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Emily Yenter
University of North Dakota

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Efficacy of Complimentary Manual Therapies for Labor Pain Management

Emily Yenter, PA-S, Contributing Author Julie Solberg, MPAS, PA-C

Department of Physician Assistant Studies, University of North Dakota School of Medicine & Health Sciences

Grand Forks, ND 58202-9037



Abstract

Labor and delivery pain is commonly considered to be the most pain a woman will ever experience. Options for pain control during labor include pharmacological and nonpharmacological. The purpose of this systematic literature is to determine if complementary manual therapies such as massage therapy, acupressure, and reflexology are effective nonpharmacologic management tools for labor pain. The electronic databases PubMed and ClinicalKey were searched, and the ten studies chosen for this review were randomized controlled trials published within the past ten years. Current research provides significant data supporting these three complementary modalities as effective nonpharmacologic management tools to control labor pain. Pain was effectively reduced at multiple points throughout the labor process in each of these studies. Future research could be conducted in the US using therapies in combination as well as using therapies to supplement pharmacological pain management. This research could aid in providing patient education on additional pain control methods during the childbirth process.

Keywords: massage, massage therapy, acupressure, reflexology, foot massage, labor pain, birth and parturition.

Introduction

Childbirth is a highly individual experience and labor pain is commonly considered to be the most pain a woman will ever experience. Uterine contractions, perineal pressure, as well as referred low back and thigh pain contribute to the pain experienced during labor. Options for pain control during labor include pharmacological and nonpharmacological. In the United States, analgesics and anesthetics are the first-line for pain control during labor and delivery, with three-fourths of women opting for neuraxial anesthesia (Smith et al., 2021). Nonpharmacologic pain management is an alternative option for women. Common nonpharmacological labor pain management techniques include movement, breathing exercises, music therapy, water immersion, and manual therapies such as massage, acupressure, and reflexology. The goal of nonpharmacologic pain management is not to eliminate pain, but rather to reduce the perceived pain to provide a better labor experience. Massage is the manipulation of soft tissues including skin and muscles, to reduce stress and promote relaxation by releasing serotonin, oxytocin, and dopamine and reducing cortisol levels (Maghalian et al., 2022). Acupressure is a type of massage that applies pressure along specific body points based on acupuncture meridian (channel) principles. Reflexology and foot massage utilize pressure points in the feet to relieve tension throughout the body. The purpose of this literature review is to determine if complementary therapies are effective nonpharmacologic pain management tools during labor.

Statement of the Problem

Acute pain is a characteristic element of the normal physiological process of labor. Though pharmacological analgesia and anesthesia during labor are generally regarded as safe, some women prefer nonpharmacological pain management. Concerns for the use of pharmacological analgesics and anesthesia during labor include drowsiness, nausea, vomiting, decreased control during the laboring process, decreased mobility, delayed ability to breastfeed, spinal cord injury, as well as short-term fetal effects such as slowed breathing, reduced reflexes, and heart rate changes (American College of Obstetricians and Gynecologists, 2022). Prolonged labor time and increased risk of cesarean section with the use of pharmacologic pain management are also apprehensions, though there are mixed reports on the validity of these concerns.

Research Question

In pregnant women, are complementary manual therapies such as massage therapy, acupressure, and reflexology effective nonpharmacologic management tools for labor pain?

Literature Review

- Akköz Çevik & Karaduman (2019) concluded sacral massage during labor is an effective technique to reduce pain ($p < 0.05$).
- Maghalian et al. (2022) determined that massage therapy during labor significantly decreases labor pain and increases delivery satisfaction ($p < 0.001$).
- The overall conclusion of Shahbazzadegan & Nikjou (2022) was that 7 cm cervical dilation is the most beneficial time to provide massage therapy for pain reduction in labor ($p < 0.0001$).
- Silva Gallo et al. (2013) concluded that massage therapy during active labor decreases reported pain appreciably (95% CI).
- Gönenç & Terzioğlu (2020) analyzed the effects of massage, acupressure, and massage combined with acupressure. All were effective in reducing pain compared to the control, but massage and massage plus acupressure were most successful at reducing pain at all three phases of labor ($p < 0.001$).
- Mafetoni & Shimo (2016) concluded acupressure to SP6 during labor is an effective technique to reduce pain ($p < 0.0001$).
- The overall conclusion of Ozgoli et al. (2016) was that acupressure applied at LI4 and BL32 during labor significantly decreases labor pain at all three stages compared to the control group. BL32 provided more pain reduction than LI4 at stages one and two ($p < 0.001$).
- Akköz Çevik & Incedal (2020) stated their study on reflexology showed a significant reduction in labor pain, therefore increasing labor satisfaction ($p < 0.05$).
- Jameei-Moghaddam et al. (2021) concluded plantar reflexology significantly reduced labor pain and suggested the longer the therapy was administered, the more effective the technique was at reducing pain ($p = 0.003$).
- Şanlı & Güngör Satılmış (2023) concluded that foot massage was successful at reducing labor-related pain at all points measured ($p < 0.001$). The researchers state their study suggests foot massage for a longer period may be more effective in reducing labor pain than full body massage
- All studies were randomized control studies and methods, inclusion criteria, and demographics were similar among the studies. All studies had one researcher perform the intervention to control for variation.

