

Tension Type Headaches

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Physiotherapy for tension-Type Headache: A Controlled Study

P. Torelli, R. Jenson, J. Olsen: Cephalalgia, 2004, 24, 29-36

Tension-type headache (TTH) is the most prevalent form of headache, with an estimated lifetime prevalence rate of 35 – 78% of the adult population in North America. TTH contributes a large burden of disability, loss of work days, diminished quality of life and considerable health care costs.

The primary aim of this study was investigate the therapeutic effect of physiotherapy in properly classified patients with TTH in a controlled trial. A secondary aim was to determine whether physio has a different effect on patients with ETTH vs CTTH, in males vs females, in TTH associated with pericranial muscle involvement vs no pericranial muscular involvement. In particular, the aim was to characterize those patients who benefited from physio by evaluating any possible factors that might predict a good therapeutic response and to evaluate the long term effect of the treatment.

Definitions:

ETTH - more than 8 but less than 15 days with TTH per month

CTTH - more than 15 days per month and more than 3 months per year with TTH (180

Days per year)

Inclusion criteria:

TTH for at least 1 year.

Between 18 – 70 years old

No prior use of preventative headache therapy

Exclusion criteria:

Migraine attacks more than 1 per year

Other primary headache or neuralgia

Other neurological or psychiatric disorders

Analgesic medication abuse (more than 100 tablets per month)

Study Design:

All patients were to record a diary during a 4 week run-in period to ensure inclusion criteria. They were randomized into either an 8 week period of physio (group 1), or to an 8 week observation period, thereafter receiving the same course of physiotherapy (group 2). After the physio, all patients were evaluated in a 12 week follow up period. Each day, subject were to fill in a diary and record

severity of pain on a 3 point scale, where 3 was severe, debilitating pain that required bed rest and 0 was no pain.

Physiotherapy:

The therapy was given 2 per week for 4 weeks and then physical exercise for an additional 4 weeks. The program consisted of massage, relaxation techniques (autogenic training and cognitive-behavioural therapy) smooth stretching and a daily program to be done at home, acting on the shoulder, neck and pericranial muscles. Any form of passive treatment such as, cryotherapy, US, TENS were to be avoided.

Statistical analysis:

The clinical parameters were evaluated in the run-in period, in the last 4 weeks of physio, last four weeks of observation in group 2 and the last 4 weeks of follow up in both groups. The primary efficacy parameter was the number of days with headache out of 28 days.

Responders were defined as those patients with >50% reduction in headache days and the average duration, the average severity of attacks and the consumption of drugs for symptomatic treatment. The analysis was carried out in the entire sample, in ETTH vs CTTH, males vs females and in MUS vs non-MUS.

Findings:

The number of days with HA was significantly decreased after physiotherapy. The average number of days with HA per 4 week period was reduced from 16.3 days at baseline to 12.3 days in the last 4 weeks of treatment.

There was no difference between the run-in period and the observation period, while the significant reduction in the average number of days with HA per 4 week period was confirmed between the observation period (17.8 days) and after the treatment (14.2 days).

The effects were maintained throughout the 12 week follow up period.

The duration and severity of HA were unchanged in both groups.

Drug consumption was significantly reduced only in the follow up period vs baseline in both groups.

Analysing the response to treatment separately in the different groups found that the number of responders was significantly higher among patients with CTTH (13/24) vs patients with ETTH (1/24) and in females (12/33) vs male (2/15). In the female population, the proportion of responders with CTTH (11/14) was significantly higher than those with ETTH (1/19).

CONCLUSION:

Only a few studies have assessed the effectiveness of traditional physiotherapy techniques, heat, massage, traction, specific exercise or postural education on TTH.

A significant and lasting decrease in HA frequency and drug consumption was noted, although no change was shown on the HA severity or duration.

Women reported a 50% decrease in the frequency of HA attacks following physio, most of which were CTTH sufferers.

In spite of the fact that pericranial muscular disorders were slightly more frequent in responders, there was also some response to treatment in the patients with out pericranial tenderness.

