Women's Experiences in Overcoming Pain and Anxiety During Childbirth Using Shiatsu Massage: A Qualitative Approach

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ABSTRACT

Anxiety induced by labour pain is a common concern among pregnant women. Despite various available intrapartum analgesics, their potential side effects can negatively affect the childbirth experience. Negative experiences can increase the risk of postpartum depression and a fear of future vaginal deliveries. It was leading some to prefer caesarean sections in subsequent pregnancies. Thus, the identification of a non-pharmacological method capable of mitigating labour pain and enhancing the birthing experience is of paramount importance. This study aimed to assess the role of Shiatsu massage in improving women's childbirth experiences. Employing a qualitative, phenomenological-based design approach, this study conducted in-depth semi-structured interviews with ten mothers from February to May 2022 at two maternity clinics (RP and KJ) in Samarinda, East Kalimantan Province, Indonesia. Purposive sampling was used with the inclusion criteria: (a) postpartum mothers who received Shiatsu massage during labour and (b) postpartum mothers who could communicate well in Indonesian. Recruitment ceased upon reaching data saturation. Responses given in the Indonesian language were recorded verbatim and translated into English. Thematic analysis of the data was performed using NVivo 12. The study unveiled five key themes illustrating the influence of Shiatsu massage on women's childbirth experiences: emotional dynamics during labour, perception of labour pain, strategies for coping with labour pain, benefits perceived, and perceptions of Shiatsu massage for labour. From these findings, Shiatsu massage emerges as an effective strategy for reducing labour pain and anxiety, providing significant physical and emotional support to women. It holds considerable promise as an alternative method of intrapartum analgesia.

Keywords: anxiety; labour pain; Shiatsu massage; women's birth experiences

INTRODUCTION

Childbirth marks a pivotal moment in a woman's life, inherently accompanied by pain. This pain, stemming from uterine contractions, increases in frequency and intensity as labour progresses, potentially heightening anxiety levels among expectant mothers (Eyeberu et al., 2022). The complexity of childbirth pain involves both physiological and psychological factors (Vixner, 2015), with severe pain leading to adverse outcomes for both mother and foetus (Chantrasiri et al., 2021; Farnham, 2020). Anxiety can hinder oxytocin release, weaken uterine contractions, prolong labour, and raise the likelihood of medical interventions (Walter & Abele, 2021), thereby increasing the risk of complications that contribute to maternal morbidity and mortality (Utami & Putri, 2020). Maternity care must be given utmost priority to minimise maternal mortality and morbidity indices (Mohammed Sirajo. Lee Khuan. Durai, 2022).

BACKGROUND OF STUDY

The childbirth experience can yield positive and negative effects, impacting women differently in the short and long term (Lundgren, 2005). Over time, women's memories of childbirth may shift, with a heightened recall of either positive or negative experiences following the birth compared to the immediate postpartum period (Waldenström, 2003). Positive experiences are often remembered as empowering (Lundgren, 2005; Simkin, 1992), aiding in the transition to motherhood (Nelson, 2003), whereas negative experiences can increase the risk of postpartum depression (Bell & Andersson, 2016) and a fear of future vaginal deliveries (Nelson, 2003), leading some to prefer cesarean sections in subsequent pregnancies (Hildingsson et al., 2002; Pang et al., 2008).
Ensuring adequate physical and emotional support for the mother is crucial for alleviating pain and anxiety, aiming to provide a positive birth experience (Allison & Bryant, 2019). Despite the availability of various analgesia methods (Anim-Somuah et al., 2018), their side effects (Rogers et al., 2013) and limited accessibility in resource-constrained facilities necessitate exploring alternative pain relief methods (Jones et al., 2012). Non-pharmacological methods are often preferred by women seeking a natural birthing experience (Czech et al., 2018). Additionally, it is vital that alternative methods not only enhance comfort for women in labour but also foster a stronger bond between mother and infant (Simkin & Bolding, 2004).

