



Assessing the Role of Acupressure in Reducing Labor Pain and Improving Delivery Results

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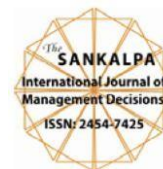
Abstract

One of the most excruciating types of pain that women endure during childbirth is labor pain. Promoting maternal comfort, reducing anxiety, and improving the whole birth experience are all goals of effective pain management. Epidural analgesia and other pharmacological techniques are frequently employed, however they come with the risk of side effects and higher healthcare expenses. This has led to a rise in the popularity of acupressure and other non-pharmacological approaches to alleviating labor pain. According to the research that were looked at, acupressure during labor and delivery has the potential to lessen the severity of pain and anxiety experienced by mothers. When compared to control groups, women who received acupressure during childbirth reported higher levels of comfort and satisfaction. Reducing the need for pharmacological pain management, increasing the rates of normal vaginal birth, improving cervical dilatation, and shortening the time of labor are all positive benefits on labor outcomes that have been shown in multiple studies. Acupressure appears to be a safe intervention when used correctly, as no major adverse effects on mothers or newborns were documented. There is mounting evidence that acupressure can alleviate labor discomfort and improve delivery outcomes in a safe and effective supplementary manner. It is a great alternative to other methods of maternity care due to its low cost, convenience of application, lack of adverse effects, and non-invasive nature. To build standardized techniques and bolster the data supporting its routine usage during labor, further large-scale randomized controlled trials are necessary.

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

Introduction

There are many mental and physiological processes at work during childbirth, making it a crucial life event. Although it is a normal part of giving birth, many women report that the pain they feel during labor is among the worst they have ever felt. Factors like uterine contractions, cervical dilation, fetal position, maternal anxiety, prior delivery experiences, cultural beliefs, and the individual's perception of the agony of labor all have a role in how intense and subjective the pain is. The comfort of the mother, the quality of the birthing experience, and the health of the baby are all directly impacted by the efficacy of the pain management during labor and delivery. The woman and the unborn child are both put at risk when the pain of labor is not alleviated. Maternal anxiety and stress levels might rise in response to severe pain, which in turn can trigger the secretion of catecholamines and other stress hormones. Hormone levels



during pregnancy can have an adverse effect on fetal oxygenation, uterine contractions, labor duration, and blood flow to the placenta. Intense pain during labor may also lead to maternal fatigue, worse satisfaction with the process, and greater demands for medical interventions. There are a variety of options for labor pain management, including both pharmaceutical and non-pharmaceutical treatments. Epidural analgesia, opioids, and inhalational analgesics are pharmacological therapies that are commonly utilized and can effectively alleviate pain. On the other hand, there is a chance that these treatments can cause complications including low blood pressure, nausea, labor that lasts longer than expected, limited movement for the mother, and even affects on the baby. So, to alleviate pain with minimal medical intervention, many women seek out complementary or alternative ways. Manually pressing on certain areas of the body called acupoints is the basis of acupressure, an alternative therapy with roots in Traditional Chinese Medicine (TCM). Traditional Chinese Medicine (TCM) holds that by stimulating these spots, one can normalize the circulation of life force qi (Qi) and bring about internal harmony. The current scientific consensus holds that acupressure can alleviate pain by enhancing blood flow, relaxing the muscles, stimulating the production of endorphins, and stimulating neural pathways. Acupressure is a relatively new approach to labor pain relief that has recently attracted a lot of interest due to its lack of side effects, ease of administration, and low cost. Conventional labor pain relief, uterine contraction enhancement, cervical dilation promotion, and labor progression facilitation have all been achieved via the application of specific acupoints, such as LI4 (Hegu), SP6 (Sanyinjiao), and BL32 (Ciliao). Multiple lines of evidence point to the potential benefits of acupressure during childbirth, including reduced labor time, less reliance on pharmaceutical analgesics, and higher levels of maternal satisfaction with the experience. Evaluating the efficacy of acupressure during childbirth is highly significant, considering the growing interest in non-pharmacological methods of maternity care. Healthcare providers might benefit from learning more about its effects on labor pain and delivery outcomes so they can better assist women going through the process.

Labor Pain: What It Is and How It Works

The physiological and psychological processes involved with the uterine contractions, cervical dilatation, and the fetal descent via the birth canal contribute to the multi-faceted and intricate feeling of labor pain that happens during childbirth. It differs in severity and perception from person to person, but is generally thought of as among the most severe types of pain that women endure. Although some degree of discomfort during labor is normal and even expected, a mother may experience additional worry, anxiety, and exhaustion if the pain is too intense.

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.

The Perception of Labor Pain and Its Influences

Labor pain is something that every woman feels differently because it is subjective and unique to her. Physical, psychological, social, cultural, and environmental factors all have a role in how much and how quickly labor pain is felt, even if it is a natural consequence of things like



fetal descent, cervical dilatation, and uterine contractions. In order to provide efficient and personalized pain treatment during labor, it is crucial to understand these characteristics.

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

A worker's experience of pain is influenced by their job environment as well. When women are in an environment that is peaceful, cozy, and supportive, they are more likely to feel safe and secure; on the other hand, when they are in an environment that is too busy, too noisy, too strange, or too interrupted, they may feel more stressed and even hurt.

Factors involving the body, mind, society, culture, and environment all interact intricately to impact how labor pain is perceived. Each person's labor pain is unique and depends on a number of factors, including their emotional state, level of anxiety, parity, labor support, contraction intensity, fetal position, exhaustion, and the surrounding environment. When healthcare providers are aware of these characteristics, they may better manage pain during labor and delivery, which includes using complementary therapies like acupressure, to make mothers feel more comfortable and have better birth outcomes.

Conclusion

An severe but normal part of giving birth, labor pain can have a profound effect on a woman's physical and mental well-being. The comfort of the mother, the reduction of anxiety, the advancement of labor, and the improvement of delivery outcomes can all be achieved with the use of effective pain management. Although pharmaceutical treatments are still commonly employed, there has been a shift in focus towards non-pharmacological methods that offer pain management with fewer side effects. One complementary therapy that has shown promise in recent years for the management of labor pain and improvement of delivery outcomes is acupressure. Some of the potential benefits of acupressure include increased endorphin release, better blood circulation, relaxation, and lessened perception of pain through the application of pressure to certain acupoints. The results of this study provide more evidence that acupressure can alleviate some of the symptoms of labor pain, shorten the time it takes to give birth, lessen the likelihood that the mother will need to take medication to manage her pain, and increase her happiness with the whole process. In addition, acupressure may be easily integrated into standard prenatal care because it is safe, non-invasive, inexpensive, and simple to administer. For women looking for natural ways to control labor pain, its low risk of side effects makes it a good alternative. Acupuncture has several potential benefits for both mothers and their newborns, including alleviating pain, promoting healthy labor progression, and lowering maternal stress. When it comes to managing labor pain and providing care during childbirth, acupressure is an excellent non-pharmacological technique. Improved maternal comfort, birth outcomes, and experiences may result from incorporating acupressure into evidence-based



maternity care. Standardized clinical guidelines and more evidence of its efficacy in obstetric practice require additional large-scale, high-quality trials.

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