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REVIEW

Non-pharmacological Approaches in the Management of Fear and Pain Associated with the Birth Process

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ABSTRACT

Fear and pain related to the birth process are interrelated problems that women frequently experience. If these problems are not managed well, they can cause some problems for mother and baby such as attachment, fatigue, breastfeeding problems and psychological problems. Women can use pharmacologic or non-pharmacologic methods to cope with these conditions. When these methods are compared, pharmacologic methods are considered interventional and are effective in managing pain and fear. However, they have more side effects than nonpharmacologic methods. These side effects include increasing the likelihood of intervention during labor and causing negative effects on the newborn and breastfeeding. Nonpharmacologic methods do not have a negative impact on the progress of labor. These methods are also used to reduce both pain and fear of labor. In order for these non-invasive methods to be effective, they should be applied regularly and the partners should be involved in the process. In 1996, the Coalition for the Improvement of Maternity Services (CIMS) established the mother-friendly care model in order to reduce interventions applied to women, guide evidence-based practices and protect/improve maternal and child health. ACOG (American College of Obstetricians and Gynecologists) recommended limiting intervention in labor in 2019. Studies have also shown that limiting intervention increases patient satisfaction. In this review, it is aimed to describe the current non-invasive methods for pain and fear frequently experienced by women in the postpartum period.

Introduction

Fear and pain experienced during the birth process are interrelated problems that women frequently experience (Demirsoy et al., 2015). The pain associated with pregnancy and the birth process is among the important factors that cause many women to fear labor. Therefore, control of labor pain should be one of the main goals of the care given to women in labor (Yeşildağ & Gölbaşı, 2018). This fear and pain perceived by women are influenced by sociodemographic factors such as age, educational status, and income level; obstetric factors such as number of pregnancies and deliveries; family relationships such as spousal support and social support; and social factors (Bilge et al., 2022). Poor management of labor pain leads to a poor birth experience, stress, prolonged labor, fetal hypoxia, decreased satisfaction and fear of labor. Fear of labor pain also increases the rate of cesarean section, which is an elective delivery and has more intervention/risk (Yeşildağ & Gölbaşı, 2018). Fear of childbirth also negatively affects both the pregnancy and the birth process of the woman. This may cause some emotional, behavioral and physical changes in pregnancy. Pregnant women may experience restlessness, irritability, insomnia, crying or tachycardia attacks and changes in activities. Physically, fear of childbirth activates various

mechanisms that activate the sympathetic nervous system and vasoconstriction in blood vessels. The woman's fear of childbirth leads to increased release of catecholamines, thus decreasing blood flow to the uterus and oxygen levels in the placental flow. This increases the need for medical intervention. Increased adrenaline in fear and anxiety causes a decrease in the amount of oxytocin that triggers contractions during labor, prolonging or even stopping labor. Prolonged labor further increases the fear of labor in the pregnant woman. In addition to all these, fear of labor increases the rates of preterm labor, postterm labor, intervention labor, emergency cesarean section and elective cesarean section (Kanbur & Koç, 2023). In a study, it was determined that pain and fear associated with poorly managed labor process can cause maternal depression and negatively affect mother-baby attachment (Arslantaş et al., 2020). Women should manage this situation with the support of health professionals. Pharmacologic or nonpharmacologic methods are used to cope with these conditions (Demirsoy et al., 2015; Gökçek, 2022). When pharmacologic and nonpharmacologic methods are compared, pharmacologic methods are interventional methods, although they are more effective than nonpharmacologic methods. However, while nonpharmacologic methods do not have a negative effect on the progression of labor, pharmacologic methods increase the possibility of intervention in labor and cause low negative effects on the newborn and breastfeeding (Koyyalamudi et al. 2016). Comparing their efficacy, nonpharmacologic agents are not as effective as pharmacologic agents, but they are reliable methods (Zuarez-Easton et al., 2023). In a systematic review by Biana et al. (2021), non-pharmacological methods were found to be effective in reducing adverse events such as labor pain, labor duration, anxiety, and labor intervention. Many non-pharmacologic methods and their effects have been studied in the literature. Some of these studies are given in Table 1. As health professionals, individual counseling programs should be planned for pregnant women, awareness of the birth process should be created, the family should be prepared for the process, supportive care should be provided, counseling about methods for fear and pain that may be experienced should be given, applied, evaluated and continuity of care should be ensured (Akın & Erbil, 2023).

