

Acupuncture for Migraine: Prophylaxis, Acute Attack and Frequent Migraine

A Research Review

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Wang, L., Zhang, X., Guo, J., Liu, H., Zhang, Y., Liu, C., Yi, J., Wang, L., Zhao, J., Li, S. (2011). Efficacy of acupuncture for migraine prophylaxis: A single-blinded, double-dummy, randomized controlled trial. *Pain*, 152(8), 1864-1871. doi:10.1016/j.pain.2011.04.006

Wang, L., Zhang, X., Guo, J., Liu, H., Zhang, Y., Liu, C., Yi, J., Wang, L., Zhao, J., Li, S. (2012). Efficacy of Acupuncture for Acute Migraine Attack: A Multicenter Single Blinded, Randomized Controlled Trial. *Pain Med Pain Medicine*, 13(5), 623-630. doi:10.1111/j.1526-4637.2012.01376.x

Wang, Y., Xue, C. C., Helme, R., Costa, C. D., & Zheng, Z. (2015). Acupuncture for Frequent Migraine: A Randomized, Patient/Assessor Blinded, Controlled Trial with One-Year Follow-Up. *Evidence-Based Complementary and Alternative Medicine*, 2015, 1-14. doi:10.1155/2015/920353

According to Statistics Canada, in 2010/2011, 2.7 million Canadians indicated that they had been diagnosed with migraine headaches (8.3%). It is “estimated 14% of the world’s population have suffered from migraine at some point in their life. Studies consistently show that women are more likely than men to experience migraine.”¹ Three studies on the efficacy of acupuncture for the treatment of migraine will be discussed.

The first study looked at the efficacy of acupuncture treatment for **prevention** of migraine vs. medication, as many migraine sufferers would prefer not to take medication. The study was a single blind, randomized, multi-centre trial comparing:

1. Verum (true) acupuncture and placebo medication (AC)
2. Sham acupuncture and real medication (Control)

Point selection for the AC group was based on consensus of clinical experts and included certain obligatory points and additional points based on the TCM syndrome that each individual presented with. The table below outlines the points and includes the meridian names/location used by Acupuncture Canada when teaching treatment of headaches:

Point Group	Location of headache as per Anatomical Acupuncture	Points
Obligatory		GV 20, GV 24, GB 13, GB 8, GB 20

¹ <http://www.statcan.gc.ca/pub/82-003-x/2014006/article/14033-eng.htm>

Shaoyang Headache	GB & TE meridians, lateral headache	TE 5, GB 34
Yangming Headache	ST & LI meridians, frontal headache	ST 44, LI 4
Taiyang Headache	BL & SI meridians, occipital headache	BL 60, SI 3
Jueyin Headache	LR & PC meridians, vertex headache (internal branch of LR goes to vertex)	LR3, GB 40
Nausea		PC 6
Dysphoria/tendency to anger		LR 3

The control group received medication, Flunarizine, (used only to prevent migraine, not during migraine) and sham acupuncture. The acupuncture points chosen for the sham treatment were not related to headache treatment according to TCM theory, were located near the elbows and knees, and were needled 3mm away from the actual acupuncture point.

Both groups were given medication or placebo nightly and received three, 30-minute acupuncture treatments (sham or verum) per week for four weeks. Outcome measures were taken at baseline, four weeks later at treatment completion, and again 16 weeks after baseline.

Primary outcome measure was taken as the proportion of responders, in other words, the number of patients with at least a 50% reduction in the number of migraine days. Secondary outcome measures were Visual Analogue Scale (VAS) for pain, number of patients requiring acute medication and 36-item short-form health survey (SF-36)²

Results:

The acupuncture group (placebo medication) had statistically significant better results than the sham acupuncture/real medication group: higher proportions of responders, fewer migraine days and less acute medication required both at the end of treatment (week 4) and at week 16 (3 months after end of treatment).

