THESIS ASSIGNMENT

Cervical Dystonia and Osteopathic Medicine

Written By: Erin Hobson, BSc, RMT
Student ID S2109002

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Cervical Dystonia

Cervical dystonia or acquired spasmodic torticollis, also known as wry neck, is a condition characterised by the abnormal positioning or twisting of the neck. It often results in the head being tilted to one side while the chin is turned to the opposite side and has become more prevalent in today's work from home (WFH) dynamic with improper ergonomic office conditions. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507) The term "torticollis" comes from the Latin words "tortus" meaning twisted and "collum" meaning neck. For ease, during this paper, the term " acquired spasmodic torticollis" will be used in place of " cervical dystonia". (Boyling, Palastanga, 1994)

Torticollis can be classified into two main types: congenital torticollis and acquired torticollis. Congenital torticollis is present at birth and is typically caused by the abnormal positioning of the baby's head in the womb or due to muscle or tendon abnormalities. Acquired torticollis develops after birth or to the development of torticollis later in life and can be caused by factors such as neck muscle spasms, injuries, infections, or underlying medical conditions. (Boyling, Palastanga, 1994)

For purposes of this thesis, the focus will be on acquired torticollis, specifically acquired spasmodic torticollis or cervical dystonia. (sciencedirect.com) There are several potential causes of acquired torticollis in adults, which can include but not limited to:

Muscular Causes: Muscular causes of acquired torticollis can result from muscle spasms or contractures. These can be caused by factors such as muscle strain, repetitive motions, poor posture, trauma, or overuse injuries. Inflammation or injury to the neck muscles, such as the sternocleidomastoid muscle, can lead to abnormal muscle contractions and the development of torticollis.(DiGiovanna, Schiowitz, Dowling)

Cervical Spine Disorders: Acquired torticollis can also be associated with disorders affecting the cervical spine, including degenerative conditions such as cervical spondylosis or cervical disc herniation. These conditions can lead to nerve compression, muscle imbalances, and abnormal neck positioning, resulting in torticollis. (DiGiovanna, Schiowitz, Dowling)

Trauma or Injury: Traumatic events or injuries to the head, neck, or upper spine can cause acquired torticollis. Whiplash injuries, falls, car accidents, or sports-related

injuries can result in muscle sprains, ligament damage, or vertebral misalignments that lead to torticollis.(DiGiovanna, Schiowitz, Dowling)

Neurological Causes: In some cases, acquired torticollis can be associated with underlying neurological conditions. These may include conditions such as cervical dystonia (also known as spasmodic torticollis), which involves abnormal muscle contractions in the neck, or other neurological disorders affecting the nervous system or brain. (DiGiovanna, Schiowitz, Dowling)

An acquired torticollis condition called acquired spasmodic torticollis or "office worker's torticollis" or "computer neck' ' can affect adults who spend long hours working at a desk or in front of a computer. This type of torticollis is often attributed to poor posture and repetitive strain on the neck muscles. Coined with the nickname “Office worker's torticollis “, acquired spasmodic torticollis typically occurs when the muscles in the neck and upper back become fatigued or strained from maintaining an incorrect or uncomfortable posture for extended periods. Factors that contribute to this condition include sitting in a hunched position, cradling the phone between the ear and shoulder, straining to view the computer screen at an awkward angle, or using an improperly adjusted chair or desk. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa)

The symptoms of “office worker's torticollis” may include neck pain, stiffness, muscle spasms, limited range of motion, headaches, and sometimes referred pain into the shoulders and arms. It is important to note that other underlying conditions, such as cervical disc herniation or degenerative disc disease, can also cause similar symptoms, so a proper diagnosis from a healthcare professional is necessary. (Wilson, 2002) (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa)

Preventing and managing acquired spasmodic torticollis or cervical dystonia involves adopting ergonomic practices and making adjustments to your work environment. This includes maintaining proper posture, using an adjustable chair and desk, positioning the computer screen at eye level, taking regular breaks to stretch and move around, and practising neck and shoulder exercises to strengthen the muscles. It's important to note that while these factors may contribute to acquired spasmodic torticollis in office workers, the condition itself is not considered common. (Wilson, 2002) Acquired spasmodic torticollis tends to be more prevalent in individuals who engage in activities or occupations that involve repetitive or sustained neck movements, such as athletes, musicians, or individuals involved in certain professions. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa) However, any individual, including office workers, may be susceptible to developing torticollis due to these various factors.

