Review

Acupuncture for painless delivery: A narrative review

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Abstract

Background: Giving birth is a fantastic, transformative event—often characterized as a painful, emotionally and physically taxing time for women. Obstetricians and pregnant women face considerable challenges in managing labor pain. The popularity of alternative pain management techniques may be attributed to the desire of many women to avoid invasive or pharmaceutical means of managing their labor pain. Complementary treatments are becoming increasingly popular. When seeking pain relief during pregnancy and delivery, women may turn to alternative therapies in addition to traditional medical care. **Objectives:** This review discusses the role of acupuncture as a popular complementary therapy used to treat many painful conditions. It has also been used to treat obstetric and gynecological disorders, including labor discomfort. Doctors, nurses, and certified acupuncture therapists are increasingly employing acupuncture for reproductive care, birth induction, and pain relief, as it has been recognized and acknowledged as a component of Western mainstream medicine. Acupuncture during labor also appears to provide other advantages for women, such as shorter labors and a reduced incidence of instrumental vaginal births. **Conclusion:** Acupuncture appears to be a safe and effective complementary therapy for managing labor pain, promoting relaxation, and potentially improving labor outcomes. Further well-designed clinical studies are warranted to establish standardized protocols and confirm its efficacy and safety in diverse obstetric settings.

Keywords: Acupuncture, Non-pharmacological pain relief, Randomized controlled trial, Parturition, Labor pain

1. Introduction

Labor pain represents one of the most intense somatic experiences, yet its underlying mechanisms reveal a paradox—why does a natural physiological process elicit such profound suffering? The pain arises from a triad of nociceptive, mechanical, and chemical stimuli, each contributing to a cascade of neural and endocrine responses.[1] Visceral afferent fibers (e.g., Aδ and C) transmit signals from the uterus through the hypogastric plexus and into the thoracolumbar spinal cord (T10–L1), where central sensitization may amplify discomfort. Simultaneously, the hypothalamic–pituitary axis releases β-endorphin and adrenocorticotropic hormone (ACTH), ostensibly to modulate pain. However, a catecholamine surge frequently overrides this modulation; adrenaline and noradrenaline elevate cardiac output and blood pressure, potentially compromising fetal oxygenation.[2]

Neuronal cells within the hypothalamic paraventricular and supraoptic nuclei produce oxytocin, which is released into the bloodstream through the posterior pituitary lobe. This release stimulates myoepithelial cells in the mammary glands and induces uterine contractions during delivery and breastfeeding. Numerous oxytocin-mediated, centrally triggered behavioral and physiological effects occur during breastfeeding and childbirth. Oxytocin reduces stress by downregulating the sympathetic nervous system and hypothalamic-pituitary axis, thereby reducing pain, inflammation, and fear.

While the oxytocin receptors in the decidua and choriamniotic membranes are associated with the production

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and release of prostaglandins and inflammatory chemicals (e.g., arachidonic acid and leukotrienes), oxytocin receptors in the myometrium trigger myometrial contractions during labor. The magnitude of oxytocin-induced contractions during labor is associated with the frequency of calcium oscillations in myometrial cells. Pregnancy increases oxytocin and receptor expression in anticipation of birth. Peak oxytocin levels are released into the bloodstream during labor, inducing uterine contractions that facilitate fetal expulsion. Short-lived oxytocin pulses are characteristic of labor and become more frequent as the process progresses, peaking at approximately three pulses per 10 min after the second stage.

Compared to oxytocin levels at term, average plasma oxytocin concentrations during labor approximately double due to the more frequent pulses. Oxytocin stimulates prostaglandin synthesis. It causes the uterine decidua to produce more prostaglandin F2-α, prostaglandin E2 (PGE2), and leukotrienes, while the amniotic fluid produces additional PGE2. The decidua's production of prostaglandins induces local inflammation, which accelerates cervical ripening and myometrial contractions. In addition, the prostaglandins in the membranes alter their texture, making them more brittle and susceptible to rupture during birth.[3]

This raises critical questions: Is labor pain merely a physiological necessity, or does its severity reflect an evolutionary trade-off? The endogenous opioid system, though activated, often fails to provide sufficient analgesia, suggesting either an adaptive mechanism to ensure maternal alertness or an evolutionary oversight. Furthermore, the hemodynamic strain imposed by catecholamines introduces a clinical dilemma—how can analgesia be optimized without disrupting labor progression.[4]

