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# Chiropractic care in women's health: A midwifery perspective

By Shanthi Ramasubramaniam, Rhoda Suubi Muliira, Vidya Seshan, Judith Noronha and Savithri Raman

## Abstract

**Introduction:** Chiropractic care is one of the newer concepts and treatment modalities available to women in coping with the physical stresses of pregnancy, other than pharmacotherapy. Chiropractic care can help to increase the chances of a healthy pregnancy and can ease labour. Therefore midwives in clinical practice may find it useful to know the basic facts about chiropractic care in order to increase awareness of options in midwifery and inter-professional acceptance of chiropractors.

**Methods:** An integrative review was conducted using a multimodal search of databases such as CINAHL, Science Direct, SCOPUS, PubMed and Cochrane. **Results:** Twelve studies met the inclusion criteria and findings suggest that chiropractic care is beneficial to pregnant women with back pain and mal-presentation during labour.

**Conclusion:** Although there is still limited empirical research about chiropractic care in midwifery practice, the available studies showed that chiropractic treatment can offer women relief from musculoskeletal complaints. To this end, midwives should be educated and given opportunities to learn chiropractic skills to aid the comfort of mothers during pregnancy.

'Chiropractic' comes from the Greek word for 'being done by hand', and is grounded in the principle that the body can heal itself when the skeletal system is correctly aligned and the nervous system is functioning properly (Leach, 2004). Chiropractors use the nervous system to channel electrical impulses of 'intelligence' to all systems and functions of the body, thus maintaining a state of homeostasis and balance (Ohm, 2001). Mechanical pressure on the nervous system by the bones of the cranium and spine may interfere with this normal transmission of 'intelligence' and result in a state of disease (Leach, 2004). Chiropractors call this mechanical pressure on a nerve by the spine 'vertebral subluxation'. The specific chiropractic adjustment removes the pressure from the nervous system, restoring the pathways of transmission and therefore allowing for better overall function of the body (Ohm, 2001).

Regular chiropractic care can be an integral part of prenatal and postpartum care during pregnancy. It helps keep women feeling good and assists them in coping with the physical stresses of an ever-changing body (Borggren, 2007). Statistics

shown in one study state that there was a 25% reduction in the average labour times in those receiving chiropractic care versus the generally accepted average labour time, and for women who had given birth in the past, there was a 33% reduction in average labour time (Fallon, 1994). Similarly, Ohm (2004) reported that women who received prenatal chiropractic care reported less morning sickness and short labours. Another study found that women who underwent chiropractic care during their pregnancy reported easier and less painful deliveries, with less need for medical intervention and medication (Borggren, 2007). Berg et al (1988) identified that seven out of ten women were helped by spinal manipulation of the sacroiliac joints of the pelvis (frequently 'adjusted' by chiropractors), which is responsible for the majority of low back pain cases in pregnancy.

Chiropractic care can decrease a woman's chance of a traumatic birth and injury to her cranium, spine and nervous system (Bucher, 2010). It also can reduce the risk of shoulder dystocia, a life threatening situation in which the baby's shoulders get stuck behind the mother's cervix after the head has delivered (Alcantara et al, 2009). Chiropractic treatment helps with optimal fetal positioning by helping the pelvis to be symmetrical (Bucher, 2010). This in turn helps the uterus to be more symmetrical and adjustments can help the baby to fit into the brim better and engage in time to help stimulate cervical ripening. Adjustments also make the pelvis more flexible so that pelvic joints move more easily in labour (Bucher, 2010).

A chiropractic adjustment technique called the Webster technique is a specific sacral adjustment to help facilitate the mother's pelvic alignment and nerve system function (Bucher, 2010). This in turn balances pelvic muscles and ligaments, reducing torsion on the uterus and offers a greater potential for optimal fetal positioning (Ohm, 2001). Originally the Webster technique was used in management of breech presentations and posterior presentations but current research has revealed that using the Webster technique throughout pregnancy can prevent dystocia (Borggren, 2007). Another technique called the Bagnell technique focuses on spinal alignment and relieving spasms (Bagnell and Gardner-Bagnell, 1999). Evidence has shown that this technique has saved hundreds of women from a mandatory caesarean section due to the baby's position through safe and effective (Bagnell and Gardner-Bagnell, 1999).