According to Table 1, non-pharmacological methods applied in different ways can reduce fear and pain, shorten the duration of labor, reduce the risk of intervention delivery and the risk of complications, and increase the positive birth experience and satisfaction rate. Some studies in the literature suggest that nonpharmacologic methods may be more effective;

- Regular application,
- Spouses to be involved in the process,
- Women's support systems and guidance by a professional team,
- It has also been reported that methods such as aromatherapy and massage, music and dance, dance and yoga should be used in combination (Gönenç et al., 2020; Dominguez et al., 2021).

In 1996, the Coalition for the Improvement of Maternity Services (CIMS) established the mother-friendly care model in order to reduce the interventions applied to women, to take evidence-based practices as a guide and to protect and improve maternal and child health. ACOG (American College of Obstetricians and Gynecologists) recommended intervention limitation in labor in 2019. Studies have also shown that limiting intervention increases patient satisfaction (Table 1). In this review, it is aimed to explain the current methods that do not require intervention for the problems frequently experienced by women.

Nonpharmacological Methods for Fear and Pain Associated with Labor

Zuarez-Easton et al. (2023) classified the methods used in fear and pain management as relaxation techniques (e.g. hypnosis, yoga and music), manual techniques (e.g. massage, reflexology), other techniques (acupuncture, birthing ball and transcutaneous electrical nerve stimulation) (Zuarez-Easton et al., 2023).

Relaxation techniques

Hypnosis: It is a method commonly practiced by pregnant women to ensure a relaxed state of mind and body and prepare them for the birth experience (Thomson et al. 2019). This method prevents the transmission of painful stimuli to the central nervous system. Thus, the perception of pain in labor decreases, the duration of labor is shortened, self-efficacy, sense of control and courage in labor increase, and negative emotions such as fear, anxiety and stress are prevented. As a result of all these, positive birth experience, comfort and satisfaction are achieved (Türkmen, 2023). A literature review was conducted to evaluate the effects of hypnosis before, during and after pregnancy and most of the data were obtained from case series and low quality studies. In a limited number of studies, it has been reported that hypnosis may be useful to alleviate labor pain and fear of childbirth (Babbar et al., 2021). HypnoBirthing is a birth preparation training that combines hypnosis and suggestion techniques with birth knowledge. It consists of 2.5 hours and is given on five separate days, once a week.

Yoga: Yoga is defined as a mental journey to the inner world of the individual. It is a nonpharmacological method that is an easy-to-learn mind-body and complementary health practice (Bolanthakodi et al., 2018). Physical, mental or psychosocial problems of pregnant women lead to negative pregnancy outcomes such as maternal stress and anxiety, spontaneous abortion, intrauterine growth retardation (IUGR), preterm birth and preeclampsia (Yurtsal and Eroğlu, 2019). Maternal stress has also been associated with increased use of analgesics during cesarean delivery and normal delivery (Riley & Drake, 2013). At the same time, low back and back pain during pregnancy, edema and cramps in the legs, respiratory

problems and sleep disorders due to the pressure caused by the growing abdomen in the following weeks of pregnancy negatively affect the quality of life of the pregnant woman. It is known that yoga balances all these dimensions, including pain and fear, and provides positive outcomes for a normal, uncomplicated pregnancy, birth and postpartum experience and has no side effects. Yoga is considered to be a suitable practice for pregnancy due to its positive outcomes during pregnancy, birth and postpartum period and its feasibility and economy (Yurtsal & Eroğlu, 2019). Available evidence suggests that yoga-based interventions are a complementary method for the treatment of maternal anxiety, stress and depression in pregnancy (Kusaka et al., 2016). Among the benefits; reducing the risk of preterm delivery, cesarean section, fetal death, labor induction, episiotomy rupture and duration of labor, and having a positive effect on mother-infant attachment and ensuring high Apgar scores of infants (Şen et al., 2020; Yekefallah et al., 2021; Corrigan et al., 2022). In the study of Mohyadin et al. (2020), they found that practicing yoga during pregnancy can reduce women's anxiety during labor, shorten the duration of labor and reduce labor pain (Mohyadin et al. 2020). In a retrospective study, regular prenatal exercises, including yoga, were associated with more favorable outcomes related to labor and pregnancy course (Wadhwa et al., 2020). In another study, yoga was found to be effective in combating stress and anxiety as well as increasing immunity in working pregnant women facing the COVID-19 pandemic (Nadholta et al., 2020).

