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ASRF CASE REPORT PROJECT

Improvement in symptoms relating to Scoliosis, ADHD and Depression in a 29-year-old male: A case report

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Background: A 29-year-male flight attendant presented for Chiropractic care with primary concerns related to spinal alignment and general health. He had existing diagnoses of scoliosis, ADHD and depression. Additional concerns included shoulder crepitus, back pain when bending or standing, and poor posture.

Intervention: The patient was placed on a care plan comprising 24 visits between January and June 2025, wherein chiropractic care was delivered using Torque Release, Diversified, Drop Table and Activator Methods. Care was accompanied by workshops on movement, nutrition, mindset, a supplement regimen and home exercises.

Outcomes: Significant improvements in subjective and objective measurements were realised over the course of care, despite a brief psychiatric admission (substance use relapse) occurring during the care period (from which the patient reported a quicker recovery than prior admissions). The patient reported improved sleep, energy, concentration, mood and stress tolerance, and reported discontinuing both medications under medical supervision.

Conclusion: Improvements in spinal findings and self-reported wellbeing were observed in conjunction with chiropractic care and concurrent lifestyle changes. Chiropractic care for complex health should therefore be investigated further.

Indexing terms: Chiropractic; mental health; ADHD; substance abuse.

Introduction

Diagnoses of neurodevelopmental disorders like ADHD appear to have increased significantly over the course of the last twenty years. While research is increasing alongside these diagnostic booms, it is important to recognise that ADHD is not confined to childhood.

… the patient suffered a substance use relapse during his period of care, from which he reported recovering more quickly than usual…'

How then does an adult, either with a delayed diagnosis or with a childhood diagnosis carried across into adulthood, deal with the demands of life, career and adulthood?



It is a significant problem. A global meta-analysis estimated that the 2020 prevalence of persistent adult ADHD, with onset in childhood, was 2.58%, and that symptomatic adult ADHD was a 6.76%. (Son et all, 2021) In that study, the gap was attributed to late diagnoses, and the prevalence was higher in younger adults than in older age groups.

Psychiatric comorbidity is common in this population, too. Hartman (2023) found that, across more than 550,000 adults with ADHD, pooled odds ratios were 4.5 for Major Depressive Disorder and 4.6 for substance use disorders, relative to adults without ADHD. Interestingly, substance use disorders were also more prevalent in men with ADHD. In an international, multi-centre study of 3,558 patients seeking treatment for substance abuse disorders, 40.9% screened positive for Adult ADHD. (van de Glind, et al, 2014)

This rate of co-morbidity is significant, and remains largely undiscussed in the Chiropractic wellness literature.

Sleep complaints are also more frequent in adult ADHD sufferers. A meta analysis of thirteen studies found that adults with ADHD had poorer self-reported (subjective) sleep, and showed prolonged sleep onset latency as well as reduced sleep efficiency on actigraphy, although polysomnographic differences were not statistically significant. (Diaz-Roman et al, 2018) Depression has well-documented co-morbidities with numerous health conditions, and ADHD is among them. Depression is also associated with reduced HRV. (Kemp et al, 2010)

While these numbers apply to the general population, a novel cross-sectional comparison looked at flight attendants, giving very specific insight comparable to this case report. It looked at 5,366 flight attendants within the general United States population, and found that flight attendants had a higher prevalence of sleep disorders, fatigue, anxiety and depression that increased with the length of job tenure. (McNeely et al, 2018) While recall bias may be likely given the cross-sectional design, the comparison remains noteworthy.

Within Chiropractic the evidence base on Chiropractic care and mental health is still developing, with case report data providing the majority of the evidence at this point. In terms of larger studies, Haavik et al (2024) observed that chiropractic care had widespread impacts on sleep, anxiety and depression, as well as significant impacts on the default mode network in the brain (where rumination, reflection and meaning-making occur). This provided the most up-to-date understanding on Chiropractic and the brain in terms of mood and cognition so far.

