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## Chiropractic care of the pregnant woman and neonate

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## **Chiropractic care of the pregnant woman and neonate**

### **Abstract**

The history and values of the chiropractic profession are part of the complementary and alternate medicine model. Chiropractic care in pregnancy is used for relief of back pain, turning breech presentation fetuses, and post birth for care of the neonate for treatment of colic, breastfeeding and constipation issues.

### **Introduction**

Chiropractic practice is based upon the theory that alterations to the biomechanics of the spinal and extraspinal structures, such as the cranial and mandible bones, leads to altered neural signals being sent to the spine (Mullen, Fish, & Hutinger, 2010). Subluxation of the spinal column and other articulations can interfere with neurological function, disrupting homeostatic balance which may impact symptomatically and adversely on health (Homola, 2016). Using Chiropractic adjustment, the altered biomechanics are corrected, restoring and improving function (Alcantara, Alcantara, & Alcantara, 2015). Chiropractic practice has been defined as a process of diagnosis and treatment based on the notion that the nervous system coordinates all of the body's functions, and that disease results from a lack of normal nerve function (MedicineNet, 2018). The practice of Chiropractic alternative medicine is part of the complementary therapies model, specifically relating to manipulative and body based methods (Ali, Gnanasan, & Farooqui, 2018). However, Chiropractic

treatment is not available on the National Health Service (NHS) and this would only be available for pregnant women and parents willing or able to pay.

### **Chiropractic use in pregnancy**

Pregnant women with specific pregnancy-related health concerns, for example back or neck pain, are increasingly visiting a complementary and alternative practitioner (Frawley et al., 2016). Lower back pain and pelvic girdle pain in pregnancy is thought to be caused by structural, postural, hormonal changes, trauma, metabolic factors, inadequate motor control and stress on ligament structures, however its exact aetiology is unknown (Casagrande, Gugala, Clark, & Lindsey, 2015). Approximately 50 - 80% of women experience back pain during their pregnancy, and chiropractic care involves soft tissue massage, mobilisations, spinal manipulation or specific exercises to provide relief (Hughes, Liddle, Sinclair, & McCullough, 2018). Most chiropractors use a diversified technique which involves a high velocity, low amplitude spinal manipulation, which is deemed safe during pregnancy (Sharon-Vallone, Hawk, & Killinger, 2017). Chiropractors have suggested it is easy to manipulate the ligaments of pregnant women as the ligaments are loose and require very little force to adjust (Hensel, Carnes, & Stoll, 2016). Women have reported positive outcomes following treatment for back and pelvic pain during pregnancy, with weekly treatments for approximately six weeks (Hall et al., 2016). The goal of the manual therapy is to restore joint motion and relieve muscle tension. Many women may have already tried other methods of pain relief suggested by their midwife or doctor, prior to seeking out a

chiropractor. Other methods of pain relief may include heat packs, exercises, simple analgesia, rest, narcotics in severe cases or referral to orthopaedic specialists. Latest research offers strong evidence that chiropractic involvement in managing lower back pain and pelvic pain in low risk pregnancy can be effective (Belogolovsky, Katzman, Christopherson, Rivera, & Allen, 2015; Hall et al., 2016) however, further research into the efficacy and safety of chiropractic care for pregnant women experiencing back and pelvic pain is required due to the growing popularity of use amongst pregnant women.

### **Chiropractic management of the breech pregnancy**

Research into the efficacy of chiropractic practice in turning breech presentation fetuses to a cephalic presentation is limited. Some chiropractors have suggested that by using the Webster technique they have successfully turned breech presentation fetuses to a cephalic presentation (Edwards & Alcantara, 2014). The Webster technique is a specific sacral adjustment to help facilitate the pregnant woman's pelvic alignment and nerve system function. This in turn balances pelvic muscles and ligaments and reduces torsion to the uterus. The Webster technique is used to correct sacral subluxation and related soft tissue derangements and was not developed specifically to correct breech presentation (Alcantara, Ohm, & Kunz, 2012). Because of the limited research undertaken with the turning of breech presentation fetuses via chiropractic practice, further research is required before chiropractors can confidently report on the effectiveness of the use of the Webster technique in turning breech fetuses.

## **Chiropractic management of neonatal colic**

Colic has recently been re-defined as unexplained excessive crying in a healthy and thriving neonate for a period of three hours or more per day in a week (Banks, Thomas, Gordon, Wallace, & Akobeng, 2016). The onset of colic generally occurs within the first two weeks following birth and peaking at six weeks, then reducing and generally resolving between three and six months of age (Gospodinova, Gospodinov, & Halil, 2018). Colic affects between 2- 40% of neonates, with one in six families presenting to their General Practitioner (GP) for treatment (Zeevenhooven, Browne, L'Hoir, de Weerth, & Benninga, 2018). The wide range in prevalence of colic is due to GPs using different criteria to diagnose the condition. Colic can have wide reaching consequences potentially affecting maternal bond, increased maternal stress and increased risk of shaken baby syndrome (Kommers, Truijens, Oei, Bambang Oetomo, & Pop, 2017; Wolke, Bilgin, & Samara, 2017). Colic has an unknown aetiology and it could be related to gastrointestinal health as it is multifactorial. Evidence is limited so theories are unsubstantiated as to why chiropractic intervention may be effective. Chiropractors believe during birth significant pressure is applied to the fetus' head causing moulding and if pressure is applied while the head is asynclitic, it could lead to subluxations of the vertebrae (Holm, Jarbøl, Christensen, Søndergaard, & Hestbæk, 2018). Research conducted does support the use of manipulative therapy for colic, suggesting a statistical difference (Dobson et al., 2014) however, it is important to identify that a statistical difference is different from a clinical difference. A clinical

difference in this situation could be what difference the treatment made to the neonates and their families' quality of life.

