

Medical News & Perspectives

As Opioid Epidemic Rages, Complementary Health Approaches to Pain Gain Traction

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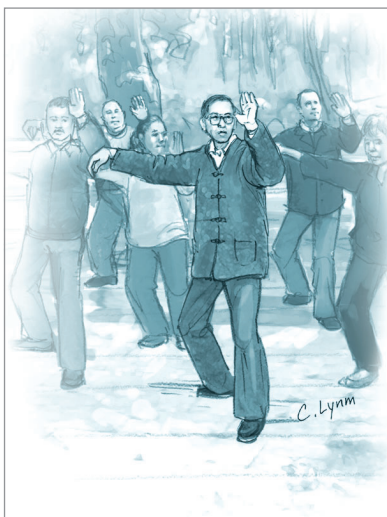
A recent review of clinical evidence published in *Mayo Clinic Proceedings* by National Institutes of Health (NIH) researchers suggests that complementary health techniques have a legitimate place in a physician's pain relief toolkit—welcome news as health care professionals and agencies grapple with the crisis of opioid abuse.

Researchers led by Richard L. Nahin, PhD, MPH, lead epidemiologist at the NIH's National Center for Complementary and Integrative Health (NCCIH), examined efficacy and safety evidence in 105 randomized controlled trials (RCTs) conducted between January 1966 and March 2016. The review—geared toward primary care physicians as part of the journal's Symposium on Pain Medicine—focused on popular complementary approaches to common pain conditions.

Unlike a typical systematic review that assigns quality values to the studies, the investigators conducted a narrative review, in which they simply looked at the number of positive and negative trials. "If there were more positives than negatives then we generally felt the approach had some value," Nahin explained. "If there were more negatives, we generally felt the approach had less value." Trials that were conducted outside of the United States were excluded from the review.

Based on a "preponderance" of positive vs negative trials, complementary approaches that may offer pain relief include acupuncture and yoga for back pain; acupuncture and tai chi for osteoarthritis of the knee; massage therapy for neck pain; and relaxation techniques for severe headaches and migraine. Several other techniques had weaker evidence, according to the qualitative assessments, for specific pain conditions (see "Selected Complementary Health Approaches for Pain"). The treatments were generally safe, with no serious adverse events reported.

Among the popular complementary therapies that did not show benefit in the analysis were the dietary supplements glucosamine and chondroitin, commonly used for knee osteoarthritis. "Drug companies sell a whole lot of that stuff and it doesn't seem to work all that well for arthritis and other things," said David Spiegel, MD, medical director of the Center for Integrative Medicine at Stanford University School of Medicine, who was not involved in the study.



Spiegel said the review moves the field of integrative pain management forward by providing some guidance to physicians who lack a road map for using complementary health approaches. "Papers like this could help patients and clinicians select which among the integrative treatments is most likely to be helpful for which problems," he said. "I don't think we're at the point where it's an obvious science yet, but I think we're heading in that direction."

Pain Without Pills

Researchers at the NCCIH are investigating the mechanisms of pain and pain management and developing the evidence base for complementary health approaches to pro-

vide better care to the millions of people whose chronic pain is mistreated or undertreated. One hundred million US adults are living with chronic pain, much of which could be prevented or managed better, according to a 2011 Institute of Medicine (IOM) report.

Drug-free pain management is a top scientific priority in the NCCIH's new [strategic plan](#), announced earlier this year. National surveys show that most adults who use complementary and integrative approaches do so for pain, "so that's really where the evidence is showing we should go in our own research," Nahin said.

The new review also ties into the "integrated, multimodal, interdisciplinary" [National Pain Strategy](#)—which grew out of the US Health and Human Services [initiative](#) to reduce prescription opioid- and heroin-related overdose, death, and dependence—and the Centers for Disease Control and Prevention (CDC) [opioid prescribing guidelines](#) for chronic pain.