A deeper interrogation reveals sociomedical implications. Historically, labor pain has been normalized and dismissed, with disparities in pain management underscoring gendered biases in healthcare.[5-7] The pain of labor has two components: (i) pain due to uterine contractions, which is transmitted through afferent fibers through the 11th or 12th thoracic roots; and (ii) pain due to stretching of the birth canal, which is transmitted through specific sacral roots.[8] These components are further explained in Sections 2.1 and 2.2.

1.1. Pain of the first stage of labor

Pain during the first stage of labor primarily arises from two sources: cervical dilatation and contraction-induced uterine distension.[9] The pivotal contribution of cervical and tissue stretch to nociception is supported by three key observations: (i) smooth muscle stretch is a potent trigger for visceral pain; (ii) pain intensity correlates directly with the degree of cervical dilatation; and (iii) pain typically follows uterine contractions with a latency of 15–30 s.[10,11] This delay—the longest in early labor and progressively shortening as labor advances—may reflect the time required for intra-amniotic pressure to exceed 15 mm Hg above baseline, the threshold needed to distend the lower uterine segment and cervix.[12] Labor pain is believed to result from the activation of high-threshold mechanoreceptors and polymodal nociceptors by uterine pressure and stretch. Acute uterine distension evokes visceral pain responses, particularly pronounced in dystocia or persistent occiput posterior positions, where severe pain may occur even with minimal cervical dilatation.[13]

In addition, repeated myometrial contractions may contribute to nociceptor sensitization through ischemia and the release of algogenic substances during cellular breakdown.[14] Interestingly, while pain intensity tends to increase as labor progresses, topographic studies reveal a decline in contractile force within the lower uterine segment and cervix. This paradox suggests that labor pain is not merely a function of mechanical force but rather a complex interplay of cumulative tissue stress, ischemic insult, and biochemical sensitization of visceral afferent pathways.[15] Peripheral pathways involved in labor pain are detailed in Table 1.

1.2. Pain of the second stage of labor

Following sensitization and dilation, the pain profile undergoes a marked neurophysiological transformation during the second stage of labor. Although uterine contractions persist, their nociceptive contribution diminishes as cervical stimulation ceases. Pain at this stage arises from two distinct mechanisms: (i) residual visceral pain resulting from uterine distension, transmitted through thoracolumbar spinal segments (T10–L1), though typically less intense than the pain of the first stage[1]; and (ii) the emergence of acute somatic pain due to the mechanical compression and distension of pelvic structures as the fetal presenting part descends. This somatic component is particularly pronounced during stretching of the vaginal outlet and perineum, activating richly innervated, pain-sensitive tissues.

Unlike the poorly localized, dull visceral pain of the first stage, the second stage is characterized by sharp, well-localized somatic pain mediated predominantly by the pudendal nerve (S2–S4), which transmits afferent input from the lower birth canal and perineal region.[20] This transition, from a somatodendritic to a somatotopic organization, reflects a fundamental shift in neuroanatomical pathways: slow-conducting C fibers, responsible for diffuse uterine pain, give way to rapidly conducting Aδ fibers that convey distinct, localized sensations associated with perineal distension.[21] Understanding this neurophysiological evolution is crucial for optimizing labor analgesia, particularly in tailoring pain management strategies for the expulsive phase. Central nociceptive mechanisms are detailed in Table 2.

Table 1. Neural pathway of labor pain transmission and its characteristics

Component	Description	References
Primary nerve fibers	Afferent pain signals are transmitted through Aδ and C fibers	16
Initial origin of impulses	Noxious stimuli originate in the uterus and cervix, entering through the uterine and cervical plexuses	16
Plexus pathway	Signals pass through a sequence of pelvic plexuses: pelvic→inferior hypogastric→middle hypogastric→superior hypogastric plexus	16,17
Spinal entry route	Pain signals ascend through the lumbar and lower thoracic sympathetic chain and enter the spinal cord through white rami communicants at T10–L1 spinal segments	17
Central nervous system entry point	Nociceptive impulses are conveyed to the central nervous system through T10, T11, T12, and L1 posterior nerve roots	17
Dermatomal distribution	The multisegmental synaptic relay system explains labor pain's visceral and referred nature, following distinct dermatomal patterns.	18
Pain fiber types	(i) C fibers (unmyelinated): dull, aching pain (ii) Aδ fibers (lightly myelinated): sharp, localized pain during peak contractions	19

