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Improvement in ADHD symptoms and mental ease in a 30-year-old female with multiple physical trauma: A case report

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Background: A 30-year-old female presented for Chiropractic care with primary complaints of back and neck pain, and paraesthesia. She was a Hashimoto's sufferer with a history of multiple traumas.

Intervention: The patient commenced a course of Chiropractic care during which she was checked and adjusted according to the Advanced Biostructural Correction technique.

Outcomes: In addition to a significant reduction in her presenting complaints, and improvements in her objective findings, the patient reported concomitant improvements in ADHD symptoms and mental ease.

Conclusion: Further research into the impact of Chiropractic care on mental health, including symptoms of adult ADHD may further establish Chiropractic care as a valuable, drug-free treatment option for such patients.

Indexing Terms: Chiropractic; Subluxation; Advanced Biostructural Correction Technique; ABC; ADHD; Hashimoto's Disease; paraesthesia; well-being.

Introduction

Foundational to the understanding of Chiropractic care is the concept of subluxation. It has often been said that these arise from a lack of adaptation to trauma, toxins and stress. In contemporary terms, stress encompasses chemical, emotional, mental, and physical stressors and traumas. The cumulative effect of complex traumas and stressors across a person's lifetime is a matter of importance as research has already conclusively linked chronic stress with autoimmune disorders and nervous system dysregulation.

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When the body is under prolonged stress, the hypothalamic-pituitary-adrenal (HPA) axis remains activated, leading to sustained release of cortisol and other stress hormones. Over time, this continuous activation disrupts normal immune regulation, creating a state of imbalance where the immune

system may become overactive and begin attacking the body's own tissues. Immune dysregulation can contribute to the onset or worsening of autoimmune diseases such as rheumatoid arthritis, lupus, or indeed Hashimoto's Disease. Furthermore, long-term stress can increase systemic inflammation and impair the body's ability to repair and regulate itself, creating a cycle where stress and immune dysfunction perpetuate one another. (Dhabhar, 2014; Segerstrom & Miller, 2004)

Nervous system dysregulation also plays a significant role in mental health and behavioural conditions, including anxiety and attention-deficit/hyperactivity disorder (ADHD). Anxiety is characterised by heightened sympathetic activity, resulting in hypervigilance, increased heart rate, and stress hormone release. ADHD, on the other hand, often involves difficulties in executive function and impulse control, which may be linked to imbalances in neural networks regulating attention and behaviour. (Arnsten & Rubia, 2012) When the spine is subluxated, the altered sensory input may exacerbate these imbalances, leading to heightened stress responses and difficulty in self-regulation.

Emerging research suggests that Chiropractic adjustments may help modulate these patterns by influencing brain regions such as the prefrontal cortex and cerebellum, both of which are critical for emotional regulation, focus, and motor control. Studies have reported changes in heart rate variability and other markers of autonomic balance following Chiropractic care, indicating potential benefits for patients with anxiety and ADHD. (Haavik et al, 2017) While further research is warranted, these findings support the role of Chiropractic in addressing not only musculoskeletal complaints but also in broader aspects of neurological and psychological well-being.

When a person presents for care, we are caring for their whole system, not simply addressing isolated symptoms. This case describes the Chiropractic care of a person with a history of multiple complex traumas. While the existence of multiple complex traumas is not a proven underlying aetiology when it comes to her symptomatology, the Chiropractor's role is to care for the whole person, as this case illustrates.

Case details

A 30-year-old female presented for care with a complex past and present medical history including Hashimoto's Disease and multiple physical and emotional traumas. She worked as a school-based speech pathologist and reported a limited experience of Chiropractic. At the time of presentation her primary complaint was back and neck pain accompanied by paraesthesia ('*pins and needles*') in her spine. She attributed these symptoms to a recent workplace injury and reported experiencing significant pain while at work.

Three weeks prior to presentation, she experienced severe spasms in her neck and upper back, which rendered her unable to move her arms. During this episode, she presented at hospital via ambulance.

Her medical history included numerous physical and interpersonal traumas. At age three, she fell off of a bed onto her head on tiles, was knocked unconscious, and taken to hospital. Also at age three, she experienced a shoulder dislocation. At approximately age six, she was present in a car accident during which the family car was T-boned. While no injuries were noted, she recalls back pain from upper primary school age onwards.

In adulthood, she also experienced significant traumas. At age twenty-one, she was in a motor vehicle accident during which her car was hit from behind at low speed. No injuries were noted with the exception of 'mild' whiplash. At age twenty-two, she experienced a domestic violence

incident in which she was picked up, dragged by her clothes and thrown to the ground. At age 30, she reported two workplace incidents in which a child approached her from behind and forcefully wrapped their arms around her neck. In both cases, the child lifted their feet off the ground, hanging their full weight from her cervical spine for approximately 30 seconds.

She also reported experiencing high levels of occupational stress during her eight years of employment.

The patient had a confirmed diagnosis of Hashimoto's disease and a probable diagnosis of ADHD, supported by her prescribed use of Ritalin despite uncertainty about formal diagnostic confirmation. At the time of presentation, her regular medications included duloxetine, Ritalin, pantoprazole, and melatonin, with intermittent use of Norgesic and ibuprofen for pain relief.