An NIH panel [reported](#) that opioid prescriptions jumped from 76 million in 1991 to 219 million 2 decades later. According to the [CDC](#), almost 2 million people abused or were dependent on prescription opioids in 2014; the pills killed 14 000 people that year.

"The CDC guidelines are giving us new directives on first-line approaches for pain management," said NCCIH Deputy Director David Shurtleff, PhD.

With the exception of active cancer, palliative, and end-of-life care, the guidelines recommend against using opioids as a first-line or routine therapy for chronic pain given their "small to moderate short-term benefits, uncertain long-term benefits, and potential for serious harms." They also suggest that when opioids are used, they should be combined with other therapeutic approaches.

Beyond RCTs

Nahin noted that the clinical trials that met the bar for his review tended to be small

Selected Complementary Health Approaches for Pain

A recent narrative [review](#) by researchers at the National Center for Complementary and Integrative Health examined 105 US-based randomized controlled trials for pain management conducted over the past 50 years. The trials compared complementary health approaches vs controls including placebo or routine care. Studies in which the complementary therapy performed better than the control were considered positive trials in the review; studies that found no difference between the groups were considered negative trials.

Based on the number of positive vs negative trials, the analysis suggested that the following approaches may help some patients manage certain painful conditions:

Acupuncture:

- back pain
- osteoarthritis of the knee

Massage therapy:

- neck pain (with adequate doses and for short-term benefit)
- back pain^a

Osteopathic manipulation:

- back pain^a

Relaxation techniques:

- severe headaches and migraine
- fibromyalgia^a

Spinal manipulation:

- back pain^a

Tai chi:

- osteoarthritis of the knee
- fibromyalgia^a

Yoga:

- back pain

^a Weaker evidence based on qualitative assessment

and participants were limited primarily to older white women. "The review identified a lot of gaps in the data," he said, adding that "there's still a lot of research that needs to be done to see whether these data can be generalized to the larger US demographic population." Nahin also acknowledged that the analysis was somewhat subjective: "As a narrative review geared to busy primary care providers, our conclusions are our qualitative assessments of the literature and are not based on a hard quantitative analysis such as a meta-analysis or meta-regression," he said.

A next step for the NCCIH, Shurtleff said, is to conduct "pragmatic" studies that look at the effectiveness of complementary health strategies for pain outside of the strict inclusion/exclusion criteria of RCTs. "We're looking to see how this works in real time in the real world, with all the warts and things that go along with that," he said.

"At the end of the day, if an approach is successful you'll be able to generalize it more to everyone with the disease, versus a very small cohort of individuals," Nahin added.

Such pragmatic studies may begin next year in collaboration with the Veterans Administration and the Department of Defense. These agencies are looking toward complementary health approaches for returning service members, who experience both high levels of chronic pain and other comorbid conditions such as posttraumatic stress disorder and substance abuse, Shurtleff said.

But physicians caution that more science, although welcome, may not be enough to fully integrate complementary pain approaches into mainstream care.

Madhu K. Singh, MD, a physical medicine and rehabilitation orthopedic physician at Midwest Orthopaedics at Rush in Chicago, praised the NCCIH review as "an excellent overview of the more rigorous RCTs that have been performed" for several common complementary therapies. However, Singh—who emphasizes nonsurgical spine management in her practice—pointed out that many of the approaches aren't feasible for patients because insurance companies by and large don't cover them. Because of this, "physicians are often backed into a corner when dealing with a patient's pain," she said, referring to the tendency to default to medications.

The IOM report, which emphasized a model of "integrated, interdisciplinary pain assessment and treatment" that includes complementary and alternative medicine (CAM), recommended that reimbursement policies should be revised to accommodate this approach.

Out-of-pocket spending on complementary health treatments for adults and children in the United States added up to \$30.2 billion in 2012, according to [National Health Interview Survey data](#). But not every patient can afford to foot the bill themselves, Singh said: "We need to create better access to CAM therapies. By reducing the cost burden on the patient, these therapies become far more accessible." ■

Note: The print version excludes source references. Please go online to jama.com.