Table 2. Neurophysiological basis of labor pain and the evolving role of non-pharmacological pain management (NPPM)

Involved mechanism	Description	References
Spinal cord termination of nociceptive afferents	Nociceptive afferent fibers terminate predominantly in laminae I–VI of the dorsal horn, with dense projections to laminae I (marginal layer), IV, V, and VI	22-25
Second-order neuron populations	Two primary neuron types process nociceptive input: (i) neurons receiving direct synaptic input from primary afferents and (ii) marginal layer neurons integrating input from Aδ mechanoreceptors, Aδ thermoreceptors, and C-polymodal nociceptors	26
Intra- and intersegmental modulation	Marginal neurons form circuits with substantia gelatinase (lamina II) interneurons within and across spinal segments, enabling intersegmental modulation of pain	26
Ascending pain pathway	Output neurons decussate and ascend through the contralateral spinothalamic tract, the principal central pain transmission pathway	27
Discriminative and affective dimensions of labor pain	Laminar specificity underpins the dual aspects of labor pain: discriminative (localization, intensity) and affective (emotional unpleasantness)	28
Referred pain mechanism	Convergent nociceptive input to single marginal neurons likely accounts for the referred pain frequently associated with childbirth	28
PPM: Limitations	While PPM reduces pain, it may impair essential physiological feedback, hinder mobility, and contribute to prolonged labor or increased intervention	13,29
Re-emergence of non-pharmacological techniques	Growing evidence of the adverse effects of pharmacological interventions has renewed interest in NPPM strategies	30-33
Common NPPM techniques	Widely adopted methods include prenatal yoga, homoeopathy, hydrotherapy, music therapy, transcutaneous electrical nerve stimulation, acupressure, heat/cold application, birthing ball exercises, and massage therapy.	34-36

Abbreviations: NPPM: Non-pharmacological pain management; PPM: Pharmacological pain management.

2. Acupuncture during pregnancy

The use of acupuncture during pregnancy involves the physical insertion and manipulation of fine needles to stimulate specific spots. Acupuncture sites can also be stimulated by electrical currents, lasers, and moxibustion, a technique that involves burning herbal preparations containing mugwort (*Artemisia vulgaris*) on the acupuncture point in conjunction with manual needling. The most common method is manual acupuncture, in which sterile, disposable stainless-steel needles are inserted into specific acupuncture points and rotated to produce *De-Qi*—a characteristic needle-induced sensation. The selection of acupuncture sites, stimulation modality, and manipulation technique is frequently individualized and primarily guided by the therapist's experience, patient characteristics, and clinical condition. Several important historical aspects of traditional Chinese medicine (TCM) are summarized in Table 3.

2.1. Understanding pregnancy through individualized Chinese medicine

Rooted in centuries of empirical observation and guided by the foundational principles of *Yin-Yang* balance and the Five Element theory, TCM conceptualizes the human body as a microcosm reflecting the dynamics of the natural world. Within this framework, acupuncture has emerged as a key therapeutic modality in maternity care. Clinical applications of TCM include cervical ripening, facilitation and progression of labor, analgesia during childbirth, postnatal recovery support, and the correction of breech presentation—particularly through moxibustion techniques aimed at stimulating fetal

