

Headache

Overview

Background

Headache is one of the most frequent reasons for medical consultations, in both general practice and neurology clinics.(Steiner 2007) Migraine has been covered in a separate Fact Sheet so this one will focus on tension-type headache. These occur in up to around 80% of the UK adult population(Steiner 2007), and are more prevalent in women (65% of cases in one survey).(Friedman 1954) Symptoms begin before the age of 10 years in 15% of people with chronic tension-type headache, and prevalence declines with age.(Lance 1965) The origin of tension-type headache is multifactorial, but the pathogenesis is still unclear; there is a family history of some form of headache in 40% of people with chronic tension-type headache.(Russell 1999).

Tension-type headache is the term used for infrequent and frequent episodic, as well as chronic, tension-type headaches. **(International Headache Society 2004)** This type of headache is primary (i.e. the headache itself is the disorder, rather than secondary to another condition).**(International Headache Society 2004)** Tension-type headaches are characterised by pain that is typically mild or moderate in intensity, bilateral, and pressing or tightening in quality, but does not worsen with physical activity.(International Headache Society 2004) There may be accompanying photophobia or phonophobia, but no nausea. The headaches are daily or very frequent, and last from minutes to days.**(International Headache Society 2004)**.

The aim of conventional treatment is to reduce the frequency, severity, and duration of headache, with minimal adverse effects from treatment. Prescribed and over-the-counter medications such as paracetamol and ibuprofen are taken to alleviate headaches.**(Watson 2008)**

Clinical research

Evidence from the most up-to-date and highest quality systematic review showed that there are clinically relevant benefits of adding acupuncture to routine care and also a statistical advantage of 'true' acupuncture over sham interventions. On the other hand, there was no apparent superiority compared to other non-pharmacological treatments such as physiotherapy and relaxation (Linde 2009). In earlier reviews,(e.g. Davis 2008) there were usually insufficient numbers of trials and patients to achieve statistical significance. Sun and Gan (2008) found acupuncture better than sham, and also better than medication, for headache intensity and frequency, but this was for a mixture of tension and migraine-types.

Evidence from randomised controlled trials not included in these systematic reviews suggests that: physiotherapy and relaxation might be more effective than acupuncture for tension type-headaches (Söderberg 2011), but this trial was small and does not present a compelling case for upgrading the reviews' conclusions; 1 month of acupressure treatment is more effective in reducing chronic headache than 1 month of muscle relaxant treatment, and that the effect remains 6 months after treatment (Hsieh 2010); supplementing medical management with acupuncture results in improvements in health-related Quality of Life and the perception by patients that they suffer less from headaches (Coeytaux 2005); and that laser acupuncture may be an effective treatment for chronic tension-type headache (Ebneshahidi 2005).(see Table below)

Potential mechanisms

In general, acupuncture is believed to stimulate the nervous system and cause the release of neurochemical messenger molecules. The resulting biochemical changes influence the body's homeostatic mechanisms, thus promoting physical and emotional well-being. Stimulation of certain acupuncture points has been shown to affect areas of the brain that are known to reduce sensitivity to pain and stress (Hui 2010).

Acupuncture may help to relieve tension-type headache by: increasing endorphins (Han 2004) and neuropeptide Y levels (Lee 2009), which can help to combat negative affective states; stimulating nerves located in muscles and other tissues, which leads to release of endorphins and other neurohumoral factors, and changes the processing of pain in the brain and spinal cord (Pomeranz, 1987; Zhao 2008; Cheng 2009);reducing inflammation, by promoting release of vascular and immunomodulatory factors (Zijlstra 2003; Kavoussi 2007); increasing local microcirculation (Komori 2009), which aids dispersal of swelling.

References

Friedman AP et al. Migraine and tension headaches: a clinical study of two thousand cases. *Neurology* 1954; 4: 773-88.

Headache Classification Subcommittee of the International Headache Society. The International Classification of Headache Disorders: 2nd edition. *Cephalalgia* 2004; 24: 9-160.

Lance JW et al. Investigations into the mechanism and treatment of chronic headache. *Med J Aust* 1965; 2: 909-14.

Russell MB et al. Familial occurrence of chronic tension-type headache. *Cephalalgia* 1999; 19: 207-10.

[Steiner TJ] et al, 2007. Guidelines for all healthcare professionals in the diagnosis and management of migraine, tension-type, cluster and medication-overuse headache [online]. Hull: British Association for the Study of Headache. Available: http://216.25.88.43/upload/NS_BASH/BASH_guidelines_2007.pdf

Watson DP. Easing the pain: challenges and opportunities in headache management. *Br J Gen Pract* 2008; 58: 77-8.