

THE BENEFIT OF CHIROPRACTIC CARE ON THE
FEMALE BODY DURING GESTATION AND THE POST
PARTUM PHASE: A REVIEW OF THE LITERATURE

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ABSTRACT:

BACKGROUND: Pregnancy's rigorous effects on the body have long provided women with trouble coping with these phenomena. Allopathically, not many interventions are viable options for women while they are in the gestation period. Chiropractic care provides relief to the most common conditions suffered by women both during pregnancy and post partum.

METHODS: Searches were conducted using the PubMed database in search of literature providing account of the use of chiropractic care during pregnancy and the post partum period. The intended outcome was to find literature that supported the use of chiropractic care during these phases and the success of said care as an alternative to the ineffective and/or too aggressive methods used via allopathic care.

RESULTS: Literature was obtained outlining common conditions suffered during pregnancy and the post partum period and how allopathic and chiropractic care differed in addressing those conditions and their effectiveness.

CONCLUSION: Chiropractic care is the primary standard in the care of pregnant and post partum women. The use of chiropractic addresses the rigors suffered by the pregnant and nursing mother whilst remaining safe for baby and not having detrimental effect on the growing fetus or nursing baby.

INTRODUCTION:

Pregnancy is a process that can be physiologically strenuous on the woman's body. There are a number of side effects and complications that women contend with both during and after pregnancy. These conditions have been helped with chiropractic care and there is more than sufficient amounts of literature currently available to support the use of chiropractic in pregnancy and its effectiveness especially when the use of allopathic remedy is contraindicated for the safety of mother and baby. The need to provide remedy that is safe for both mother and baby makes allopathic intervention more difficult and ultimately less effective. For this reason many women are reluctant to undergo or seek out treatment protocols suggested by allopathic providers. Those who do try these avenues often receive no relief at all or the levels of relief and remedy fail to prove satisfactory for the expecting mother who is seeking avenues to help contend with the rigors of pregnancy. Alternative forms of care provide safe remedy to help cope with care and chiropractic is at the top of that list. As the most popular form of alternative healthcare in the country exposure of the benefits of the use of chiropractic care for almost any and everything traditionally treated, but not cured, by allopathic care is becoming more and more commonplace-with pregnancy and the post partum period being no exception. The period of time after giving birth can often be just as rigorous as the pregnancy process during which the body undergoes drastic change to prepare for the birth. The process of returning to pre-pregnancy status is just as extensive and strenuous on the human body and chiropractic care is also able to remedy the effects of that process with more than satisfactory success and results

once again making the transition more bearable for mother and baby. Over the course of this literature review it will be explained how some of the many avenues of chiropractic care can alleviate a few examples of common conditions seen in pregnancy and the post partum period.

DISCUSSION:

Musculoskeletal Complaints

Low back pain is a common complaint suffered during pregnancy. The majority of these bouts of pain are classified as musculoskeletal and are radicular in nature around 50% of the time.¹ Complaints of a musculoskeletal nature are chiropractic gold mines and a staple in the profession. This works as a beneficial point for gravid women who are seeking relief from the rigors of pregnancy but aren't able to receive relief or viable treatment from allopathic professionals. This is mostly due to the inability of allopathic medicine practitioners to acknowledge or identify the origin of musculoskeletal pain as being pregnancy related.¹

Mechanically, pregnancy adds weight to the front of the body and the fetus' development and growth put added strain on the lumbar spine due to increased lordosis. When the lumbar spine lordosis is increased, or in a hyperlordotic state, the facet joints are put under increased strain and weight bearing state, as are the intervertebral discs.² The combination of mechanical stress to the spine and hormonal contribution to instability acts as a one-two punch to the stability of the spine during pregnancy. During gestation, hormones are released to relax the ligaments of the pelvis to prepare it for the passage of the fetus through the birth canal. The hormone more commonly of concern is relaxin which is found in

particularly large amounts during the final trimester of pregnancy.³ The release of this cascade of hormones makes the pelvis a hypermobile area of the spine and the spine, in general, an unstable structure.² The combination of this instability and increased weight bearing puts added pressure not only on the facets but also nerve roots coming out of the spinal columns. This also adds pain that the carrying mother feels during pregnancy. For all these reasons chiropractic care is sought out by many pregnant females.²