Shiatsu massage, a traditional Japanese therapy developed in the 1920s by Tokujiro Namikoshi, applies pressure to specific body points to promote relaxation and health (Kobayashi et al., 2019). Its effectiveness in reducing pain, stress, anxiety, and improving sleep quality and overall well-being has been documented (Brady et al., 2001; Brown et al., 2021; Kobayashi et al., 2019; Tsiormpatzis, 2019). By releasing endorphins through the 'tsubo' points, Shiatsu massage offers a safe, non-pharmacological analgesia option when performed by trained therapists (Brady et al., 2001; Hekmawati et al., 2019; Teimoori et al., 2015). Shiatsu massage has been demonstrated to be effective as a safe complementary method for post-term pregnancy induction, reducing labour pain and increasing the mother's ability to cope with the labour process (Batool et al., 2015; Lincy et al., 2014).

The Shiatsu massage protocol requires the massage to be applied in the latent phase (cervical os 1–3 cm dilated), active phase (cervical os 4–7 cm dilated) and transition phase (cervical os 8–9 cm dilated) (Sijeeni et al., 2020). During the latent phase, the Shiatsu massage begins at Bladder (BL) 31 to BL 34 pressing point with gentle massage. Both thumbs are used to find the sacral point above the iliac crest, and static pressure is applied. One thumb is placed on the other, and three seconds of pressure is given at each point (BL31 to BL34). Then the primary hand is wrapped around the working hand for support. The knuckles of both index fingers are then placed at the highest sacral point, rolled down the sacrum, and repeated with a rotary pressing motion, holding for three seconds each time. In the active phase, the masseuse locates the buttock point parallel to the fourth lumbar segment (L4), approximately 3.5 thumb-widths from the midline. Then, using both thumbs on either side, the masseuse cups the top of the iliac crest with their fingers. In the transition phase (opening of os 8-9 cm), the masseuse identifies the Kidney 1 (KI-1) point, located one-third of the way down from the top of the sole when the foot is flexed by pulling the toes. Firm pressure is applied inward and toward the big toe. Finally, the Heart Protector (HP) 8 point in the center of the palm and the HP-6 point on the wrist crease between the tendons are pressed for one minute each. The combined duration of the three phases of Shiatsu massage is approximately twenty minutes. Some limited evidence suggests that the Shiatsu massage reduces labour pain and can help the labouring mothers feel more at ease (Norhapifah et al., 2023; Shetasandi & Devi, 2023; Yates, 2012). However, its impact on enhancing the overall childbirth experience remains under-explored.

Therefore, this study aimed to assess the role of Shiatsu massage in improving women's childbirth experiences. Through a deeper understanding of women's experiences with Shiatsu massage during labour, healthcare providers can be better equipped to deliver personalized care that fosters positive birth outcomes and enhances maternal well-being.

METHOD

Study design

This study chose a qualitative phenomenological-based design to provide a profound understanding of individual life experiences, particularly in using Shiatsu massage to relieve pain during childbirth. This design was selected because of its focus on exploring deep meanings and allowing understanding of individual subjective experiences (Creswell, 2007; Chong, 2022). The research method involved in-depth semi-structured interviews with participants who had undergone the childbirth process and received Shiatsu massage. Through these interviews, researchers would comprehensively explore the feelings, thoughts, and physical experiences during childbirth that influence their perceptions of the effectiveness of Shiatsu massage in reducing labour pain. In addition to interviews, direct observation was conducted to capture the physical context and environment during childbirth. This aimed at deepening the understanding of how the interaction between the use of Shiatsu massage and the childbirth environment can affect women's childbirth experiences and their perceptions of pain reduction.

Study Setting

The research was conducted from February to May 2022 at two maternity clinics (RP and KJ) in Samarinda, East Kalimantan Province, Indonesia, where Shiatsu massage was offered as an intrapartum analgesia option. At both clinics, women delivered their babies, and Shiatsu massage was applied during the labour process to manage pain. The Shiatsu massage protocol was implemented across three stages of labour: the latent phase (cervical dilation of 1–3 cm), the active phase (cervical dilation of 4–7 cm), and the transition phase (cervical dilation of 8–9 cm). In the latent phase, Shiatsu massage began at the Bladder points (BL) 31 to BL 34. During the active phase, the massage was focused on the point at the buttocks aligned with the fourth lumbar vertebra (L4). In the transition phase, the massage targeted Kidney 1 (KI-1), located one-third down the sole of the toes was flexed, and Heart Protector (HP) 8 in the centre of the palm and HP-6 on the wrist crease between the tendons. The entire Shiatsu massage process across the three phases lasted approximately twenty minutes. The massage was performed by certified midwives trained in the Shiatsu massage.