<u>Overview of contributing factors</u>

Poor Ergonomics: Prolonged periods of sitting in a desk chair that is poorly designed or not properly adjusted can lead to postural imbalances. Slouching or

maintaining an awkward head and neck position while working can strain the neck muscles, potentially resulting in acquired torticollis. (Wilson, 2002)

Repetitive Movements: Engaging in repetitive tasks or movements, such as typing on a keyboard or using a mouse for extended periods, can strain the neck muscles and lead to muscular imbalances. The continuous stress on the muscles, tendons, and ligaments in the neck can contribute as well. (Wilson, 2002)

Poor Posture: Maintaining improper posture, such as forward head posture or rounded shoulders, places excessive stress on the muscles and structures of the neck.(Wilson, 2002) Over time, this can lead to muscle imbalances and contribute to the development of cervical dystonia.(Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa)

Stress and Tension: High levels of stress and tension commonly experienced in office environments can cause muscle tension and tightness in the neck and shoulders. Prolonged stress can contribute to the development of acquired torticollis or exacerbate existing symptoms. (DiGiovanna, Schiowitz, Dowling)

The research on the effectiveness of holistic osteopathic medicine, specifically in relation to acquired spasmodic torticollis, is limited. While there is evidence to support the use of certain osteopathic techniques in the management of musculoskeletal conditions, including torticollis, the specific application of holistic osteopathy for torticollis has not been extensively studied. Treatment for torticollis and specifically acquired spasmodic torticollis, or cervical dystonia, depends on the underlying cause and severity of the condition. It may involve therapy exercises to stretch and strengthen the neck muscles, pain medication, muscle relaxants, and in some cases, surgery. (Rattray, Fiona S., Ludwig, Linda M.)

Osteopathy

Holistic osteopathic medicine is an approach to healthcare that focuses on the whole person, considering the interplay of physical, mental, and emotional factors in achieving optimal health. Osteopathic medicine emphasises the body's ability to heal itself and places importance on the musculoskeletal system's role in overall health. (Still, Andrew T)

Holistic osteopathic medicine traces its roots back to the development of osteopathic medicine itself. Osteopathic medicine was founded in the late 19th century by Dr. Andrew Taylor Still, an American physician. Dr. Still believed in a holistic approach to healthcare and challenged the prevailing medical practices of his time. He developed the principles of osteopathy, emphasising the body's inherent ability to heal itself and the importance of the musculoskeletal system in maintaining health. Dr. Still's philosophy laid the foundation for osteopathic medicine, which later expanded to include a holistic perspective.(Still, Andrew T)

The holistic approach in osteopathic medicine gained further prominence through the contributions of Dr. William Garner Sutherland. In the early 20th century, Dr. Sutherland

developed the field of cranial osteopathy, which focused on the subtle movements and rhythms of the bones in the skull. He believed that these cranial rhythms were integral to overall health and well-being. Cranial osteopathy is a key aspect of holistic osteopathic medicine, as it recognizes the interconnectedness of the body and the impact of subtle movements on health.