Table 3. Historical evolution of acupuncture and related practices

Time period	Historical development	Key contributions/notes
Around 3,000 BCE (stone age)	Early use of stone needles	Initially used for simple surgical procedures; pain relief was observed when applied to specific skin regions
Around 1,600 BCE (bronze age, China)	Transition to bone, bamboo, and bronze needles	Emergence of defined acupuncture points for therapeutic use
600–300 BCE	Daoist meditative observations	Identification of energy flow patterns (meridians); concept of *Qi* as vital life force; foundation of acupuncture theory
Han Dynasty (476–221 BCE)	Integration into women's reproductive health	Acupuncture treatments for amenorrhea, irregular menstruation, hyperemesis, and threatened abortion are documented in Han medical texts
Around 551 BCE onwards	Rise of Confucianism	Emphasis on producing male heirs led to advanced developments in fertility and obstetrics within TCM.
Early 1900s (Japan)	Development of *Shiatsu*	Introduction of acupressure in *Shiatsu Hoby Tenpeki Tami*; "*Shiatsu*" = finger (*shi*) + pressure (*atsu*)
1957 (Japan)	Evolution of *Shiatsu*	Adoption of acupuncture points and meridian theory into *Shiatsu* practice
Song, Ming, and Qing dynasties	Philosophical evolution of TCM	Influences from Buddhism and Neo-Confucianism shaped holistic TCM theories on health and disease.
Post-Mao era (after 1949)	Integration with Western medicine	TCM modernized under Western biomedical influence; dual practice model emerges in Chinese hospitals

Note: Data adapted from Smith *et al*.[37]

Abbreviations: BCE: Before the Common Era; TCM: Traditional Chinese medicine.

movement. In addition, acupuncture has been reported to optimize fertility outcomes and support physiological regulation throughout the prenatal period. These integrative approaches reflect a holistic understanding of reproductive health and continue to attract interest within contemporary maternal healthcare settings.[38-40]

Classical TCM views gestation as a 10-month lunar cycle, wherein each month is associated with one of the Five Elements: Wood, Fire, Earth, Metal, and Water. These elements are believed to influence specific stages of fetal development and play a key role in supporting the mother's physiological balance and psychological well-being. This elemental framework reflects a dynamic interaction between the internal environment and the developmental needs of the fetus.[41] The dynamic interplay of the Five Elements represents a distinct physiological phase. Specifically, Wood corresponds to the initiation of labor (onset); Fire to the downward migration of the fetus; Earth to the integrative processes of delivery, including the rotational movement within the birth canal; and Water to the final expulsion of the newborn. These elements operate in a cyclical and interdependent manner, providing a structured framework for understanding the progression of labor.[42]

The liver, kidney, and spleen meridians—closely linked to the uterus, often described as the "*Yin* envelope"—play a central role in maternal health. Acupuncture is believed to enhance reproductive function by promoting the smooth circulation of *Qi* (vital energy) and blood, thereby supporting optimal fetal development. The pre-labor phase is governed by *Yin*, whose softening qualities aid cervical ripening. As labor begins, *Yang* energy rises, accelerating *Qi* and blood flow to "open the uterine door" and initiate delivery. The therapeutic effect of TCM extends beyond physiology to include the *shen–shen* (spirit-to-spirit) connection between mother, infant, and practitioner.[16-19]

2.2. From needles to neurohormones: Understanding the role of acupuncture in labor pain relief

The role of acupuncture in labor pain management is increasingly supported by neuroendocrine evidence. The stimulation of specific points activates the hypothalamus, releasing β-endorphins, endogenous opioids that modulate pain perception. These endorphins and ACTH share a common precursor—pro-opiomelanocortin—and are released in equimolar amounts. ACTH is also implicated in the physiological cascade that initiates labor. The levels of PGE2 is significantly higher in acupuncture after the first stage of labor, suggesting a biochemical pathway by which acupuncture may enhance uterine readiness and efficiency during childbirth.[43,44] They suggested that greater levels of PGE2 and increased cervical dilatation are mediated by prenatal acupuncture acting through peripheral sensory pathways. Kim *et al*.[45] demonstrated that acupuncture significantly modulates uterine motility, primarily through the downregulation of cyclooxygenase-2 expression, suggesting the involvement of a localized biochemical mechanism in its therapeutic action.

