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The Effects of Cervical Spine Manipulation on Phonation in Patients with Muscle Tension Dysphonia

Maris, Robin Mark

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Abstract

Background: Muscle Tension Dysphonia is a debilitating condition that affects people throughout the world. It is characterised by decreased or complete loss of voice, partially caused by altered position or decreased movement of the larynx. The disorder negatively impacts the lives of those affected and inevitably leads to an increase in patient morbidity. Muscle tension dysphonia presents with various musculoskeletal symptoms and much success has been achieved in alleviating these symptoms through the use of various types of manual therapy. As yet there has been no research into the effects of cervical spine manipulation on patients with Muscle Tension Dysphonia but there is currently research available that indicates that spinal manipulation is effective in reducing muscle inhibition. The proposed study aims to show that cervical spine manipulation, through a decrease in inhibition of the paralaryngeal muscles, will result in normalisation of laryngeal position and movement thus improving phonation in patients with Muscle Tension Dysphonia.

Method: The main aim of the study is to ascertain the effects of cervical spine manipulation on phonation in patients suffering with Muscle Tension Dysphonia. The objectives will be to document and compare results of the experimental group and the comparison/control group and to determine whether the effects are permanent or temporary. The experimental group will be treated with laryngeal manipulative therapy and cervical spine manipulation and the comparison/control group will receive laryngeal manipulative therapy alone. A self-completing vocal tract discomfort scale and evaluation using the multidimensional voice program analysis (MDVP) will be completed pre and post treatment for data collection and repeated again one week later. All voice recordings will then be perceptually evaluated randomly using the GRBAS scale by blinded speech therapists. The proposed research will take the form of a quantitative

experimental design with purposive sampling. The sample for the study will include individuals that present to the Voice and Swallowing Centre located in Parktown in Johannesburg, South Africa that have been diagnosed with muscle tension dysphonia. The minimum number of participants will be 15 in the experimental group and 15 in the comparison/control group. The study will make use of research assistants and data gleaned from the vocal tract discomfort scale and the acoustic evaluation will be analysed using descriptive statistics.

Implications: It is expected that the results of this study will show that the combination of laryngeal manipulative therapy and cervical spine manipulation will lead to a greater improvement in phonation than with laryngeal manual therapy alone. This will hopefully lead to further investigation into the effects of cervical spine manipulation on patients with voice disorders and possibly incorporate this method of manual therapy into the existing multidisciplinary approach to treatment of muscle tension dysphonia.

Keywords: Muscle Tension Dysphonia; Laryngeal Manipulative Therapy; Circumlaryngeal Manual Therapy; Spinal Manipulation; Chiropractic adjustment; voice disorders; GRBAS scale; multi-dimensional voice program (MDVP) and laryngeal muscles.