Over the years, holistic osteopathic medicine has continued to evolve and integrate various modalities. It incorporates not only osteopathic manipulative treatment (OMT) techniques, but also other holistic practices such as nutrition, stress management, and lifestyle modifications. Holistic osteopathic physicians recognize the importance of addressing physical, mental, emotional, and environmental factors in the pursuit of optimal health and well-being. This approach acknowledges the interplay between different aspects of a person's life and aims to promote balance and wellness in all areas.(Still, Andrew T)

Today, holistic osteopathic medicine is practised by osteopaths who have completed rigorous training, including studies at an osteopathic school and required clinical hours. These healthcare professionals are trained to diagnose, treat, and prevent illness or injury using a whole-person approach. They focus on understanding the unique needs of each individual and develop personalised treatment plans that encompass the physical, mental, emotional, and environmental aspects of health. Holistic osteopathy continues to grow in popularity as more individuals seek comprehensive and integrative approaches to healthcare.

Part of the hands-on education is specialised training in osteopathic manipulative treatment (OMT). OMT involves hands-on techniques such as stretching, gentle pressure, and resistance to address structural imbalances, improve mobility, and promote healing. (DiGiovanna, Schiowitz, Dowling)

In the context of holistic osteopathic medicine, an osteopath may employ a comprehensive approach to evaluate and manage cervical dystonia or acquired spasmodic torticollis. This could involve a thorough examination to identify the underlying causes, including any musculoskeletal imbalances or dysfunctions contributing to the condition. Treatment may incorporate osteopathic manipulative techniques, exercises, postural education, and other modalities to address the specific needs of the individual.(DiGiovanna, Schiowitz, Dowling)

A holistic osteopath may use various techniques to help with torticollis, depending on the individual's specific needs and the underlying causes of the condition.

Osteopathic Manipulative Treatment (OMT): Osteopathic Manipulative Treatment

Osteopathic Manipulative Treatment (OMT) is a hands-on manipulation of the musculoskeletal system to address imbalances, improve mobility, and promote healing. This approach is used by osteopathic physicians to diagnose, treat, and prevent illness or injury. OMT techniques involve gentle manipulation, stretching, and pressure applied to the body's musculoskeletal system, including the muscles, joints, ligaments, and tissues. The goal of OMT is to restore balance, improve mobility, relieve pain, and enhance the body's natural healing abilities.(DiGiovanna, Schiowitz, Dowling)

Specific OMT techniques that may be used for torticollis include:

Muscle Relaxation and Pain Relief: OMT techniques can help relax the tight or spasmodic muscles. These techniques can involve gentle manipulation, stretching, and soft tissue techniques that aim to relax the tight muscles, release tension, reduce muscle spasms and improve blood circulation to the affected area. By releasing tension and reducing pain, OMT can improve the overall comfort and mobility of the affected muscles. OMT techniques, such as soft tissue manipulation and myofascial release, can help alleviate pain by reducing muscle tension, improving circulation, and releasing endorphins, the body's natural pain-relieving chemicals.

Cranial Bone Alignment: The cranial bones, including the skull, have intricate connections and can affect the overall alignment and movement of the head and neck. Cranial osteopathy techniques aim to optimise the alignment of these bones, potentially alleviating tension and strain on the neck muscles.(Stone, 1988)

Regulation of the Nervous System: OMT and specifically cranial osteopathy is believed to have an impact on the autonomic nervous system, which controls involuntary bodily functions. By influencing the nervous system, cranial osteopathy may help restore balance and enhance the body's self-regulating mechanisms, potentially benefiting individuals suffering from acquired spasmodic torticollis. (Stone, 1988)

Restoring Joint Mobility: OMT can target the joints in the neck and upper back to improve their mobility and alignment. Restricted joint movement in the cervical spine can contribute to the abnormal positioning seen in torticollis. OMT techniques aim to alleviate joint restrictions, allowing for more natural movement and reducing the strain on surrounding muscles.(Stone, 1988)

Improved Range of Motion: OMT aims to restore proper alignment and mobility to the affected neck and surrounding areas. Through gentle stretching, mobilisation, and manipulation, OMT can help increase the range of motion of the neck, reducing stiffness and allowing for more comfortable movement.(Stone, 1988)

