Virtual Reality Therapy Helps Ease Veterans' PTSD

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Not all of the injuries suffered by those in the service of our nation are visible. Post-traumatic stress disorder is one of the most overlooked ways that the men and women who serve can be injured in the line of duty, and it also is one of the most devastating.

PTSD can develop after a person experiences or witnesses something traumatic. Veterans suffering from PTSD can have nightmares or flashbacks of the event. They might have trouble sleeping or returning to their normal activities. They might be startled easily and simply withdraw in order to avoid anything that could be a trigger to them. Some veterans with PTSD also suffer from depression or substance abuse.

As the medical community learns more about how to recognize the symptoms and as therapies improve for treating the condition, those of us in faith- and mission-based health programs and services are examining ways to reach out to and help those with PTSD.

The first step is to acknowledge the extent of the problem. According to the U.S. Department of Veterans Affairs, the percentage of military men and women suffering from PTSD is in the double digits. One study cited by the VA showed 13.8 percent of veterans who had served in Iraq and Afghanistan had PTSD at the time of the study. Another showed 12.1 percent of Gulf War veterans had PTSD at the time of that study. A study of Vietnam veterans found that 15.2 percent of men and 8.1 percent of women had PTSD when the study was conducted, and that 30.9 percent of men and 26.9 percent of women who served in Vietnam would experience PTSD at some point in their lifetime. Civilians also can develop PTSD, but the incidence of PTSD among veterans is significantly higher than in the general population, probably because soldiers are more likely to be exposed to traumatic events.

THE PINK ELEPHANT THEORY

Those whose lives are haunted by memories of traumatic events often find it difficult to describe what happened to them. By the same token, the events they experienced or witnessed often are very difficult to hear about.

We know that it is crucial to listen with respect and without judgment — and to control any hint of reaction that might cause the PTSD sufferer to stop telling his or her story. For example, if the listener appears angry at how the trauma happened or at who caused it, the veteran might think anger and judgment are being directed at him or her, so the story stops. If the listener reacts to the story with sadness or tears, the veteran might worry that his or her story is making the listener feel bad, so the veteran stops talking about it.

Instead, the listener needs to pay calm, respectful and empathetic attention to the PTSD sufferer's story and thank him or her for being open and honest. Then the listener can take the next

step: assuring the veteran that he or she does not need to suffer alone and explaining what help is available.

The skill of listening and gathering the details of a PTSD patient's story is central to how AMITA Health's Foglia Family Foundation Residential Treatment Center puts together a treatment plan. The center, located in the Chicago suburb of Elk Grove Village, uses virtual reality therapy to help veterans with PTSD. The treatment uses a Virtual Iraq/Afghanistan 3-D Combat Simulator, which is a graphic representation from the perspective of a soldier of what it is like to be in Iraq. The simulator engages various senses, using a vibrating floor platform, virtual reality goggles, large earphones and a machine that emits scents reminiscent of war zones. The therapy involves exposure and response prevention, which is based on the idea that gradually exposing patients to the sensations that trigger their PTSD helps them get

RESIDENTIAL TREATMENT CENTER EXTENDS CENTURIES-OLD COMMITMENT TO MARGINALIZED

AMITA Health opened the Foglia Family Foundation Residential Treatment Center in April 2017 to address a growing need for specialized treatment for people with obsessive-compulsive disorder, anxiety and addictions.

Located on the campus of AMITA Health Alexian Brothers Medical Center in Elk Grove Village, Illinois, the 48-bed center specializes in treating multi-symptomatic patients, such as those with anxiety and substance-abuse issues. When it opened, the center was the only facility of its kind in Illinois and one of only four such treatment centers in the nation.

The center's services include individual therapy, group therapy and psychiatric care/medication management, with treatment options such as expressive therapy, mindfulness and exposure and response prevention therapy. Residents struggling with addiction also have access to 12-step addiction recovery groups.

In planning the center, AMITA Health included special services for veterans and their families. The center offers virtual reality treatments for veterans suffering from post-traumatic stress disorder. Virtual reality treatments also are available for patients struggling with phobias and addictions. The facility includes four beds for veterans, their spouses and their children between the ages of 18 and 26, and donations to the Alexian Brothers Foundation cover their care.

The center extends the Alexian Brothers' 800-year-old commitment to serving the sick and marginalized, including the mentally ill. The Alexian Brothers sold their 40-year-old residence on the AMITA Health Elk Grove Village campus to AMITA Health so the building could be converted into the residential treatment facility. As is unfortunately seen in the United States, with the numbers of men entering religious orders dwindling, the Alexian Brothers no longer needed such a large building. They wanted to turn it over to a cause that supported their healing mission. A $5 million donation from the Foglia Family Foundation helped to make the center a reality.

The center provides structure for the lives of its residents. The center's staff help residents learn and practice life skills such as time management, healthy eating habits, communication skills, relapse prevention and living successfully with others. Each resident has a roommate and is expected to be considerate of other residents.

Headquartered in Arlington Heights, Illinois, AMITA Health is a joint operating company formed by the Adventist Health System in Altamonte Springs, Florida, parent organization of Adventist Midwest Health, and St. Louis-based Ascension, parent organization of Alexian Brothers Health System. In addition to the legacy Adventist and legacy Alexian Brothers systems, AMITA Health includes Presence Health, a Catholic health system in the Chicago area. AMITA Health is the largest health system in Illinois, consisting of 19 hospitals and more than 230 sites of care.

used to loud noises and stressful situations and learn to handle them without anger, violence or panic. That, in turn, helps reduce symptoms such as insomnia and flashbacks.