Many nurse-midwives who are aware of chiropractic care have recommended women to go for chiropractic care to address complaints such as neuro-musculoskeletal complaints, sciatica pains and fetal malposition (Allaire et al, 2000; Mullin et al, 2011). A survey conducted of midwives and nurse-midwives on their use of complementary and alternative medicine (CAM) therapies by Bayles (2007) found that chiropractic treatment was the most popular CAM therapy to address mus-

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**Table 1. Summary of literature focusing on chiropractic care during pregnancy**

Study	Participants	Setting	Interventions	Outcome
Allaire et al (2000)	Licensed certified nurse-midwives in North Carolina (n=120)	North Carolina, USA	Certified nurse-midwives were surveyed concerning recommendations for use of CAM for pregnant and postpartum patients	Certified nurse-midwives reported prescribing CAM therapies including chiropractic care in 57.3%, of cases and especially herbal therapy for pregnant women in North Carolina
Pistolese (2002)	International Chiropractic Pediatric Association chiropractors (n=187)	Throughout USA and Canada	Chiropractors were surveyed regarding the use of the Webster technique for managing the musculoskeletal causes of intrauterine constraints	Surveyed chiropractors reported a high rate of success (82%) using Webster technique in relieving musculoskeletal causes of intrauterine constraints
Wang et al (2005)	Pregnant women and prenatal health providers (nurse educators, nurse-midwives and obstetricians) (n=950)	New Haven, Connecticut, USA	To identify common treatments used for low back pain during pregnancy	The survey study found that both providers of prenatal health care and pregnant women are likely to use CAM therapy treatments for pregnancy-induced low back pain
Ducar and Skaggs (2005)	A pregnant woman with groin pain in pregnancy	Musculoskeletal pain in pregnancy clinic (MSPP), St. Louis, Missouri, USA	Active release technique (ART) to left hamstring, left dorsal sacral ligament and right adductors for relief of groin pain in pregnancy and to continue cat/camel home exercise	The soft tissue manipulation, ART, seemed effective at resolving the pain and quickening the woman's ability to perform exercise and return to normal activities
Lisi (2006)	Pregnant women with low back pain (n=17)	San Francisco, California, USA	Chiropractic treatment including spinal manipulation and home exercises	Results suggest that chiropractic treatment was safe and support the hypothesis that it may be effective for reducing pain intensity
Skaggs et al (2006)	A pregnant woman with meralgia paraesthetica in pregnancy	Musculoskeletal pain in pregnancy clinic (MSPP), St. Louis, Missouri, USA	ART, post-isometric exercises (PIR) and targeted home exercise were administered to treat neurologic leg symptoms, such as meralgia paraesthetica	Manual therapy and exercise may be beneficial for patients suffering from meralgia paraesthetica
Bayles (2007)	Licensed direct entry midwives and certified nurse-midwives (n=69)	USA	To document herbal and CAM therapy used by Texas midwives	Back pain, nausea and vomiting were the indications that CAM therapies were most frequently practised, recommended or referred. Chiropractic care was the most popular treatment for back pain
Kruse et al (2007)	Pregnant women with lumbar radiculopathy	Chicago, Illinois, USA	Manual traction modified for pregnancy	Chiropractic technique appears to be an effective method for treating low back pain, with radiation to leg in pregnant mothers who cannot lie prone
Alcantara et al (2009)	A pregnant woman having home delivery with dystocia	Home of pregnant woman in USA	Webster technique was applied for dystocia followed by psoas release	The labour progressed rapidly and woman delivered healthy baby born vaginally at home one hour after receiving her last spinal adjustment
Hastings-Tolsma and Terada (2009)	The American College of Nurse-Midwives (ACNM) members (n=500)	North East, mid-Atlantic, South East, North Central, Midwest and West, USA	To understand the extent to which certified nurse-midwives utilize CAM and how knowledge regarding CAM is gained and the characteristics of these providers	CAM therapies were widely used by US certified nurse-midwives. Nurse midwifery education programmes need to carefully review current research and recommend use consistent with the data
Murphy et al (2009)	Pregnant women with low back pain (n=115)	Rhode Island Spine Center, USA	Included some form of manual therapy, end-range loading manoeuvres, lumbopelvic stabilization exercise, neutral mobilization, myofascial therapy and education	Meaningful improvement in pain disability at the end of the treatment
Mullin et al (2011)	Midwife respondents (n=187)	USA	An anonymous online self administered survey was conducted	Great awareness of and positive personal and professional experience with chiropractic care and the authors encouraged further research

culoskeletal back pain during pregnancy. A study conducted by Wang et al (2004) reported that 37% of prenatal care providers recommended chiropractic care for patients with low back pain. Another study conducted by Lisi (2006) reported that 94% of the women who had received chiropractic care reported reduction in pain and had not reported any adverse effects after spinal manipulative treatment. Therefore, the aim of this literature review is to assess the existing evidence relating to chiropractic care in midwifery practice to raise awareness of evidence and help midwives in recommending such treatment.

