

## Evaluating the Effect of Acupressure on Labor Pain and Childbirth Outcomes

**Dr. Selene Hartvig**

Fjordholm University, Sweden

**Soumission : 14/12/2025**

**Acceptation : 23/02/2026**

**Publication: 04/07/2026**

### Abstract

Labor pain is one of the most intense forms of pain experienced by women during childbirth. Effective pain management is essential to promote maternal comfort, reduce anxiety, and improve the overall childbirth experience. While pharmacological methods such as epidural analgesia are commonly used, they may be associated with side effects and increased healthcare costs. Consequently, there is growing interest in complementary and non-pharmacological interventions such as acupressure for labor pain management. The reviewed studies indicate that acupressure may significantly reduce labor pain intensity and maternal anxiety during childbirth. Women receiving acupressure reported greater comfort and satisfaction with their childbirth experience compared to control groups. Several studies also demonstrated positive effects on labor outcomes, including shorter duration of labor, improved cervical dilation, reduced need for pharmacological pain relief, and increased rates of normal vaginal delivery. No significant adverse maternal or neonatal outcomes were reported, suggesting that acupressure is a safe intervention when administered appropriately. Evidence suggests that acupressure is an effective and safe complementary therapy for managing labor pain and improving childbirth outcomes. Its non-invasive nature, low cost, ease of application, and minimal side effects make it a valuable option in maternity care settings. However, further large-scale randomized controlled trials are needed to establish standardized protocols and strengthen the evidence supporting its routine use during labor.

**Keywords:** Acupressure, Labor Pain, Childbirth Outcomes, Maternal Health, Non-Pharmacological Pain Management

### Introduction

Childbirth is a significant life event that involves complex physiological and psychological processes. Labor pain is a natural component of childbirth and is often described as one of the most intense forms of pain experienced by women. The intensity and perception of labor pain vary among individuals and are influenced by factors such as uterine contractions, cervical dilation, fetal position, maternal anxiety, previous childbirth experiences, and cultural beliefs. Effective management of labor pain is essential not only for maternal comfort but also for promoting positive childbirth experiences and improving maternal and neonatal outcomes. Unrelieved labor pain can have several adverse effects on both the mother and the fetus. Severe pain may increase maternal stress and anxiety, leading to the release of stress hormones such as catecholamines. Elevated levels of these hormones can interfere with uterine contractions, reduce uteroplacental blood flow, prolong labor, and negatively affect fetal oxygenation. Furthermore, intense pain may contribute to maternal exhaustion, decreased satisfaction with

the childbirth experience, and increased requests for medical interventions. Various methods are available for managing labor pain, including pharmacological and non-pharmacological approaches. Pharmacological interventions such as epidural analgesia, opioids, and inhalational analgesics are widely used and can provide effective pain relief. However, these methods may be associated with side effects, including hypotension, nausea, prolonged labor, restricted maternal mobility, and potential effects on the newborn. Consequently, many women seek alternative or complementary methods that provide pain relief while minimizing medical intervention. Acupressure is a complementary therapy derived from Traditional Chinese Medicine (TCM) that involves applying manual pressure to specific points on the body known as acupoints. According to TCM principles, stimulation of these points helps regulate the flow of vital energy, or Qi, and restore balance within the body. From a modern scientific perspective, acupressure is believed to reduce pain through stimulation of nerve pathways, release of endorphins, improved blood circulation, and promotion of relaxation. In recent years, acupressure has gained attention as a non-invasive, low-cost, and easily administered method for labor pain management. Several acupoints, such as LI4 (Hegu), SP6 (Sanyinjiao), and BL32 (Ciliao), have been commonly used during labor to reduce pain intensity, enhance uterine contractions, promote cervical dilation, and facilitate labor progression. Research studies have suggested that acupressure may not only alleviate labor pain but also improve childbirth outcomes by shortening labor duration, reducing the need for pharmacological analgesia, and increasing maternal satisfaction. Given the increasing interest in non-pharmacological approaches to maternity care, evaluating the effectiveness of acupressure during labor is of considerable importance. Understanding its impact on labor pain and childbirth outcomes may provide healthcare professionals with an additional evidence-based strategy for supporting women during childbirth.

### **Definition and Physiology of Labor Pain**

Labor pain is a complex and multidimensional experience that occurs during childbirth as a result of physiological and psychological processes associated with uterine contractions, cervical dilation, and fetal descent through the birth canal. It is considered one of the most intense forms of pain experienced by women and varies in intensity and perception from one individual to another. Labor pain is a natural part of childbirth and serves as an indicator of labor progression; however, excessive pain may contribute to maternal stress, anxiety, and fatigue.

#### **Definition of Labor Pain**

Labor pain can be defined as the unpleasant sensory and emotional experience associated with actual or potential tissue damage occurring during the process of childbirth. It results from the stimulation of pain receptors due to uterine contractions, stretching of the cervix, distension of the lower uterine segment, and pressure exerted by the fetus on surrounding pelvic structures. The perception of labor pain is influenced not only by physiological factors but also by emotional, cultural, psychological, and environmental factors.