### **Constipation in neonates**

Constipation in neonates is defined as a neonate having less than three bowel motions per week with difficulty passing firm, dry stools (Singh & Connor, 2018). Constipation can affect between 0.7 – 29.6% of neonates and can impact on the health related quality of life (Alcantara et al., 2015), and multiple factors can contribute to constipation such as lack of baby-led breastfeeding, or improper preparation of formula milks, factors in the maternal diet medications (Vandenplas et al., 2015), dehydration, milk, irritable bowel syndrome, low fibre diet and problems with the gastrointestinal tract (Howarth & Sullivan, 2016). Chiropractic care for neonates diagnosed with constipation is gaining popularity amongst parents and involves a series of manipulations to the cervical and lumbar areas to stimulate the bowel. It is very difficult to accurately diagnose a neonate with idiopathic constipation and distinguish whether the improvement in symptoms is part of the natural cycle of growing or intervention. Chiropractic care is not routinely the first treatment option for idiopathic constipation in neonates.

### **Chiropractic management of Breastfeeding issues**

Chiropractors suggest that birth trauma is a common cause of difficulties with breastfeeding neonates (Vallone, 2016). Some chiropractors report breastfeeding

difficulties are caused by cervico-craniomandibular syndrome resulting from birth or instrumental birth, that may affect the neonate's ability to latch correctly or transfer milk effectively contributing to nipple pain in women (Alcantara et al., 2015). Research suggests that after chiropractic spinal manipulation, neonates significantly arch or extend less when breastfeed (Bernard & Alcantara, 2012; Stewart, 2012).

### **Safety of Chiropractic care in pregnancy**

Limited research has been conducted into the safety of spinal manipulation therapy during pregnancy and postpartum periods therefore, currently there is very little evidence proving it to be a safe intervention. Adverse effects in women and neonates receiving spinal / cervical lumbar manipulation have been reported from mild and transient events to serious adverse events (cerebral infarcts and epidural haematoma) (Todd, Carroll, Robinson, & Mitchell, 2015). Serious adverse outcomes are rare amongst pregnant women receiving chiropractic care, but also include cord and root injury, vertebrae fracture, vertebral artery dissection, epidural haematoma and cervical disc rupture (Stuber, Wynd, & Weis, 2012). It would be prudent for midwives to exercise caution in recommendations to women in their care. Considering women who are pregnant or within the postpartum period have significant hormonal and coagulation changes, spinal manipulation therapy in this subgroup may not safe. Until 2005 there was no reliable way to report adverse events however, since 2005 chiropractors in the United Kingdom use the adverse reporting system (YellowCard).

## **Safety of chiropractic care in neonates**

With the increasing use of Chiropractic care in paediatrics, the safety of neonates and whether this clinical intervention is appropriate must be considered. The differences between adults and paediatrics in tensile strength is important and there is a non-linear increase with age (Marchand, 2015). Within the use of spinal manipulative therapy, thrust is applied to the restricted joint to restore motion and movement, and chiropractors must be careful not to exceed the anatomical limits which could lead to joint trauma and pathology. Therefore, dosage, frequency and duration amounts are dependent upon age (Marchand, 2015). Other adverse events recorded from the chiropractic treatment of neonates include crying, soreness, syncope, transient apnoea and marked bradycardia (Todd et al., 2015). Adverse events may be increased if there are pre-existing pathologies therefore, it is vitally important that a thorough history and examination is performed ruling out neurological or anatomical abnormalities.

In 2009, due to public and professional pressure, chiropractic guidelines for best practice care of children were developed (Hawk et al., 2009), and in 2016 the guidelines were updated to reflect current evidence (Hawk, Schneider, Vallone, & Hewitt, 2016). Important considerations of the current guidelines include informed consent, a detailed clinical history, referral for diagnostic imaging where there is a clinical need. An extensive list of conditions where medical referral is required prior to any chiropractic treatment and health screening and planning of paediatric care is

included. Chiropractors are advised in this document to consider patients size, structural development, flexibility of joints and patient preferences.

## **Conclusion**

Chiropractic practice is growing in popularity as part of the complementary and alternate medicines model. The practice involves care of the spinal and extraspinal structures by use of spinal manipulative therapy, soft tissue massage, mobilisations and exercises to ensure correct placement of structures and thus optimal functioning of the body. Adverse events may occur from chiropractic care however, this is rare but further research is required into why these adverse events occur before interventions can be declared safe. Early research indicates that treatment of back pain in pregnancy by a chiropractor is effective. Whilst the research surrounding turning breech fetus presentations to the cephalic presentation is weak, and it does not reliably indicate whether the use of the Webster technique is effective. Both practices require further research to assess efficacy and safety. Chiropractic care of the neonate in relation to colic, constipation and breastfeeding is not conclusive of treatment being effective due to the lack of strong evidence. There is a statistical significance found in the treatment of colic suggesting it may be effective. Although in most cases women will self-refer to therapists, discussions about the effectiveness and safety of treatment may very well be part of the discourse between a woman and her midwife, particularly if trust has been established through continuity of care. The importance and potential benefits of chiropractic care for pregnant women and neonates cannot be disregarded as the

research is generally supportive of positive outcomes however, there is little empirical research confirming the safety and effectiveness of chiropractic care for pregnant women and neonates. further research regarding its safety and efficacy is indicated before a definitive conclusion can be drawn.

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