Acupuncture can influence uterine and cervical function by afferently stimulating neurotransmitters, neuropeptides, and hormones through the autonomic nervous system, particularly at the levels of the hypogastric and sacral plexuses.[46] For example, parasympathetic efferent fibers originate from the

S2–S4 segments of the spinal cord, while sympathetic efferent fibers arise from T1 to L2. This anatomical arrangement may explain how stimulation at distal acupuncture points can influence uterine activity and childbirth. The uterus possesses α- and β-adrenergic receptors, which interface with the hypogastric ganglia; however, their relative activity shifts as parturition approaches, modulated by hormonal changes, particularly the interplay between prostaglandins and estrogen.[47]

The vascular effects of acupuncture are another potential mechanism of action.[48] Acupuncture has been shown to modulate blood flow in various organs, including the brain, uterus, and skin. Stimulation at specific points such as SP6 and LI4 yields varying effects. Experimental findings indicate that acupuncture at SP6 significantly reduces blood flow to the uterine artery, umbilical artery, and fetal aorta, whereas stimulation at LI4 alone does not produce the same vascular changes. These site-specific effects underscore the physiological precision and targeted influence of acupuncture in obstetric applications.[49] However, stimulation at LI4 alone has been associated with a considerable increase in fetal heart rate. Maternal stress during pregnancy has been associated with reduced uteroplacental blood flow, potentially contributing to dysfunctional or prolonged labor.

Acupuncture may exert "normalizing and preparatory" effects in prenatal care by modulating vasomotor tone and enhancing uterine perfusion. These effects are thought to be mediated, in part, by the release of endogenous opioids, particularly endorphins, which help lower stress levels and support physiological readiness for labor.[50] The presence of 0.31 opioid receptors/mm^2 at acupuncture points, compared with 0.16 receptors/mm^2 in surrounding tissues, has been demonstrated, indicating that they are distinct signaling loci.[51] The observation that over 80% of acupuncture points are located near neurovascular bundles provides anatomical support for the physiological basis of acupuncture. Furthermore, the approximately 70% overlap between recognized myofascial trigger points and traditional acupuncture points highlights a potential convergence between classical Eastern practices and contemporary neuroanatomical understanding.[52,53]

Robust research indicates that acupuncture stimulates somatic afferent fibers within viscerotomal, sclerotomal, myotomal, and dermatomal tissues, leading to the modulation of vasomotor activity through sympathetic neural pathways at the spinal segmental level. This neurophysiological mechanism is based on the hypothesis that acupuncture exerts both local and segmental effects through spinal gating and autonomic regulation.[54,55]

According to Kimura,[56] acupuncture lowers blood pressure by inducing an initial local vasoconstrictive phase, followed by both local and systemic vasodilation across the cardiovascular system. It has been proposed that acupuncture may act through a histamine-like mechanism, whereby neuropeptide release is triggered by metal needle insertion and localized cellular microtrauma, leading to systemic effects. This supports the plausibility that peripheral neurological and vasomotor changes in the cervix, uterus, and potentially the fetus can be mediated by segmental acupuncture at the pelvic level. Emerging evidence also suggests that acupuncture may stimulate maternal oxytocin release and fetal production of prostaglandins and cortisol, hormonal changes that are associated with the onset of labor. In addition, stimulation of acupuncture points near the uterus has been shown to significantly alter the bioelectrical potentials of the myometrium, indicating localized contractile responses. These changes likely contribute to improved uterine blood flow and reduced contractile pain, reinforcing acupuncture's role in facilitating labor.[57,58]

Since the 1970s, acupuncture has emerged as one of the most extensively studied modalities within complementary and alternative medicine, generating a substantial body of literature. Numerous rigorous clinical trials have supported its efficacy in managing various painful conditions. In obstetrics and gynecology, acupuncture has been employed for a wide range of conditions, including morning sickness, dysmenorrhea, breech presentation (commonly addressed with moxibustion using *A. vulgaris*), labor induction, analgesia during oocyte retrieval, and labor management. Although findings remain mixed, several observational, retrospective, and non-randomized controlled studies suggest that acupuncture may alleviate labor pain. Introduced into Western medicine in the 1970s primarily for intrapartum analgesia, acupuncture is now widely regarded as a supportive intervention in childbirth, particularly across Europe.[59,60]

2.3. Techniques for acupuncture point selection in pain management during parturition

The concepts of TCM, which emphasize the body's energy pathways (meridians) and the balance of *Qi* and blood, form the basis for the selection of specific acupuncture points, both local and distal, in parturiting women. Although Western science is still investigating the precise physiological mechanisms, TCM's theoretical framework provides a thorough explanation of how these points are selected to reduce labor pain.[61] According to TCM, pain is typically regarded as an obstruction or imbalance in the flow of blood and *Qi* within the meridians. Intense contractions and cervical dilatation during labor can lead to significant stagnation of *Qi* and blood in the pelvic area, resulting in severe discomfort. Acupuncture aims to disperse stagnation, regulate circulation, and facilitate a less painful, smoother childbirth experience. In classical formulas, many different conditions are often

treated using a limited set of well-known points. Through local, segmental, and extra-segmental neuromodulation, these primary classical points are considered the most effective sites for stimulating the nervous system.