#### **Physiology of Labor Pain**

The physiology of labor pain differs according to the stages of labor and involves both visceral and somatic pain pathways.

### *First Stage of Labor*

During the first stage of labor, pain is primarily **visceral in nature** and originates from uterine contractions and cervical dilation. As the uterus contracts, blood flow to the uterine muscles decreases temporarily, leading to ischemia and stimulation of pain receptors. Stretching and dilation of the cervix further activate sensory nerve endings.

Pain impulses from the uterus and cervix are transmitted through visceral afferent nerve fibers that enter the spinal cord at the **T10 to L1 spinal segments**. Women often describe this pain as cramping, aching, or pressure-like discomfort located in the lower abdomen, lower back, and pelvic region.

### *Second Stage of Labor*

During the second stage of labor, pain becomes predominantly **somatic in nature** as the fetus descends through the birth canal. Stretching and distension of the vagina, pelvic floor muscles, perineum, and surrounding tissues stimulate somatic pain receptors.

Pain signals are transmitted through the **pudendal nerve** to the **S2 to S4 spinal segments**. This pain is typically described as sharp, intense, localized, and pressure-like. The sensation becomes more pronounced as the fetal head descends and crowns.

### *Third Stage of Labor*

The third stage of labor involves the delivery of the placenta. Pain during this stage is generally less intense but may result from continued uterine contractions that facilitate placental separation and prevent postpartum hemorrhage.

### *Factors Influencing Labor Pain*

The perception and severity of labor pain are influenced by several factors, including:

- Maternal anxiety and fear
- Previous childbirth experiences
- Cultural beliefs and expectations
- Fetal position and size
- Strength and frequency of uterine contractions
- Duration of labor
- Level of emotional and social support
- Maternal fatigue and coping ability

Labor pain is a physiological response to uterine contractions, cervical dilation, and fetal descent during childbirth. It involves both visceral and somatic pain mechanisms that vary across the stages of labor. Understanding the physiology of labor pain is essential for selecting appropriate pain management strategies, including non-pharmacological interventions such as acupressure, which may help reduce pain intensity and improve childbirth outcomes.

### **Factors Influencing Labor Pain Perception**

Labor pain is a highly individual and subjective experience that varies considerably among women. Although labor pain results from physiological processes such as uterine contractions, cervical dilation, and fetal descent, the intensity and perception of pain are influenced by numerous physical, psychological, social, cultural, and environmental factors. Understanding these factors is important for providing effective and individualized pain management during childbirth.

### Maternal Anxiety and Fear

Anxiety and fear are among the most significant factors affecting labor pain perception. Women who experience fear of childbirth or concern about labor complications may perceive pain more intensely. Fear can increase muscle tension and stimulate the release of stress hormones such as adrenaline and catecholamines, which may reduce pain tolerance and intensify the sensation of pain.

### Previous Childbirth Experience

A woman's previous labor experience can influence her perception of pain in subsequent pregnancies. Women with positive childbirth experiences may feel more confident and better prepared to cope with labor pain, whereas those with negative experiences may experience increased anxiety and heightened pain perception.

### Parity

Parity refers to the number of times a woman has given birth. Primiparous women (first-time mothers) often report higher levels of labor pain compared to multiparous women due to unfamiliarity with the childbirth process, increased anxiety, and longer labor duration.

### Cultural and Social Beliefs

Cultural background and social expectations can shape how women perceive, express, and cope with labor pain. In some cultures, labor pain is viewed as a natural and expected part of childbirth, while in others, expressing pain openly is discouraged or encouraged. These beliefs can influence pain perception and coping behaviors.

### Emotional and Psychological State

A woman's emotional well-being during labor significantly affects her pain experience. Stress, depression, lack of confidence, and negative emotions may lower pain tolerance, while relaxation, positive expectations, and effective coping strategies can reduce perceived pain intensity.

### Support During Labor

Continuous emotional and physical support from healthcare professionals, partners, family members, or doulas can positively influence labor pain perception. Supportive care helps reduce anxiety, enhance confidence, and promote a sense of security, thereby improving the overall childbirth experience.

### Duration and Progress of Labor

Prolonged labor is often associated with increased fatigue, frustration, and emotional distress, which can intensify pain perception. Women experiencing longer or more difficult labor may report higher pain levels than those with shorter and smoother labor progress.

### Strength and Frequency of Uterine Contractions

The intensity, duration, and frequency of uterine contractions directly affect labor pain. Stronger and more frequent contractions, particularly during active labor and the transition phase, are generally associated with increased pain intensity.

### Fetal Factors

The size, position, and presentation of the fetus can influence labor pain. Malpositions such as occiput posterior presentation may cause increased back pain and prolonged labor, leading to greater discomfort.