Muscle Tightness & Trigger Point Relaxation

The ligamentous laxity that results from the aforementioned cascade of hormones released during pregnancy not only affects the spine and pelvis by causing their instability but also the muscles around them. The muscles around these structures attempt to hold the spine and pelvis in place once laxity takes effect. One of the most common muscles to do so is the iliopsoas.¹ As a result of this other muscles, namely the piriformis, psoas and gluteal muscles, will tighten in response to pelvic rotation and changes in position. The tightening of these muscles results in the formation of trigger points, which are myofascial in nature.⁴ When a trigger point forms, the tightening of that area of muscle tissue shortens the length of both that section of muscle, a nodule, and the muscle overall, as a whole. This shortening of tissue results in pain that is felt upon palpation and movement and may even result in spasm. Soft tissue techniques in the chiropractic field are used for the resolution of these nodules, trigger points, and generalized muscle tension. Amongst these technique options are Active Release Technique, Graston, and Post Isometric Relaxation. Active release uses the hands of the chiropractor in

conjunction with the active motion of the patient, in the form of stretching in the direction of venous and lymphatic flow, to relax tissue and trigger point nodules. This technique addresses, not only, the muscles but also ligaments, fascia, and tendons as well. The wide range of tissue types able to be effected by this technique makes Active Release ideal for treatment of musculoskeletal rigors of pregnancy. Graston is another soft tissue technique using instrumentation in the form of stainless steel hand held tools to dissipate muscular and tendinous fibrous adhesions. In post isometric relaxation the hypertonicity of musculature is improved and/or resolved by intervals of active isometric contraction of the musculature, by the patient, against resistance followed by immediate stretch force is applied to the same muscle previously contracted in order to use neurologic use feedback to induce relaxation of muscle tone. The results of all three of these examples yields improvement in muscle hypertonicity and/or the breaking up of nodules and adhesions in hypertonic musculature and fascial tissue as a result of the musculoskeletal system's neurologic response to the action of pregnancy hormones on the ligamentous integrity of the pelvis and spine. This provides a drug-free and non-invasive treatment protocol for musculoskeletal conditions that arise as a complication of pregnancy. As aforementioned, the allopathic model does not identify these types of pain as pregnancy related.¹ In non-pregnant cases of musculoskeletal trigger point formation, for example, botulinum toxin type A is injected into trigger points that are then engaged in myofascial release in order to induce relaxation of the muscle.⁵ This technique works within the confines of contraindication for patients who are not pregnant and are suffering from muscular

hypertonicity, trigger point formation, and fascial irregularities by way of hypertonicity, but not for the pregnant patient. It would be dangerous and a health risk to the fetus to inject the mother with botulinum toxin for any reason. This is why chiropractic techniques that are effective and safe are so important to the gestational community. Another of these safe and effective techniques used in the chiropractic world to bring relief to those pregnant patients who have these musculoskeletal complications is the Webster Technique. Done in steps, this technique is most commonly used to address uterine tension in the pregnant female that is commonly caused by juxtaposition of the sacrum as the ligaments of the pelvis become more and more lax allowing the pelvic bones to spread and move in a wider configuration to both make room for the fetus and prepare the birth canal for the birthing process.⁴ As the sacrum rotates out of proper positioning the force exerted on the uterosacral ligament is then translated to the smooth muscle of the uterus which then contracts in order to prevent uterine prolapse.⁴ The first step of the Webster Technique calls for correction of the rotation of the sacrum to relieve this cascade of tension and relax the tension exerted on the uterus by the uterosacral ligament. The uterosacral ligament is one of three responsible for suspending the uterus. The round ligament is also a commonly taut ligament during pregnancy. The anterior positioning of this ligament serves the purpose of preventing the uterus from posterior translation.⁴ Once this ligament becomes tight nodules, bands, adhesions, etc are able to be palpated on the inferior portion of the pregnant woman's abdomen. These signs of hypertonicity can be released by use of light effleurage and specific release of those areas.⁴ Use of this technique has also

been shown to even resolve the breech presentation of babies in utero when properly used by practitioners trained in the application of Webster Technique.⁴ This is done by balancing the bones of the pelvis and surrounding musculature that may, as a result of their malpositioning and spasm, have a constricting effect on the pelvis that needs to expand as the baby gets larger in utero; eliminating the concern that a chiropractor who uses Webster technique is actually attempting to reposition the growing baby while in utero.^{4,10} When the round ligaments are spasming bilaterally, the uterus will tilt anteriorly and cause pain and cramping for the expectant mother in early trimesters.¹ Once in the third trimester the pain becomes more severe and tends to be sharp in nature traveling from the inguinal area down to the anterior and medial aspects of the thigh.¹ In this instance the round ligament is compressing the femoral nerve and its so named artery as well. This makes the treatment of hypertonicity and spasm of these ligaments in the pregnant patient all the more important b/c the occurrence of this cascade of events causes a perception of pressure on the cervix which signals the release of prostaglandins which act on the brain and stimulate the release of oxytocin-the hormone that causes the contractions of labor and the birth of the fetus.^{1,6} After birth pelvic girdle pain is often experienced. Many times this PGP is experienced as a result of forceful birth leaving significant damage to fibrous structures.⁷

