



Pain control in birth action: nonpharmacological methods

Doğum eyleminde ağrı kontrolü: nonfarmakolojik yöntemler

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ABSTRACT

Although birth is important for every woman, birth pain is one of the most severe sources of pain. Pregnant women need qualified midwifery care to reduce labor pain, increase their ability to cope with labor pain, and have maternal satisfaction at birth. The midwife not only provides pain control with non-pharmacological methods at birth but also helps the woman and her family. The stress that occurs in the presence of uncontrolled labor pain has harmful effects on the health of the fetus, newborn, and mother. For this reason, pain should be controlled. This review article, it is aimed to contribute to the literature by examining non-pharmacological methods that can be applied mentally or physically to provide pain control in labor.

Keywords: birth; birth pain; non-pharmacological method; midwife

ÖZET

Doğum her kadın için önemi olmakla birlikte, doğum ağrısı en şiddetli ağrı kaynaklarından biridir. Doğum ağrısının azaltılması, doğum ağrısına yönelik baş etme güçlerinin artırılması ve doğumda anne memnuniyetine sahip olmak için gebe kadınlar, nitelikli ebelik bakımına ihtiyaç duyar. Ebe, doğumda nonfarmakolojik yöntemlerle ağrı kontrolünü sağlamakla kalmaz kadın ve ailesine de yardım eder. Kontrol altına alınamayan doğum ağrısı varlığında oluşan stresin fetüs, yenidoğan ve annenin sağlığı üzerine zararlı etkileri bulunmaktadır. Bu sebeple ağrının kontrol altına alınması gerekmektedir. Bu derleme makale ile doğum eyleminde ağrı kontrolünü sağlamak için zihinsel ya da bedensel olarak uygulanabilecek nonfarmakolojik yöntemler incelenerek literatüre katkı sağlamak amaçlanmıştır.

Anahtar kelimeler: doğum; doğum ağrısı; nonfarmakolojik yöntem; ebe

Introduction

Pain is a feeling of life that has negatively affected human life for centuries. At the same time, besides being a general experience for human beings, it is a personal, subjective symptom (Gür & Apay, 2020). Different theories have been developed to explain the nature of pain since the 1880s. However, the most well-known and valid theories that help explain the effects of pharmacological and non-pharmacological pain relief methods are gate control and endorphin theories (Frediani & Bussone, 2019).

Gate control theory: It was proposed by Melzack and Wall in 1965. It is a theory that explains the physiological and psychological components of pain. Three assumptions stand out in this theory. The first of these assumptions; the presence and severity of pain are related to the passage of neurological stimuli. The second is; the gate control mechanisms in the nervous system control the passage of pain. The last one is; if the door is open, the sensation of pain reaches the level of consciousness and can be felt. If the door is closed, the warnings cannot reach the level of consciousness and pain cannot be felt.

This theory has contributed to pain relief in three ways;

- Skin stimulation can relieve pain.
- Normal or excessive input can relieve pain.
- Giving accurate information about the cause and relief of pain, providing a sense of control, and a decrease in anxiety or depression can relieve pain (Moayedi & Davis, 2013; Gönenç & Dikmen, 2020; Frediani & Bussone, 2019).

The theory of endorphins: In 1973, it was found that substances similar to opioids were secreted from the body, and these substances were named "Endorphins." With endorphin theories that contribute to understanding and relieving pain;

- It has been determined that endorphins are natural substances, their benefits are relatively higher than opioids compared to opioids, but their side effects are less than opioids. For this reason, studies to increase their own endorphins have been opened for patients with pain complaints.
- These theories helped to understand that the perceived pain and the need for analgesia differ from person to person (Akköz & Incedal, 2020; Nursanti, Anggraini & Purwaningsih, 2020).

Although labor pain accompanies a physiological process, it is among the most severe pain sources known and described (Yılar Erkek & Aktas, 2018).