## Methods

An integrative review of literature was done through a comprehensive search of the databases to identify studies related to the use of chiropractic treatment in pregnancy. The databases used for search were CINAHL, Science Direct, SCOPUS, PubMed and Cochrane. The terms used to conduct the search were 'lower back pain during pregnancy and use of chiropractic', 'Midwives and chiropractic use', 'Webster and Bagnell Technique' and 'Referral practices of maternity care professionals with regard to CAM'. The inclusion criteria required the articles to be written in English, and report about chiropractic care in midwifery practice including concept papers, interview and forum reports and Chiropractic newsletters, research studies and systematic reviews. The cut off dates for the search was 1987–2011.

There were 41 articles directly giving information on chiropractic use in pregnancy and delivery in all the five databases. All 41 articles were read by all the authors and were rated on the aim of the review and whether they specifically focused on pregnancy-related problems. A total of 8 forum papers, 8 FAQs, 9 concept papers and 4 review papers were removed. Finally, 12 articles containing clinical studies on chiropractic use during pregnancy and labour and studies related to attitudes and referral practices of maternity care professionals with regard to CAM were selected for the review. A synthesis table was developed to organize and extract findings from the articles as shown in *Table 1*. The articles were reviewed for information contributing to the research topic and the data extracted for the synthesis table included author(s) and year of publication, number of participants, study setting, purpose, intervention and outcome.

## Results

The 12 studies included in this review were carried out among pregnant women, nurse-midwives and chiropractors about the use of chiropractic care during pregnancy and labour (*Table 1*). The studies that were conducted among pregnant women indicated that chiropractic care was a good solution for pregnant patients with lower back pain. Women with many musculoskeletal pains reported improvement, labour progressed rapidly with chiropractic care and no study reported any adverse effect with chiropractic care (Ducar and Skaggs, 2005; Lisi, 2006; Skaggs et al, 2006; Murphy et al, 2009; Alcantara et al, 2009). The study conducted by Murphy et al (2009) on pregnant women with lower back pain reported that 73% of the patients reported their improvement as either 'excellent' or 'good' and 82% patients had experienced clinically significant improvement in pain. Similarly, Lisi (2006) reported that 94% of women reported clinical improvement from lower back pain and no adverse effects were reported in any of the

cases. Another study by Skaggs et al (2006) also reported similar findings after six treatments, with the patient reporting complete resolution of low back pain and left lower extremity symptoms and a 90% improvement of the right thigh symptoms. A study by Ducar and Skaggs (2005) also reported no pain after three treatment sessions. Alcantara et al (2009) reported rapid progress of labour with chiropractic care.

Studies that were conducted among chiropractors and nurse-midwives reported that they referred 50% of pregnant women with musculoskeletal complaints, nausea and vomiting for chiropractic care (Allaire et al, 2000; Bayles, 2007). The study by Bayles (2007) reported that 80% of the referrals made by midwives were because of nausea, vomiting and hyperemesis. They also reported high success rates (82%) with using Webster technique in relieving musculoskeletal constraints during labour (Pistolese, 2002). The study also reported that the Webster technique resulted in resolving 92% of breech presentations (mal-positioning of the fetus).

Some of techniques used included manual traction, spinal manipulative techniques and a set of home exercises for the pregnant clients with musculoskeletal complaints for a series of sessions (Ducar and Skaggs, 2005; Skaggs et al, 2006; Lisi, 2006). The study conducted by Skaggs et al (2006) reported that manual therapy and exercises may serve as an effective treatment protocol for pregnant patients experiencing low back pain complicated by paraesthesia. Ducar and Skaggs (2005) reported that after three treatment sessions when using the active release technique, home relaxation exercise, patient education and ergonomic training, groin pain associated with pregnancy was reduced. Similarly, Lisi (2006) reported that with spinal manipulation (average time ranging from 0–13 days with 1–5 visits) patients reported clinical improvement of pain.