Participants

Postpartum mothers who received Shiatsu massage intrapartum were invited to participate in this study, and study information leaflets were provided, which included details about the research objectives, procedures, and participants' rights and responsibilities. Informed consent was obtained from those who agreed to participate. This study was conducted one day before they were discharged from the maternity clinic. A total of ten participants were recruited through a purposive sampling method. The inclusion criteria were (a) postpartum mothers who received Shiatsu massage during labour and (b) postpartum mothers who could communicate well in Indonesian. The sample size was determined based on data saturation. Theoretical saturation was achieved after all sample codes were observed at least once during data collection, indicating that all variations in the data had been covered and no new information emerged after those observations**.** Data collection was stopped when all themes had saturated.

Data Collection

The in-depth interviews were conducted privately, involving only the researcher and the participant. These sessions were carried out in Indonesia by a trained interviewer and recorded using an audio device for accuracy. The data collection consisted of three distinct stages: a) Preliminary to the interview, participants were briefed on the study's objectives and the interview methodology, followed by informed consent taking; b) During the session, participants were asked about their childbirth experiences and outlook on future births, allowing for dynamic interaction where the interviewer could probe further or seek clarifications, ensuring a thorough exploration within 30 to 60 minutes until consistent responses obtained; c) Post-interview, the researcher reviewed the session for completeness, securing all notes and supplementary insights. The audio files were then securely kept in a password-protected storage device for subsequent analysis. Interview questions were structured around three main topics, each supplemented by three detailed probing questions (Appendix 1).

Data Analysis

Data analysis was conducted using NVivo 12. The process was initiated by importing transcripts into NVivo, which were then anonymised with unique identifiers to ensure confidentiality. A detailed line-by-line coding followed, where text segments related to the participants' labour experiences and the impact of Shiatsu massage were tagged with descriptive codes. This iterative coding process allowed for the refinement and expansion of codes to encapsulate emerging themes. These themes, developed from observed patterns and commonalities in the coded data, offered an in-depth understanding of the participants' experiences. Each primary theme was further dissected into subthemes to highlight the data's nuances and variations. The data exploration features of NVivo facilitated the visualization of connections among codes, themes, and subthemes, enabling a deeper data analysis. Cross-referencing and verification techniques were meticulously applied to ensure the reliability and validity of the findings. After the analysis, coded data, themes, and subthemes were interpreted in light of the study's objectives: Shiatsu massage's role in improving women's childbirth experiences. Professional translators executed translations from Indonesian to English to maintain the accuracy of the data interpretation. The study unveiled five key themes illustrating the influence of Shiatsu massage on women's childbirth experiences: emotional dynamics during labour, perception of labour pain, strategies for coping with labour pain, benefits perceived, and perceptions of Shiatsu massage for labour.

Trustworthiness/Rigor

The researchers implemented member-checking to strengthen the study's validity by sharing the derived findings and interpretations with the participants. This step ensured that the reported outcomes accurately mirrored the actual experiences of mothers who had utilized Shiatsu massage. During the debriefing sessions, the initial findings were presented to the participants, who were invited to offer feedback, seek clarification, or provide

additional insights. The participants then confirmed that the study results were aligned with their personal experiences, with no further comments provided. The research integrity was also bolstered through peer debriefing and establishing a comprehensive audit trail documenting the research process. To mitigate the impact of personal biases on the study, researchers engaged in reflexivity, critically examining their perspectives and assumptions throughout the research process.

Ethical Consideration

The study received ethical approval from the Health Polytechnic Ministry of Health Research Ethics Committee, East Kalimantan, Indonesia, under the reference number LB.01.01/71/001509/2022. Participants were fully briefed on the voluntary basis of their involvement, along with their freedom to withdraw from the study at any point up to the conclusion of data collection without facing any consequences. They were also required to sign an informed consent form to document their agreement to participate. To maintain confidentiality, all data collection materials- including informed consent forms, biodata of the mothers, audio recordings, and interview transcripts- were securely stored in a password-protected storage device accessible exclusively to the research team. Identifiable information was not linked to the coded data to further ensure anonymity. The data was strictly used for analysis purposes and the preparation of the manuscript.