Yoga is organized and practiced in three sections according to the gestational week (Rathfisch, 2015). These sections are expressed as early, middle and late pregnancy weeks. Yoga meditation in early pregnancy (first 16 weeks); in this period, relaxation and breath awareness practices are mostly emphasized. Yoga practice in the early weeks of pregnancy can last an average of 45 minutes. During this time, five minutes can be devoted to breathwork, 25 minutes to yoga asanas, 15 minutes to mother-baby communication and meditation. Yoga in the middle pregnancy week (between 16-34 weeks); During this period, lying on your back can be very uncomfortable due to the growing baby and uterus. Weight gain can affect posture and increase the pressure on the spine and legs. For this reason, yoga practice can take about an hour on average. Within this hour, five minutes can be devoted to breathwork, 40 minutes to yoga asanas, 15 minutes to mother-baby communication and meditation. Yoga in the late pregnancy week (34th week and later); breathing exercises and yoga stages that can be used in childbirth can be taught to the pregnant woman. In this period, transitions between stages should be slower and rest breaks should be given. In the last weeks of pregnancy, yoga practice can take about 40 minutes on average. During this time, 5 minutes can be devoted to breathing exercises, 20 minutes to yoga asanas, and 15 minutes to mother-baby communication and meditation (Rathfisch, 2015).

Music therapy: Music is an easy-to-implement and cost-effective method that enables women to develop a sense of self-control and reduce stress during labor (Gönenç et al., 2020; McCaffrey et al., 2020). Gönenç et al. (2020) reported that dance alone and combined music and dance significantly reduced pain and fear in nulliparous women during the active phase of labor, and also emphasized that the partner actively participated in the care of the woman (Gönenç et al., 2020). In the study by Hepp et al. (2018), music during cesarean section was evaluated as an easy-to-apply and effective way to reduce maternal stress and anxiety (Hepp et al., 2018). Santiváñez-Acosta et al. (2020) stated that music therapy has beneficial effects on pain intensity and anxiety during labor, especially in primiparous women (Santiváñez-Acosta et al., 2020).

Manual techniques

Massage: Massage is the systematic touch and manipulation of the soft tissues of the body, which is non-pharmacological and increasingly used to reduce stress during pregnancy and to reduce pain by providing relaxation and blood flow (El-Hosary et al., 2016). Benefits include;

- It is effective for pregnant women with anxiety, depression, leg and back pain and provides significant benefits in pain perception during labor (Pachtman et al., 2021).
- Antenatal perineal massage reduces the risk of perineal trauma and postpartum complications (Aquino et al., 2018; Miake et al., 2019; Abdulhekim et al., 2020).
- It may play a role in reducing labor duration and improving women's sense of control and emotional birth experience (Smith et al., 2018).
- Sacral massage during labor reduces women's labor pain, decreases anxiety and worry levels, provides a more positive perception of labor among pregnant women, and has no fetal side effects (Akköz et al., 2019).

There are studies showing that when massage is used with other nonpharmacologic methods, its effectiveness increases in reducing pregnancy and labor symptoms:

- - Gönenç et al. (2020) found that dual massage and acupressure application was more effective than both treatment methods applied alone and that massage was more effective than acupressure.
- - (2021) found that massage and hot compresses during labor reduced the rates of major perineal injury and episiotomy and increased maternal satisfaction.
- - Lai et al. (2021) stated that massage application reduced pain perception and painkiller use in women in labor.
- - Schreiner et al. (2018) also found that pelvic floor exercise and perineal massage improved labor-related parameters and pelvic floor symptoms.
- - It was observed that the severity of pain decreased after the intervention in women who received foot massage, they experienced less pain in the postpartum period, the second and third stages of labor

were shorter, and women showed less negative behavioral reactions during labor (Şanlı et al., 2023).

Considering these studies, obstetricians may consider perineal massage in pregnant women as routine prenatal care to reduce the incidence of perineal trauma during vaginal delivery (Ugvu et al., 2018).