A recent MRI revealed three mild cervical disc bulges. The patient sought Chiropractic care primarily for advice and symptomatic management of her disc injuries. Secondary complaints included headaches, tiredness, plantar fasciitis and ADHD-related concerns

Clinical findings

Upon presentation, the patient underwent an initial Chiropractic examination. She also presented with MRI scans taken immediately prior to presentation and x-rays taken after the initial assessment. Multiple clinically-significant findings were noted across postural, range of motion, and functional evaluations.

AP postural analysis revealed a low right ear, shoulder and pelvic crest. Lateral postural assessment revealed significant forward head carriage, forward shoulder carriage and increased lumbar and thoracic curves.The patient had significant reductions in range of motion globally throughout the cervical spine, and loss of range of motion to left lateral flexion and right rotation in the lumbar spine.

Initial functional testing included assessing one-legged stance tests revealing an inability to close eyes and stand on one leg for fifteen seconds. This was true bilaterally. She was also unable to walk heel-to-toe with eyes closed. Bilateral psoas weakness was detected, as well as general hip flexor and extensor weakness bilaterally. Short leg test was positive on the left.

The assessment used was a numerical scoring system in which assessments include the One-Legged Stance Test and Tandem Gait to evaluate postural stability and dynamic balance, the Finger-to-Nose test for coordination, manual muscle testing to assess neuromuscular adaptation, and leg length discrepancy evaluation to detect potential subluxations or pelvic imbalances. Each test includes detailed procedures, standardised scoring from 0 to 3, and references to supporting research, offering clinicians a reliable way to document functional changes and track patient progress over time. At the initial consult, the patient scored 13 out of 20. She scored +6 on balance and +7 on stability.

Initially subluxations were detected at the first rib and with anterior subluxations at C7, T4, T9 and L5.

Management

Upon examination, the patient commenced a care plan during which she was adjusted using the ABC protocol (basic only). Care was initiated at a frequency of twice per week for six weeks,

after which a review was conducted. She then progressed on a six week plan, during which she was adjusted once per week.

In addition to Chiropractic adjustments, the patient was provided with ergonomic advice for sitting, standing and sleeping, as well as a simple home exercise recommendation. She was instructed to perform daily thoracic extensions over a towel for a minimum of two minutes. These adjunctive recommendations were designed to complement in-office care and to reinforce improvements in posture, range of motion, strength and balance.

The patient's stated goals included relief of symptoms, correcting the underlying mechanisms contributing to her health problems, and maximising overall health.

Outcomes

At the first review, the patient's functional score had improved from 13/20 at baseline to 5/20, with residual findings of +2 on balance and heel to toe walking, and +1 on coordination. At the second review, her score further improved to 2/20, with only +1 on balance and heel-to-toe talking, and +1 on short left leg. This represents substantial progress compared to her initial assessment.

In addition to the significant improvements in objective testing, the patient reported a marked reduction in the frequency and severity of her headaches. She reported an 'immediate' feeling of relief of pain and stiffness following each adjustment, along with a consistent feeling of calm and relaxation. Clinically, her subluxations responded more readily to adjustments over the course of care, with reduced tissue tension, improved segmental motion, and less recurrence of previously noted restrictions

A patient questionnaire reflecting on the level of improvement over the course of care confirmed a 30% improvement in physical health, a 60% improvement in mental health and a 50% improvement in chemical health.

Impacts of her improved quality of life included the ability to work more hours, resume pilates, and make better choices about food, life and movement. She also remarked that this enabled a better quality of life after injury, and calmness of mind, particularly with regard to ADHD symptoms.

Discussion

This patient's picture of health is one that involves multiple stressors and traumas over the course of years. While the presenting symptoms were to do with back pain, neck pain and altered nervous system function, her improvements extended beyond musculoskeletal complaints and were most consistent with enhanced nervous system function. The ability for compassionate Chiropractic care to provide a safe place where she could be checked and adjusted is unique in that it does not chase symptoms with medication but removes subluxation and thus interference to nervous system function.

Unlike symptom-focused pharmacological management, Chiropractic seeks to correct subluxations and, in doing so, reduce interference to nervous system function.

In this case, the Advanced Biostructural Correction (ABC) protocol was utilised. This technique focuses on adjusting vertebrae in the anterior-to-posterior direction specifically where the body has no musculature to self-correct. Given the directional nature of many of the patient's past traumas, this may have been particularly relevant.

Conclusion

The literature suggests that Chiropractic care may exert broad effects on neurological processes including mood regulation, autonomic balance, and brain networks such as the default mode network, which plays a role in self-referential thinking and meaning-making. (Haavik, 2024)

Considering this evidence, and the global improvement in this patient's physical, mental and chemical health, it is reasonable to propose that Chiropractic care was a key element of her overall improvements, including reduced pain, greater calmness, and positive changes in ADHD-related symptoms.

Further research into the impact of Chiropractic care on mental health, including symptoms of adult ADHD may further establish Chiropractic care as a valuable, drug-free treatment option for such patients.

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About the Chiropractor

Dr Harriet Walker graduated with a Bachelor of Health Science/Bachelor of Applied Science (Chiropractic) in 2017. As further learning she also graduated from the Academy of Chiropractic Philosophers in 2024.

Upon graduation she began using the Advanced Biostructural Correction Technique, and has served on the Advanced Biostructural Correction Australasia board since 2024. She currently practices in Adelaide, South Australia.