## Discussion

Chiropractic care in pregnancy is a relatively new technique in prenatal and postpartum care which involves diagnosing and treating disorders of the skeletal system of the body. Chiropractic care in midwifery is mainly used in treatment of disorders such as musculoskeletal pain especially back pain, nausea and vomiting (morning sickness), it relieves spasms and helps in conditions where there is fetal mal-positioning or mal-presentation (breech). Literature shows that approximately 50% of all pregnant women experience back pain during their pregnancy and 50–75% of women experience back pain during labour (Berg et al, 1988; Diakow et al, 1991; Phillips and Meyer, 1995). In the studies reviewed, it is apparent that most women who experienced musculoskeletal pain, especially back pain, got relief with chiropractic care. Similarly, another study conducted by Shaw (2003) on chiropractic and medical collaboration indicated that 75% of pregnant patients who received chiropractic care during pregnancies stated to have found relief from pain. This finding of pain management during pregnancy and labour is important for midwives in clinical practice to know because it clearly highlights the option of using chiropractic care in pregnancy due to the contraindication of many drugs in pregnancy.

Additionally, evidence from studies reviewed shows that women who have had chiropractic care during pregnancy experience shorter labour and reduced labour pains (Alcantara





et al, 2009). In this study, midwives and chiropractors were both involved in the labour process thus demonstrating the importance of inter-professional collaboration of midwives and chiropractors, which makes childbirth a more pleasant experience. In addition, the studies conducted among nurse-midwives included in this review reported referring their patients with musculoskeletal problems to a chiropractor or to chiropractic-certified midwives to provide treatment to mothers. This further emphasizes that collaboration between midwives and chiropractors leads to positive outcomes.

Following use of chiropractic care, there is less risk of shoulder dystocia during delivery and it can help prevent mandatory caesarean sections. These findings are significant because the case study done by Alcantara et al (2009) highlighted that in 2004, the primary caesarean delivery rate had increased to 20.6% with over 50% of these procedures as a result of dystocia (mal-position). In addition, Curtin and Martin (2000) highlighted that 3–4.6% of all pregnancies result into breech position (mal-presentation) thus increasing caesarean delivery. The increase in rates of caesarean delivery should be of concern to those providing care to the pregnant women, in terms of health cost implications, management of complications and reducing infections. Therefore, chiropractic care during pregnancy and labour can help in correction of mal-positioning and mal-presentation, thus preventing mandatory caesarean sections and thereby reducing health care costs, preventing complications and minimizing infection.

## Implications for midwifery practice

Midwives should be given adequate training and opportunity to learn chiropractic skills and their usage. Chiropractic care has clear benefits and no known adverse reactions when used during pregnancy and delivery, therefore every effort should be made to ensure that all midwives know the benefits of using chiropractic care such as relieving musculoskeletal pains especially lower back pain, nausea and vomiting, and correction of mal-presentations and mal-positioning. There is a need for inter-professional collaboration between chiropractors and midwives in order to increase awareness of chiropractic options in midwifery. However, all the studies included in this review were done in the Western countries, so the findings cannot be generalized to Non-Western countries. Additionally there was limited research on this subject from non-Western countries, therefore further research needs to be conducted on the use of chiropractic care during pregnancy and labour across other populations and cultures. Further research also needs to address midwives' knowledge on chiropractic care during pregnancy and labour.

## Conclusions

Although there is still limited empirical research about chiropractic care in midwifery practice, findings from available studies show that chiropractic treatment can help the women to get relief from problems like low back pain, nausea and vomiting, correction of mal-positioning/mal-presentation of the baby during pregnancy and can prevent a potential caesarean section. The findings are crucial for the midwives to know so that they can help mothers if they are trained chiropractors or they can refer mothers to trained chiropractors to relieve discomfort.

## Key Points

- Chiropractic care in midwifery is mainly used in the treatment of musculoskeletal complaints especially back pain, nausea and vomiting (morning sickness) and helps in conditions where there is fetal mal-positioning or mal-presentation (breech)
- Women who have had chiropractic care during pregnancy experience shorter labour and reduced labour pains
- Chiropractic care can help prevent shoulder dystocia during delivery as well as mandatory caesarean sections

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