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Treating Chronic Pain With Non-Drug Approaches: What Does the Evidence Say?



A recent study shows evidence for long-term benefits of exercise, psychological treatments and other non-pharmacological strategies. Image credit: pinkomelet/123RF Stock Photo.

Current treatments for chronic pain overwhelmingly consist of medications or invasive procedures like surgeries. But these approaches carry significant risks, with increasingly questionable benefits. As doctors and policy-makers turn away from such strategies to alleviate pain, patients are seeking new options. Could non-invasive, non-drug therapies be good alternatives?

A [report published online](#) June 11 examines the available evidence for long-term benefits of non-pharmacological therapies and outlines the most effective treatments for five common chronic pain conditions. The review found small but lasting benefits of a range of therapies, including cognitive-behavioral therapy (CBT) and exercise.

“We’d like to know that whatever we offer is not just helpful for a day or a week or two, but a longer time. And this report gives us a better idea of that,” said Richard Deyo, a clinical researcher at Oregon Health & Sciences University, Portland, US, who was not an author of the report.

Looking beyond drugs and surgery

The comprehensive review was commissioned by the [Agency for Healthcare Research and Quality](#) (AHRQ), a division of the US Department of Health and Human Services.

“In the review, we focused only on non-invasive, non-pharmacological therapies, so no surgical or injection procedures or medications, and we focused on the most common of those treatments,” said Judith Turner, a pain researcher at the University of Washington, Seattle, US, and a member of the panel of experts contracted by AHRQ to conduct the review.

The researchers searched for both published data and unpublished, ongoing studies on [ClinicalTrials.gov](#). The therapies included in the review of published scientific evidence were exercise and physical therapy; mind-body practices like yoga, tai chi, and qigong; psychological therapies including cognitive behavioral therapy (CBT) and biofeedback; multidisciplinary rehabilitation, which involves multiple caregiver specialties; mindfulness practices; chiropractic or osteopathic manipulation; physical modalities such as traction, heat or cold; and acupuncture.

For the review of published findings, a research librarian conducted searches of major repositories of published studies through November 2017. A search of the [ClinicalTrials.gov](#) web site identified unpublished trials examining therapies for chronic low back or neck pain, knee or hip osteoarthritis, fibromyalgia, or chronic tension headache. Ultimately, 218 publications were included in the review.

The researchers also assessed the strength of the evidence. “We were interested in carefully examining the available scientific literature and grading the quality of studies,” said Turner.

While evidence has been building for the effectiveness of non-drug treatments for chronic pain, this review specifically focused on the durability of those improvements, only including studies that measured outcomes for at least a month after treatment.

The verdict

The review found evidence for small but lasting improvements, in pain and/or function, from exercise for osteoarthritis, chronic back and neck pain, and fibromyalgia. Psychological treatments like CBT conferred benefits for fibromyalgia and chronic back

pain, as did some mind-body practices, mindfulness, and acupuncture. Manual therapies including chiropractic and osteopathic manipulations provided benefits to patients with arthritis, and people with chronic tension headache only saw improvements with spinal manipulation.

“These are low-risk treatments,” Turner said.

Turner was not surprised to see lasting improvements from the treatments. “Most of these therapies are designed to have lasting effects, unlike a medication where the effect disappears after you stop taking it. The whole point of interventions such as cognitive-behavioral therapy is for patients to learn strategies they can incorporate in their daily life and use long-term,” she said.

Deyo agrees. “There is a growing recognition that these [non-drug] treatments are really valuable for chronic pain, because unlike invasive procedures and drugs, there is the possibility that they offer longer-term relief,” he said. “For example, exercise shows up as a useful treatment for all chronic pain conditions. It is probably true that longer and stronger exercise is more effective [than shorter and less intense exercise]. That is in contrast to opioids, which become less effective the longer you use them. So these treatments deserve more attention in managing chronic symptoms.”

“The finding that exercise came out as consistently effective across conditions,” Turner said, “suggests it as an intervention that should be a first-line therapy for patients with chronic pain. I hope that future studies will identify how to optimize it, because as yet we don’t know a lot about what specific exercise regimens will be effective and for whom.” Like all chronic pain treatments, Turner said, exercise “needs to be tailored to the particular condition and individual.”

As part of the bigger picture, she said, “it’s important to identify the mechanisms underlying the pain.” For example, conditions such as osteoarthritis are primarily nociceptive, meaning that ongoing tissue damage is causing the pain. However, other conditions, such as fibromyalgia, may be more strongly rooted in the brain. “It may involve altered activity in the nervous system, but it’s not due to actual tissue damage,” Turner said. Such conditions might be best targeted with therapies such as CBT that are aimed at the brain, which creates the experience of pain, she said.

Importantly, Turner said, “CBT was shown to be effective at improving function as well as pain. People with chronic pain want less pain, yes, but they want to be able to do the activities that make life enjoyable.”

Why aren't non-drugs treatments used more frequently?

With evidence gathering for the benefits of non-drug therapies and with experts increasingly recommending them, why aren't more people receiving these treatments? It mainly boils down to insurance coverage, Turner said.

"It's really a time for change in policy and insurance coverage to allow greater access to these treatments that are effective and which have few harms compared to surgery and opioids."

Access to therapies may also be limited, Deyo said. "Insurance coverage is important, but with CBT, for example, there probably is a genuine shortage of practitioners, perhaps because of the lack of coverage." He said increasing both access and affordability is "a long-range goal."

More funding for research would help too. Deyo said that while the review did show evidence of long-term benefits for the therapies, "unfortunately what we also see is that there is so little evidence for ongoing treatments. There were few studies, and they were relatively small and short. So we don't have the definitive results we often see with cancer [treatment] trials, for example, which include long-term follow-up, huge numbers of patients, and more centers. That would take more funding."

Studies about surgical interventions and drugs outnumber those for these non-invasive and non-pharmacological treatments, Deyo said. "These are probably less well studied in part because of industry funding for both drug and surgery studies, and the lack of industry funding for these other approaches."

"I would love to see policy makers, payers, and healthcare organizations make these treatments routinely available to patients with chronic pain, and to reduce the use of treatments shown to be ineffective, especially those with significant risks," Turner said. She hopes the review will help move things in that direction.

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