RESULTS

Data saturation was achieved after interviewing ten postpartum mothers, split evenly between two maternity clinics, with their ages ranging from 19 to 28 years. Most participants had completed senior high school and were primarily housewives (Appendix 2). From the analysis, five principal themes emerged concerning the impact of Shiatsu Massage on their childbirth experiences: There are i) emotional dynamics during labour, ii) perception of labour pain, iii) strategies for coping with labour pain, iv) benefits perceived, and v) perceptions of Shiatsu massage for labour (Appendix 3). The themes of emotional dynamics during labour, perception of labour pain, and strategies for coping with labour pain reflect participants' feelings prior to receiving Shiatsu therapy. Meanwhile, the themes of benefits and perceptions of Shiatsu provide insights into their experiences after receiving the massage. This result offers a comprehensive understanding of the impact of Shiatsu massage on the childbirth experience.

Theme 1: Emotional dynamics during labour

Emotional dynamics during labour encompass the vast emotions participants encounter throughout childbirth. These feelings span from intense fear and anxiety to moments of happiness and joy, highlighting the complex emotional landscape of childbirth. The analysis identified three sub-themes within these dynamics: fear/anxiety/worry, discomfort, and happiness/enjoyment.

Sub-Theme 1.1: Fear/Anxiety/Worry

Nine participants reported experiencing fear, anxiety, and worry as they approached childbirth. Factors contributing to these emotions included the anticipation of their first childbirth experience and the influence of family narratives detailing difficult birth experiences. These elements played a significant role in shaping participants' emotional dynamics during childbirth.

> *''Fear and anxiety, I was afraid that something unexpected would happen. I had many worries. In the past, when my sister gave birth, it was not easy. I was afraid that I would experience the same. However, after I gave birth, thank God, everything went smoothly. Everything was made easy." (RP5)*

Moreover, some participants described feeling a mix of happiness and fear as they approached childbirth. Although fear and anxiety persisted, they coped by praying for an easy delivery.

> *"Happy. I was scared at the beginning, but I just prayed that it would be easy to give birth later" (KJ2).*

> *"Happy, but there is also a fear. I am afraid that something might happen" (RP1).*

Sub-Theme 1.2: Discomfort

Four participants indicated that childbirth was a source of significant discomfort for them. This discomfort significantly impacted their childbirth process, stemming not only from the labour pain but also from concerns about the childbirth process and its potential adverse outcomes. Detailed responses about their discomfort included the following:

"It was uncomfortable, it was hurtful, so I did not feel calm. The cold air conditioner just feels hot" (KJ1).

"I was not comfortable and more worried/afraid that something bad would happen in the birthing process. So I wonder if I could give birth normally" (KJ2).

"I am a little uncomfortable because this is the first time I experienced labour." (RP4)

Sub-Theme 1.3: Happiness/ Enjoyment
Five participants shared that despite their fears or worries about the delivery process, they experienced happiness and enjoyed every step of the childbirth journey. Some participants believed that managing their stress was crucial, as they felt their unborn child could also experience similar emotions. Additional responses were provided, further exploring this sentiment.

"*Happy, I was scared at first, but I prayed that the delivery would be easy*" (KJ2).

"*I felt incredible, and happy, although I was scared because this was my first time*" (KJ4).

"*Happy, but there was also a fear. I was afraid that something bad would happen. But as time passed, I just enjoyed the process*." (RP2).

Theme 2: Perception of labour pain
The theme of labour pain perception reflects the participants' experiences during childbirth. A notable sub-theme identified was severe pain. All participants characterized the pain felt during labour as the most intense they had ever endured, surpassing menstrual pain and described it as akin to being sliced with a knife or pierced by a needle. This pain was not only severe but varied in location, with some participants reporting it from their abdomen to their waist. The intensity and nature of this pain had a significant psychological impact, further intensifying their perception of labour pain.

"The pain was ten times greater than the pain during menstruation. That was the worst ever pain I ever had" (KJ1).

"*The pain is very severe. My waist felt very tight to the top of my head"* (KJ2).