Other techniques

Aromatherapy: Aromatherapy is a therapy that uses essential oils, usually obtained by distillation from various parts of aromatic plants, to prevent and treat various diseases. The effect occurs through inhalation, massage, compress and bath applications and each essential oil has its own unique scent and therapeutic properties. In general, it can be used in the treatment of many diseases such as anxiety, depression, concentration problems, psychological disorders such as insomnia, digestive problems, headaches, muscle and joint pains, respiratory tract infections, wounds, burns, alopecia, eczema and some other skin disorders (Cambaz Kurt et al., 2021). The oils used for aromatherapy are essential oils. These oils can be preferred due to their rapid effect, ease of application, ease of control and lack of side effects. There is little evidence on the appropriate and safe use of essential oils in pregnancy. Essential oils should be used in small doses in pregnancy and oils approved for pregnant women should be used. In general, aromatherapy oils should be diluted 2-4% with essential oils before application for pregnant women. ne leaf oils are not recommended. It is recommended not to use any essential oil in the first trimester of pregnancy. During pregnancy; anise seed, arnica, birch (beech), basil, buchu, melon, camphor, cumin, cinnamon, juniper, sage, clove, cedarwood, cypress, bitter fennel, geranium, ginger, jasmine, sassafras, psoriasis, zufa grass, mustard, coral mansion, Myrrh, muscadine, oregano, pennyroyal, rosemary, sage, savory, tansy, tarragon, thuja, thyme, wintergreen, wormwood, goosefoot, myrtle, peppermint, bay leaf oils are not recommended. Oils that are safe to use for pregnant women are peppermint, lavender, lemon, bergamot, citrus, mut, cocoa, bitter almond, rosehip and rose oils (Teskereci and Boz, 2020). In a randomized controlled study, inhalation and massage therapy using lavender essential oil was found to be effective in alleviating perceived labor pain (Karatopuk et al., 2023). In another study, massage using chamomile oil was associated with better outcomes compared to massage without chamomile oil (Eskanderi et al., 2022).

Acupuncture and acupressure: According to traditional Chinese beliefs, there are opposing systems (Yin and Yang) in the body; when they work in balance and harmony, health is achieved, and when this balance and harmony is disturbed, disease occurs. Acupuncture and acupressure are used to reduce pain and disease symptoms by restoring this balance. Acupuncture is defined as the needling of certain pressure-sensitive and predetermined points on the skin for both the treatment and diagnosis of functional, reversible diseases or disorders (Dorsher and da Silva, 2022). Acupuncture shows analgesic effect in the body by affecting the nervous system and neuroendocrine system and helps to reduce pain (Şen et al., 2020). In addition, acupuncture can be applied in cases such as nausea, vomiting, depression, pelvic pain, low back pain and fetal malposition during pregnancy. There are studies suggesting that acupuncture may stimulate uterine contractions and/or cervical change. However, there is no evidence that these effects translate into adverse pregnancy outcomes. Nevertheless, acupuncturists do not recommend the use of certain points during this period, as most spontaneous abortions occur in the first 12 weeks. These points are very stimulating points such as SP-6, ST-36, LI-4, GB-21, BL-67 or sacral and umbilical points (Çayır and Çınar Tanrıverdi, 2022). During labor, BL-67 stimulation reduces the need for oxytocin and is effective in fetal malposition (Lyngso et al., 2010). Acupressure is a noninvasive method. Unlike acupuncture, these methods are associated with pressure on the relevant areas of the body (Atkins et al., 2021). Among the effects of these methods; It can reduce labor pain, the use of pharmacological agents, the use of forceps and vacuum-assisted deliveries, and the duration of labor (Schlaeger et al., 2017). It has also been determined that acupressure can be used with aromatherapy to alleviate labor pain in low-risk pregnant women (Hu et al., 2021).

Bonapace method: The Bonapace Method (BM) was created by Julie Bonapace in 1989. BM is an innovative method of birth preparation. Its aim is to provide the pregnant woman, her partner and health professionals with the resources and practical tools they need to approach pregnancy, labor and the postpartum period with complete confidence. It is a non-pharmacological approach that reduces medical interventions through effective pain management. It provides a better understanding of pain and its role, how to change a pregnant woman's perception of pain, and how to support physiology before, during and after labor (Bonapace, 2009). BM is a proposed method to reduce labor pain by applying pain techniques based on three neurophysiological endogenous pain modulation models (Bonapace et al., 2013). The purpose of these three networks;

- Controlling the central nervous system through breathing, relaxation and cognitive structuring,
- Using non-painful stimuli with Gate Control Theory,
- Acupressure is to maintain reduced inhibition by hyperstimulation of trigger points (Bonapace et al., 2013).