Addressing Underlying Structural Imbalances: OMT considers the entire musculoskeletal system, not just the localised symptoms. An osteopathic physician will assess the alignment, posture, and movement of the entire body to identify any contributing factors to torticollis. By addressing underlying structural imbalances, OMT can help alleviate strain on the neck muscles and promote long-term relief. (DiGiovanna, Schiowitz, Dowling)

Enhancing Blood Flow and Lymphatic Drainage: OMT techniques can promote improved circulation and lymphatic drainage in the affected area. By enhancing blood flow and reducing tissue congestion, OMT may help in reducing inflammation and promoting the healing process.(DiGiovanna, Schiowitz, Dowling)

Postural Correction and Alignment: OMT can address postural imbalances and alignment issues that may contribute to torticollis. By assessing the patient's posture and

making specific adjustments, OMT aims to restore a more neutral and balanced position of the head, neck, and spine. (DiGiovanna, Schiowitz, Dowling)

Whole-Body Approach: Cranial osteopathy is often practised with a holistic perspective, considering the interplay between different body systems. Osteopathic practitioners may assess not only the cranial region but also the spine, sacrum, and other parts of the body to identify and address any underlying factors contributing to torticollis.

Lifestyle and Nutritional Recommendations: Holistic osteopaths often consider the overall health and well-being of an individual. They may provide recommendations regarding lifestyle modifications, such as ergonomics, stress management, and nutrition, to support the body's healing process and optimise overall health. (DiGiovanna, Schiowitz, Dowling)

How Can Osteopathic Medicine Aid in Recovery from Acquired Spasmodic Torticollis?

Holistic osteopathic medicine emphasises a comprehensive approach to healthcare, considering the interconnectedness of various factors, including physical, mental, emotional, and environmental aspects. This approach aims to promote overall well-being and address the underlying causes of health conditions.

However, when it comes to the specific treatment of torticollis, and specifically acquired spasmodic torticollis, the available research primarily focuses on conventional medical interventions such as physical therapy, medication, and surgical options. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa)

Osteopath practitioners would perform a comprehensive evaluation to assess the individual's overall musculoskeletal health. They consider factors such as postural imbalances, spinal alignment, and associated areas of dysfunction. By identifying and addressing these underlying factors, OMT aims to correct the imbalances that may be contributing to acquired spasmodic torticollis. This comprehensive approach helps to restore balance and optimise the functioning of the musculoskeletal system, leading to possible improved outcomes for individuals with torticollis. In addition to the physical benefits, OMT can provide a holistic approach to the management of torticollis. (Still, 1902)

Osteopaths would take into account the interconnectedness of the body, considering not only the physical symptoms but also the impact of emotional and environmental factors. OMT techniques, combined with patient education and lifestyle modifications, can support overall wellness and enhance the body's self-healing abilities. By providing personalised care and addressing the individual's unique needs, OMT helps individuals with torticollis to achieve long-term relief and improve their overall quality of life.(Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa)

Osteopathic manipulative treatment (OMT), which is a component of osteopathic medicine, has shown some promise in managing torticollis by addressing the musculoskeletal

imbalances associated with the condition. Through gentle and non-invasive manipulations, such as soft tissue techniques and myofascial release, OMT aims to alleviate muscle tension, improve range of motion, and promote proper alignment. By addressing these physical aspects, holistic osteopathy may contribute to the recovery of acquired spasmodic torticollis by restoring normal muscle function and reducing pain and discomfort and may help in the management of symptoms as well as possible recovery and return to daily living. (DiGiovanna, Schiowitz, Dowling)

OMT can play a possible beneficial role in addressing the musculoskeletal imbalances associated with torticollis. Through a variety of hands-on techniques, such as soft tissue manipulation, myofascial release, and muscle energy techniques, OMT aims to improve the mobility and alignment of the affected neck muscles and surrounding structures. These techniques help to reduce muscle tension, release tightness, and restore normal function. OMT may help alleviate pain and discomfort, improve range of motion, and promote healing in individuals with torticollis. OMT may also help address the underlying causes contributing to torticollis. (DiGiovanna, Schiowitz, Dowling)

It's important to note that the effectiveness of OMT for torticollis may vary among individuals and results can vary from practitioner to practitioner. OMT is typically tailored to the patient's unique needs and may involve a combination of different techniques.