"*Very painful. It was hurtful like being cut by a knife" (KJ4)." The pain was so heavy, it was like being pierced by a needle*" (RP1)."

"It was like the most severe menstrual pain, from abdomen to the waist" (RP2).

"*It was really hurtful, and uncomfortable that made me felt very uncertain whether my labour would progress well or not. I cry and pray*." (RP5).

Theme 3: Strategies for coping with labour pain
The theme of strategies for coping with labour pain explores the complex experiences of participants as they managed the challenges of childbirth. This theme sheds light on the diverse strategies participants employ to deal with the intense pain of labour. Employing methods such as prayer, breathing exercises, and physical comfort-seeking, participants demonstrated resilience and ingenuity in facing childbirth's emotional and physical demands. Within this broader theme, three specific sub-themes emerged: prayer for emotional and spiritual support, applying focused breathing techniques for pain management, and various physical coping mechanisms including gripping, rubbing, caressing, or leaning on others for support.

Sub-Theme 3.1: Prayer
Two participants reported using prayer to reduce labour pain, believing that seeking divine intervention for a swift delivery contributes to maintaining an optimistic mindset. Additional responses were provided, further elaborating on this approach.

"I prayed a lot, asking God to make the birthing process easier and faster. Accept pain'' (KJ1).'
'Stroking the abdomen and reciting a prayer" (KJ3).

Sub-Theme 3.2: Breathing exercise
Two participants said they practised breathing exercises to manage labour pains. Proper breathing during childbirth offers numerous benefits, including pain reduction. Beyond reducing pain, employing correct breathing techniques during labour enhances the oxygen supply for both mother and baby, relaxes muscles, soothes the mind, and aids in childbirth.

> "*Yes, inhale then exhale*" (KJ2).

> "*While holding my husband's hands, while moaning in pain, I continued to inhale through the nose and exhale slowly through the mouth, while praying"* (RP5).

Sub-Theme 3.3: Gripping, rubbing, caressing, or leaning on others for support.
Six participants (n=6) described comfort in physical gestures of support during labour pain, such as holding their husband's hands tightly or gently caressing their abdomen. The presence and encouragement from their husbands contributed to a sense of calm and comfort amidst the ongoing pain.

> "*Caressing the abdomen while reading prayers. At the beginning of labour, I walked when there was no pain."* (KJ3)

> *" Rubbing the waist and stomach, sometimes gripping the pillow tightly. Yes, ma'am, the pain was still there, but I'm less panicked." (KJ 5).*

> *"My husband rubbed my back using his hand. He also encouraged me to have a normal and safe birth."* (RP4)

> "*Holding hands with my husband while bearing the pain."* (RP5)

Theme 4: Benefits perceived
The perceived benefits of Shiatsu massage highlight participants' experiences during childbirth. Participants reported that Shiatsu massage techniques significantly reduced pain throughout the labour process. Several participants noted considerable pain relief in the lumbar and abdominal regions. Furthermore, Shiatsu massage induced relaxation and diminished anxiety, equipping them to endure pain with greater calmness and control. Additionally, this massage technique fostered an adaptation to pain, making them feel more prepared for and accustomed to the sensations of contractions. Therefore, Shiatsu massage emerges as an effective strategy for pain management during labour, enhancing participants' comfort. The benefits were encapsulated in two sub-themes: pain reduction and enhanced relaxation, calmness, and comfort.

Sub-Theme 4.1: Pain reduction
All participants reported that following a Shiatsu massage, the intensity of their previously acute pain diminished significantly. They also experienced a sense of relief during the massage sessions. Several participants noted a particular easing of tension in their waist and abdominal muscles, leading to a perception of having successfully mitigated the pain.

> "*Yes, the waist felt better, especially when it was hurtful. The pain was different before being massaged at that point. Before the massage, the pain was very severe. After the massage, the pain was reduced. I felt the massage was helpful."* (KJ1)

Several participants mentioned that they initially reacted to labour pains with screams, However, after receiving a Shiatsu massage, they found the pain more manageable and experienced a newfound sense of calm.

> "*It didn't hurt too much. The pain was under control. At first when there were contractions, I screamed, but after the massage, I could calm down. I was also more relaxed"* (RP3).

