



ELSEVIER

Original Articles

Efficacy of Manual and Manipulative Therapy in the Perception of Pain and Cervical Motion in Patients With Tension-Type Headache: A Randomized, Controlled Clinical Trial

Gemma V. Espí-López PhD, PT^{a,*}, Antonia Gómez-Conesa PhD, PT^b

^a Professor, Physiotherapy Department, University of Valencia, Spain

^b Professor, Physiotherapy Department, University of Murcia, Spain

Key indexing terms:

Spinal manipulation;
Musculoskeletal
manipulations;
Tension-type headache;
Rehabilitation;
Pain perception;
Range of motion

Abstract

Objective: The purpose of this study was to evaluate the efficacy of manipulative and manual therapy treatments with regard to pain perception and neck mobility in patients with tension-type headache.

Methods: A randomized clinical trial was conducted on 84 adults diagnosed with tension-type headache. Eighty-four subjects were enrolled in this study: 68 women and 16 men. Mean age was 39.76 years, ranging from 18 to 65 years. A total of 57.1% were diagnosed with chronic tension-type headache and 42.9% with tension-type headache. Participants were divided into 3 treatment groups (manual therapy, manipulative therapy, a combination of manual and manipulative therapy) and a control group. Four treatment sessions were administered during 4 weeks, with posttreatment assessment and follow-up at 1 month. Cervical ranges of motion, pain perception, and frequency and intensity of headaches were assessed.

Results: All 3 treatment groups showed significant improvements in the different dimensions of pain perception. Manual therapy and manipulative treatment improved some cervical ranges of motion. Headache frequency was reduced with manipulative treatment ($P < .008$). Combined treatment reported improvement after the treatment ($P < .000$) and at follow-up ($P < .002$). Pain intensity improved after the treatment and at follow-up with manipulative therapy ($P < .01$) and combined treatment ($P < .01$).

Conclusions: Both treatments, administered both separately and combined together, showed efficacy for patients with tension-type headache with regard to pain perception. As for cervical ranges of motion, treatments produced greater effect when separately administered.
© 2014 National University of Health Sciences.

* Corresponding author. Gemma V. Espí López, Physiotherapy Department, University of Valencia, Spain Gascó Oliag, 5, 46010 Valencia, Spain. Tel.: +34 (0)963983853; fax: +34 (0)963983852.

E-mail address: gemma.espi@uv.es (G. V. Espí-López).

Introduction

Tension-type headache (TTH) is the most prevalent type of the primary headache categorized by the International Headache Society,¹ and it is a health problem with great socioeconomic impact.^{2,3} Both episodic tension-type headache (ETTH) and chronic tension-type headache (CTTH) have important repercussions on the quality of life, affecting the working and social spheres, as well as the activities of daily living.⁴

As for the treatments administered, Lenssinck et al² carried out a systematic review to assess the effectiveness of physiotherapy and spinal manipulation in the treatment of TTH and showed that there was no conclusive evidence of its effectiveness. However, later studies showed that treatment with manual therapy techniques combined may be effective in reducing the frequency, intensity, and duration of headaches and has a positive influence on the quality of life, disability, and global range of motion.⁵⁻⁷

There is evidence of the presence of active trigger points in suboccipital muscles in subjects with CTTH compared with healthy subjects.⁸ There is also evidence of the connection between TTH and head-neck musculoskeletal disorders and of a higher intensity and frequency of pressure pain in trapezius muscles.⁹ Likewise, the variations in head position are connected with cervical mobility in TTH patients.¹⁰ It has been observed that central sensitization caused by prolonged periods of pain may lead to headache chronification.¹¹ Tension in suboccipital and neck muscles probably involves limitation of movement in the cervical region; and therefore, knowing the range of motion might be useful as a reference for the quality of neck muscles. The perception of pain and its different dimensions (ie, word descriptors for pain in headache) are aspects that should be assessed in patients with headache to better know the pain sensation experienced by the patient, as this can alter their quality of life.

The aim of this study was to evaluate the efficacy of the treatment with manual and manipulative therapy, administered separately and combined together, in patients with TTH through assessment of frequency, intensity, and perception of pain and cervical ranges of motion and, subsequently, to detect if changes after treatment are maintained at 1 month.

Methods

Four treatment sessions (1 session per week) were administered, with an interval of 7 days. Treatments

were carried out by 2 physiotherapists with more than 10 years of experience in the treatment of headache with manual therapy. Each session lasted for approximately 20 minutes.

This study was supervised and approved by the research committee of the University of Murcia. Informed consent of patients was obtained before treatment, and all procedures were conducted according to the Declaration of Helsinki.

Subjects

Eighty-four subjects were initially enrolled in this study; 68 of them were women (81%), and 16 were men (19%). Mean age was 39.76 years (SD 11.38), ranging from 18 to 65 years. A total of 57.1% were diagnosed with CTTH and 42.9% with ETTH. Patients were recruited from January 2010 to December 2010. This study was carried out in a private clinic in Valencia (Spain) that specialized in the physiotherapy treatment of headache. Inclusion and exclusion criteria are shown in Fig 1.

Study Design

The study was a 4×3 factorial, randomized, double-blinded, controlled trial. Allocation of patients to control and experimental groups was randomized using a computer-generated random sequence and was carried out by an assistant who was not informed about the treatments used and the objectives of the study and therefore was blinded to group assignment. The 2 physiotherapists provided the different treatments without knowing which group the patient formed part of. Because there were only 4 possible treatments, they could infer the treatment group; but this information was never provided to them by the researchers, and neither was the objective of the study nor the parameters that were being measured.

Subjects were divided into 4 groups: group 1 received *manual therapy* treatment, group 2 received *manipulative treatment*, group 3 received a *combination* of both treatments, and group 4 received *no treatment*. All patients were assessed in the same conditions before the treatment, after the treatment (at 4 weeks), and at follow-up (after 8 weeks).

According to the nQuery Advisor program that provides power and sample size calculations, the sample size required in each group, for an analysis of variance (ANOVA) with 1 intersubject factor, with 4 groups, and assuming a 5% significance level for a large effect, is 19 subjects. In case of potential dropouts,

Download English Version:

<https://daneshyari.com/en/article/2619964>

Download Persian Version:

<https://daneshyari.com/article/2619964>

[Daneshyari.com](https://daneshyari.com)