

Evidence in Action: A Patient With Migraine Headaches

By Michelle Barber, MSW, DC

In this column, educators and researchers from Palmer College of Chiropractic explore questions of clinical interest to JACA readers. We offer tips on weighing and making good use of evidence as part of the everyday practice of chiropractic.

The Condition History

A patient in your practice has a history of chronic migraine headaches. Since she started receiving chiropractic care, she has experienced a significant amount of relief, but the headaches have not gone away completely. She was put on topiramate (Topamax®) by her neurologist about six months ago as a daily prophylactic (preventive) medication, but she doesn't really like some of the side effects of the medication (e.g., dizziness, fatigue, nervousness and difficulty thinking clearly). She is planning to continue chiropractic care, but she is also wondering if there are any further non-drug options for decreasing the frequency of her headaches so she can stop taking the medication.

You remember that it is not within your scope of practice to tell her to stop taking this medication, but you also recall that evidence-based practice involves not only clinical expertise and the best available evidence; it also includes the patient values. Knowing that your patient would prefer not taking the medication if possible, you set out to see if there is any evidence of non-drug options that might be comparable to the topiramate. You already know that chiropractic has been shown to be potentially as effective as topiramate,¹ but you would like to explore more options for your patient since she is already committed to chiropractic care.

Finding the Evidence

You turn to PubMed (www.ncbi.nlm.nih.gov/pubmed) and enter the search terms "migraine," "topiramate" and "efficacy." Knowing that you want to find clinical trials that compare the efficacy of topiramate with other treatment options, you also apply a filter to limit your search results to clinical trials. A filter, also known as a limit, can be found on the Pubmed

Dr. Barber is an assistant professor in the Life Sciences Department at Palmer College of Chiropractic, Davenport, Iowa.

– Can She Decrease Their Frequency Without Drugs?

home page. Filters allow you to narrow your search based on criteria such as the type of study, age range, etc.

You find 68 results doing this search, and as you scroll down through the list, you find a few that interest you:

1 A study by Yang et al. titled, **Acupuncture versus topiramate in chronic migraine prophylaxis: a randomized clinical trial.**²

- ▶ In this randomized, controlled trial, patients with migraine headaches were randomly assigned to either acupuncture treatments (24 sessions over 12 weeks) or daily topiramate use for 12 weeks.
- ▶ At the end of treatment, the acupuncture patients experienced a reduction in headache frequency from 20.2±1.5 days to 9.8±2.8 days, while the topiramate group experienced a reduction in headache frequency from 19.8±1.7 days to 12.0±4.1 days. In addition, only 6 percent of patients in the acupuncture group experienced adverse effects, whereas 66 percent of the patients in the topiramate group reported adverse effects.
- ▶ There is a statistically significant larger reduction in headache frequency in the acupuncture group, coupled with fewer adverse effects, suggesting that acupuncture could be an effective non-pharmacologic treatment for migraine prophylaxis.

2 A study by Varkey et al. titled, **Exercise as migraine prophylaxis: a randomized study using relaxation and topiramate as controls.**³

- ▶ In this randomized, controlled trial of adults with migraine, patients were randomly assigned to one of three different groups: a) exercise for 40 minutes three times a week; b) weekly relaxation, breathing and stress-management techniques; or c) daily topiramate use. The treatment period lasted for three months.
- ▶ The change in the number of migraine attacks compared with the baseline showed a mean reduction of 0.93 (95 percent CI 0.31–1.54) attacks in the exercise group, 0.83 (95 percent

CI 0.22–1.45) attacks in the relaxation group, and 0.97 (95 percent CI 0.36–1.58) attacks in the topiramate group. No significant difference was observed among the groups.

- ▶ In other words, exercise, relaxation and topiramate were found to be equal with regard to the reduction of migraine frequency. Exercise and/or relaxation may be a good non-pharmacological option as a preventive treatment of migraine in patients who do not benefit from, or do not want, daily medication.

What does this mean to you?

Based on this available evidence, and incorporating the patient's values, you could certainly go back to the patient and offer her some educational information about the efficacy of acupuncture, exercise and/or relaxation as non-pharmacologic options for decreasing the frequency of her migraine headaches. It is extremely important that you remember to advise her to discuss her decision to continue or discontinue her medications with her prescribing physician, but given this new information, she may be able to make a more informed decision that is in line with her values and preferences. ■

Note on terms used:

Confidence Interval (CI): A confidence interval is a range around a measurement that conveys how precise the measurement is. Confidence intervals inform clinicians about the range within which the true treatment effect is likely to be found, given the data gathered during a clinical trial. The 95 percent confidence intervals that we often see in biomedical publications represent the range in which we can be 95 percent certain of finding the underlying true treatment effect.

References

1. Chaibi A, Tuchin PJ, Russell MB. Manual therapies for migraine: a systematic review. *J Headache Pain*. 2011 Apr;12(2):127-33.
2. Yang CP, Chang MH, Liu PE, Li TC, Hsieh CL, Hwang KL, Chang HH. Acupuncture versus topiramate in chronic migraine prophylaxis: a randomized clinical trial. *Cephalalgia*. 2011 Nov;31(15):1510-21.
3. Varkey E, Cider A, Carlsson J, Linde M. Exercise as migraine prophylaxis: a randomized study using relaxation and topiramate as controls. *Cephalalgia*. 2011 Oct;31(14):1428-38.