Review Article

Role Of Energy Medicine In The Management Of Chronic Tension-Type Headache: A Case Study

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ABSTRACT

Chronic tension-type headache (CTTH) is a common primary headache disorder that adversely affects daily functioning and quality of life, and prolonged use of analgesics may lead to medication overuse and other adverse effects. This case report describes the therapeutic outcome of peppermint essential oil used as an Energy Medicine intervention in a 36-year-old male with CTTH who presented with recurrent bilateral, pressure-type headaches for more than one year, aggravated by occupational stress and prolonged screen exposure. The patient had a baseline Headache Impact Test (HIT-6) score of 64, indicating severe headache-related disability. Peppermint essential oil (Mentha piperita) was administered through inhalation therapy and topical application over the temporal region for eight weeks. Following the intervention, headache frequency decreased from daily episodes to one or two episodes per week, the HIT-6 score improved from 64 to 42, analgesic dependence was reduced, and the patient reported better relaxation and improved stress tolerance. No adverse effects were observed during the intervention period. These findings suggest that peppermint essential oil may serve as a safe, simple, and cost-effective complementary therapy for the supportive management of CTTH. However, larger controlled clinical studies are required to establish its efficacy and long-term therapeutic benefits.

Key words: Tension-Type Headache, Aromatherapy, Essential Oils, Complementary Therapies.

Chronic tension-type headache (CTTH) is one of the most common primary headache disorders. It is characterized by headache episodes occurring on more than 15 days per month for at least three months. The pain is typically bilateral, with a pressing or tightening quality, and is usually mild to moderate in intensity, without significant associated symptoms such as nausea or vomiting [1]. CTTH significantly affects daily activities, occupational performance, psychological well-being, and overall quality of life. The pathophysiology of CTTH is multifactorial and involves peripheral myofascial tenderness, central sensitization, emotional stress, and altered pain modulation mechanisms [1,2]. Psychological stress and prolonged screen exposure are common triggers that may increase the frequency and severity of headaches [2]. Conventional management includes analgesics, non-steroidal anti-inflammatory drugs, antidepressants, stress management, and lifestyle modification. However, long-term pharmacological therapy may result in medication-overuse headache, adverse drug reactions, and poor treatment adherence [1]. In recent years, complementary and alternative therapies have gained attention as supportive approaches for headache management [3]. Among these, aromatherapy with peppermint essential oil (Mentha piperita) has shown promising therapeutic potential because of its analgesic, anti-inflammatory, muscle-relaxant, and cooling properties [4,5]. Menthol, the principal bioactive constituent of peppermint oil, activates cold-sensitive transient receptor potential melastatin-8 (TRPM8) receptors and modulates nociceptive pathways, thereby contributing to pain relief [5].

Topical application and inhalation of peppermint oil have been reported to improve local circulation, reduce muscle tension, promote relaxation, and alleviate stress-related symptoms associated with tension-type headaches [4,6]. From an Energy Medicine perspective, these interventions may help restore physiological balance and support the body's natural healing processes. Because of its non-invasive nature,

Access this article online

Received – 12th July 2026

Initial Review – 13th July 2026

Accepted – 28th July 2026

Quick Response Code

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affordability, and minimal adverse effects, peppermint essential oil may be considered a useful complementary therapy for patients with CTTH. Therefore, this case report was conducted to evaluate the effectiveness of peppermint essential oil as an Energy Medicine intervention in reducing headache frequency, analgesic dependence, and headache-related disability in a patient with CTTH.

CASE PRESENTATION

A 36-year-old male bank manager presented to the Outpatient Department of the International Institute of Yoga and Naturopathy Medical Sciences, Chengalpattu, Tamil Nadu, India, with a history of recurrent bilateral headache persisting for more than one year. The headache was described as dull, pressing, and tightening in nature, predominantly affecting the frontal and temporal regions. The episodes occurred almost daily and were aggravated by occupational stress and prolonged computer screen exposure associated with his profession. The patient did not report associated symptoms such as nausea, vomiting, photophobia, phonophobia, aura, or visual disturbances. He reported frequent use of over-the-counter analgesics for symptomatic relief. The patient had no history of hypertension, diabetes mellitus, thyroid disorders, migraine, epilepsy, cerebrovascular disease, head injury, psychiatric illness, previous surgery, regular medication use, or any other chronic systemic disease. Magnetic resonance imaging (MRI) of the brain was performed before presentation and showed no evidence of intracranial pathology. There was no family history of migraine, chronic headache disorders, epilepsy, or other neurological illnesses. Personal history revealed a sedentary lifestyle with increased work-related stress, and sleep disturbances and mental fatigue were occasionally reported during severe headache episodes.

On general examination, the patient's vital signs were within normal physiological limits. Physical examination revealed mild tenderness over the bilateral temporalis muscles. Systemic examination showed no significant abnormalities, and neurological examination revealed no focal neurological deficits. Based on the clinical findings and the diagnostic criteria of the International Classification of Headache Disorders, 3rd edition (ICHD-3) [7], the patient was diagnosed with CTTH. The severity and impact of headache on daily functioning were assessed using the Headache Impact Test (HIT-6), and the baseline HIT-6 score was 64, indicating severe headache-related disability.