First, the proposed method uses control of the central nervous system through breathing, relaxation and cognitive restructuring. Slow, deep breathing is often part of the techniques often used to relieve pain, such as relaxation. Another pain modulation technique used in this method is painless stimulation, such as gentle massage of the back during labor contractions. The analgesia induced by light massage is based on the Gate Control Theory proposed by Melzack and Wall. Finally, BM is used in analgesic hyperstimulation during contractions (Bonapace et al., 2013). In a study aiming to evaluate the

effectiveness of BM in reducing pain during labor, it was shown that BM reduced labor pain by almost 50% compared to traditional childbirth preparation courses (Bonapace, 2009). Studies on this method are insufficient in Turkey.

Transcutaneous Electrical Nerve Stimulation: Transcutaneous Electrical Nerve Stimulation (TENS), subcutaneous electrical nerve stimulation, is the transfer of low-voltage electrical pulses to the skin through the surface electrodes of a handheld battery-powered generator. It is used with a low-voltage electric current to activate inhibitory systems in the central nervous system to reduce pain (Njogu et al., 2021). To reduce labor pain, one pair of electrodes is placed parallel to the T10-L1 vertebral level and the other to the S2 and S4 vertebral level. The woman controls the intensity of the current by turning a dial and can change the intensity by adjusting the dials on the TENS unit. This application may cause a tingling sensation in women (Simkin & Bolding, 2004). In a randomized controlled trial of TENS, it was reported that TENS can be used as a non-pharmacological treatment to reduce pain and shorten the active labor phase (Rashtchi et al., 2022).

Water Labor: Water labor, which dates back to ancient times, has become an alternative method of childbirth with increasing popularity in recent years (Uzunlar et al., 2017). Benefits include;

- It shortens the first stage of labor and reduces the need for analgesics and anesthesia (Uzunlar et al., 2017),
- It has been found to be associated with more positive maternal experiences (Lathrop et al., 2018).

In hospital settings in the United States, water birth attended by qualified intrapartum care providers has been shown to be a reasonable option for low-risk women and their newborns (Neiman et al., 2019). In a randomized controlled trial, epidural analgesia was found to be effective in alleviating labor pain, but water birth was associated with the highest level of satisfaction among women giving birth (Czech et al., 2018). It is thought that entering hot water at a depth that covers the entire abdomen of the pregnant woman increases relaxation and reduces labor pain. In a study, it was reported that water birth for a low-risk pregnant group reduced the need for analgesia and regional anesthesia, especially in the first stage of labor, and increased patient satisfaction (Cluett & Burns, 2009).

In the evidence statement in the guidance published by the National Institute for Health and Clinical Excellence (NICE) in the UK in 2014, it was reported that water birth reduces labor pain and regional analgesia use, there is no evidence that water birth creates significant differences in the adverse outcomes of water birth compared to other births, there is insufficient evidence regarding the time of use of water in labor, hygiene conditions and measures for water birth, and the effect of water use on neonatal outcomes, especially in the second stage of labor (NICE, 2014). In a study conducted in our country on water birth, it was reported that there was no difference in neonatal intensive care need and Apgar scores between those who gave birth in water compared to those who gave birth vaginally with conventional vaginal delivery and epidural analgesia, and no neonatal death or neonatal infection was detected during the study period. As a result of another study conducted in our country on the neonatal outcomes of water birth, it was reported that water birth is a safe method for newborns provided that certain conditions are met (Mollamahmutoğlu et al., 2013).

Haptotherapy: Haptotherapy is a combination of the words "hapto", meaning touch, and "nomos", meaning rule or law. It does not only mean touch and emotionality, but also means communication and accepting the existence of the individual. One of the basic principles of haptonomy applied to birth is that the mother unconditionally and emotionally accepts the existence of the baby from the first period of pregnancy. In this way, the baby, whose existence is confirmed, is welcomed with emotional touches and early mother-baby bonding occurs. It is emphasized that a healthy mother-baby bond is important in forming the basis of lifelong relationships through these first communication experiences that the mother realizes by communicating with her unborn baby (Küçükkaya and Işık, 2024). Haptotherapy is an intervention protocol that changes the cognitive and perceptual interpretation of giving birth, allows birth to be perceived as a more normal and positive event, reduces the fear of birth in pregnant women, and enables the formation and development of certain skills in the pregnant woman, including birth simulation (Demir, 2022). Over the last decade, there has been increasing clinical evidence suggesting that haptotherapy may be an effective intervention to reduce fear of childbirth in pregnant women (Klabbers et al., 2014). In a meta-analysis study aimed at the effect of psychoeducational interventions applied to pregnant women on reducing anxiety symptoms and fear of childbirth, it was shown that educational interventions applied to women experiencing fear of childbirth were effective in reducing fear of childbirth in pregnant women (Tuğba and Gürhan, 2024). In the systematic review conducted by Akın and Erbil (2019), it was concluded that psycho-education techniques, individual counseling program provided by nurses, breathing awareness, intrapartum supportive care and childbirth education interventions were effective in reducing fear of childbirth in pregnant women, 18-hour mindfulness-based motherhood preparation program improved self-efficacy as well as fear of childbirth in pregnant women, haptotherapy intervention facilitated the development of certain skills that could reduce fear of childbirth, fear of childbirth was lower after distraction techniques but the difference was not significant, and pregnant women were more satisfied with face-to-face counseling compared to internet-based cognitive behavioral therapy intervention. In the randomized controlled study, haptotherapy was found to be more effective than internet and psychoeducation in reducing fear of childbirth (Klabbers et al., 2019). Haptotherapy may also provide broader social benefits (Bayrı Bingöl et al., 2022).

