

Evidence Based Practice Critically Appraised Topic (CAT)

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March 2011

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Clinical scenario: 21 year old white female with no significant past medical history presents with the complaint of headaches at least 2 times per week. Some headaches are throbbing and unilateral, with photophobia, while others start in the back of her neck and produce a tight band around her head.

Clinical question: Among adults ages 21 to 55 who suffer from migraine or tension type headaches is there evidence supporting that acupuncture is clinically proven to reduce pain and frequency of headaches as compared to pharmacological intervention?

Articles:

(1)Linde, K., Allais, G., Brinkhaus, B., Manheimer, E., Vickers, A., White, A., R., (2009).
Acupuncture for migraine prophylaxis. Cochrane Database Syst Rev.

(2)Linde, K., Allais, G., Brinkhaus, B., Manheimer, E., Vickers, A., White A., R.,(2009).
Acupuncture for tension-type headache. Cochrane Database Syst Rev.

Summary and Appraisal of Key Evidence:

The two studies appraised by authors (Linde, Allais, Brinkhaus, Mandheimer, Vickers, & White, 2009 & Pickett, 2010) showed Level 1 Grade A level of evidence investigating whether acupuncture is a) more effective than no prophylactic treatment/routine care only; b) more effective than “*sham*” (placebo) acupuncture; and c) as effective as other interventions in reducing headache frequency in patients with migraine (1). Study 2 investigated whether acupuncture is a) more effective than no prophylactic treatment/routine care only; b) more effective than “*sham*” (placebo) acupuncture; and c) as effective as other interventions in reducing headache frequency in patients with episodic or chronic tension-type headache(2).

Article Analysis:

The Cochrane Pain, Palliative & Supportive Care Trials Register, CENTRAL, MEDLINE, EMBASE and the Cochrane Complementary Medicine Field Trails Register were searched to January 2009. Both of the articles are a meta-analysis, Cochrane review that validates the information provided. The downfall to the evidence provided is due to the fact that both of the articles have

been researched by the same authors and done in 2009. This could be a concern and may weaken or show a bias of the information provided. This also validates that there needs to be more research on this topic.

In study (1) the information was extracted on patients, interventions, methods and results; and assessed risk of bias and quality of the acupuncture intervention. Outcomes extracted included response, migraine attacks, migraine days, headache days and analgesic use (1). The second meta-analysis extracted the same patient information, but the response looked at least 50% reduction of headache frequency, headache days, pain intensity and analgesic use (2).

Study 1 included 22 trials with 4419 participants met the inclusion criteria. Six trials compared acupuncture to no prophylactic treatment routine care only. After 3 to 4 months patients receiving acupuncture had higher response rates and fewer headaches. The only study with long-term follow up saw no evidence that effects dissipated up to 9 months after cessation of treatment. 14 trails compared a true acupuncture intervention with a variety of sham interventions. Pooled analyses did not show a statistically significant superiority for true acupuncture for any outcome in any of the time windows, but the results of single trials varied considerably. Four trials compared acupuncture to proven prophylactic drug treatment. Overall in these trials acupuncture was associated with slightly better outcomes and fewer adverse effects than prophylactic drug treatment (1). In the second study 11 trails with 2317 participants met the inclusion criteria. Two large trials compared acupuncture to treatment of acute headaches or routine care only. Both found statistically significant and clinically significant short term benefits (3 months) of acupuncture over the control for headache, number of days and pain intensity. Beyond 3 months was not investigated (2). Six trials compared acupuncture with physiotherapy, massage, or relaxation had reported short comings. Their findings were difficult to interpret, but collectively suggest slightly better results for some in the outcomes in the control groups (2).

Critical Bottom Line:

In previous reviews of the effectiveness of acupuncture in migraine or tension-type headaches, evidence in support of acupuncture for reducing the frequency and intensity of migraine and tension-type headaches was considered promising but insufficient. Now with 6-12 additional trials, there is consistent evidence that acupuncture provides additional benefit to treatment of acute migraine attacks and a valuable non-pharmacological tool in patients with frequent episodic or chronic tension-type headaches. There is no evidence for an effect of 'true' acupuncture over sham interventions, though this is difficult to interpret, as exact point location could be of limited importance. Available studies suggest that acupuncture is at least as effective as, or possibly more effective than, prophylactic drug treatment, and has fewer adverse effects. Acupuncture should be considered a treatment option for patients willing to undergo this treatment (1). Available studies suggest that acupuncture is at least as effective as, or possibly more effective than, prophylactic drug treatment, and has fewer adverse effects (1). In study (2) reducing the frequency and intensity of tension-type headaches, there has been an additional 6 clinical trials that conclude acupuncture could be a valuable non-pharmacological tool in patients with frequent episodic or tension-type headaches (2). Confidence interval is 95%, systematic review of RCT's.

Relevance to clinical practice:

Without any hesitation, I would recommend or offer acupuncture as an alternative treatment for my patients who suffer from migraine or tension-type headaches. Evidence based information like this is invaluable and gives professional care providers an excellent knowledge base to have to offer patients. Several populations may appreciate this method of care. They include: pregnant women, patients with CAD risk factors, those who failed pharmacotherapeutic treatments or those who would prefer an alternative method of treat for their headaches.

References:

Linde, K., Allais, G., Brinkhaus, B., Manheimer, E., Vickers, A., White, A., R., (2009). Acupuncture for migraine prophylaxis. Cochrane Database Syst Rev.

Linde, K., Allais, G., Brinkhaus, B., Manheimer, E., Vickers, A., White A., R., (2009). Acupuncture for tension-type headache. Cochrane Database Syst Rev.

Pickett, H., Blackwell, J. C., (2010). Acupuncture for migraine headaches. American Family Physician website@ www.aafp.org/afp.