



## ORIGINAL ARTICLE

# Efficacy of manual therapy in the treatment of tension-type headache. A systematic review from 2000 to 2013<sup>☆</sup>



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### KEYWORDS

Tension-type headache;  
Physical therapy;  
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### Abstract

**Objectives:** To study the efficacy of manual therapy in the treatment of tension-type headache (TTH) by assessing the quality of randomised control trials (RCTs) published from the year 2000 to April 2013.

**Methods:** A search was performed in the following databases: MEDLINE, EBSCO, CINAHL, SCOPUS, PEDRO and OVID. An analysis was made of RCT including patients with TTH receiving any manual therapy, and assessing outcome measures including the intensity, and frequency or duration of the headache. Two independent referees reviewed the methodological quality of RCTs using the Jadad scale. Data from the studies were extracted by two different reviewers.

**Results:** A total of fourteen RCTs were selected. Twelve studies showed acceptable quality (Jadad scale  $\geq 3$ ), and the remaining 2 had low quality (Jadad = 2). The studies showed positive results, including reduction in headache intensity and/or frequency, reduction of medication consumption, and improvement in quality of life.

**Conclusions:** The effectiveness of manual therapy for TTH cannot be completely assessed due to the heterogeneity in study design, outcome measures, and different treatments. Nevertheless, the results suggest patients with TTH receiving manual therapies showed better progress than those receiving conventional treatment or placebo. Further studies of high quality using

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**PALABRAS CLAVE**

Cefalea tensional;  
Fisioterapia;  
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manual therapy protocols, and also including standardised outcome measures, are now needed to clarify the efficacy of manual therapy in the management of TTH.

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### Eficacia de la terapia manual en el tratamiento de la cefalea tensional. Una revisión sistemática desde el año 2000 hasta el 2013

#### Resumen

**Objetivos:** Estudiar la eficacia de la terapia manual en el tratamiento de la cefalea tensional (CT) valorando los estudios controlados aleatorizados (ECA) publicados desde el año 2000 hasta abril del 2013.

**Métodos:** Se realizó la búsqueda en las bases de datos MEDLINE, EBSCO, CINAHL, SCOPUS, PEDRO y OVID. Se incluyeron ECA que analizaran a pacientes con CT tratados con terapia manual y que recogiesen como variable de resultado la intensidad, frecuencia, duración del dolor de cabeza. La calidad metodológica fue valorada por 2 revisores independientes mediante la escala Jadad. Los datos de los ECA fueron extraídos por 2 revisores.

**Resultados:** Se seleccionaron 14 ECA. Doce de ellos se consideraron de calidad aceptable (Jadad  $\geq 3$ ) y 2 de baja (Jadad = 2). Los estudios mostraron resultados positivos obteniendo disminución de la intensidad y/o frecuencia de cefaleas, reducción del consumo de medicamentos y mejora de la calidad de vida en pacientes con CT.

**Conclusiones:** Debido a la heterogeneidad en diseños, instrumentos de medida y tratamientos de los estudios, no es posible obtener conclusiones definitivas sobre la eficacia de la terapia manual en pacientes con CT aunque se aprecien efectos beneficiosos. No obstante, el análisis de los estudios indica que, al recibir tratamiento con terapia manual, los pacientes con CT evolucionaron de forma más favorable respecto a aquellos que recibieron tratamiento habitual o un tratamiento placebo. Se requiere un mayor número de estudios con mayor calidad metodológica, así como mayor homogeneidad de los tratamientos y de los métodos de valoración de los resultados, para determinar la eficacia de la terapia manual en la CT.

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## Introduction

Tension-type headache (TTH) is considered a major public health problem by the World Health Organization due to its high prevalence and great socioeconomic impact.<sup>1,2</sup> The prevalence of TTH, which seems to be higher in Europe (80%) than in Asia or America (20%-30%), is estimated at approximately 40% globally.<sup>3</sup> It is more frequent among women (woman-to-man ratio 5:4) and peak prevalence occurs at ages 30 to 39.<sup>4</sup>

TTH is the most frequent type of primary headache; the International Headache Society further classifies it into infrequent episodic, frequent episodic, and chronic TTH.<sup>5</sup> According to the diagnostic criteria established by the International Headache Society, TTH is characterised by at least 10 episodes per year on less than 1 day per month on average, each lasting between 30 minutes and 7 days, and the pain should include at least 2 of the following characteristics: bilateral location, non-pulsating quality, mild to moderate intensity, and not aggravated by routine physical activity. In addition to the previously described symptoms, TTH does not present with nausea or vomiting; phonophobia or photophobia may occur in some cases but they do not present simultaneously during the same episode.<sup>5</sup>

Despite advances in the knowledge of TTH pathophysiology, its origin is not yet fully understood. For some

authors, peripheral nociceptive mechanisms seem to be the main cause of episodic TTH, whereas chronic TTH may be caused by central sensitisation.<sup>6,7</sup> Sohn et al.<sup>8</sup> found that patients with TTH presented greater sensitivity in pericranial tissues. Pericranial pain sensitivity, along with other exacerbating factors (stress, caffeine abuse, unhealthy eating habits, or sleep disorders) may lead to excitation of the central nervous system. Prolonged nociceptive stimulation of myofascial tissues may be the cause of progression from episodic TTH to chronic TTH.<sup>7,9,10</sup>

The hypothesis that myofascial tissue may be a source of nociception in TTH is based on numerous studies showing that referred pain originating in myofascial trigger points (MTP) reproduces headache in patients with TTH.<sup>11-15</sup> According to all these studies, MTP were associated with TTH and led to greater symptom severity (increased intensity, frequency, and/or duration).<sup>9-15</sup> Harden et al.<sup>16</sup> demonstrated that patients with TTH presenting more active MTP in the head and neck experienced greater pain intensity and frequency and were partially relieved by botulinum toxin injections into those MTP.

There is controversy regarding therapeutic management of patients with TTH, which can be either pharmacological or non-pharmacological. Patients with infrequent episodic TTH can be successfully treated with non-steroidal anti-inflammatory drugs, while those with frequent episodic or

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