

Study Verifies Power of Positive Thinking

By **Lauran Neergaard**, Associated Press
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WASHINGTON (AP) -- Your medicine really could work better if your doctor talks it up before handing over the prescription.

Research is showing the power of expectations, that they have physical -- not just psychological -- effects on your health. Scientists can measure the resulting changes in the brain, from the release of natural painkilling chemicals to alterations in how neurons fire.

Among the most provocative findings: New research suggests that once Alzheimer's disease robs someone of the ability to expect that a proven painkiller will help them, it doesn't work nearly as well.

It's a new spin on the so-called placebo effect -- and it begs the question of how to harness this power and thus enhance treatment benefits for patients.

"Your expectations can have profound impacts on your brain and your health," says Columbia University neuroscientist Tor Wager.

"There is not a single placebo effect, but many placebo effects," that differ by illness, adds Dr. Fabrizio Benedetti of Italy's University of Torino Medical School, who is studying those effects in patients with Alzheimer's, Parkinson's disease and pain.

The placebo effect is infamous from studies of new medications: Scientists often given either an experimental drug or a dummy pill to patients and see how they fare. Frequently, those taking the fake feel better, too, for a while, making it more difficult to tease out the medication's true effects.

Doctors have long thought the placebo effect was psychological.

Now scientists are amassing the first direct evidence that the placebo effect actually is physical, and that expecting benefit can trigger the same neurological pathways of healing as real medication does. Among them:

--University of Michigan scientists injected the jaws of healthy young men with salt water to cause painful pressure, while PET scans measured the impact in their brains. During one scan, the men were told they were getting a pain reliever, actually a placebo.

Their brains immediately released more endorphins -- chemicals that act as natural painkillers by blocking the transmission of pain signals between nerve cells -- and the men felt better. To return to pre-placebo pain levels, scientists had to increase the salt-water pressure.

"Our brain really is on drugs when we get a placebo," says co-researcher Christian Stohler, now at the University of Maryland. More remarkable, some especially strong placebo responders suggest "many brains can actually stimulate that (pain-relief) system more."

Italy's Benedetti gave Parkinson's patients a placebo and measured the electrical activity of individual nerve cells in a movement-controlling part of the brain. Those neurons quieted down, a decrease in firing of about 40 percent that correlated with a reduction in patients' muscle rigidity -- they moved more easily.

To further prove the power of belief, Benedetti hooked pain patients to a computerized morphine injection system. Sometimes the computer administered a dose without them knowing it; sometimes a nurse pretended to give it. The morphine was up to 50 percent more effective when patients knew it was coming.

Likewise, Parkinson's patients moved much better when they were told that doctors had turned on a pacemaker-like implant in their brains, which blocks tremors, than when it was turned on covertly.

But in a similar experiment with Alzheimer's patients suffering pain, Benedetti found no difference between covert or expected dosing. The results are preliminary, he cautioned a meeting of the Society for Neuroscience last month. But it appears that because Alzheimer's robs patients of the cognitive ability to expect a benefit, they need higher doses of painkillers to get as much relief as non-demented patients.

Placebos aren't a substitute for real medicine. But the research suggests maybe doctors should try to manipulate patients' treatment expectations, for at least some hard-to-treat conditions.

"The bigger question is how do we capitalize on the placebo effect," said Dr. Helen Mayberg of Emory University, whose studies suggest some antidepressants have a "placebo-plus" activity in the brain. "There may be a phenomenon we all have access to."

- **Study: Optimists Live Longer**

http://www.livescience.com/health/ap_051128_placebo.html