INTERVENTION

The patient underwent an Energy Medicine–based intervention using peppermint essential oil for a duration of eight weeks. The therapy was administered through both inhalation and topical application methods. For inhalation therapy, 2–3 drops of peppermint essential oil were added to warm water, and the patient was instructed to inhale the vapours for approximately five minutes twice daily. The intervention aimed to promote relaxation and reduce stress-related aggravation of headache symptoms. For topical application, peppermint essential oil diluted to 5% concentration with carrier oil was applied gently over the bilateral temporal region during headache episodes. The intervention was administered three sessions per week under supervision, along with home-based continuation as advised. The patient was instructed to maintain regular hydration, reduce prolonged screen exposure, and follow basic stress-management measures throughout the intervention period. No additional complementary therapies or changes in medication were introduced during the study period.

OUTCOME MEASURES

The effectiveness of the intervention was evaluated using both subjective and clinical outcome measures throughout the study period. Headache frequency, measured as the number of headache episodes experienced per week, and headache-related disability assessed using the HIT-6 questionnaire were considered the primary outcome measures. Secondary outcome measures included patient-reported improvements in relaxation, stress tolerance, and overall well-being. Baseline assessment was recorded before initiation of the intervention, and follow-up evaluation was performed after completion of the eight-week treatment period.

RESULTS

Following eight weeks of peppermint essential oil intervention, a clinical improvement was observed in the patient's clinical condition. Headache frequency reduced from daily episodes to 1–2 episodes per week. The HIT-6 score improved from 64, indicating severe impact, to 42, indicating mild impact on quality of life (Table 1). The patient also reported a reduction in headache intensity, decreased dependence on over-the-counter analgesics, improved relaxation, better stress tolerance, and enhancement in overall well-being. No adverse effects or complications related to the intervention were reported during the study period.

Table 1. Comparison of Baseline and Post-Intervention Findings

Outcome Measure	Baseline Assessment	Post-Intervention Assessment
Headache frequency	Daily episodes	1–2 episodes per week
HIT-6 score	64 (Severe impact)	42 (Mild impact)

DISCUSSION

The present case report demonstrated clinically meaningful improvement in a patient with CTTH following an eight-week Energy Medicine intervention using peppermint essential oil. The patient experienced a reduction in headache frequency and a substantial reduction in headache-related disability. In addition, the patient reported decreased dependence on over-the-counter analgesics, improved relaxation, enhanced stress tolerance, and an overall improvement in quality of life. These findings suggest that peppermint essential oil may serve as a safe and beneficial complementary therapy for the supportive management of CTTH [3,4,6].

The findings of the present case report are consistent with previous studies demonstrating the beneficial effects of peppermint essential oil and aromatherapy in the management of headache disorders [4,6]. Previous research has reported that topical application of peppermint oil can reduce headache intensity and provide therapeutic effects comparable to conventional analgesics in patients with tension-type headache [4,10]. The analgesic effect of peppermint oil is primarily attributed to menthol, which activates cold-sensitive receptors and modulates pain perception, thereby producing a cooling sensation and relieving pain [5,8]. In addition, aromatherapy may promote relaxation, reduce stress, and improve emotional well-being through its influence on the limbic system [5,9].

As psychological stress is a well-recognized precipitating factor for CTTH [1,2], these mechanisms may have contributed to the clinical improvement observed in the present case. However, despite these encouraging findings, some studies have reported limited clinical evidence because of small sample sizes, methodological variations, and differences in intervention protocols [10-15].

As this study involved a single patient, the findings cannot be generalized to the broader population. In addition, the short duration of follow-up limited the assessment of the long-term effectiveness of the intervention. Although the patient demonstrated clinically meaningful improvement, the observed benefits may also have been influenced by lifestyle modifications or placebo effects. Therefore, larger randomized controlled trials with adequate sample sizes, longer follow-up periods, and standardized outcome measures are recommended to further evaluate the efficacy, safety, and long-term clinical benefits of peppermint essential oil as a complementary therapy for CTTH.

CONCLUSION

This case report suggests that peppermint essential oil may be a safe, simple, and cost-effective complementary therapy to reduce headache frequency, headache-related disability, and improve quality of life in patients with CTTH.

Ethical Consideration

Informed written consent was obtained from the patient before the intervention and publication of this case study. Patient confidentiality and privacy were maintained throughout the study in accordance with ethical standards.

ACKNOWLEDGEMENT

The authors express their sincere gratitude to the Department of Acupuncture and Energy Medicine, International Institute of Yoga and Naturopathy Medical Sciences, Chengalpattu, Tamil Nadu, India, for their support and guidance during the study. The authors also thank the patient for his cooperation and participation throughout the intervention period.

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How to cite this article: Parthasarathy S[1], Vignayarema M[2], Geethanjali S[3],Praveena J[4] Role Of Energy Medicine In The Management Of Chronic Tension-Type Headache: A Case Study Indian J Integr Med. 2026; 6(3):147-150.

Funding: None; *Conflicts of Interest: None Stated*