The rationale behind the therapy is fairly simple: Although talking about and reliving the experience that prompted the PTSD is extremely difficult now, it can become less difficult and painful over time. At the Foglia Center, we often use the pink elephant analogy: If someone told you not to think about a pink elephant, it probably would be the first thing you thought about, and you might not be able to get the pink elephant out of your mind. But if someone told you that you could think *only* about a pink elephant, you probably would find it harder and harder over time to stay focused on thoughts of a pink elephant.

What if the same were true with a traumatic experience? If you were trying hard not to think about your trauma, you probably would think about it excessively. That is basically what happens to people with PTSD. But if you tried to think about it often or exclusively, you might have a harder time staying focused on it. The idea of the virtual reality therapy is to help veterans suffering from PTSD remember and even relive the traumatic experience over and over, until it no longer holds the same power over them.

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STRESSFUL SIMULATION

When we first explain to veterans how we use the virtual reality simulation to re-create the wartime experience that resulted in their PTSD, most of them are taken aback. They often say something like, "But I came here to stop thinking about those experiences. This will just make it worse."

We respond, "You may feel worse at the beginning, but you have spent years trying to get this thought out of your head with no success. What if you were to try an approach that was the total opposite of what you have been doing, and it led to a result that is the total opposite of what has been happening?"

They usually are intrigued by the idea.

Then we assure them that we will proceed gradually. We will not ask them right away to relive the worst 10 seconds of their trauma over and over, or to see several minutes of improvised explosive devices blowing up. We might start the virtual reality simulation with simply driving a Humvee around in the desert. Slowly, over the course of sessions that can last anywhere from 30 to 60 minutes each, we add triggers to the experience, making it more like what actually happened.

To understand better how the process works, here's an example based on a composite of veterans we have treated at the Foglia Center: Our "patient" is a male between 25 and 35 years old, who served with the Marine Corps in Afghanistan. He has told us that while he was in Afghanistan, he witnessed the Humvee in front of his get hit by a roadside bomb, and he saw the Marine in the front seat of his own vehicle get hit in the face with shrapnel. Our patient was in the rear seat at the time.

Based on his story, our first sessions with him on the simulator consisted of just "driving" the Humvee around; there were no bombs and no sounds other than the wind and the engine.

After the patient was comfortable with this, we used virtual reality to put him in different places in the Humvee (driver seat, passenger seat, rear seat and turret). The rear-seat position caused him the most anxiety, so we had the patient practice sitting there until he reported that he was feeling fairly comfortable.

For the next virtual reality session, we started with the patient in the rear seat, and we turned on the rumble pad so that he could "feel" the Humvee under him. (The rumble pad consists of two subwoofers in a small platform underneath the patient.) Then we turned on the smell machine and blew the smell of diesel fuel into the room to mimic the Humvee's exhaust.

We repeated that exposure for two sessions. Next, we started to add more sound effects, including the low rumbling of far-away bombing,

the chop-chop-chop of helicopters flying overhead and the scream of an A-10 aircraft doing a quick flyover.

After another session with this level of simulation, the patient agreed that it was time to make the sounds more real. We turned up the volume a bit and added the sounds of nearby small-arms fire, then AK-47s, and then the large M-50 gun on the Humvee's turret.

The patient's progress through these simulations was sporadic. He found that some sounds triggered a more intense response than others. However, overall there was a decrease in his fear responses as he made his way toward his biggest step: using the simulator to re-create seeing the Humvee in front of him get hit by a roadside bomb.

For more than a year, reliving that scene had been part of regular nightmares, and the veteran resorted to using illegal stimulants to keep himself from sleeping. The effects of PTSD plus insomnia were taking a serious toll on his health and his quality of life.

In the virtual reality simulator, the first 10 times he experienced the Humvee blowing up were extremely difficult for him. He said he wanted to pull off the virtual reality goggles and run away. But he stuck with it. After four more sessions of re-creating the experience, he stopped having nightmares about it. During the last session, he asked if we could stop the simulation — not because it was too difficult to bear, but because he was feeling bored with watching it over and over.

At this point, about 10 hours into the virtual reality treatment, most of the therapy was complete. We continued to spend some time talking with the patient about some difficulties he was having with reintegrating into day-to-day society; for example, being around people with certain accents bothered him. We designed exercises for him to do at the Foglia Center to practice what he would be experiencing when he was released back to a lower level of care and then back to his home and work environments. The goal was to help ensure a smooth transition out of the residential level of care.

OTHER USES FOR THE SIMULATOR

There are other ways to use virtual reality simulation and exposure and response prevention to help veterans deal with PTSD. For patients who try to escape from their traumatic memories by abusing alcohol, we can use virtual reality to "bring" the patient into a convenience store and walk him or her past a cooler filled with beer. We even can cause the patient to be able to smell beer.

Why would we do this? When someone's PTSD triggers the urge to drink alcohol, we would rather have him or her experience that trigger in a virtual reality simulation instead of in an actual convenience store or bar, where he or she easily could give in to the urge to have a drink — or several. Based on our experience treating patients, we have found that this approach can help them learn that they do not have to drink just because they are around alcohol.

Working with veterans suffering from PTSD is an important part of the work we do at the Foglia Center, and we are especially proud to offer free services to veterans, their spouses and their children up to age 26. We also care for people with obsessive-compulsive disorder, anxiety, addictions and co-occurring disorders, using exposure and response prevention, as well as other therapies.

In recent years, virtual reality simulation has expanded into other areas of clinical medicine, such as surgical training and pain management. It is proving to be an important, successful tool, and one that's likely to find new health care applications in the years ahead.

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