Numerous studies have examined the patterns of point selection for pain management using data-mining techniques. According to these investigations, consistent trends exist in the points chosen for moxibustion and acupuncture across different conditions. Nevertheless, there is limited understanding of the general concepts underlying point selection for pain management. Although acupuncture practitioners' choices of points vary widely, certain points can still be identified as particularly relevant for specific conditions. Identifying the most effective points for different pain conditions is vital, since the primary points used may differ among conditions, and point selection may significantly influence treatment efficacy.

According to the Standards for Reporting Interventions in Clinical studies of Acupuncture, point selection is one of the most crucial elements in reporting interventions in acupuncture clinical studies.[62] Point selection to reduce labor pain is influenced by a number of factors, including:

(i) Stage of labor: Different points may be selected for active labor (for severe pain relief) compared to early labor (to promote cervical dilatation and manage mild pain).
(ii) Pain pattern: Point selection may be influenced by the location and type of pain, such as radiating, dull, or sharp.
(iii) Maternal constitution: The selection of points depends on the patient's general health and TCM diagnosis (e.g., blood stasis or *Qi* deficit).
(iv) Emotional state: If the woman exhibits severe anxiety or fear, points that promote mental calmness (e.g., HT7 and *Yintang*) may be added.
(v) Progress of labor: Points that stimulate *Qi* and promote contractions may be selected if labor is prolonged or contractions are weak.

Clinical investigations have employed both regional and distal sites to reduce pain, indicating that both local and segmental or extra-segmental neuromodulation can produce the effects of acupuncture in clinical practice. According to Hwang *et al*.,[63] both distal and regional points are commonly used to treat different types of pain. Based on the oldest East Asian medical dictum, "place the needle where the pain is," regional points are regarded as the fundamental guideline for point selection. The reasoning behind point selection in regions far from illness sites is provided by the empirical reference system, namely, the historically reported meridian system. This historical paradigm is frequently used by traditional acupuncture practitioners, who select sites along the stated meridian that are both close to and distant from the pain site.

While distal points are strongly associated with the historical meridian related to the disease location, regional points are situated in the vicinity of the disease site. These findings are consistent with previous research that employed meridian theory to treat specific disease sites in clinical trials. The theory is based on the idea that the meridian system provides a network of links for conventional acupuncture point indications.[64] In this regard, employing a conventional paradigm, the classical meridian system helps to explain the rationale for selecting distal locations for pain management. The variety of acupuncture techniques used in practice may be influenced by this diversity of theories.

A study found that certain acupuncture point characteristics were preferred by doctors for primary dysmenorrhea, indicating that theoretical considerations influence acupuncture treatment. Few studies have quantitatively investigated the variations in acupuncture point selection based on clinicians' acupuncture styles or explored the underlying theory explaining these variations, despite the potential impact on clinical practice and research.[63-65] Needling at distal sites causes both segmental and extra-segmental neuromodulation, according to neuroscience theory. Segmental neuromodulation is accomplished within the same segment through direct activation of inhibitory interneurons, or segmental inhibition. Extra-segmental neuromodulation, on the other hand, involves the activation of endogenous descending pain modulation centers, which underlies the heterotopic effects of acupuncture.[66,67] Since every patient has a unique pain location and underlying condition, the sites chosen in clinical practice can vary when symptom information is used. Choi *et al*.[68] demonstrated that the combined use of regional and distal points represents the fundamental method for selecting conventional acupuncture points in pain management.

