



ORIGINAL ARTICLE

Efficacy of manual therapy on anxiety and depression in patients with tension-type headache. A randomized controlled clinical trial



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KEYWORDS

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Abstract *Introduction:* Tension-type headache (TTH) is a highly prevalent disorder with a significant socio-economic impact. The purpose of this study was to test the efficacy of three manual therapy treatments for reducing TTH-related anxiety and depression.

Subjects and methods: A clinical trial was conducted on 84 participants diagnosed with tension-type headache forming 4 groups: the first group received suboccipital soft tissue treatment (ST); the second group was treated with articular techniques (AT); the third group underwent a combination of both techniques (ST and AT), while the fourth group was the control group. Treatment sessions were administered over four weeks, with post-treatment assessment, and follow-up at one month. We conducted repeated measures analysis of covariance (RM-MANCOVA) to evaluate the effect of treatment on between and within-subject conditions and their interaction on reported depression and anxiety.

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Results: All treatments resulted in a 'moderate' reduction of psychological symptoms associated with TTH (Cohen's $f = .31$ for anxiety trait; $f = .35$ for anxiety state and $f = .35$ for depression). However, their efficacy varied across treatments, TTH types and the elapsed time between measurements.

Conclusion: Treatments including an articulatory technique showed a greater efficacy than a soft tissue technique, or a combination of both, for the reduction of TTH-related anxiety and depression levels in these participants.

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Implications for practice

- Manual treatments in the suboccipital region contribute to reduce negative emotional states in TTH patients.
- The effect of these manual treatments varies according to the duration of a patient's TTH. We recommend adequate diagnosis of a TTH's chronicity.
- An articulatory treatment had the best overall results on negative emotional states, and thus we recommend its use.

Introduction

The International Headache Society (IHS) developed a classification for headache disorders and their characteristics,^{1,2} wherein tension-type headache (TTH) is the most common form of primary headache. TTH has a great socio-economic impact,^{3,4} negatively affecting people's quality of social and work life.⁵ A recent study exploring chronic tension-type headache (CTTH), reported that CTTH moderately affected working or social spheres in 60% of participants and seriously impaired these areas in 9% thereof; 37% suffered sleep disorders; 35% experienced changes in energy levels and 33% an alteration of emotional well-being.⁶

Some authors reported that participants suffering from TTH experience an increased tenderness in pericranial myofascial tissues and several trigger points (TrPs), which suggests that tension in the craniocervical muscles may be a possible physiological cause of TTH.⁷ Moreover, prior studies show physiotherapy and muscle relaxation therapies as effective treatments for such muscular tension.⁸ The muscle relaxation therapies include manual therapy as a non-invasive

alternative to medication-based treatments; spinal manipulation shows positive results in reducing headache frequency, duration and intensity.⁹ For example, manual therapy aimed at active TrPs of the sternocleidomastoid muscle is an effective technique to reduce cervicogenic headaches and to improve overall cervical movement.¹⁰ In addition, articulatory mobility (articulatory normalization) and muscular relaxation treatments, when applied to the craniocervical soft tissues and joints of the suboccipital region, not only improve TTH, as certain evidence suggests, but also reduce adverse TTH-related psychological states, such as anxiety and depression.¹¹

However, in view of the poor methodological quality of previous trials (e.g., single blind studies or no control group), a better understanding of the efficacy of these manual treatments is needed.¹² Spinal manipulations in previous studies were applied according to participants' joint mobility dysfunction; therefore, the manipulation level differed for each patient,¹³ which makes it impossible to establish if these techniques would render similar results if applied separately. Furthermore, while only one study combined treatment of the craniocervical region with other techniques (e.g., inhibition of soft tissues with muscle-energy techniques),¹⁴ we found no studies applying a joint manipulation in this region for TTH participants (e.g., combining suboccipital soft tissue treatment with other techniques). While a joint manipulation may have two advantages (e.g. increased muscular relaxation and balance between the suboccipital and pericranial regions), the efficacy of combined manual treatments on TTH frequency and intensity of pain, and in consequence on anxiety and depression, is unknown.

On the other hand, existing TTH literature is unclear in terms of the causal direction between TTH and depression and anxiety. Early studies considered anxiety and depression as psychogenic causes of TTH. For example, a study of 25 TTH participants reported that anxiety affected their headache

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