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The Role of Manual Osteopathy in Relieving Symptoms of Somatic Dysfunction in Pregnant Women

During the term of a women's pregnancy she undergoes many different structural changes that may cause discomfort. The application of Osteopathic Manipulative Treatment (OMT) when applied throughout the stages of pregnancy has been shown to improve Somatic dysfunction. Some of the most common conditions brought on by Somatic dysfunction in pregnant women are symphysis pubis dysfunction, hyperlordosis and sacroiliac joint dysfunction. OMT is an effective form of therapy that can be used for alleviating symptoms caused by these conditions, contributing to the overall quality of life for a pregnant women. Studies have shown that application of OMT in pregnant women can reduce pain, and discomfort throughout pregnancy.

When a woman is pregnant, her body compensates for the developing child growing in her womb. These changes put stress on the structure of the body, especially the spine and pelvic region. As a result, many shifts occur, creating tension patterns throughout the body. When the pelvis starts to rotate anteriorly, hyperlordosis occurs causing strain in the lower back and extra pressure on the lumbar vertebral column. In some cases, spinal disc issues may occur as a result.

As the spine compensates, an exaggerated kyphosis in the thoracic spine may appear, and there may be a deepening lordosis in the cervical spine. A woman's myoskeletal system works to help the body to bring itself back into normal alignment, which causes constant muscle strain and induces muscular discomfort throughout the body. The hormone relaxin is released after conception, increasing throughout the first trimester. It causes laxity within the sacroiliac (SI) joints and pubic symphysis. Studies have shown that the increase in relaxin causes sensitivity and pain in women during pregnancy as the joints and muscles supporting the pelvic girdle become hypermobile (Conrad).

Figure 1.



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Osteopathy is a holistic approach to alleviating pain and the symptoms of disease, physiologic and somatic disfunction. Osteopathy recognizes the mind, body and spirit connections that make us whole. Through gentle manipulation of the spine, joints and soft tissues, osteopathy frees restrictions and brings balance to the muscular, nervous and circulatory flow within the body. Osteopathy teaches that by freeing structural restrictions, the body will function as it should and can thereby heal itself. It is based on the scientific understanding of functional anatomy, neurophysiology and biomechanics.

Osteopathic Manipulative Treatment (OMT) consists of a variety of manual techniques using hands-on palpation, stretching, gentle pressure and resistance. Through manipulation and massage of the bones, joints and muscles, OMT aims to restore proper function back to the body. Due to the nature of OMT, it can be a beneficial form of therapy in helping women during a time in which their bodies are undergoing significant stress and structural change.

Symphysis Pubis Disfunction (SPD) is a common pre-natal condition that occurs during the fifth and eighth month of pregnancy causing pain in the symphysis bone, as well as the lower back, hips, SI joint, lower abdomen, groin and legs. Women that have SPD experience excessive movement in the pubic symphysis, causing the pelvis to become misaligned. Relaxin is the known cause of SPD.

Following a detailed osteopathic assessment and an orthopaedic examination that confirms SPD, the pubic symphysis joint is treated with gentle manipulation. Pregnant women can also be given strengthening exercises to ease the condition and strengthen the muscles supporting the joint (Sandler). Focused exercises on the kegels and abdominals help to strengthen and support the pelvic floor and can improve the stability of the pelvis and back and thereby help reduce pain. (Baby Centre) Muscle energy techniques are also effective when treating SPD because of the action of both strengthening weak muscles needed to support the structure of the pelvis and at the same time relieving muscular tension (Showalter).

During pregnancy the growth of the fetus in the mother causes her centre of gravity to shift forward and tilt the pelvis anteriorly causing an exaggerated hyperlordosis. Hyperlordosis can cause increasing stress across the vertebral facets of the lumbar spine and increased pressure on the intervertebral discs. OMT can relieve the muscular tension in the low back and help to free up mobility within the lumbar spine (Ward).

Various studies have been conducted to show that OMT can alleviate musculoskeletal conditions that arise during pregnancy such as hyperlordosis and its symptoms. For example, in 1982, Guthrie and Martin performed a placebo-controlled study of 500 women. They found that the women who received OMT to the lumbar region had decreased pain compared with those who received a placebo treatment, which involved application of pressure to the thoracic spine. Of the women, 352 experienced pain in the low back during labour, a high of 70.4%. In this study,

application of OMT to the low back during labor reduced the need for major narcotic pain medication (Lavelle).

The most significant data connected with osteopathic management of patients during pregnancy can be found from work conducted by Dr. Steven Sandler, Director of the Expectant Mothers Clinic at the British School of Osteopathy. A survey of the first 400 cases seen at the clinic was conducted revealing the symptoms and outcomes of treatment experienced by patients up to the year 1996. One of the most cited symptoms in these women were low back pain showing in 82% of cases. Low back pain and referred pain to the compression of the sciatic nerve were the two most common complaints causing discomfort during there pregnancy. With the use of OMT including Soft Tissue Therapy, Muscle Energy Techniques, Joint Mobilization and visceral Manipulation the subjects in this study showed a decrease in lower back pain and related symptoms (Sandler).

Another study by Licciardone et al. published in 2010 examined the effects of OMT on low back pain during pregnancy. They conducted a randomized, placebo-controlled trial to compare usual obstetric care and OMT, usual obstetric care and sham ultrasound treatment, and usual obstetric care only. They reported that back pain was reduced and the decline of back-specific function was statistically significantly less in the usual obstetric care and OMT groups, compared with the 2 non-OMT groups (Lavelle).

Sacroiliac dysfunction is another common condition brought on by pregnancy that may be relieved by the use of OMT. SI joint dysfunction can be a result of the release of relaxin, additional weight and altered walking patterns associated with pregnancy. This can cause significant mechanical strain on the SI joints, which may result in inflammation, creating a deep ache in the posterior pelvis, low back and radiating pain through to the groin and thighs. A hyper mobile joint itself does not cause pain, but the structures surrounding such a joint like ligaments, joint capsule, muscles or even nerves, get irritated (Sandler).

Some of the most common characteristics of SIJ pain are;

- Pain does not cross midline
- Turning in bed provokes pain
- lifting the leg while getting in or out of the bath can be painful
- getting out of the car causes pain
- going up stairs causes pain
- Pain radiates to groin or genitals
- Pain when walking on flat ground

Specific tests such as supine leg length and supine abduction tests can be conducted to determine if Si joint disfunction is the cause. With the use of muscle energy technique, joint mobilization

and soft tissue therapy the pain associated with SI joint dysfunction has been shown to decrease during pregnancy and improve the overall mobility and function of the patient. (Core Concepts).

For example, a 1997 study revealed a decrease in the amount of sick leave associated with low back pain in pregnant patients who received OMT. Another study for low back pain in the Family Practice Research Journal found that 91% of pregnant patients with sacroiliac dysfunction had relief of their low back pain after receiving manipulation. As the body goes through the changes of pregnancy, OMT applied to the low back and sacroiliac joint can help alleviate some of the discomfort that occurs because of these maternal physiologic changes (Lavelle).

This paper has demonstrated that the use of OMT during pregnancy can alleviate symptoms of Somatic dysfunction brought on by conditions such as Symphysis Pubis Dysfunction, Hyperlordosis and SI joint dysfunction in pregnancy.

Pregnancy is a remarkable and rewarding time in a women's life but unfortunately due to the drastic physiological changes that occur during this process women experience pain and discomfort. OMT improves these conditions, and therefore can be used as an effective therapy throughout the various stages of pregnancy.

Works Cited

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