> "*Grateful that when she massaged my waist, the pain started to subside. Yes, the pain always come, but I was not feeling worried, as I felt like I got used with the labour pain."* (RP5)

Sub-Theme 4.2: Relaxed, calm, comfort
Shiatsu massage during childbirth offers profound comfort and relaxation, aiding participants in adapting to labour pain. It effectively reduced their anxiety and soothed their mind. All participants have reported feeling

significantly lighter and more relaxed following the massage, with some even able to savour the childbirth experience better.

> "*Felt calm, like being carried away in a comfortable atmosphere."* (KJ2)
>
> "*The waist and abdominal muscles feel lighter, felt relaxed, and calm mind*" (KJ3).
>
> "*At first, I was afraid. I thought I didn't know what to do with the therapist because I had never heard of Shiatsu massage. It turns out that it was like being pressure massage; it felt good and relaxed*" (KJ4).
>
> "*More relaxed and enjoyed it"* (KJ5).
>
> "*More relaxed and comfortable"(*RP1).
>
> "*More comfortable, and could adapt to the pain. It's relaxing."* (RP5)

Theme 5: Perception of Shiatsu massage for labour

The perception of Shiatsu massage in labour highlights participants' experiences throughout childbirth. Several mothers reported that Shiatsu massage made the labour process feel more manageable by significantly reducing their pain. Despite the exhaustion from labour pain, several participants felt more equipped to engage with the birthing process. Additionally, the feedback included responses from a participant who, after receiving a Shiatsu massage, no longer viewed childbirth as a daunting or traumatic event; rather, it was seen as a manageable and less intimidating experience. Moreover, several participants expressed a keen interest in opting for Shiatsu massage in future vaginal deliveries as a strategy to mitigate pain and foster relaxation during labour. Three sub-themes emerged from their responses: the manageable labour process, the absence of fear or trauma, and a willingness to utilize Shiatsu massage in subsequent deliveries.

Sub-Theme 5.1: Labour process is manageable

All participants navigated a profoundly emotional journey marked by pain, which was ultimately transcended through calmness and faith. Initial apprehensions give way to a transformative shift towards embracing and appreciating the childbirth process. They discover that managing pain becomes more feasible through honesty, faith, and the supportive role of Shiatsu massage. These stories converge on the collective realization that childbirth while challenging, is a natural and empowering process. With resilience and the right support, the journey of childbirth can culminate in a positive and fulfilling outcome.

> "*The labour went well, as what I expected and hoped for, that I could deliver normally. The labour was not that terrible, and I have faith and kept praying and gratefully the pain can be overcome with Shiatsu massage*" (KJ5).
>
> "*Easy labour, did not need to worry because now there are many ways to make the pain less painful. It was just right on the Shiatsu massage, it didn't hurt too much. According to expectations*." (RP1)
>
> "*It was just fun, we now know the struggle to be a mother, it was not easy. Even though we felt pain, we could really adapt to it, especially when the lady was helped by the Shiatsu massage. It was very helpful for me. As expected, because from the beginning, I wanted to give birth normally*." (RP5).

Sub-Theme 5.2: Absence of fear or trauma

The responses from all participants illustrate a transformative journey from initial fear to a state of acceptance and appreciation for the childbirth process. Initially, apprehensions stemmed from second-hand stories and personal inexperience, but these concerns were reduced after they underwent childbirth themselves. They found that the experience was not as formidable as they had been led to believe. Their evolving trust in the process, bolstered by a reassuring approach, shaped a more positive view of childbirth. Additionally, several participants indicated a readiness to undergo the experience again, suggesting a feeling of empowerment and preparedness for subsequent pregnancies. In essence, their narratives underscore the transformative power of childbirth and the resilience it fosters, setting a foundation for an optimistic perspective on future childbirth experiences.