Managing labor and labor pain has been a high priority for all societies and for all times. In cases where the pregnant woman has difficulty coping with labor pain, the health of the mother and fetus may be negatively affected (Akin & Saydam, 2017). There are limited studies in the literature on the relief of labor pain by non-pharmacological methods. More studies and literature information are needed on this subject. Therefore, this study was conducted with the aim of discussing the non-pharmacological methods used in pain control in labor, the effects of these methods, and the role of

midwives. The first attempts to manage labor pain include psychological, physical, and pharmacological methods or a combination of these. However, two methods, mainly pharmacological and non-pharmacological, are used to cope with labor pain (Koçak, Can & Sogukpınar, 2010; Yurtsal & Eroğlu, 2019). Today, simplicity, reliability, and protection of fetal hemostasis are sought for pain control methods to be used in childbirth. Non-pharmacological methods are preferred because of their positive features such as easy applicability, rapid reversal of effects when discontinuation is required, being under the control of the mother, not suppressing uterine contractions, cheap, economical, low side effects and easily applicable and not limiting the movements of the mother.

Non-pharmacological practices used in the management of labor pain; it is applied mentally or physically. These are practices that allow women to relax and thus perceive their pain at a lower level (Erkek & Pasinlioğlu, 2016). Some of these applications are;

Acupuncture

It is applied through fine metal needles placed on special points of the body. Stimulation is provided through the needles, and the relationship between the energy channels passing under the skin and the organs with which the resistance points on these channels are related are provided. Acupuncture uses acupuncture points on the hands, feet and ears to reduce birth pain. These areas stimulated by acupuncture have a general analgesic effect on the whole body and trigger contractions (Lee et al., 2011). There are 12 meridians and 365 acupuncture points in the body. During labor, the main source of labor pain is uterine contractions. Both LI4 and SP6 acupuncture points are reported to have an effect on uterine contractions. In a study conducted on the use of acupuncture at birth, it was reported that acupuncture had a significant positive effect on the initiation of labor in post-term pregnancies, the severity, and effectiveness of uterine contractions, and cervical maturity. In addition, it has been emphasized that electrical stimulation to the LI4 and SP6 point is used more frequently to initiate labor and increase the frequency and duration of uterine contractions (Wardani, Widyawati & Suryono, 2018). In the study conducted by Lokugamage et al. in order to compare the delivery results of pregnant women who had acupuncture during pregnancy and who did not; They found that women who underwent prepartum acupuncture had less surgical deliveries, needed less intrapartum analgesia, needed less intussions at birth and decreased hospital stay (Lokugamage, Eftime, Porter, Ahillan & Ke, 2020).

Acupressure

Acupressure in order to help the normal body functions continue; In addition to regulating blood flow, it promotes the secretion of neurotransmitters. The use of acupressure during delivery increases uterine contractions, helps the individual to control labor pain, shortens the duration of labor, and supports breastfeeding during the puerperium (Lee et al., 2011; Mafetoni & Shimo, 2016). Different acupressure points are effective in controlling labor pain. These points are; Hand points are Hoko point, L1-4 (Raana & Fun, 2020), and SP6 point (Lee et al., 2011). In the study, which included 156 pregnant women in their ≥ 37 week/s, who had cervical

dilations of ≥ 4 cm and with two or more contractions in 10 minutes, The acupressure was applied during the contractions for 20 minutes; as a result of the study, it was determined that the average pain was significantly lower in the acupressure group (Mafetoni & Shimo, 2016). Likewise, in a meta-analysis study in which 10 studies were included, it was determined that the use of accumulators significantly reduced labor pain compared to placebo in the active and transitional stages of labor (Raana & Fun, 2020).

Reflexology

Reflexology stops the transmission of the pain message to the brain, thus reducing the level of pain and anxiety. Reflexology also stimulates oxytocin release. Although the uterus is encouraged to contract with increased oxytocin, it provides relaxation between contractions in the regulation of these contractions during delivery. It is stated that reflexology is effective in reducing the pain level of the individual, facilitating the progress of labor, and shortening the duration of the labor by enabling this cycle to occur (Erkek & Pasinlioğlu, 2016; Yılar Erkek & Aktas, 2018; Bolsoy & Okuyan, 2019). In a study conducted with 154 nulliparous women to examine the effect of foot reflexology on women's anxiety levels during childbirth; It has been stated that foot reflexology has a positive effect on decreasing the total anxiety scores of pregnant women (Yılar Erkek & Aktas, 2018). In another study conducted to determine the effect of foot reflexology on anxiety, the intensity of labor pain, and delivery outcome in primipara women, results were found to reduce anxiety and the intensity of labor pain (Kaur, Saini & Kaur, 2020).