Holistic osteopathy recognizes the importance of the mind-body connection in the healing process. Stress and emotional factors can impact muscle tension and overall well-being, potentially influencing torticollis symptoms. Holistic osteopaths may incorporate stress management techniques, relaxation exercises, and patient education on lifestyle modifications to support emotional well-being and reduce stress levels. By addressing the emotional and mental aspects alongside the physical aspects, holistic osteopathy aims to promote a holistic recovery from torticollis.

Again, while there is limited research specifically focusing on the effectiveness of holistic osteopathy in torticollis recovery, anecdotal evidence and individual case reports suggest potential benefits. Holistic osteopathy can offer a comprehensive approach to the treatment of acquired spasmodic torticollis by considering the interconnectedness of various aspects of health. In addition to addressing the physical symptoms, holistic osteopathy takes into account the mental, emotional, and environmental factors that may contribute to the condition. By addressing the underlying causes and providing a holistic treatment plan, including physical manipulations, lifestyle modifications, and stress management techniques, holistic osteopathy aims to promote healing and overall wellness in individuals with torticollis. (Wilson, 2002)

However, it is important to note that each individual's response to treatment may vary, and more research is needed to establish the efficacy of holistic osteopathy in the context of torticollis. Consulting with a qualified holistic osteopath who can evaluate this specific condition, provide personalised guidance and monitor progress through a time balanced and whole treatment plan is recommended for a comprehensive and tailored approach to acquired spasmodic torticollis recovery.

Studies

Analysis of two case studies regarding Osteopathy and Cervical Dystonia or Acquired Spasmodic Torticollis

In the case study of " The effects of osteopathic manipulative treatment on pain and disability in patients with chronic neck pain: A single-blinded randomised controlled trial" (Jacek Cholewicki PhD, John M. Popovich Jr PT, DPT, ATC, PhD, N. Peter Reeves PhD, Lisa A. DeStefano DO, Jacob J. Rowan DO, Timothy J. Francisco DO, Lawrence L. Prokop DO, Mathew A. Zatkin DO, Angela S. Lee MPH, Alla Sikorskii PhD, Pramod K. Pathak PhD, Jongeun Choi PhD, Clark J. Radcliffe PhD, Ahmed Ramadan PhD, October 2021 National Center for Complementary and Integrative Health, Number: U19AT006057.) The study reviewed ninety-seven (97) participants for whom 70% of them had experienced neck pain during their lifetime. This study specifically evaluated the efficacy of osteopathic manipulative treatment (OMT) in chronic neck pain.

With an objective of reducing pain in patients the single-blinded, cross-over, randomised-controlled study found that OMT is relatively safe and effective in reducing pain and disability along with improving sleep, fatigue, and depression in patients with chronic NP immediately following treatment delivered over approximately 4 to 6 weeks.

This University-based, osteopathic manipulative medicine outpatient clinic consisted of ninety-seven (97) participants, 21 to 65 years of age, with chronic, nonspecific neck pain. Participants were randomised to two trial arms: immediate OMT intervention or waiting period first. The intervention consisted of three to four OMT sessions over four (4) to six (6) weeks, after which the participants switched groups. (Jacek Cholewicki PhD, John M. Popovich Jr PT, DPT, ATC, PhD, N. Peter Reeves PhD, Lisa A. DeStefano DO, Jacob J. Rowan DO, Timothy J. Francisco DO, Lawrence L. Prokop DO, Mathew A. Zatkin DO, Angela S. Lee MPH, Alla Sikorskii PhD, Pramod K. Pathak PhD, Jongeun Choi PhD, Clark J. Radcliffe PhD, Ahmed Ramadan PhD, October 2021 National Center for Complementary and Integrative Health, Number: U19AT006057.)