Carpal Tunnel & Gestational Diabetes

Carpal Tunnel is a condition that commonly plagues pregnant women. It involves trapping of the median nerve in the carpal tunnel of the wrist and manifests itself in neurological deficits signs and symptoms. These symptoms

include paresthesia of the thumb, index finger, middle finger and radial half of the ring finger, burning pain in the wrist and grip strength and dexterity loss.⁸ Any combination of these symptoms may also radiate in their manifestation up the arm as far as the shoulder. The accepted causation of the presence of carpal tunnel in pregnant women is the extreme edema that is experienced by women, especially in the third trimester, when diffuse edema is at its greatest.⁸ The presence of such edema is responsible for increasing the amount of pressure inside the carpal tunnel. This increased pressure serves the same function as IVF encroachment in the spine causing nerve function depression, in carpal tunnel's case the median nerve. The effects of this median nerve entrapment are commonly known to dissipate, in a directly proportional relationship to weight loss, during the post partum period usually by 50% after the first two weeks post partum.¹¹ This weight loss is most likely due to the loss of the excess fluid carried by the mother during the third trimester as suggested by the relatively short period of time associated with resolution as compared to the span of time for pregnancy. This is another reason chiropractic care is most important. Chiropractic has a strong foundation for holistic and preventative health care with healthy lifestyles and maintaining health body weights and optimum body health being at the core of that principle. Pregnant women who also suffer gestational diabetes have even greater issues with disease in the carpal tunnel. Diabetes, in its most severe complications, causes neuropathy including the retarding of nerve conduction velocity. In fact, carpal tunnel is a musculoskeletal condition that is commonly suffered by diabetics.⁹ In gestational diabetes women experience generalized slowing of nerve conduction and very

commonly so at the wrists, hence carpal tunnel.⁸ Medical intervention treatment of carpal tunnel includes surgery, splinting, activity modification and steroid injection.⁸ It's rare for surgery to be used in the pregnant patient with carpal tunnel, as the condition is usually expected to be short lived and to resolve at the end of pregnancy some time during the post partum period.⁸ The use of steroids, as with many drugs, is frowned upon during pregnancy. One of the reasons is the looming risk of gestational diabetes and/or complications of greater prevalence for the already declared gestational diabetic patient. The reasoning behind this is the extreme elevation of blood glucose levels that steroid use causes. Another contraindication of steroid use is that it often results in osteoporosis during long-term use. Immobilization of the carpal tunnel stricken wrist is frowned upon in the chiropractic profession. Immobilizing any joint for extended periods of time, especially in the multi week scenario of pregnancy, results in the deterioration of optimal joint function and mobility. The usual suggestion of immobilization of carpal tunnel stricken wrists is an attempt to mitigate the pain experienced in the wrist. For this reason chiropractic is again a viable option for treatment of this complication of pregnancy. The chiropractic model utilizes many passive modalities for the treatment of conditions and pain. Two of the most effective modalities for pain used in chiropractic are Interferential current and TENS milliamperage. These two pain- controlling modalities, while contraindicated in treatment of abdominal and low back pain in pregnant women, are indicated in pain relief of the carpal tunnel wrist in pregnant women, further illustrating the appropriateness of

chiropractic care for this complication of pregnancy over ineffective, and potentially harmful treatment such as immobilization, surgery and/or steroid injection.

