Physical and Emotional Pain in Pregnancy and Childbed: Kinetic Therapy, Physical Therapy or Combined Therapy?

Bogdan Alexandru Hagiu[a]

[a] *"Al.I. Cuza" University, Iași, Faculty of Physical Education and Sport, Romania*

Abstract

Non-pharmacological therapies, in analogy to the pharmacological ones, may simultaneously treat physical and emotional pain. For pregnant and nursing mothers, this principle is especially true in the case of active kinetotherapy. Exercise and massage are effective in treating musculoskeletal pain in women during pregnancy and childbed. Although transcutaneous electrical stimulation and shortwave diathermy are used to treat musculoskeletal pain in pregnant women, their effectiveness is not fully demonstrated. Moreover, there appears to be maternal-fetal risks. In conclusion, physical therapy or combined therapy may be reserved for treatment of musculoskeletal pain in women during pregnancy and childbed only in cases of contraindications for physical effort.

Keywords: kinetotherapy, musculoskeletal pain, pregnant

Introduction

There are classes of drugs that can treat both physical and mental pain. For example, dermal analgesia can be achieved by topical application of some antidepressants [2]. The principle applies in terms of non-pharmacological treatment of pain. Kinesiotherapy, both the active and passive, is a modern way of treating physical pain, being more effective when it is combined with physical therapy [9]. On the other hand, aerobic exercises reduce anxiety and depression [8]. Given these considerations, the present paper aims to discuss the efficiency and adverse effects of kinetotherapy and physiotherapy when they are used to relieve physical and emotional pain in women during pregnancy and childbed.

Kinetoprophylaxy and kinetotherapy during pregnancy and childbed

It is known that workouts consisting of aerobic exercise reduce depressive symptoms in nulliparous women [12] and probably decrease the possibility of depression during pregnancy or postpartum, especially if the physical training continues. Concerning the wellbeing and quality of life for pregnant and childbed women suffering from obesity, research has shown that in the case of physically active women, although no improvement in body composition was found, psychological parameters are ameliorated [4].

Regarding the possibilities of treatment for the musculoskeletal pain of pregnant women, a comprehensive revision type study shows that [10]:

- the most frequent pain of pregnant women is the lower back pain, followed by the pelvic girdle pain, and a few suffer from both conditions of pain;
- low back pain is the most common in childbed period;
- conservative management is the gold standard, physiotherapy, stabilizing belts, nerve stimulation, pharmacological treatment, acupuncture, massage, and yoga relaxation being used;
- physical exercises consistently practiced before pregnancy decrease the risk of low back pain in pregnant women; the fact is not confirmed in the case of pelvic pain;
- special physical training carried out during pregnancy decreases the risk of low back pain.

To the above information it may be added that prenatal training with weights lowers the risk of postpartum pain [3].

Specialized studies show that massage and chiropractic are safe and effective for treating joint and muscle pain of pregnant women [11].

Regarding the effect of resistance exercise of lower intensity on the act of birth, it was found that the percentage of women who have had a normal birth, cases that required instrumental intervention or where it was performed caesarean section were the same in the study group compared to the control group [1].

For the cure of low back pain of pregnant and childbed women, in addition to carefully dosed postpartum aquatic exercises, acupuncture or pelvic belts may be used [14]. Thus, for example, one week of auricular acupuncture results in low back and posterior pelvic pain relief in pregnant women [15].

Physical therapy in pregnancy and childbed

A comprehensive review paper points out the following aspects [5]:
- transcutaneous electrical stimulation has been used for many years for the relief of musculoskeletal pains of pregnant women without reported adverse effects on the mother or the fetus;
- although TENS is not a first-line therapy, it is preferable however to strong pain relievers;
- TENS is effective particularly in the case of the pregnant woman's low back pain or pelvic girdle pain, including symphysis pubis dysfunction.

The synthesis of studies on the usefulness of TENS in reducing pain during birth shows no conclusive evidence of the usefulness of the method. However, there are proofs on pain relief during birth when electrodes are placed on acupuncture points [6]. This shows that there is a bridge between physical therapy procedures and physiotherapy, namely acupuncture.

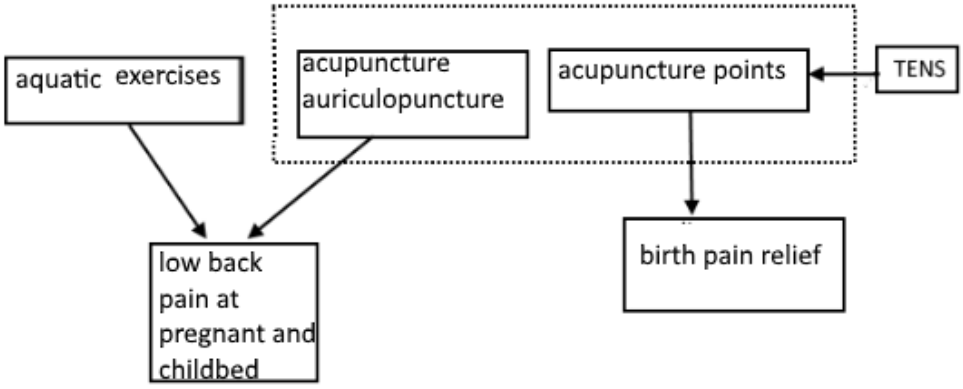

Figure 1. Acupuncture and acupuncture points, binder to treat perinatal pain through kinetotherapy and physiotherapy

Regarding short-wave diathermy, we know the following [13]:
- shortwave diathermy is a form of electromagnetic radiation used by physiotherapists, whose use declined in frequency due to concerns on safety in pregnancy;
- nonetheless, no relationship was found between the use of this forms of electromagnetic radiation and spontaneous abortion, premature birth, fetal death or infertility;
- however, an association was demonstrated between the use of shortwave diathermy and congenital malformations or low birth weight.

