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A Review of the Effectiveness of Osteopathic Manipulative Medicine at Alleviating Pregnancy-Related Pain

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ABSTRACT

Globally, more than a quarter of pregnant patients experience low back pain (LBP) during pregnancy with additional complaints of pelvic girdle pain (PGP) and other somatic dysfunctions. Though the standard of care for LBP in pregnancy is often analgesics, concerns about potential side effects that may cause lasting harm to the fetus may preclude pregnant patients from taking pain medications. Osteopathic Manipulative Medicine (OMM) is a nonpharmacologic treatment option that is routinely used for LBP in non-pregnant patients. Given the low risk of adverse effects, OMM may prove to be beneficial for pregnant patients suffering from LBP or PGP.

INTRODUCTION

The female body undergoes significant physiologic and anatomic changes during pregnancy. Alterations to normal structures lead to functional restrictions known as somatic dysfunctions (SD) and contribute to the pain experienced during pregnancy. Studies estimate the global prevalence of low back pain (LBP) and pelvic girdle pain (PGP) during pregnancy ranging from 24% to as high as 90%. The symptoms also persist past delivery and into the postpartum period. Over half of pregnant patients experiencing LBP or PGP either receive limited intervention or no intervention at all due to the concern of risk to fetal development. However, pregnancy-related complaints such as LBP and PGP are commonly treated in other patient populations with Osteopathic Manipulative Medicine (OMM). Given OMM’s non-pharmacologic approach and minimal side-effects profile, OMM has the potential of becoming the gold standard for treating pregnancy-related somatic dysfunctions and pains. This study aims to review the literature supporting the effectiveness of OMM in alleviating intrapartum-related pains and to support the incorporation of OMM into routine obstetric care.

MATERIALS AND METHODS

Identification of studies via databases and registers

Identification

Records identified from:
Databases (n = 1)
Registers (n = 0)

Records removed before screening:
Duplicate records removed (n = 0)
Records marked as ineligible by automation tools (n = 0)
Records removed for other reasons (n = 1136)

Screening

Articles screened based on publication date (n = 5253)

Articles excluded (n = 1833)

Full-text articles sought for retrieval (n = 3420)

Articles not retrieved (n = 2359)

Full-text articles assessed for eligibility (n = 140)

Articles excluded: Not relevant to topic (n = 106)

Included

Studies included in review (n = 34)

RESULTS

1st Trimester

3rd Trimester

Postpartum

• **Body changes**

○ Peak Organogenesis

• **Total analgesic use** is around 50-80% and is mainly during the 1st trimester, leading to complications in organogenesis

• **NSAIDs** - ↑ risk of early miscarriages

• **Acetaminophen** - ↑ risk of gastroschisis, amniotic defect, unilateral and bilateral spastic cerebral palsy

• **Body Changes**

○ ↑ exaggerated lordosis, with increased joint laxity in the anterior and longitudinal ligaments of the lumbar spine

• **NSAIDs** - ↑ risk of Premature closing of fetal ductus arteriosus, fetal oligohydramnios

• **Opioids** - Neonatal abstinence syndrome

• **Body Changes**

○ LBP in pregnancy is the greatest risk factor for persistent low back pain in the postpartum period

01

Hensel et al. (2015)

PROMOTE Study. This RCT study showed patients who received usual care (UC) + OMM were less likely to develop high-risk status compared to those who received UC only or UC + placebo ultrasound treatment.

02

Licciardone et al. (2013)

Those who received OMM in addition to their usual obstetric care were significantly less likely to experience progressive back-specific dysfunction.

03

King et al. (2003)

This RCT used a meconium-stained amniotic fluid test to compare fetal stress levels. OMM treated group had lower fetal stress levels and had lower rates of forceps-assisted deliveries.

CONCLUSION

OMM is an effective adjunctive or stand-alone treatment for LBP and PGP during pregnancy. There is a need to make OMM more widely accessible to healthcare providers to incorporate OMM into routine obstetric care.

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