Outcome Measures found during this trial were as follows:

Primary outcome measures were pain intensity (average and current) on the numerical rating scale and Neck Disability Index.

Secondary outcomes included Patient-Reported Outcomes Measurement Information System-29 (PROMIS-29) health domains and Fear Avoidance Beliefs Questionnaire. Outcomes obtained prior to the cross-over allocation were evaluated using general linear models and after adjusting for baseline values. (Jacek Cholewicki PhD, John M. Popovich Jr PT, DPT, ATC, PhD, N. Peter Reeves PhD, Lisa A. DeStefano DO, Jacob J. Rowan DO, Timothy J. Francisco DO, Lawrence L. Prokop DO, Mathew A. Zatkin DO, Angela S. Lee MPH, Alla Sikorskii PhD, Pramod K. Pathak PhD, Jongeun Choi PhD, Clark J. Radcliffe PhD, Ahmed Ramadan PhD,

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The overall results of this university based trial were that a total of thirty-right (38) and thirty-seven (37) participants were available for the analysis in the OMT and waiting period groups, respectively. The results showed significantly better primary outcomes in the immediate OMT group for reductions in average pain (−1.02, 95% confidence interval [CI] −1.72, −0.32; p = .005), current pain (−1.02, 95% CI −1.75, −0.30; p = .006), disability (−5.30%, 95% CI −9.2%, −1.3%; p = .010) and improved secondary outcomes (PROMIS) related to sleep (−3.25, 95% CI −6.95, −1.54; p = .003), fatigue (−3.26, 95% CI −6.04, −0.48; p = .022), and depression (−2.59, 95% CI −4.73, −0.45; p = .018). The effect sizes were in the clinically meaningful range between 0.5 and 1 standard deviation. No study-related serious adverse events were reported. (Jacek Cholewicki PhD, John M. Popovich Jr PT, DPT, ATC, PhD, N. Peter Reeves PhD, Lisa A. DeStefano DO, Jacob J. Rowan DO, Timothy J. Francisco DO, Lawrence L. Prokop DO, Mathew A. Zatkin DO, Angela S. Lee MPH, Alla Sikorskii PhD, Pramod K. Pathak PhD, Jongeun Choi PhD, Clark J. Radcliffe PhD, Ahmed Ramadan PhD, October 2021 National Center for Complementary and Integrative Health, Number: U19AT006057.)

Conclusions found were that OMT and osteopathic treatment is relatively safe and effective in reducing pain and disability along with improving sleep, fatigue, and depression in patients with chronic neck pain immediately following treatment delivered over approximately four (4) to six (6) weeks. (Jacek Cholewicki PhD, John M. Popovich Jr PT, DPT, ATC, PhD, N. Peter Reeves PhD, Lisa A. DeStefano DO, Jacob J. Rowan DO, Timothy J. Francisco DO, Lawrence L. Prokop DO, Mathew A. Zatkin DO, Angela S. Lee MPH, Alla Sikorskii PhD, Pramod K. Pathak PhD, Jongeun Choi PhD, Clark J. Radcliffe PhD, Ahmed Ramadan PhD, October 2021 National Center for Complementary and Integrative Health, Number: U19AT006057.)