**Maternal Fatigue**

Physical exhaustion resulting from prolonged labor, inadequate rest, or insufficient nutrition can reduce a woman's ability to cope with pain. Fatigue may lower pain tolerance and increase the perception of labor discomfort.

**Environmental Factors**

The labor environment also plays a role in pain perception. A calm, comfortable, and supportive setting can help women feel relaxed and secure, whereas excessive noise, lack of privacy, unfamiliar surroundings, and frequent interruptions may increase stress and perceived pain.

Labor pain perception is influenced by a complex interaction of physiological, psychological, social, cultural, and environmental factors. Anxiety, fear, parity, emotional state, labor support, contraction intensity, fetal position, fatigue, and environmental conditions all contribute to the individual experience of labor pain. Recognizing these factors can help healthcare providers implement effective pain management strategies, including complementary therapies such as acupressure, to enhance maternal comfort and improve childbirth outcomes.

**Conclusion**

Labor pain is a natural yet intense component of the childbirth process that can significantly influence a woman's physical and emotional experience during labor. Effective pain management is essential for promoting maternal comfort, reducing anxiety, facilitating labor progress, and improving overall childbirth outcomes. While pharmacological methods remain widely used, increasing attention has been directed toward non-pharmacological approaches that provide pain relief with minimal side effects. Acupressure has emerged as a promising complementary therapy for managing labor pain and enhancing childbirth outcomes. By applying pressure to specific acupoints, acupressure may stimulate the release of endorphins, improve blood circulation, promote relaxation, and reduce pain perception. Research findings suggest that acupressure can help decrease labor pain intensity, shorten labor duration, reduce the need for pharmacological analgesia, and improve maternal satisfaction with the childbirth experience. Furthermore, acupressure is a safe, non-invasive, cost-effective, and easily administered intervention that can be incorporated into routine maternity care. Its minimal risk of adverse effects makes it an attractive option for women seeking natural methods of pain management during labor. In addition to pain relief, acupressure may contribute to positive maternal and neonatal outcomes by supporting normal labor progression and reducing maternal stress. Acupressure represents a valuable non-pharmacological intervention for labor pain management and childbirth care. Integrating acupressure into evidence-based maternity practices may enhance maternal comfort, promote positive birth experiences, and support improved childbirth outcomes. However, further large-scale, high-quality studies are needed to establish standardized clinical guidelines and strengthen the evidence regarding its effectiveness in obstetric practice.

**References**

- Akbarzadeh, M., Masoudi, Z., Hadianfard, M. J., Kasraeian, M., Zare, N., & Sharif, F. (2014). Comparison of the effects of maternal supportive care and acupressure on

pregnant women's pain intensity and delivery outcome. *Journal of Pregnancy*, 2014, 1–7.

- Bahrami, N., Heshmat, R., & Khosravi, A. (2016). The effect of acupressure on labor pain and duration of labor: A randomized clinical trial. *Iranian Journal of Nursing and Midwifery Research*, 21(6), 605–611.
- Chen, H. M., Wang, H. H., Chiu, M. H., & Hu, H. M. (2007). Effects of acupressure on labor pain during the first stage of labor. *Journal of Advanced Nursing*, 59(4), 400–409.
- Hodnett, E. D., Gates, S., Hofmeyr, G. J., & Sakala, C. (2013). Continuous support for women during childbirth. *Cochrane Database of Systematic Reviews*, 2013(7), CD003766.
- Lee, M. K., Chang, S. B., & Kang, D. H. (2004). Effects of SP6 acupressure on labor pain and length of delivery time in women during labor. *Journal of Alternative and Complementary Medicine*, 10(6), 959–965.
- Lee, E. J., Frazier, S. K., & Porter, C. (2011). Therapeutic effects of acupressure in symptom management: A systematic review. *Journal of Pain and Symptom Management*, 42(4), 589–603.
- Mafetoni, R. R., & Shimo, A. K. K. (2015). The effects of acupressure on labor pain: A randomized controlled trial. *Revista Latino-Americana de Enfermagem*, 23(5), 891–898.
- Smith, C. A., Levett, K. M., Collins, C. T., Jones, L., & Armour, M. (2018). Relaxation techniques for pain management in labor. *Cochrane Database of Systematic Reviews*, 2018(3), CD009514.
- World Health Organization. (2018). *WHO recommendations: Intrapartum care for a positive childbirth experience*. Geneva, Switzerland: World Health Organization.
- Yeh, M. L., Chang, Y. C., & Chen, H. H. (2012). Acupressure and pain management during labor: A systematic review. *Complementary Therapies in Clinical Practice*, 18(2), 89–95.
- Ziaei, S., Hajipour, L., & Kazemnejad, A. (2006). The effect of acupressure on reducing labor pain and improving delivery outcomes. *Journal of Midwifery and Women's Health*, 51(4), e35–e39.
- Zwelling, E. (2010). The emergence of high-tech birthing and its impact on maternity care. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 39(1), 104–112.