The case report data set often mentions ADHD in childhood, but less so in adults. We do have case reports that describe resolution of tension-type headache and major depression with discontinuation of medication in a 44-year-old female, (Chu & Ng, 2018) and reduced anxiety on the four-item Patient Health Questionnaire (PHQ-4) in a 38-year-old female receiving Torque Release Technique. (Russell & Glucina, 2019) This journal and ublished improvements in ADHD

symptoms reported in a 30-year-old female with a history of physical trauma, (Walker et al., 2026) and in an 8-year-old male with ADHD and dyslexia. (Zoda et al., 2026)

> To our knowledge, no report has described Chiropractic care in an adult male with ADHD, depression and a history of substance use.

Case details

A 29-year-old male flight attendant with a moderate activity level presented for a general check-up and advice on spinal alignment. He was novice to Chiropractic care.

Upon presentation, a thorough examination revealed a history of back pain and a diagnosis of scoliosis from 2020. The pain was intermittent, rated 5/10 on the numerical pain scale, and described as 'aching and stiffness.' He described it as being severe enough to limit bending and standing, and attributed it in part to poor posture at work. Remedial massage had provided only transient relief. A secondary complaint was shoulder crepitus during exercise.

The patient had been diagnosed with ADHD and depression following a period of substance use in 2020. He had taken mixed amphetamine salts (Adderall) and bupropion (Wellbutrin) since that time.

Clinical findings

Assessment comprised spinal palpation for indicators of vertebral subluxation, spinal range of motion (ROM), bilateral weight distribution, cervical and lumbar Kemp's tests, the Adam's forward bend test, digital postural analysis, and three Insight scans: paraspinal thermography, surface electromyography (sEMG) and HRV. The Insight indices are proprietary composite scores out of 100. Upon presentation, his thermography readings were 63/100, Surface EMG was 66/100 and Heart Rate Variability rated 78/100.

On palpation, subluxation indicators were graded mild at C6, T1, T4, T10 and L3; moderate at L1 and the left sacrum; and severe at right C2. Cervical flexion was restricted without pain. Cervical lateral flexion produced 1/10 stiffness bilaterally, and lumbar extension 1/10 stiffness.

The cervical Kemp's test was negative, with 1/10 stiffness on left rotation. The lumbar Kemp's test was positive, with 3/10 pain on left rotation. Adam's was negative. Digital posture showed the a body shift to the right of the centre line, with a mild left-convex curvature from the lumbar to the cervical spine, apex mid-thoracic. The pelvis was translated 3.82 inches, 9.7 cm, anteriorly.

Management

Following examination, the patient was placed on a care plan spanning 24 sessions from January to June 2025. He was checked using the Torque Release protocol and adjusted using a combination of manual diversified, drop technique and Activator as a force application. Care focused on the cervicothoracic junction and the lumbar spine.

The aims of care were to improve Quality of Life, spinal ROM and posture, and recovery from the physical demands of flight attendant work. The patient also stated an aim of ceasing his ADHD and antidepressant medications.

The recommended schedule was two visits per week for 12 weeks. Owing to work rostering and travel, the patient averaged approximately one visit per week, at times attending twice in one week and then being absent the following week. He attended 24 visits between 14 January and 24 June 2025. A progress examination was performed at visit 12 and a full re-evaluation at visit 24.

The patient attended the practice's workshops on movement, nutrition and mindset. He took a recommended supplement regimen of vitamin D3, vitamin K2, fish oil, a probiotic, magnesium and collagen. He performed home spinal mobility exercises and a combination of strength and cardiovascular training. Mindset activities included identifying personal values and setting future goals. Adherence to these recommendations was reported by the patient and was not independently verified.

Outcomes

A re-evaluation was undertaken at the 12th and 24th visits. At re-evaluation, the number of segments with subluxation indicators fell from eight to four (mild at C6, L5 and moderate at C2, L4), and no segment was graded severe. Stiffness on cervical lateral flexion and lumbar extension resolved. Cervical flexion improved but remained somewhat restricted. The lumbar Kemp's test became negative for pain, with 1/10 stiffness on rotation bilaterally.

