

Study shows brief training in meditation may help manage pain

November 10 2009

Living with pain is stressful, but a surprisingly short investment of time in mental training can help you cope.

A new study examining the perception of pain and the effects of various mental training techniques has found that relatively short and simple mindfulness [meditation](#) training can have a significant positive effect on pain management.

Though pain research during the past decade has shown that extensive meditation training can have a positive effect in reducing a person's awareness and sensitivity to pain, the effort, time commitment, and financial obligations required has made the treatment not practical for many patients. Now, a new study by researchers at the University of North Carolina at Charlotte shows that a single hour of training spread out over a three day period can produce the same kind of analgesic effect.

The research appears in an article by UNC Charlotte psychologists Fadel Zeidan, Nakia S. Gordon, Junaid Merchant and Paula Goolkasian, in the current issue of *The Journal of Pain*.

"This study is the first study to demonstrate the efficacy of such a brief intervention on the perception of pain," noted Fadel Zeidan, a doctoral candidate in psychology at UNC Charlotte and the paper's lead author. "Not only did the meditation subjects feel less pain than the control group while meditating but they also experienced less pain sensitivity

while not meditating."

Over the course of three experiments employing harmless electrical shocks administered in gradual increments, the researchers measured the effect of brief sessions of mindfulness meditation training on pain awareness measuring responses that were carefully calibrated to insure reporting accuracy. Subjects who received the meditation training were compared to controls and to groups using relaxation and distraction techniques. The researchers measured changes in the subjects' rating of pain at "low" and "high" levels during the different activities, and also changes in their general sensitivity to pain through the process of calibrating responses before the activities.

While the distraction activity - which used a rigorous math task to distract subjects from the effects of the stimulus - was effective in reducing the subject's perception of "high" pain, the meditation activity had an even stronger reducing effect on high pain, and reduced the perception of "low" pain levels as well.

Further, the meditation training appeared to have an effect that continued to influence the patients after the activity was concluded, resulting in a general lowering of [pain sensitivity](#) in the subjects - a result that indicated that the effect of the meditation was substantially different from the effect of the distraction activity.

The finding follows earlier research studies that found differences in pain awareness and other mental activities among long-time practitioners of mindfulness meditation techniques.

"We knew already that meditation has significant effects on pain perception in long-term practitioners whose brains seem to have been completely changed -- we didn't know that you could do this in just three days, with just 20 minutes a day," Zeidan said.

In assessing the first experiment, the researchers were not terribly surprised to discover that meditation activity appeared to be affecting the experimental subjects' perception of pain because the researchers assumed that the change was mainly due to distraction, a well-known effect. However, subsequent findings began to indicate that the effect continued outside of the periods of meditation.

" When we re-calibrated their pain thresholds after the training had started and we found that they felt less pain, compared to the control subjects," Zeidan noted. "This was totally surprising because a change in general sensitivity was not part of our hypothesis at all.

"We were so surprised after the first experiment that we did two more. We thought that no one was going to listen to us because no one had done this before... and we got a robust finding across the three experiments."

Zeidan stresses that the effect the researchers measured in the meditation subjects was a lessening of pain but not a lessening of sensation. The calibration results showed little change in the meditation subjects' sensitivity to the sensation of electricity, but a significant change in what level of shock was perceived to be painful.

"The short course of meditation was very effective on pain perception," Zeidan said. "We got a very high effect size for the periods when they were meditating.

"In fact, it was kind of freaky for me. I was ramping at 400-500 milliamps and their arms would be jolting back and forth because the current was stimulating a motor nerve. Yet they would still be asking, 'A 2?' ('2' being the level of [electrical shock](#) that designates low pain) It was really surprising," he said.

Zeidan suspects that the mindfulness training lessens the awareness of and sensitivity to pain because it trains subjects' brains to pay attention to sensations at the present moment rather than anticipating future pain or dwelling on the emotions caused by pain, and thus reduces anxiety.

"The mindfulness training taught them that distractions, feelings, emotions are momentary, don't require a label or judgment because the moment is already over," Zeidan noted. "With the meditation training they would acknowledge the pain, they realize what it is, but just let it go. They learn to bring their attention back to the present."

Though the results are in line with past findings regarding mindfulness practitioners, Zeidan says that the findings are important because they show that meditation is much easier to use for pain management than it was previously believed to be because a very short, simple course of training is all that is required in order to achieve a significant effect. Even self-administered training might be effective, according to Zeidan.

"What's neat here is that this is the briefest known way to promote a meditation state and yet it has an effect in pain management. People who want to make use of the technique might not need a meditation facilitator - they might be able to get the necessary training off the internet," Zeidan said. "All you have to do is use your mind, change the way you look at the perception of pain and that, ultimately, might help alleviate the feeling of that [pain](#)."

Source: University of North Carolina at Charlotte

Citation: Study shows brief training in meditation may help manage pain (2009, November 10) retrieved 10 May 2024 from <https://medicalxpress.com/news/2009-11-meditation-pain.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.