Osteitis Condensans Ilii

Another condition suffered by women, as a result of pregnancy, is Osteitis Condensans Ilii. While this condition is less common than those aforementioned it still has a strong impact on a woman's body; developing during gestation and expressing symptomatology post partum. A uniform consensus regarding the etiology of OCI has yet to be established but the generally accepted theory is that the auricular portion of the ilium is physically altered due to increased mechanical stress on the pelvis during a prolonged period of ligamentous laxity which in turn causes premature arthritis.^{12,14} While this condition can be found in men and women it is typically seen after pregnancy. The etiology of OCI isn't well known however it is considered a benign condition with a predilection to refer pain into the lumbar spine.^{13,15} Treatment of this condition is essential to relief of low back pain that truly is secondary to OCI. Many women experience prolonged bouts of low back pain post partum. However, primary focus of treatment on resolution of the low back pain alone without addressing the true source of OCI will tend to yield results that are not lasting or, in some cases, altogether ineffective. For this reason it is essential that radiographs be taken, as OCI is primarily a radiologic diagnosis.¹³ Since most low back pain resolves fairly quickly after delivery treatment of such pain that does not yield satisfactory relief should warrant further diagnostic exploration of the possibility of the presence of OCI.¹³ Conservative treatments in the allopathic field traditionally have included physiotherapy, use of NSAID'S and

steroid injection.¹² Chiropractically, treatment of OCI involves treatment addressing the premature osteoarthritis of the sacroiliac joints which is a common source of referral pain to the low back. Manipulation of the pelvis, particularly the sacroiliac joints, and active muscle exercises to encourage stability are the mainstay of chiropractic treatment protocol toward OCI.

CONCLUSION:

Pregnancy and post partum conditions are daunting on the female body. The effects of pregnancy are felt on the body as a primarily mechanical burden however systemic effects on the body, by way of hormones and edema, are of great contribution as well. These systemic effects work by way of degrading normal structural integrity/mechanics of the body. This ranges from ligamentous laxity to swelling. Edema in the carpal tunnel which houses the median nerve induces compression of said nerve via swelling, inducing peripheral neuropathy that results in carpal tunnel syndrome. The inability to use steroid injection during pregnancy, out of concern for the growing fetus, makes chiropractic treatment of this condition optimal for relief. This is when use of modalities such as TENS and Interferential current to abate the effects felt by those who contend with carpal tunnel during pregnancy serves well as an effective treatment until the condition self-resolves post delivery.

The ligamentous laxity that ensues during pregnancy is a direct contributor to muscle tightness and the formation of hypertonicity and trigger points that develop in the musculature surrounding the spine and pelvis. Hormones are circulating in copious amounts in the system with the purpose of preparing the

pelvis and birth canal for delivery. This specific purpose, however, is due to a systemic phenomenon that has a nonspecific mechanism of application. This makes the effect of this cascade a global one and as a result the body's defense against excessive instability is overdrive use of the musculature surrounding structures like the pelvis. The use of chiropractic care to address the pain and soreness resulting from this muscular response to the hormone cascade provides relief of the musculoskeletal woes of discomfort during pregnancy that are so often ignored by the allopathic world or un-resolvable via that avenue due to coping measures being too aggressive and seen as harmful to the growing fetus. Relief methods provided by chiropractic techniques, for instance the Webster Technique, also serve as helpful toward the birthing process itself. Correction of spasm of soft tissues surrounding the round ligaments also aids in helping prepare for delivery of the fetus and encourage proper fetal positioning and a less constricting pelvic positioning to allow for easier delivery by balancing the pelvis as a whole.

Osteitis Condensans Ilii is most commonly suffered by women who have bore children and comes about as a result of the increased mechanical stress placed on the pelvis by the presence of an ever-growing fetus. The result of early sacroiliac degeneration and arthritic change often causes pain in the low back giving the false impression that the post partum mother has low back problems after delivery. The discovery of the presence of OCI is essential in addressing the proper cause of the low back pain that results as a referral from sacroiliac involvement. Chiropractic care of this condition is essential in providing pain relief and preventing further degeneration of the sacroiliac joint. Balance of the musculature surrounding this

area is also essential in correction of the condition and requires proper therapeutic and corrective exercise and intervention.

Overall, the physical stress of pregnancy and its effects on the body can have lasting effects on the proper biomechanics of the spine and pelvis and even the extremities. It is vital that conservative care, such as chiropractic, be sought out by pregnant and post-partum women because it is clear that the greatest benefit is reaped by use of said care and true relief is actually given. The lack of allopathic recognition of musculoskeletal complications during pregnancy, and the use of aggressive interventions that can be harmful to a growing fetus being the mainstay of allopathic correction, makes chiropractic's proven effectiveness and overall success of use a more than viable and superior option to care for the changing mother's body during gestation and restoration of her body's structural and functional integrity whilst in the post-partum phase as well.

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