Posture appeared more centred, and anterior pelvic translation reduced from 3.82 to 2.54 inches (6.5 cm). The left-convex curvature remained, but was reduced. The proportion of weight borne on the left was essentially unchanged (46.9% at baseline; 46.6% at re-evaluation). The thermography index rose from 63 to 89, the sEMG index from 66 to 80, and the HRV index from 78 to 80.

The treating Chiropractors observed a change in mood and demeanour, particularly following adjustments. The patient reported improvements in sleep, energy, concentration, clarity of thinking, alertness, mood, positive thinking, stress tolerance, anxiety, posture, mobility, athletic performance, skin and digestion, and fewer colds.

At the second re-evaluation, the patient reported that he had recently weaned off both medications under medical supervision and had remained mentally stable. During the care period

he also had a relapse of substance use and was admitted briefly to a psychiatric ward. However, he reported that he was discharged and returned to normal activities more quickly than after previous episodes. Thermography readings were now 89/100, surface EMG at 80/100 and Heart Rate Variability slightly increased to 80/100.

Discussion

This case report presents two notable challenges for consideration:

- The first is that the patient was only able to attend at roughly half the recommended rate. Despite this, he was able to attain significant improvements;
- The second is that he did suffer a substance use relapse during this time, from which he reported recovering more quickly than usual.

While the patient was happy with his results and attributed his faster-than-usual discharge and return to activities of daily life to his Chiropractic care, a self-reported outcome that was not confirmed by any objective means.

> This presents us with a discussion that is yet to be addressed in Chiropractic at length: how do we support those suffering substance abuse issues?

Further to this, how does a Chiropractor support patients with ADHD who may be unaware of their increased risk of substance use disorders?

Generally speaking, the neurophysiological changes obtained over the course of care may have allowed the patient to recover more effectively after work and training (as reflected in his self-report). This may be linked to neurological changes as documented in Chiropractic research pertaining to changes in cortical drive, the cortical silent period, and the way the brain communicates with the muscles following care. (Haavik et al, 2021; Lelic 2016; Picchiottino, 2020)

This is before considering that his autonomic nervous system state may have shifted back towards parasympathetic rather than sympathetic dominance. As the nervous system began to function more optimally, the patient likely experienced improvements in stress adaptation, emotional regulation, and mental clarity. These changes may have supported his capacity to taper off ADHD and antidepressant medications under medical supervision.

While Chiropractic care does not treat mental health conditions directly, its influence on the nervous system can create a more stable foundation for physical and emotional resilience. While most people seek Chiropractic care initially for musculoskeletal complaints, this case reinforces the importance of educating patients and healthcare professionals alike about the broader effects of nervous system regulation and adaptability.

This case, while limited with an N of 1, links consistent (even if they weren't as frequent as the Chiropractor would have preferred) Chiropractic adjustments over time contributed to measurable physical improvements and coincided with a significant shift in mental health status. While the multimodal recommendations in terms of exercise, health classes and other lifestyle adjustments may also have contributed, one could argue that this is part of the Chiropractic experience and not an adjunct to it.

Chiropractors care for the whole person. This case exemplifies how Chiropractic care can serve as a meaningful entry point for individuals to re-engage with their health—physically, mentally, and emotionally. It often sparks awareness, routine, and a reconnection with the body that can inspire further lifestyle changes, even beyond the adjustment itself.

Mind-body connection

For future patients this case highlights the potential of Chiropractic care as part of a holistic approach to health, one that recognises the interconnectedness of the body and mind. It encourages further exploration into how improved spinal and neural function may influence mood, attention, and emotional regulation.

While Chiropractic is not a direct treatment for mental health disorders, this case reinforces the value of including Chiropractic care within an integrative framework that prioritises optimal nervous system function as a foundation for overall health.

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About the Case Report project

This Case Report is a part of the ASRF Case Report Project, a project designed to gather client studies from Chiropractors and transform them into much-needed case reports, focused on the effects of Chiropractic care on clinical presentations highly relevant to Chiropractic, such as stress, immunity, adaptability, and Quality of Life.

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