Discussion

- All studies reviewed in this analysis provided considerable data to support using complementary therapies such as massage, acupressure, and reflexology as effective nonpharmacologic management tools to control labor pain.
- A limitation in all the studies included objective analysis of a subjective metric (pain).
- Pregnant women could benefit from antenatal education on nonpharmacological pain management tools.
- The studies were conducted in Turkey, Iran, and Brazil. This may suggest differences in cultural expectations of labor as well as the perception of pain during the process.
- Opioids and epidural anesthesia may not be as readily available in other parts of the world which may promote this type of research to be conducted in those areas as well as have willing participants in the research.
- There were no studies with the inclusion criteria found that were conducted in the US. This suggests a difference in the birthing environment in the US compared to other regions of the world.
- The high percentage of pharmacological pain control in the US may be a result of standard hospital care procedures.
- Even though the data strongly suggests nonpharmacological therapies can assist in labor pain control, it may be difficult to implement into obstetric care in the US.
- Additional research studies could be conducted utilizing complementary therapies performed by a trained professional or a member of the patient's support team, using a larger sample size, using nonpharmacological therapies in combination or with pharmacologic interventions, and therapies being performed for longer periods.
- Regarding the three modalities studied, there were no adverse effects, therapies were noninvasive, and there were no residual effects of treatment.
- These therapies can be implemented during any part of the labor process and for any length of time.
- The data from several authors seems to show massage, acupressure, and reflexology are safe techniques that can be implemented during the labor process to reduce pain.

Applicability to Clinical Practice

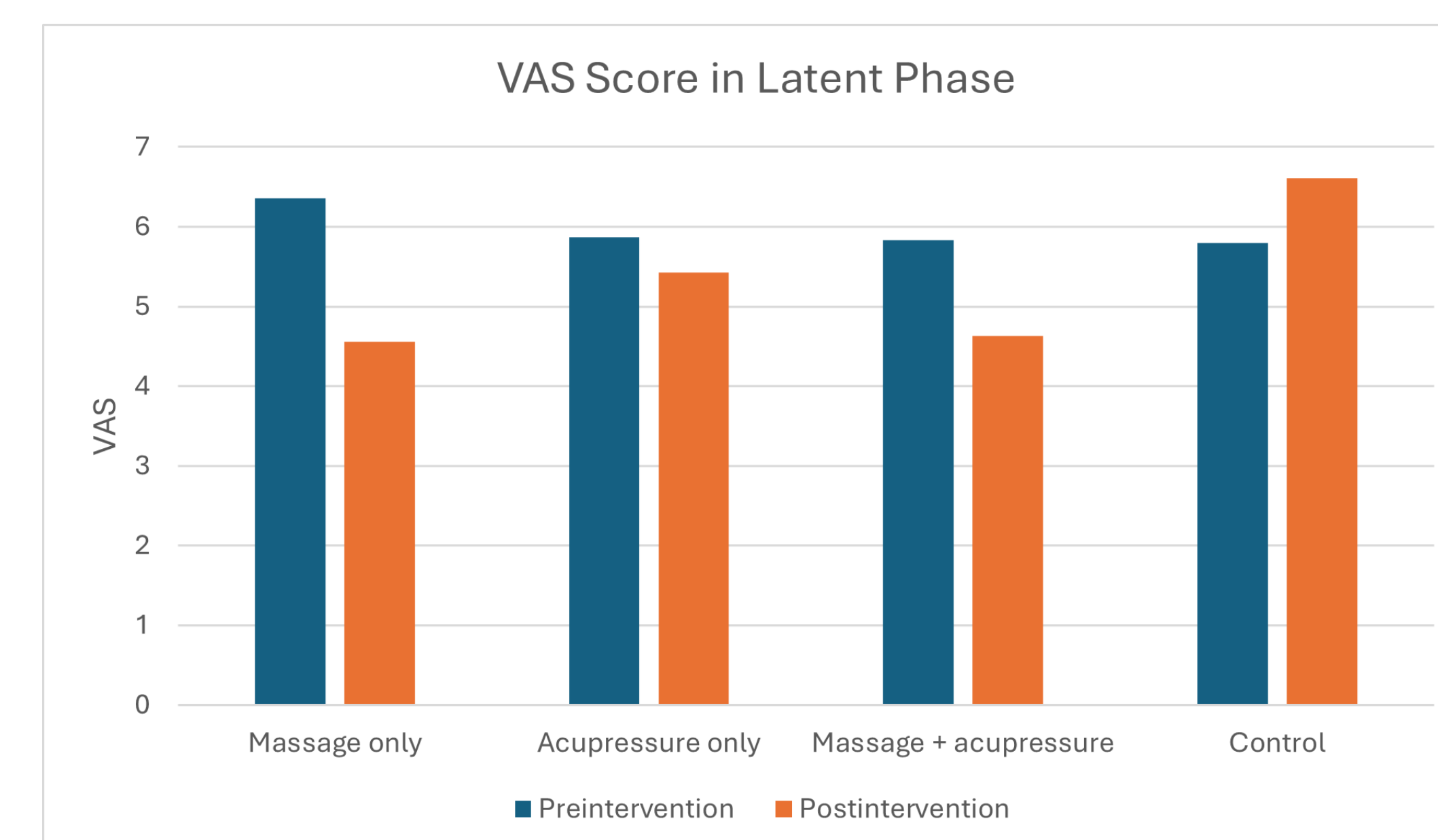
The review of current literature allows clinical professionals to present nonpharmacologic therapies to women as effective pain management options during the labor process. Though the data strongly suggests nonpharmacological therapies can assist in labor pain control, it may be difficult to implement into obstetric care in the US as pharmacologics are the mainstay for pain control. Providing patient education on additional pain control methods and allowing complementary therapies to supplement conventional pain management might be a more probable potential.

