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SELF-EFFICACY STUDY

A pragmatic investigation into the effects of massage therapy on the self efficacy of multiple sclerosis clients

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Summary *Objective:* This research was conducted to examine changes in self self-efficacy, (the perception/belief that one can competently cope with a challenging situation) in multiple sclerosis clients following a series of massage therapy treatments.
Method: This small practical trial investigated the effects of a pragmatic treatment protocol using a prospective randomized pretest posttest waitlist control design. Self-Efficacy scores were obtained before the first treatment, mid-treatment series, after the last treatment in the series, four weeks after the final treatment and again eight weeks after the final treatment had been received.
Intervention: The intervention involved a series of weekly one hour therapeutic massage treatments conducted over eight weeks and a subsequent eight week follow up period. All treatments were delivered by supervised student therapists in the final term of their two year massage therapy program.
Outcome measures: Self-Efficacy [SE] was the outcome for the study, measured using the Multiple Sclerosis Self-Efficacy survey [MSSE]. Descriptive statistics for SE scores were assessed and inferential analysis involved the testing of between group differences at each of the measurement points noted above.
Results: Statistically significant improvement in self-efficacy was noted between treatment ($n = 8$) and control ($n = 7$) groups at mid treatment series ($t = 2.32$; $p < 0.02$), post treatment series ($t = 1.81$; $p < 0.05$) and at four week follow up ($t = 2.24$; $p < 0.02$). At the eight week follow up self-efficacy scores had decreased and there was no statistically significant difference between groups ($t = 0.87$; $p < 0.2$).
Conclusion: Study results support previous findings indicating that massage therapy increases the self-efficacy of clients with multiple sclerosis, potentially resulting in a better overall adjustment to the

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disease and an improvement in psycho-emotional state. The increase in self-efficacy after 4 weeks of treatment suggests that positive response occurs more rapidly that was previously demonstrated. The improvement in self-efficacy endured 4 weeks after the end of the treatment series, which suggests that massage therapy may have longer term effects on self-efficacy that were not previously noted. Lack of inter group difference at the eight week follow up reinforces the notion that on-going treatment is required in order to maintain the positive changes observed.

Introduction

Multiple sclerosis [MS] is one of the most common neurological causes of disability, and is described as a chronic and progressively disabling inflammatory autoimmune disorder of the central nervous system (Al-Afasy et al., 2013). The pathogenesis of MS is related to genetic susceptibility and environmental factors. Sex linked influences are also involved as incidence is greater in females than males, but it is interesting to note that despite this, women do not have a poorer prognosis than men (Voskuhl and Gold, 2012). Onset is usually, although not exclusively, in the fourth decade; the male to female ratio being in the region of 1:1.5 (Allen and Lueck, 1999) or 1:2 (Noseworthy et al., 2000) depending on the country in question. This being said, there are recent studies indicating an increase in the incidence of MS in women resulting from urbanization (Kotzamani et al., 2012), and an increasing sex ratio in Relapse-Remitting MS, evident over a sixty year period (Trojano et al., 2012).

From a global perspective, the prevalence of multiple sclerosis varies considerably (Weinshenker and Rodriguez, 1994), and recent work by Evans et al. (2013) reinforces this as it relates to the Americas. Different areas of the world have been classified as being low (less than 5 cases per 100,000), intermediate (5—30 cases per 100,000) or high (more than 30 cases per 100,000) prevalence zones (Kurtzke, 1991). The reason for the world wide variability in incidence and prevalence of MS is not well understood (Noseworthy et al., 2000), but it is clear that the rates are highest in Northern Europe, Southern Australia and North America.

MS can be categorized in a number of different ways, each associated with a different pattern of disease progression. These are termed Relapse—Remitting, Chronic Progressive, Secondary Progressive, Progressive Relapsing, and Fulminant [also known as the Marbug variant] (MS Society of Canada, 2013; MedicineNet, 2013; Allen and Lueck, 1999). With the exception of the Marburg variant, massage therapists encounter clients within all of these categories. As the clinical presentation is related to the anatomical site of demylination and axonal loss, the treatment requirements of a multiple sclerosis population are highly variable. The plethora of impairments most relevant to the massage therapist include fatigue, spasticity, rigidity, weakness, tremors, proprioreceptive deficit, inefficient movement patterns, altered posture, compensatory musculoskeletal changes, sensory changes, emotional changes and cognitive deficits. Bladder and bowel dysfunction, speech disturbances, vertigo and visual problems also form an important part of the clinical picture (Rattray and Ludwig, 2000).

At Sutherland-Chan School and Teaching Clinic, second year students are required to take a number of clinical specialty rotations, which include an MS clinic option. Historically, it has been the school's experience that massage therapists are uniquely placed to address many of the problems mentioned above, and to meaningfully contribute to the well being of clients with multiple sclerosis.

The MS specialty clinic is busy, which is to be expected given reports that 57.1% of the multiple sclerosis population use Complimentary and Alternative Medical/Health therapies in general, and more specifically, that 23.3% access massage therapy as a treatment option (Nayak et al., 2003).

Although there has been a recent, and much needed, increase in massage therapy research in general, a literature search revealed only a small number of studies where the work focused on multiple sclerosis specifically. Hernandez-Reif et al. (1998) demonstrated significantly improved social lifestyle and functional activity status, and also noted lower levels of anxiety and depression in subjects receiving massage therapy. The effect of massage therapy in clients with MS was also investigated by Dixon (2004), who concluded that treatment positively affected certain symptoms related to both physical and psycho-emotional domains, while Finch and Becker (2007) in preliminary work investigating changes in self-efficacy in MS patients receiving massage therapy, found significant improvement after an 8 week series of treatments.

These results are aligned with the findings of a number of authors who investigated other forms of bodywork. Johnson et al. (1999) demonstrated lower stress and anxiety levels in subjects receiving treatment using the Feldenkrais method, and Siev-Ner et al. (2003) found that reflexology reduced paresthesias, spasticity and urinary symptoms associated with MS.

In addition to the outcomes noted above, self-efficacy has been found to be a predictor of health status (Riazi et al., 2004), and the concept is implicitly linked to psycho-emotional morbidity. Notably, a negative perception of control [a key component of self-efficacy] has been associated with both decreased optimism and increased hopelessness (Sinnakaruppan et al., 2010).

These findings collectively suggest that massage therapy has the potential to positively influence the life of clients with multiple sclerosis, and it was with the intent of contributing to this body of knowledge that the present research was conducted.

Research aims and hypothesis

The aim of the study was to examine changes in the self-efficacy of multiple sclerosis clients following massage