Scared of Spiders? Short Therapy Sessions Can Help Curtail Specific Phobias

May 24, 2012

When dealing with the crippling effects of spider phobia, even a single instance of therapy can have long-term benefits, according to a study by researchers at Northwestern University's Feinberg School of Medicine and published in Proceedings of the National Academy of Sciences.

Spider phobia is an example of the kind of anxiety disorder known as specific phobia—an irrational, persistent fear of a creature, object, environment, event or situation. Other examples include fear of blood, confined spaces, dogs, heights, needles or thunderstorms. Specific phobias are very common, affecting an estimated 7 percent of the U.S. population.

For the study, which was detailed in a story from Northwestern's news center, researchers selected 12 healthy adults who had a fear of spiders. When petrified participants were shown pictures of spiders, scientists gave them an fMRI scan, a procedure that measures brain activity by revealing changes in blood flow. The scan showed increased activity in brain parts associated with fear. Afterward, researchers asked the adults to touch a tarantula in a sealed terrarium. None were able to get closer than 10 feet away.

"They thought the tarantula might be capable of jumping out of the cage and on to them," said Katherina Hauner, PhD, then a graduate student at Northwestern and the lead study author. "Some thought the tarantula was capable of planning something evil to purposefully hurt them."

But when participants underwent a single session of therapy, they learned their fears were unwarranted because tarantulas are fragile creatures more interested in avoiding danger than in causing harm. Next, researchers taught participants to approach the terrarium slowly until they were able to touch its exterior. After that, they touched the tarantula—first with a paintbrush, then with gloved hands and, finally, barehanded.

Findings showed that, after that single session of therapy, when researchers flashed pictures of spiders to participants, their fMRI brain scans reflected reduced fear center activity. What's more, even six months later, similar scans showed the same reduced fear response—and the participants remained able to approach and touch the tarantulas.

In addition, Hauner also found a predictable relationship between the therapy's long-term effectiveness and activity in the part of the brain that reacts to fear-inducing visual stimuli.

According to Hauner, this suggests that observations of brain activity immediately after therapy

may be a useful future tool to predict how long fear reduction would last for individuals with specific phobia disorders.