References

- Akköz Çevik, S., & Incedal, İ. (2020). The effect of reflexology on labor pain, anxiety, labor duration, and birth satisfaction in primiparous pregnant women: a randomized controlled trial. *Health Care for Women International*, 1–16. <https://doi.org/10.1080/07399332.2020.1800014>
- Akköz Çevik, S., & Karaduman, S. (2019). The effect of sacral massage on labor pain and anxiety: A randomized controlled trial. *Japan Journal of Nursing Science*, 17(1). <https://doi.org/10.1111/jjns.12272>
- American College of Obstetricians and Gynecologists. (2022, December). *Medications for Pain Relief During Labor and Delivery*. [www.acog.org](https://www.acog.org/womens-health/faqs/medications-for-pain-relief-during-labor-and-delivery). <https://www.acog.org/womens-health/faqs/medications-for-pain-relief-during-labor-and-delivery>
- Gönenç, I. M., & Terzioğlu, F. (2020). Effects of Massage and Acupressure on Relieving Labor Pain, Reducing Labor Time, and Increasing Delivery Satisfaction. *Journal of Nursing Research*, 28(1), e68. <https://doi.org/10.1097/jnr.0000000000000344>
- Jameei-Moghaddam, M., Goljaryan, S., Mohammad Alizadeh Charandabi, S., Taghavi, S., & Mirghafourvand, M. (2021). Effect of plantar reflexology on labor pain and childbirth experience: A randomized controlled clinical trial. *The Journal of Obstetrics and Gynaecology Research*, 47(6), 2082–2092. <https://doi.org/10.1111/jog.14755>
- Mafetoni, R. R., & Shimo, A. K. K. (2016). The effects of acupressure on labor pains during childbirth: randomized clinical trial. *Revista Latino-Americana de Enfermagem*, 24(0). <https://doi.org/10.1590/1518-8345.0739.2738>
- Maghalian, M., Mirghafourvand, M., Ghaderi, F., Abbasalizadeh, S., Pak, S., & Kamalifard, M. (2022). Comparison the effect of Swedish massage and interferential electrical stimulation on labor pain and childbirth experience in primiparous women: a randomized controlled clinical trial. *Archives of gynecology and obstetrics*, 306(1), 37–47. <https://doi.org/10.1007/s00404-021-06220-6>
- Ozgoli, G., Sedigh Mobarakabadi, S., Heshmat, R., Alavi Majd, H., & Sheikhan, Z. (2016). Effect of LI4 and BL32 acupressure on labor pain and delivery outcome in the first stage of labor in primiparous women: A randomized controlled trial. *Complementary Therapies in Medicine*, 29, 175–180. <https://doi.org/10.1016/j.ctim.2016.10.009>
- Şanlı, Y., & Güngör Satılmış, İ. (2023). Effect of Foot Massage on Labor Pain in Parturient Women. *Alternative therapies in health and medicine*, 29(2), 82–88.
- Shahbazzadegan, S., & Nikjou, R. (2022). The most appropriate cervical dilatation for massage to reduce labor pain and anxiety: a randomized clinical trial. *BMC Women's Health*, 22(1). <https://doi.org/10.1186/s12905-022-01864-1>
- Smith, A., Laflamme, E., & Komanecy, C. (2021). Pain Management in Labor. *American family physician*, 103(6), 355–364.
- Silva Gallo, R. B., Santana, L. S., Jorge Ferreira, C. H., Marcolin, A. C., PoliNeto, O. B., Duarte, G., & Quintana, S. M. (2013). Massage reduced severity of pain during labour: a randomised trial. *Journal of Physiotherapy*, 59(2), 109–116. [https://doi.org/10.1016/s1836-9553\(13\)70163-2](https://doi.org/10.1016/s1836-9553(13)70163-2)

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