The group that responded best to physio were females with CTTH and who had pericranial muscular involvement. CTTH males with muscular disorder and ETTH patients, both male and female, with or without muscular involvement responded poorly to physiotherapy.

Efficacy of Spinal Manipulation for Chronic Headache: A Systematic Review.

Gert Bronfort, Journal of Manipulative and Physiological therapeutics, 24 (7) 2001.

AIM: To Assess the efficacy/effectiveness of SMT for chronic headache through a systematic review of randomized clinical trials.

Randomized trials were included if they compared SMT with other interventions or placebo. They had to have at least 10 subjects. The trials had to have at least 1 patient-rated outcome measure such as pain severity, frequency, duration, improvement, use of analgesic, disability, or quality of life.

“Chronic headache” included tension type, cervicogenic and migraine classified according to the I.H.S.

A study was considered effective if it showed that SMT had at least a similar magnitude of effect compared with an established efficacious treatment or was superior to a placebo or a commonly used therapy.

Only 9 of 22 papers found on SMT and headache met the inclusion criteria. The number of patients involved was 386 from age 17 – 70. The number of SMT treatments ranged from 1 to 12 over a period of 1 day to 8 weeks.

Comparison groups included; amitriptyline, deep friction massage with placebo, mobilization, palpation and rest, cold packs, azapropazone, and a waiting list. None of the studies compared SMT directly with a placebo or sham SMT treatment. The main outcome measures in the 9 studies were pain intensity, frequency of headaches, medication use, and general health status.

Description/Findings and Limitations of the Individual Trials:

Tension Type Headache; The trial by Boline et al, looked at the sustained treatment effect (4 weeks after treatment) of 6 weeks of SMT to 6 weeks of amitriptyline. 4 weeks after treatment the results showed an advantage of SMT in pain, use of non-prescription drugs and general health status. However, at the end of the 6 week treatment period, the amitriptyline group fared better but reported more side effects. The withdrawal of amitriptyline at the end of tx is not the way the drug is used in practice. The results of the study may be due to rebound HA's and makes the results of SMT less impressive.

A trial by Bove and Nilsson assessed whether the addition of SMT to soft tissue therapy would improve outcomes of ETTH. There were 2 tx groups. Deep friction massage with SMT and deep friction massage with placebo laser tx. Both groups had similar results. However, the study did not look at SMT alone therefore it can not support or refute the efficacy of SMT as a separate therapy. A more appropriate conclusion would have been that SMT, when combined with soft tissue massage, is no better than soft tissue therapy alone for ETTH.

Migraine: In the RCT by Parker et al, chiro SMT showed an advantage in pain intensity, disability score, duration and frequency of attacks after 8 weeks of tx when compared with SMT delivered by MD's and PT's. However there is no description of drop outs thus increasing the likelihood of bias.

Nelson et al, looked at chronic migraine treated by SMT, amitriptyline, or both. The SMT group was found to have a reduction in HA index score. There was no advantage found when combining the two tx's. The SMT group also had far fewer side effects. However this trial was not designed to assess equivalency.

Cervicogenic: Nilsson et al, compared 3 weeks of SMT with 3 weeks of deep friction massage and placebo laser. The results showed a decrease of 69% in HA hours in the SMT group compared with 47% in the massage group. However, during the study, they decided to recruit more patients after analyses of the data, which is very unorthodox.

This review concluded that there is moderate evidence that SMT has short-term efficacy comparable with amitriptyline in the prophylactic treatment of chronic tension-type headache and migraine. SMT does not appear to improve outcomes when added to soft-tissue massage for episodic tension-type

headache. There is moderate evidence that SMT is more efficacious than massage for cervicogenic headache.

This review provides a basis for considering SMT in the therapeutic management of migraine, CTTH and cervicogenic headache. One possible explanation for the apparent effect of SMT in chronic headaches comes from the results of several studies that have demonstrated headaches can be induced experimentally by noxiously stimulating tissues, including joint capsules, ligaments, and paraspinal muscle innervated by the cervical nerve roots C1-C3. Headache pain caused by such stimulation may be possible because of the common neurological pathways shared by the trigeminal nucleus and the C1-C3 nerves.