



Absent or forgotten? A review of non - pharmacological pain relief methods during labour

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Dear Editor

Labor pain, although a natural process, is recognized as one of the most intense pain a woman can experience in her lifetime (1). It results from the physiological changes in the uterus and cervix as the baby moves through the birth canal. However, the experience of childbirth is shaped not only by these physical aspects but also by psychological factors, including expectations, previous experiences, stress, anxiety, and fears (2). These psychological factors can increase catecholamine levels and decrease oxytocin levels in the blood, negatively affecting the regularity of uterine contractions and potentially leading to their cessation (3,4). Pharmacological methods for pain relief, such as epidural analgesia, systemic opioids, and nitrous oxide, though effective, carry the risk of side effects for both the mother and the newborn (4,5). Additionally, pharmacological methods alone do not always guarantee a positive childbirth experience. As a result, both women and healthcare professionals are increasingly turning to non-pharmacological pain management (NPPM) methods (1,3,6). Herein, we present a brief description of the most promising methods of non-pharmacological pain relief described in the last five years, which we believe, will contribute to the ongoing discussion and advancement of research and practice in this field.

While the effectiveness of NPPM methods is still under investigation due to a lack of unequivocal evidence (1), these methods are gaining popularity due to their minimal risk to the mother and baby, low cost, and the ability to treat women with respect and consider their preferences (7). Examples of such methods include hydrotherapy, acupuncture, hypnosis, virtual reality, massage, aromatherapy, continuous support, acupressure, maternal positioning, and the use of heat and cold (3).

Research has shown that music can reduce labor pain and anxiety according to its influence on the limbic system and auditory cortex (4,8,9). However, usage of music has its own limitations such as: it refers only to low intensity pain rather than acute, the alleviation of labour symptoms appears to decrease as labour proceeds (4). Dancing, through pelvic movements and position changes, can accelerate labor progress and decrease pain (6). Virtual reality, with its distracting properties, may effectively reduce pain perception (7,10). Continuous support, provided by a family member, friend, nurse, or professional doula, shortens labor duration (8), reduces the need for pharmacological interventions, and lowers the risk of cesarean section (2). Despite its benefits, continuous support is underutilized, likely due to a lack of awareness, underscoring the need for educational programs (2). Acupuncture and acupressure, by stimulating specific body points and regulating oxytocin and beta-endorphins secretion, can decrease pain and improve the well-being of the laboring woman (1,2,11). Massage, through the application of pressure to specific body areas, improvement of blood flow and reduction of muscle stiffness, can block the transmission of pain impulses to the brain and trigger the release of endorphins, which is more - shorten the first stage of labour (2,5,8). Hypnosis, by altering the state of consciousness, can reduce anxiety, tension, and pain associated with childbirth (2,12). Aromatherapy, by stimulating the limbic system, can improve mood and decrease pain (2,13). Maternal positioning and the use of birthing balls can maximize pelvic flexibility and facilitate labor progress (2,11,14). Transcutaneous Electrical Nerve Stimulation uses low-voltage electrical pulses to inhibit pain signal transmission (2,15). It has been shown to reduce pain intensity and increase satisfaction without significant side effects, making it a safe option for labor pain management (15,16). The application of heat and cold, such as warm compresses or ice, can relieve muscle pain and contractions. Due to the searched papers, infrared may limit prostaglandin releasing and shows not only pain-reducing but also anti-inflammatory effects (5,16).

In conclusion, NPPM methods can not only alleviate labor pain but also contribute to a positive childbirth experience, minimizing risk and supporting

women's choices. Further high-quality research is necessary to confirm the effectiveness of these methods and ensure their widespread application in clinical practice.

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Conflicts of interest

The authors declare no conflict of interest

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