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RETROSPECTIVE SURVEY

The use of CranioSacral therapy for Autism Spectrum Disorders: Benefits from the viewpoints of parents, clients, and therapists

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Abstract *Objectives:* The objectives of this preliminary study were to explore: the use of CranioSacral Therapy for persons with Autism Spectrum Disorder, the demographics of participants, and the retrospective interpretation of reported changes related to the intervention. Participants included therapists, parents, and clients.
Methods: Recruitment of participants was conducted through electronic social and professional networks. Online questionnaire surveys were provided. Demographic questions were posed to understand both the extent of clinical use and the rationales for such treatment, and surveys were unique to each subject groups. All participants were given a 20-item functional behavior checklist as a means to measure their perception of change attributed to this intervention. Open-ended comments were also encouraged to explore perspectives from their experiential treatments. The Qualitative data collected was analyzed via Inductive Content Analysis. The data was stored on excel and analyzed manually and independently by all 3 authors.
Results: A total of 405 people responded to the recruitments and of the participants who completed surveys, 264 were therapists and 124 parents. Only a small sampling of clients responded. The demographics of professionals using CST for ASD, their level of CST training, and their qualifications to work with ASD were reflected. Demographics and referral sources of parents, and other details of their experiences, were surveyed. Perceived changes to the use of

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CST were explored through analysis of responses to both the Likert scale as well as the open comments.
Conclusions: This preliminary study introduces the concept of CranioSacral Therapy as a treatment option for symptoms associated with ASD. Its clinical use has been available for three decades but few empirical studies exist. The results of the survey suggest that CST is already being professionally recommended as a treatment. This study found that there were positive responses observed by all 3 targeted groups leading to the authors concluding that there is worthy cause to further investigate how CST benefits Autism Spectrum Disorders (ASD).

Introduction

There is a wide array of treatments with differing professional viewpoints available for Autism Spectrum Disorders (ASD) (Murphy and Pichichero, 2002; Prizant et al., 2003; NIH, 2015; CDC.gov, 2016). Craniosacral Therapy (CST) is one treatment option for the symptoms of ASD first introduced by Upledger in the 1970s following extensive research of the meningeal fascia system (Upledger and Vredevoogd, 1983; Upledger, 1990). Hospitalized children with severe autism formed part of Upledger's initial treatment group in which CST methods were trialed (Upledger, 1978, 1990). Through many years of clinical experience treating ASD, plus a research project involving 26 subjects, Upledger showed that with regular CST treatments these children showed a reduction or total cessation of self-abusive or self-destructive behaviors, began to express affection, and improved in social behaviors spontaneously (Upledger, 1978, 1990). Upledger carried out a further pilot study comparing CST (meningeal) tissue assessment findings in blind comparison to Rimland's autism diagnostic rating scale on 63 children (Rimland, 1968). Findings suggested the more classic and severe the autism behavioral symptoms, the more profoundly the meningeal tissue restrictions of the craniosacral system presented (Upledger, 1978, 1990).

Cranial therapies date back to the nineteenth century originating in A.T. Still's philosophy of osteopathic medicine (Ward, 2003). W.G. Sutherland expanded Still's work in the 1920's into what is now known as Cranial Osteopathy (Bordoni and Zanier, 2015). Cranial Osteopathy suggests that the placement and flexibility of cranial bones and sutures may be etiological factors in the evolution of dysfunction (Upledger, 1990; Bordoni and Zanier, 2015; Sills and Kern, 2011; Milne, 1995; Upledger, 1995). Upledger was a student of Cranial Osteopathy in the late 1960's. Upledger and his research team went on to describe what is now referred to as the craniosacral system (Upledger and Vredevoogd, 1983; Giaquinto-Wahl, 2009; Shea, 2007; Upledger, 2003). This system attempts to describe the role of the meningeal layers and the cerebral spinal fluid, as well as the physiological phenomenon believed to be a semi-closed hydraulic mechanism within the confines of the skeletal structures (Upledger and Vredevoogd, 1983; Downey et al., 2006).

'CranioSacral Therapy' (CST), was created to directly treat this system of fascia and fluids. CST embodies the essential concepts of Still and Sutherland but it has since evolved into a more holistic therapy encompassing body work aimed at assisting the body's self-regulating capabilities. The premise of the Upledger CST training begins with a basic gentle, non-invasive treatment protocol (The 10-Step Protocol) that is harmless to the client if performed as instructed (Upledger and Vredevoogd, 1983; Upledger, 1995; Giaquinto-Wahl, 2009). This protocol is the foundation of clinical competence in the work and is prerequisite for technique certification in CST. More qualified and experienced practitioners however evolve their CST skills into improvisation interventions during each unique therapy session (Upledger, 1990; Giaquinto-Wahl, 2009). The objective of the 10 step protocol is to gently mobilize restricted connective and meningeal tissues by following a progression that aims to identify structural restrictions. In doing so the therapist becomes familiar with the various tensions, vibrations, and natural rhythms of the client's body. The craniosacral rhythm is one such feature which has been suggested to exist by visual inspection in neuro-surgical encounters (Upledger, 1995, 2003). This rhythm is a reverberation of the normal inflation and deflation of the brain and spinal cord, which is presumed to reflect the production, movement and reabsorption of cerebral spinal fluid (Upledger and Vredevoogd, 1983, 1990; Podlas et al., 1984; Rennels et al., 1985; Greitz et al., 1993). The quality of this bodily rhythm is one guide for the therapist to determine where restrictions may exist (Upledger and Vredevoogd, 1983; Upledger, 1995; Shea, 2007). It has been suggested that a multitude of symptoms could occur when the free movement of cerebral spinal fluid is impeded, hypothetically including neurobehavioral dysfunction (Upledger, 1990; Whedon and Glassey, 2009; Bradstreet et al., 2014; Rossignol et al., 2014). A clinical account of diseases of abnormal CSF flow dynamics such as hydrocephalus, syringomyelia, and other conditions surveyed through medical imaging modalities used to observe intracranial dynamics in vivo have been used as predictive models of CSF dynamics. (Linninger et al., 2016). Fluid models of the physiology of the central nervous system as well as studies on the effects of gentle sustained stretch on tissues provide theoretical foundation to justify such manual techniques as CST (Moskalenko et al., 2001; Chikly, 2005; Downey et al., 2006).

Cerebral inflammation and Autism Spectrum Disorders

Post-mortem studies of brain tissue lend supportive evidence of neuro-inflammation as pathogenesis specifical to

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