Homeopathy

Although it is a natural form of treatment, it is based on the basic rule of "similar treatment". According to this method of treatment, if any substance causes disease in a healthy person and causes disease symptoms, a sick person with the same disease symptoms can be treated with that substance (Zafar, Najam, Arif & Hafeez, 2016). In this approach, homeopathies applied in the right dosage and method are used in cases of excessive back pain experienced during birth, non-progressive labor, and when the mother is very tired/tired with this pain (Lee et al., 2011). When the studies in the literature are examined; It is emphasized that larger randomized controlled studies should be conducted to ensure the safety and efficacy of commonly used homeopathy (Boltman-Binkowski, 2016; Zafar, Najam, Arif & Hafeez, 2016).

Phytotherapy

October 27, 2014 Date of which it has been published in Turkey "Regulation on Traditional and Complementary Medicine Practices" in receiving approval "medical treatment with the plant" means a method of treatment is coming. It means the use of fresh or dried forms of plants or the form of tea, drops, druggers, capsules, syrups, tablets produced from these plants in the treatment of diseases (Kömürçü & Berkiten, 2008). In Anatolian folk culture; It is believed that putting the plant called "Virgin Mary's Hand" into the water and drinking it from the water it is put into facilitates the birth. It is stated that feeding foods such as grapes, almonds, and quince to the woman who will give birth give energy to the

pregnant woman at birth, and practices such as feeding roasted sesame with hot molasses, cloves, and buffalo yogurt help the birth (Koçak, Can & Sogukpinar, 2010). In a study conducted with 170 women to investigate the effect of boiled dill (*Anethum graveolens*) seeds on labor and active phase of labor pain; It has been stated that it can reduce the delivery time and labor pain (Talebi, Malchi, Abedi & Jahanfar, 2020).

Aromatherapy

Aromatherapy is the use of the essence of plant oils and fragrances in order to benefit from its "therapeutic" properties. This method is applied by massaging the skin, inhalation, and burning the odor of oils. Aromatherapy applied during birth; It is known that it facilitates the descent of the baby and strengthens the mother in the second stage of birth, increases motivation, decreases the sense of anxiety and strengthens contractions, and has analgesic and antispasmodic effects (Jones et al., 2012; Imanishi et al., 2009). In a meta-analysis conducted by Chen et al to evaluate the effectiveness of aromatherapy on labor pain and duration, including 17 studies; It has been stated that aromatherapy is effective in reducing labor pains and duration and is generally safe for mothers (Chen et al., 2019).

Yoga

Indian-based is a practice based on the union of mind and body, including exercise and posture (asana) with deep breathing and meditation (Yurtsal & Eroğlu 2019; Babbar & Chauhan, 2015).

Yoga, which is practiced in many areas, has been practiced in pregnancy since the 20th century, and energy yoga is the most suitable for use during pregnancy and delivery. The yoga practice that strengthens the uterus and perineum muscles also supports the spine. It is also effective in dealing with poor blood circulation, blood pressure fluctuations, excessive weight gain, fatigue, edema, and urinary problems, which are common problems of pregnancy. In the literature, it has been found that pregnant women who regularly practice yoga experience less frequent pregnancy disorders, stress, anxiety, anxiety, depression, and sleep disorders (Yurtsal & Eroğlu, 2019; Newham, Wittkowski, Hurley, Aplin & Westwood, 2014). In the study conducted by Mohyadin et al on 84 nulliparous women, the Pregnancy Yoga Program consisting of 6 60-minute exercise sessions starting every 2 weeks from the 26th week of pregnancy was applied to the women. The variables of the participants were compared in the second stage of birth; The intervention group reported less pain in dilation (4-5 cm) and 2 hours after the first measurement compared to the control group. In addition, it was stated that they had a lower level of anxiety, needed less induction in labor, and lasted shorter in the second stage of labor compared to the intervention group (Mohyadin, Ghorashi & Molamomanaei, 2020).