"*At first, yes, I was afraid that I had no experience. I just heard the words of other people and family members. But after I experienced it, I felt it was manageable and it was not as scary as people described."* (KJ1)

"*Not scary, just face the process calmly and confidently."* (RP2)

"*I was not traumatised by childbirth, God willing, if I were to pregnant again, I will accept it with pleasure*." (KJ4)

Sub-Theme 5.3: Willingness to utilise Shiatsu massage in subsequent deliveries

All participants expressed a keen interest in Shiatsu massages for childbirth, highlighting their effectiveness in fostering relaxation and reducing pain and anxiety. Their positive experiences and the recognition of Shiatsu massage's benefits have fueled a preference for its use in future childbirths. They underscored how the massages helped diminish feelings of panic, fear, and pain, contributing to a more seamless delivery process. This enthusiasm for Shiatsu massage underlines its esteemed value as a supportive intervention for women during childbirth. Many participants shared their intentions to include Shiatsu massage in their plans for future deliveries, aiming for a childbirth experience that is both more comfortable and relaxed.

"*Of course, the massages relaxed us and were highly recommended."* (KJ1)

"*Yes, I want it for my future delivery. At first, I felt sick, panic, and fear that we couldn't have a normal birth, but after Shiatsu massage my panic disappeared and I don't feel too bad with the pain*." (KJ5)

" *In fact, I want to get a Shiatsu massage again in future so that it can be smooth like this one to give birth."* (RP1)

DISCUSSION

This study explores women's childbirth experiences, focusing on the role of Shiatsu massage. We identified five primary themes: emotional dynamics during labour, perception of labour pain, strategies for coping with labour pain, benefits perceived from Shiatsu massage, and perceptions of Shiatsu massage for labour. Throughout childbirth, mothers experience a wide range of complex emotions. Feelings of fear and anxiety are common, particularly among first-time mothers, due to the uncertainty surrounding the childbirth process. Smith et al. (2020) note that such intense emotions can significantly affect both the perception of pain and the childbirth experience as a whole.

In terms of labour pain perception, all mothers characterized childbirth pain as the most severe they had ever encountered, more so than menstrual discomfort or acute injuries like cuts or needle pricks. This underscores the highly intense and individual nature of labour pain, which has been supported by research indicating that labour pain can range from mild to severe (Aziato et al., 2017; Wong, 2010) and can manifest in various areas such as the pelvic girdle (Elden et al., 2008), back (Lee et al., 2015), and abdomen (Dixon et al., 2013). Factors such as prior experiences, social support, and knowledge of the birthing process can influence labour pain perception (Carlsson et al., 2012). Given that labour pain has both physiological (Antari et al., 2023) and psychological implications (Widiawati & Legiati, 2018), a deeper understanding of its impact can aid in better managing mothers' psychological well-being during childbirth.

To cope with labour pain, mothers adopt various strategies, including prayer, breathing exercise, and physical support, such as hand-holding or abdominal massage. Relaxation techniques such as controlled breathing foster a sense of calmness and control that reduce the pain perception (Levett et al., 2016). Physical support, such as gripping and caressing, provide emotional comfort and reassurance during labour (Lally et al., 2014).

The acceptance and application of Shiatsu massage during labour are linked to numerous advantages, including reduce pain, relaxation, and enhanced comfort, which prepare mothers to face the birthing process with increased calmness and control. These findings are consistent with findings on the effectiveness of Shiatsu massage in managing chronic pain (Kobayashi et al., 2019), improving life quality for people living with fibromyalgia (Yuan et al., 2013), reducing back pain (Brady et al., 2001), and reducing anxiety (Mohaddes Ardabili et al., 2015) and depression (Lanza et al., 2018). Shiatsu massage works by nerve stimulation and endorphin release that helps reduce pain (Kleinau et al., 2016). Applying pressure to specific points can also enhance relaxation, reduce muscle tension, and improve blood circulation, thus reducing pain further (Pirie, 2003). It also offers psychological benefits by reducing pain awareness and enhancing calmness and relaxation (Batool et al., 2015; Smith et al.,

2018). By providing these tangible benefits, Shiatsu massage facilitates labouring mothers more effectively navigating childbirth. It enhances comfort, improves the childbirth experience, and reduces labour pain significantly.

Furthermore, the inclination of mothers to utilize Shiatsu massage in future childbirths highlights its significant role in enhancing labour experiences by offering pain relief, relaxation, and emotional support. The incorporation of Shiatsu massage into birthing practices could lead to more positive and empowering experiences for women. Continued research and clinical application of Shiatsu massage could further elucidate its efficacy as a complementary therapy in childbirth settings.