Table 1. Research on nonpharmacological methods for fear and pain related to labor

Researchers /year	Number of included studies / Type of research	Methods used in the study	The result of the study
Aasheim et al., 2017	22/ Cochrane review	Massage and hot and cold applications	Massage and hot and cold applications have been shown to reduce perianal injury.
Tabatabaeichehr et al., 2020	33/ systematic review	Aromatherapy	It has been found that aromatherapy can help relieve maternal anxiety and pain during labor.
Santiváñez-Acosta et al., 2020	12/ metaanalysis	Music	Music therapy has been found to have beneficial effects on pain intensity and anxiety during labor, especially for primiparous women.
Liao et al., 2021	17/ metaanalysis	Aromatherapy	Aromatherapy has been found to be beneficial for physical symptoms such as nausea, vomiting, pain, and psychological symptoms such as pregnancy/prenatal anxiety and fear.
Wu et al., 2021	22/ metaanalysis	Lamaze breathing training	Lamaze breathing training has been found to be effective in improving the labor process and outcomes in primiparous women.
Li et al., 2022	17/ metaanalysis	Perineal massage	Perineal massage initiated during the second stage of labor has been found to significantly shorten the duration of labor in primiparous women.
Chang et al., 2022	8/ metaanalysis	Bonapace method	It has been stated that the Bonapace method can be effective in pain and stress management.
Chen et al., 2022	16/ metaanalysis	Perineal massage	It has been found that prenatal perineal massage may reduce the risk of perineal injury and the incidence of long-term pain.
Melillo et al., 2022	63/ metaanalysis	Massage, birthing balls, mind-body interventions, heat application, music therapy, dance therapy, acupuncture and transcutaneous electrical nerve stimulation (TENS) applications	Massage, birthing balls, mind-body interventions, heat application, music therapy, dance therapy, acupuncture, and transcutaneous electrical nerve stimulation (TENS) have been found to be effective for labor pain.
Zhang et al., 2023	5/ metaanalysis	Yoga	It has been found that yoga during pregnancy can be effective in reducing labor pain.

Conclusion

Women's health also means the health of the baby, family and society. The birth of healthy generations depends on the physical, social and psychological well-being of the pregnant woman. The most common problems encountered during pregnancy and birth, which is a physiological process, are fear and pain related to the process, and this causes negative effects on the health of the mother and baby. Studies have shown that non-pharmacological methods used to manage these conditions reduce labor pain, fear of birth, and the possibility of intervention during birth; and increase patient satisfaction, positive pregnancy experience and mother-baby bonding. In this context, the support provided by health professionals using non-pharmacological methods and the pregnant woman using her own power in labor facilitates the woman's adaptation to the process and communication with the newborn.

Considering the mother-friendly care model and ACOG's recommendation of intervention limitation during birth and the studies indicating that intervention limitation increases patient satisfaction;

- As a health care professional, we can provide education and counseling to women we care for at every stage of pregnancy and labor about pharmacological and non-pharmacological methods for their complaints.
- As a management, we can create an in-service training program about these methods.
- As a researcher, we can conduct research on these methods, develop methods and strengthen the level of evidence.
- Birth preparation classes can be expanded and pregnant women and their partners can be made aware of non-pharmacological methods in these classes and have a more positive birth experience.

More studies can be conducted with different samples to show the reliability and effectiveness of these practices during birth.

Declarations

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Conflict of Interest
Authors disclose no potential conflicts of interest

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Not Applicable

Informed Consent
Not Applicable

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Data Availability
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