

The mind dramatically affects drug effectiveness

Posted At : March 2, 2011 1:00 PM | Posted By : Michael Smith

Related Categories: Spirit, Health

This study shows the mind and patient beliefs dramatically affect drug effects both able to increase the effect and decrease it - not just on a pain scale but in actual physically measurable functioning. Makes you wonder if everyday thoughts are just as important to control... :-)

<http://www.sciencedaily.com/releases/2011/02/110226212356.htm>

The Oxford University team, along with colleagues from the University Medical Center Hamburg-Eppendorf in Germany, Cambridge University, and the Technische Universität München, set out to investigate these effects among 22 healthy adult volunteers by giving them an opioid drug and manipulating their expectations of the pain relief they might receive at different points.

The volunteers were placed in an MRI scanner and heat applied to the leg at a level where it begins to hurt -- set so that each individual rated the pain at 70 on a scale of 1 to 100. An intravenous line for administration of a potent opioid drug for pain relief was also introduced.

After an initial control run, unknown to the participants, the team started giving the drug to see what effects there would be in the absence of any knowledge or expectation of treatment. The average initial pain rating of 66 went down to 55.

The volunteers were then told that the drug would start being administered, although no change was actually made and they continued receiving the opioid at the same dose. The average pain ratings dropped further to 39.

Finally, the volunteers were led to believe the drug had been stopped and cautioned that there may be a possible increase in pain. Again, the drug was still being administered in the same way with no change. Their pain intensity increased to 64. That is, the pain was as great as in the absence of any pain relief at the beginning of the experiment.

The researchers used brain imaging to confirm the participants' reports of pain relief. MRI scans showed that the brain's pain networks responded to different extents according to the volunteers' expectations at each stage, and matching their reports of pain.

This showed the volunteers really did experience different levels of pain when their expectations were changed, although the administration of pain relief remained constant.

Professor Tracey notes that these results have been seen in a small, healthy group of volunteers, and that these are short-term, not sustained, manipulations of the participants' beliefs about the treatment.

But she says it's important not to underestimate the strength of the effect of such expectations on any treatment, and that clinicians need to know how to manage that.

Professor Tracey says there may also be lessons for the design of clinical trials. These are often carried out comparing a candidate drug against a dummy pill to see if there is any effect of a drug above and beyond that of the placebo. 'We should control for the effect of people's expectations on the results of any clinical trial. At the very least we should make sure we minimize any negative expectations to make sure we're not masking true efficacy in a trial drug.'