In a second, more thorough trial, “Results of a feasibility randomised controlled trial of osteopathy on neck-shoulder pain in computer users”: Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507, the analysis of injuries related to computer-based tasks, like typing, was conducted. Several studies have stated the potentially harmful effects of regularly using a computer, proposing physiologic mechanics to develop pain over the neck-shoulder region. This type of problem is often defined as Trapezius Myalgia or Trapezius Muscle Strain and belongs to a broader classification of Work-related upper limb and neck disorders (WRULDs), which include acquired torticollis in computer users. Besides all the adverse effects on individual well-being and personal life, this pain also affects occupational efficiency, affecting productivity levels and causing absenteeism. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

WRULDs have a significant negative impact on the economy and prevention and management do not seem to be improving with current strategies. In a report on WRULDs by the European Agency for Safety and Health at Work; the main risks for the neck and shoulder regions include working in positions where part of the body need to be supported (as with elevated arms), prolonged work in static postures (working with a computer) and repeated lifting of the arm or turning head to the side (poor ergonomics). (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

It should be noted that in this study psychological factors have been identified as predisposing to developing neck pain. As an example, in cervical dystonia or acquired spasmodic torticollis, psychological distress and deficits in cognitive and social-cognitive function are distinct features. Psychological evaluation of the impact of work-related MSDs is, however, out of this work scope. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

Osteopaths are primary contact practitioners who typically manage their consultation timing and dedicate more time and interest to understand the potential causes of the presented problem, identifying predisposing and maintaining factors that may be crucial for the best outcome. It is part of their formal education, some knowledge of ergonomics, and an understanding of the uncertainties of occupational health challenges. The therapeutic modalities that are commonly used in osteopathic consultations have been found to be possibly effective in several clinical conditions. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

To the clinicians involved and the authors' of this study's knowledge, such an analysis has never been performed concerning the efficacy of osteopathic medicine in occupational contexts. This study investigated the feasibility of conducting a large-scale randomised control trial (RCT) to analyse the efficacy of an osteopathic consultation on neck-shoulder pain in computer users. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

The outcomes to assess feasibility included recruitment, adherence, acceptability, adverse events, outcome measures, and the logistics for multicenter trial and retention and all data collected was analysed regardless of result. This study also investigated whether Surface Electromyography (sEMG) is correlated with the pain-measuring tools and assessed its practicality as well as if correlated Pressure Pain Threshold (PPT), Numerical Rating Scale (NRS) and sEMG with demographic, occupational and body composition data. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

In this trial, thirty (30) adults, daily computer users reporting pain, were recruited. Data collection took place at LABIOMEP and participants were randomised into 1 of 3 parallel groups and received either osteopathic, sham or no treatment. Volunteers were blind to group

assignments with the primary objective to study the feasibility and acceptability of the protocol.(Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

Of the seventy-seven (77) participants interested, 30 were included and randomised into three groups of ten. All participants concluded the study, and all the data was analysed. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

The conclusion of this study was that the efficacy of osteopathic consultation on computer users by conducting a randomised control trial (RCT) is feasible and safe and that after the osteopathic consultation, the reported intensity of pain, measured by both PPT and NRS, was significantly reduced compared with sham-osteopathic treatment and usual care. (Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

There were no significant results regarding correlations between the measurement tools and demographic (sex, age), occupational and body composition variables (skeletal muscle mass, body fat mass, body mass index).(Rui José Santiago, Jorge Eduardo Esteves, João Santos Baptista, André Magalhães, José Torres Costa; https://doi.org/10.1016/j.ctcp.2021.101507)

Conclusion

While there is anecdotal evidence and individual case reports suggesting that holistic osteopathic medicine may be beneficial in treating torticollis, specifically acquired spasmodic torticollis or cervical dystonia, it is important to recognize that further research is needed to establish its efficacy and compare it to other treatment modalities. Holistic osteopathy may offer potential benefits for acquired spasmodic torticollis recovery by taking a comprehensive approach to addressing the underlying causes and promoting overall well-being.

By considering the interconnectedness of various factors, including physical, mental, emotional, and environmental aspects, holistic osteopathy aims to support the body's natural healing processes. This comprehensive approach may involve a combination of osteopathic manipulative treatment (OMT), lifestyle modifications, stress management techniques, and patient education and may present an alternate resolution for recovery and return to activities of daily living in regards to acquired spasmodic torticollis or cervical dystonia.

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