Frequently employed acupuncture points include:

(a) Acupoints for local acupuncture

Local acupoints are those located near the pain or injury sites. These sites are generally found in the lower back, sacrum, and lower abdomen during delivery. BL23, BL26, and BL31–34 are bladder meridian points. Two points on the governing vessel meridian include GV3 (*Yaoyangguan*) and GV4 (*Mingmen*).[69] Extra points include the *Huatuojiaji* points at L4-S5. The gall bladder point GB30 is also a commonly used point. These can be needled to target regional congestion of blood and *Qi* arising from pelvic structures and uterine contractions. They also promote a steady flow of blood and energy in the lower back and sacrum, which reduces pain—stimulation here may additionally affect local nerve channels, possibly triggering the release of endogenous opioids and altering pain perception. *Ren* meridian points (e.g., CV3 [*Zhongji*], CV4 [*Guanyuan*], and CV6 [*Qihai*])

are less frequently used abdominal points; these points directly influence the uterus and surrounding organs, helping to regulate uterine contractions, promote *Qi* and blood circulation in the lower abdomen, and decrease local discomfort. They can also support the mother's overall energy, which is crucial during labor.

(b) Distal acupuncture points
Distal acupuncture points are located on the extremities, far from the location of pain, yet are linked to it by the meridian system. The rationale behind their selection is that activating a spot on a meridian can influence the entire channel and the organs connected to it. As they are less sensitive to touch during strong contractions and can be activated without affecting the position of the laboring women, distal sites are particularly helpful. Sp6 (*Sanyinjiao*) and Sp8 (*Diji*) are examples of spleen meridian points. In the lower *jiao* (lower belly), they help regulate blood and *Qi*, facilitating painless uterine contractions. Their effect on the liver meridian aids in the relief of *Qi* stagnation, which is frequently the source of discomfort.

The acute discomfort and blood stagnation that are frequently experienced during strong contractions are directly addressed by SP8. LI4 is a strong point for promoting *Qi* circulation and has a widespread analgesic effect throughout the body, despite not being located on a meridian directly linked to the uterus. It is frequently used in TCM to "move *Qi*" and ease pain in any part of the body. LI4 also exerts a more systemic effect by promoting relaxation and reducing overall pain perception.[70,71] Kidney energy, which is vital for uterine function and the physical demands of labor, is directly tonified by KI3. Strengthening kidney *Qi* helps reduce fatigue and ensure sufficient energy for efficient contractions. KI1 promotes calmness and lessens the perceived intensity of pain by stabilizing rising "heat" or anxiety. By ensuring that *Qi* flows freely, LR3 helps prevent stasis, which can worsen discomfort and delay birth. It also reduces tension and anxiety by relaxing the liver, thereby making labor less painful and more tolerable. Although PC6 and GB 21 do not directly relieve pain, they address common labor-related symptoms such as nausea and anxiety, which can indirectly influence pain perception and maternal comfort. By mitigating these symptoms, they contribute to a more favorable overall childbirth experience.

3. Recommendations for unlocking the full potential of acupuncture in labor pain management

The efficacy and underlying mechanisms of acupuncture in obstetric care remain subjects of active investigation. Nevertheless, current evidence suggests that acupuncture may serve as a viable adjunct or alternative to pharmacological interventions in the management of pregnancy- and childbirth-related conditions. Specifically, its application during labor has been associated with reduced maternal discomfort and decreased reliance on pharmacologic analgesia. Given the increasing understanding of parturition physiology and the neurophysiological pathways modulated by acupuncture, targeted research exploring maternal and fetal parameters during and following acupuncture interventions is ethically permissible and methodologically feasible. In the context of modern maternity care—particularly within hospital-based settings—acupuncture may offer a critical non-pharmacological option for labor support, potentially reducing intervention rates while enhancing maternal autonomy and satisfaction. Moreover, rigorously designed studies in this area could substantially advance the limited empirical base regarding the integration of acupuncture into obstetric practice. The broader implications of such research include the clinical validation of acupuncture, refinement of its therapeutic protocols, and strategic implementation in resource-limited or technology-constrained environments.

4. Conclusion

Future research should quantify clinical outcomes, elucidate dose–response relationships, and examine the association between baseline maternal characteristics and the efficacy of acupuncture as an adjuvant therapy. Such investigations hold the promise of deepening mechanistic understanding and informing evidence-based guidelines for incorporating acupuncture into comprehensive obstetric care.

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