LIMITATIONS OF THE STUDY

This study embarked on an in-depth exploration of women's experiences with Shiatsu massage during labour, focusing on its effectiveness in reducing pain and anxiety. Detailed analysis, it sheds light on the comprehensive benefits of Shiatsu massage in enriching the childbirth experience. Despite its strength, the study encountered certain limitations. A notable concern was the potential bias inherent in self-reported experiences. The participants' perceptions of pain and anxiety might have been influenced by various factors, such as recall bias or the desire to respond in a socially desirable manner, which could skew the findings. Additionally, the absence of laboratory tests in this study limits the ability to precisely determine the impact of Shiatsu massage on hormonal responses related to pain and anxiety during childbirth for each individual.

CONCLUSIONS AND RECOMENDATIONS

This study revealed that Shiatsu massage can reduce pain and anxiety during labour, offering substantial benefits to women. Labouring mothers who underwent Shiatsu massage experienced a reduction in the intensity of their pain and anxiety. This contributed to a more positive and enjoyable labour experience. Mothers appreciated the simplicity and effectiveness of Shiatsu massage, noting that their delivery experiences were neither frightening nor traumatic. Many expressed a keen interest in utilising Shiatsu massage for future deliveries. These experiences underscore Shiatsu massage's dual benefits: it not only reduces pain and anxiety but also provides essential emotional support during childbirth. Consequently, Shiatsu massage emerges as a promising complementary approach in intrapartum care, empowering women to approach the birth process confidently.

IMPLICATIONS OF THE STUDY

The outcomes of this study hold substantial relevance for clinical practice, indicating that incorporating Shiatsu massage into intrapartum care may serve as an effective alternative strategy to reduce pain and anxiety for labouring women. Furthermore, the study emphasizes the necessity of delivering holistic and patient-centered care, recognizing expectant mothers varied needs and preferences. This approach advocates for integrating complementary therapies into conventional obstetric practices, highlighting the potential for enhanced maternal care.

AUTHOR'S CONTRIBUTION

Conceptualization, methodology, drafting the manuscript (HN, MR, BA, and SM), data collection (HN), data analysis (HN and MR), and critical revisions for important intellectual content (MR, BA, and SM). All authors have read and agreed to the final version of the manuscript.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare. All co-authors have seen and agree with the manuscript contents, and there is no financial interest to report.

DECLARATION OF STATEMENT

The primary author affirms the manuscript's integrity, asserting that it presents a truthful, precise, and open depiction of the study's findings. All essential elements of the study have been included, and any deviations from the originally planned (and, if applicable, registered) study have been adequately addressed.

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Appendix 1: List of main questions and probing questions during the interview

Main questions and probing questions
1. How did you feel during delivery process? • Do you feel comfortable during labour? • Could you describe the labour pain? • What did you do during the labour pain?
2. How is your experience with Shiatsu massage during labour? • Do you get any effect from Shiatsu massage on labour pain? • Is the shiatsu massage difficult for you? • How do you feel after Shiatsu massage?
3. How is your opinion about the labour process and labour pain? Is it as your imagination? • Is the labour process as scary as it seems? • Does the giving birth traumatize you from having another pregnancy and delivery in future? • Do you want to do a shiatsu massage again in the future?

Appendix 2. Demographic characteristics of the mothers (N=10)

Characteristics	**Category**	**N**
Age (years)	19-28	10
Educational level	Senior high School	8
	Bachelor	2
Employment	Housewife	8
	Employed	2

Appendix 3. Themes and sub-themes generated from the data

Themes	**Sub-theme**
Emotional dynamics during labour	▪ Fear/Anxiety/Worry ▪ Discomfort ▪ Happiness/Enjoyment
Perception of labour pain	▪ Severe pain
Strategies for coping with labour pain	▪ Prayer ▪ Breathing exercise ▪ Gripping, rubbing, caressing, or leaning on others for support.
Benefits perceived	▪ Pain reduction ▪ Relaxed/ calm/ comfort
Perception of Shiatsu massage for labour	▪ Labour process is manageable ▪ Absence of fear or trauma ▪ Willingness to utilise Shiatsu massage in subsequent deliveries