Given the fact that for some pregnant women physical effort is contraindicated, physiotherapy or massage or a combination with other procedures with analgesic effect of passive physical therapy could be a welcome alternative for this category of female patients.

However, in the United States, most obstetricians are hesitant to recommend practicing physical exercises to sedentary pregnant women [7]. Considering the benefits in terms of prevention of back pain and depression, as well as the potential risks of physiotherapy, it is recommended to promote prophylactic kinetotherapy for pregnant women.

Conclusions

1. There is conclusive evidence in the scientific literature on the prophylactic effects of exercise to prevent the onset of depression in pregnancy and childbirth.
2. Kinetotherapy, both active and passive, is effective in treating musculoskeletal pain during pregnancy and childbed.
3. Active kinetotherapy decreases the risk of postpartum pain and does not affect the prognosis for a normal birth.
4. In antialgic treatment of pregnancy and childbed, acupuncture serves as an adjunct to kinetotherapy and physiotherapy.
5. Although transcutaneous electrical stimulation and shortwave diathermy are used to treat musculoskeletal pain of pregnant women, there are doubts about their effectiveness and possible maternal-fetal risks.

6. It can be inferred that carefully dosed exercise, massage and chiropractic are sufficient to prevent and treat physical or mental pains during pregnancy and childbed; association with physical therapy (combined therapy) or use of alternatives physiotherapeutic procedures can be reserved in special cases, when there is absolute or relative contraindications to exercise.

References

1. Barakat, R., Ruiz, J.R., Stirling, J.R., Zakynthinaki, M., Lucia, A. (2009).*Type of delivery is not affected by light resistance and toning exercise training during pregnancy: a randomized controlled trial.* American Journal of Obstetrics and Gynecology.;201:1–6.
2. Batra YK. (2009)*The Future of Anaesthetic Pharmacology*. Indian Journal of Anaesthesia. 2009;53(5):533-536.
3. Blyholder L, Chumanov E, Carr K, Heiderscheit B.(2017). *Exercise Behaviors and Health Conditions of Runners After Childbirth.* Sports Healt 2017;9(1):45-51.
4. Claesson I-M, Klein S, Sydsjö G, Josefsson A. (2014).*Physical activity and psychological well-being in obese pregnant and postpartum women attending a weight-gain restriction programme*. 2014; 30(1):11–16.
5. Crothers E., Coldron Y., Cook T., Watson T., Notcutt W. (2012). *Safe use of transcutaneous electrical nerve stimulation for musculoskeletal pain during pregnancy*. Journal of the Association of Chartered Physiotherapists in Women's Health, Autumn 2012, 111, 22–26.
6. Dowswell T, Bedwell C, Lavender T, Neilson JP. (2009).*Transcutaneous electrical nerve stimulation (TENS) for pain management in labour*. *The Cochrane database of systematic reviews*. 2009;(2):CD007214.
7. Entin PL, Munhall KM. (2006). *Recommendations Regarding Exercise During Pregnancy Made by Private/Small Group Practice Obstetricians in the USA*. Journal of Sports Science & Medicine. 2006;5(3):449-458.
8. Guszkowska M. (2004). *Effects of exercise on anxiety, depression and mood.* Psychiatr Pol. 2004; 38(4):611-20.
9. **Hagiu B.A. (2013). *Pain Therapy*. Iași: Editura Pim.**
10. Katonis P, Kampouroglou A, Aggelopoulos A, et al.(2011). *Pregnancy-related low back pain. Hippokratia. 2011;15(3):205-210.*
11. Oswald C, Higgins C., Assimakopoulos D. (2013). *Optimizing pain relief during pregnancy using manual therapy*. Canadian Family Physician August 2013; 59(8):841-842.
12. Robledo-Colonia AF, Sandoval-Restrepo N, Mosquera-Valderrama YF, Escobar-Hurtado C, Ramírez-Vélez R. (2012).*Aerobic exercise training during pregnancy reduces depressive symptoms in nulliparous women: a randomised trial*. Journal of Physiotherapy 2012; 58(1):9 - 15.
13. Shields N, O'Hare N, Gormley J.(2003). *Short-wave Diathermy and Pregnancy: What is the Evidence?* Adv Physioter., 2003; 5:2 - 14.
14. Vermani E, Mittal R, Weeks A.(2010). *Pelvic Girdle Pain and Low Back Pain in Pregnancy: A Review*, Pain Practice, 2010;10(1):60–71.
15. Wang SM, Dezinno P, Lin EC, Lin H, Yue JJ, Berman MR, et al.(2009); *Auricular acupuncture as a treatment for pregnant women who have low back and posterior pelvic pain: a pilot study.* Am J Obstet Gynecol. 2009;201:271–e271.