The same research group published a second study in 2012, this time looking at the efficacy of acupuncture treatment for **acute** migraine. The study was single blind, randomized, multi-centre trial this time comparing:

1. Verum Acupuncture
2. Sham Acupuncture

One 30-minute acupuncture treatment (verum or sham) would be administered during an acute migraine attack. The primary outcome measure used was Visual Analog Scale (VAS) at 24 hours after acupuncture. Secondary outcome measures used were the Short-Form McGill Pain Questionnaire (SF-MPQ), the number of patients achieving freedom

² SF-36 is available here https://www.rand.org/health/surveys_tools/mos/36-item-short-form/survey-instrument-b.html?utm_expid=72494539-6.cklETohYRT-OLN7k44587g.1&utm_referrer=https%3A%2F%2Fwww.google.ca%2F

from pain at 0-24 hours, 24-48 hours and 48-72 hours post treatment, as well as the necessity for medication, its dosage, nausea and vomiting.

The verum acupuncture group were treated in the same fashion as the previous study, that is, a set of obligatory acupuncture points were used in all cases and then additional points were added based on the type of headache (based on location of pain/TCM syndrome). Sham points were used in the same method as the previous study, that is randomly selected points near elbows and knees, not related to headache treatment according to TCM theory.

Results:

At 24 hours post treatment, results in VAS scores and SF-MPQ scores were statistically significantly better in the verum acupuncture group. At 24 and 48 hours post treatment, the number of patients requiring acute medication, reduction in nausea, vomiting, light and sound hypersensitivity were **all** statistically significantly better in the real acupuncture treatment group compared to the sham acupuncture group.

One shortcoming of this study as noted by the authors was the failure to evaluate pain immediately post treatment or at smaller intervals within the first 24 hours.

The third study looked at the efficacy of acupuncture in treating **frequent migraine**, defined by the authors as more than five separate migraine attacks per month. The interventions, sham vs. real acupuncture, were 16 treatment sessions over 20 weeks: twice per week for four weeks, once per week for four weeks, once every two weeks for four weeks and then once per month for two months.

Real acupuncture treatment was based on TCM syndromes and consisted of unilateral obligatory points and bilateral points based on the individual's presenting syndrome.

Group	Points
Obligatory (unilateral, affected side)	GB 20, LI4, Taiyang
Ascending Liver Yang	GV 20, LR 2, LR 3, GB 39, SP 6
Deficiency of Qi and Blood	GV 20, GV 23, ST 36, SP 6
Wind Phlegm Blocking the meridians	ST 40, CV 12, SP 9
Blood stasis	SP 6, SP 10, ashi points

Sham acupuncture was applied differently than in the previous studies. Blunted cocktail sticks were taped to sham points on the face and neck 1-2cm away from actual acupuncture points. In the extremities, needles were inserted to a depth of only 2mm, 1-2 cm away from actual acupuncture points. De Qi stimulation was avoided, (unlike the first two studies).

Primary outcome measures used were frequency, duration and intensity of migraine, percentage of responders (those with 50% reduction in number of migraine days/month). Secondary measures included medication use, quality of life, and pressure point

tenderness at 11 sites. Outcomes were measured at 20 weeks (after treatment completion), three months follow-up and one-year follow-up.

Results:

The real acupuncture group had statistically significantly fewer migraine days and more responders at 20 weeks and at three months compared to the sham group. Severity of pain was statistically significantly better at 20 weeks in the real acupuncture group compared to sham. There were no significant differences at the one-year follow-up, but the authors note that only 50% of the participants were followed for the full year.

What can you tell your patients about the efficacy of acupuncture for migraine based on these studies?

For most people:

1. Acupuncture is an effective modality for treating acute migraine headache
2. Acupuncture can be used to treat migraine headache prophylactically
3. Acupuncture reduces the number of migraine days as well as the severity of headaches
4. The results of 12-16 treatments given over 4-20 weeks as outlined above, appear to be beneficial for at least three months.

Acupuncture Canada's Foundations of Anatomical Acupuncture (AA1) and Clinical Applications in Anatomical Acupuncture (AA2) courses provide a straightforward method of treating headaches, including migraine, based on the location of the headache in relation to acupuncture meridians as well as Western medical concepts. The Basics of Traditional Chinese Medicine (BTCM) and Advanced Applications in Acupuncture (AA3) courses further enhance knowledge and confidence in treating more complicated cases.

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