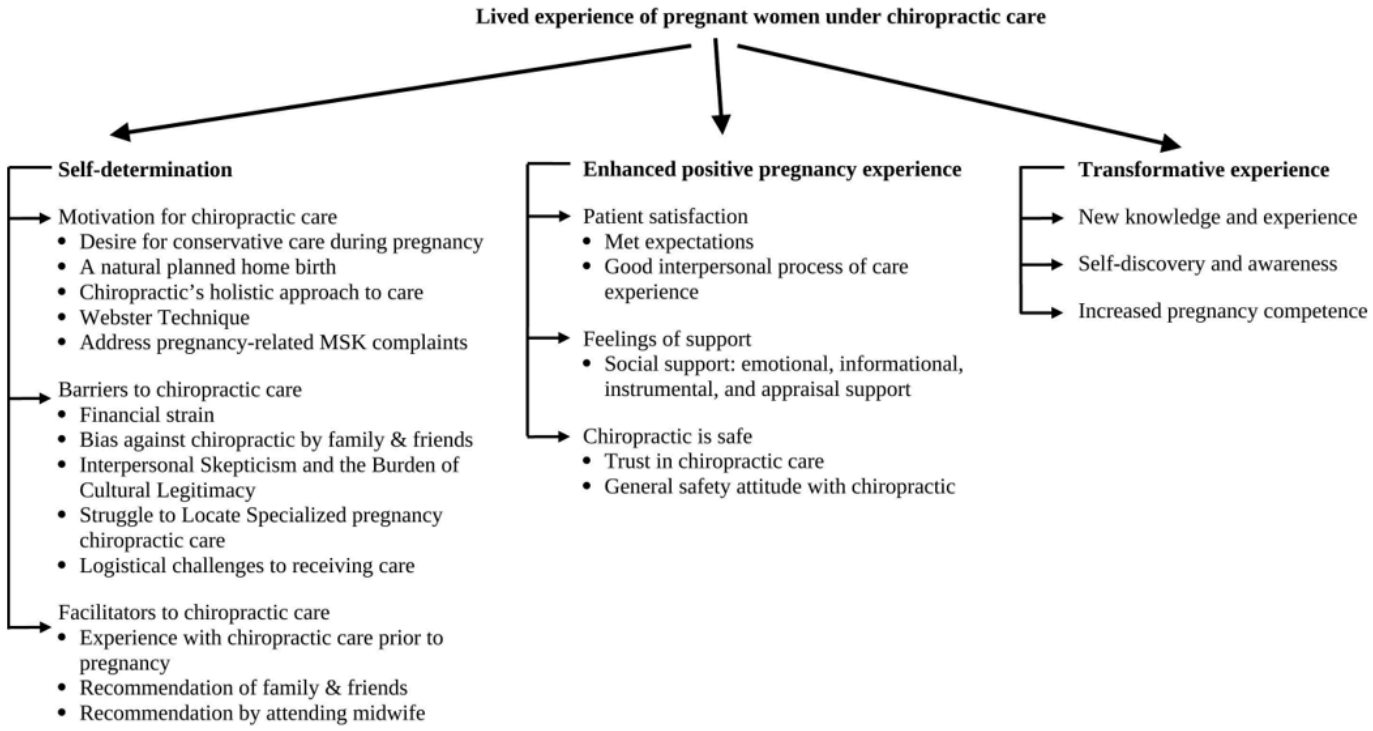

Figure 1

Summary of Themes and Subthemes of the Lived Experience of Pregnant Women Receiving Chiropractic Care

Supplementary Files

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