BRAIN RESEARCH SUCCESS STORIES

Phobia

Making a Difference Today

Phobia, a disabling type of anxiety disorder, is the most common psychiatric illness among women and the second most common illness among men older than 25, according to the American Psychiatric Association. It affects more than 14 million adults in the United States.

No everyday fright, phobia involves extremely overwhelming, irrational, and debilitating fears of some specific object, situation, or feeling that can obstruct an individual's ability to live a normal life. A person can develop a phobia of anything. And whether it's, for example, highway driving or social situations, any exposure can trigger an extreme reaction of fear that may include a pounding heart, shortness of breath, and sweating. Some people even believe they are about to die. As a result, phobia can sideline daily life activities, relationships, and careers. Some people with the anxiety disorder may even become housebound, unable to fully contribute to society.

Financially draining, anxiety disorders, including phobia, cost America more than $42 billion a year.

Research Equals New Treatments

Fortunately inroads are being made. Basic science research including work with animals has helped researchers develop treatments that sometimes aid people with phobia. Today, therapy mainly centers on behavioral techniques that involve gradual exposure to the feared object or situation until a person learns to control his or her physical reactions of fear. In the latest advance, scientists recently discovered that virtual reality techniques can be used successfully in the doctor's office to help therapeutically expose a patient to his fear.

Recently, researchers also determined that some drugs used for depression that alter certain brain chemicals and decrease anxiety can help treat some types of phobia.

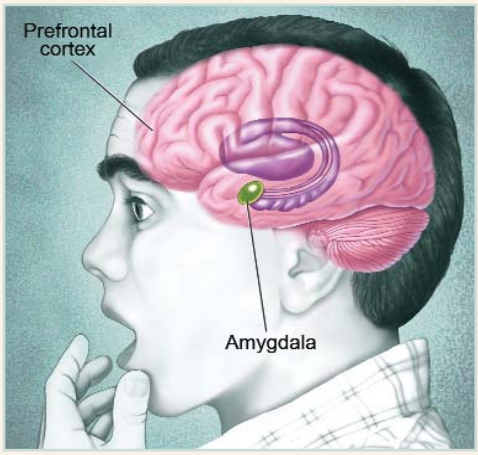
Other medicines sometimes used include anti-anxiety drugs called benzodiazepines and beta blockers.

Continued Advances In Care

These therapies help many, but they do not adequately treat every person's phobia. In addition, behavioral therapy is costly and slow. Some people also forgo the strategy because they fear the treatment itself.

Scientists suspect that greater success may come from compounds designed to work directly on the molecular mechanisms that underlie the brain's fear control system. With support from the National Institutes of Health (NIH), scientists already have uncovered some of the major biology behind the brain's ability to overcome fear. What's more, on the basis of these findings, researchers recently discovered that a compound called D-cycloserine shows promise as a new treatment for phobia.

With continued funding from NIH, researchers could further advance this area of study, expand treatment options, and help a wider range of people conquer their fears.



An increased understanding of how the brain controls our fears is pushing forward the development of new treatments for phobia on a number of fronts. One line of research suggests that two brain areas, the amygdala and the prefrontal cortex, play key roles in the fear control process. Some researchers believe that the development of a memory that can control a fear originates in the amygdala. It's thought that the prefrontal cortex helps retain this new fear control learning. These insights are helping researchers determine where they should focus the actions of new medicines being developed for phobia.

Continued funding for research could lead to:

- A clearer understanding of how the brain manages our fears.
- The further development of the compound D-cycloserine for phobia, which is being investigated based on positive animal research.
- Additional new therapies for people with phobia that tap into specific brain mechanisms.

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BRAIN RESEARCH SUCCESS STORIES

Phobia

Making a Difference Tomorrow

Doctors are better able than ever to help those who suffer from phobia, a serious type of anxiety disorder that can leave its victims housebound. But while treatments exist, they are not for everyone. Many people with phobia continue to experience irrational and disabling fears that obstruct their ability to live a normal life.

Did you know that:

- More than 14 million adults in the United States suffer from some type of phobia.
- Anxiety disorders, including phobia, cost America more than $42 billion a year, according to conservative estimates published by the Anxiety Disorders Association of America.
- More than half of the costs associated with anxiety disorders such as phobia come from repeated use of health-care services, because individuals with anxiety disorders seek relief for symptoms that mimic physical illness.

With additional funding from NIH, scientists could develop ways to improve treatment and reduce the cost of phobia to patients and society.

Research Equals Hope for the Future

Already, studies supported by NIH and others have led to the initial testing of a promising new treatment that works directly on the biological mechanisms that underlie the brain's fear control system.

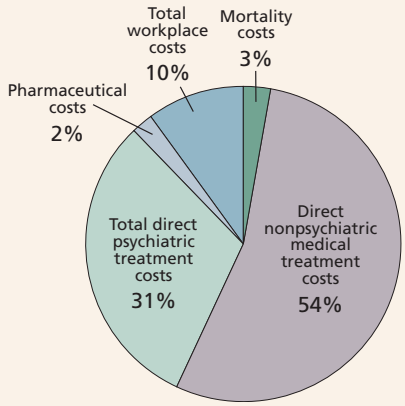
First, animal studies indicated that overcoming fear requires learning and the formation of a new memory rather than the erasure of an old fear memory. Following up on this finding, researchers examined a brain cell component implicated in general learning, termed the NMDA receptor. Studies revealed that the compound D-cycloserine, which boosts activity of the receptors, enhanced the ability of rats to conquer their fears.

In the latest development, scientists found evidence that the drug can cut the amount of behavioral therapy needed to help people overcome their phobias. A small number of people with a fear of heights who were treated with D-cycloserine did as well after two sessions of therapy as patients without the drug normally do after seven sessions. Treated individuals also were twice as likely to expose themselves to heights in daily life and, for example, peer over a bridge. Preliminary results of another patient study indicate that D-cycloserine also may help other types of phobia, like social phobia, in which people fear social situations.

Researchers also have identified additional methods that target the fear control system and may help those with phobia. For example, early results reveal that a compound that acts on another chemical in the system, dopamine, can accelerate the ability of mice to overcome fear. Several other strategies are also under investigation.

Additional NIH funding will hasten the development of these new treatments. Advances mean improved lives and less cost to the government and public.

Costs of Anxiety Disorders



Anxiety disorders, including phobia, cost America more than $42 billion a year, according to conservative estimates published by the Anxiety Disorders Association of America. More than half of the costs are associated with the repeated use of health-care services, since individuals with anxiety disorders seek relief for symptoms that mimic physical illness. Someone who has phobia, for example, can experience symptoms such as a pounding heart, shortness of breath, and sweating when they encounter a feared object, situation, or feeling. New treatments aim to diminish this fear response and cut associated costs to society.

Already research has led to:

- The development of behavioral therapies that help treat phobia.
- The discovery that some drugs used for depression that alter certain brain chemicals and decrease anxiety can help treat some types of phobia.
- An increased understanding of some of the major biology behind the brain's ability to overcome fear, which has led to the testing of a promising new treatment.

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