Rebozo

Rebozo is a type of shawl that women wear on their heads and bodies, mostly used in Mexico and Spain. This method used in pregnancy and birth stands out with the use of midwives and birth assistants. Also, this method, which can be used by non-pregnant women today, can provide rapid relaxation and relief, which is also used in different areas (Cohen & Thomas, 2015). With the rebozo method, which

solves pregnancy-induced troubles and provides relaxation, the body, and uterine muscles relax, support the baby better, regulate the mother's breathing, allow the baby to get more oxygen, and help the baby to come to the most suitable position for birth (Cohen & Thomas, 2015; Iversen, Midtgaard, Ekelin & Hegaard, 2017). In the technique applied with a rebozo wrap, the fetal head is tried to be turned from the occiput posterior to the anterior (Elmore, McBroom & Ellis, 2020). Studies examining the effectiveness of Rebozo on pain at birth are limited. In a qualitative study conducted with 17 pregnant women to determine the experiences of pregnant women regarding the rebozo technique during delivery; The women experienced that the technique created bodily sensations, which reduced their pain, and furthermore they expressed that it interrelated with the labor process and produced mutual involvement and psychological support from the midwife and the women's partner (Iversen, Midtgaard, Ekelin & Hegaard, 2017).

Reiki

Reiki; applied in many rehabilitation and emergency care units as well as gynecology and gynecology clinics; It is a non-invasive treatment method that has no side effects, does not have a negative effect on existing treatment, calms mothers, prevents and helps the treatment of conditions such as nausea, stress, and fatigue. It helps to relax muscle pain, especially at the time of birth (Erdoğan & Çınar, 2011). In the study conducted to determine the effects of Reiki applied to the incision area in the body for 15 minutes after the cesarean section on pain and vital symptoms, it was determined that the Reiki group needed less analgesic throughout the study (Sagkal Midilli & Ciray Gunduzoglu, 2016). More studies are needed to determine the effectiveness of this method in dealing with vaginal labor pain.

Cognitive-Behavioral Approaches

In this model, learning theories are applied to help people when they encounter problems and problems that people cannot overcome in their daily lives. The cognitive-behavioral approach can also be conceptualized as a problem-solving process. In addition, with the cognitive-behavioral technique based on the cognitive-behavioral technique used to cope with the fear of birth, it has been determined that pregnant women experience less fear of birth, birth pain and positively affect the birth processes (Uçar & Gölbaşı, 2018). In studies conducted to investigate the effects of cognitive-behavioral techniques on labor pain; It has been determined that it reduces the pain and fear of labor and also positively affects the birth experiences (Uçar & Gölbaşı, 2018; Gür & Apay, 2020).

Other Methods

It has been supported by studies that non-pharmacological methods used in the management of labor pain are effective in reducing the pain and duration of labor. But most women feel that pain should be relieved but they are afraid of the harmful effects of labor pain relief management. For that reason, non-pharmacological methods have become more popular. Nowadays, women have an access to a lot of different methods to manage labor pain. Women's decision of the techniques is influenced by a number of factors, but it seems to be important for them to have the possibility to

choose (Czech et al., 2017). Also in the literature; There are a lot of different types of non-pharmacological methods of labor pain relief ie: These methods are water birthing, hypnosis, massage, breathing techniques, vertical positions, music therapy, tens, daydreaming, focus, biofeedback, hydrotherapy and breathing techniques and positions changes (Kamalifard, et al., 2012; Czech et al., 2017; Nursanti, Anggraini & Purwaningsih, 2020; Thomson et al., 2019; Yuksel, Cayir, Kosan & Tastan, 2017).

Non-pharmacological methods of labor pain relief are an important part of antenatal education. Most women are interested in natural techniques before labor. More than half of women use natural methods of pain relief during labor. The intensity of labor pain is reduced by the use of natural techniques.

Conclusion

Nowadays, it is a reality that the pain of labor increases with uncertainty, fear, anxiety, and lack of support, moreover, expectant mothers are not prepared enough for birth and cannot find sufficient information and support for pain at birth. In line with this information, the fact that childbirth is an even more difficult process for women in our country draws attention. Midwives should be supported to apply non-pharmacological methods, which have an important role in providing pain control in labor and increasing the professional efficiency of midwives. Also, more research is needed on non-pharmacological applications that can be used to cope with labor pain.

Increasing the preference of non-pharmacological methods in dealing with birth pain under midwife management in the society with qualified midwifery care (individualized, sensitive to culture, etc.). Pregnant women/families should be made aware of non-pharmacological methods used in labor pain through prenatal training.

Conflict of interest

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