A 'brainwave' to help fight PTSD

April 19 2017

(HealthDay)—Technology using a patient's own brainwaves might offer hope against tough-to-treat PTSD, new research suggests.

Post-traumatic stress disorder (PTSD) can develop as a reaction to a terrifying event, such as war, natural disasters, sexual assault and other physical violence or trauma. People with the condition may have prolonged anxiety, flashbacks, nightmares and other life-altering symptoms.

"Conventional treatments for PTSD are often not sufficient for addressing this difficult condition," noted Mayer Bellehsen. He directs the Feinberg Division of the Unified Behavioral Health Center for Military Veterans and Their Families, in Bay Shore, N.Y.

"While traditional behavioral treatments offer significant relief, many people cannot tolerate the treatment and discontinue prior to experiencing the full benefits," Bellehsen explained.

The new study was led by researchers at Wake Forest Baptist Medical Center in Winston-Salem, N.C. The investigators sought to tackle PTSD from another angle, through the patients' own brainwaves.

The study involved 18 patients who completed an average of 16 successive, daily sessions of what the researchers called "noninvasive closed-loop acoustic stimulation brainwave technology."

During the sessions, the patients' brain activity was monitored and certain brain frequencies were translated into acoustic tones that were then relayed back to the patients via earbuds.

"It's as if the brain can look at itself in an acoustic mirror, recalibrate its patterns towards improved balance and reduced hyperarousal, and can relax," study lead author Dr. Charles Tegeler, professor of neurology, said in a Wake Forest news release.

After the sessions, nearly 90 percent of the patients reported clinically

meaningful decreases in PTSD symptoms, Tegeler's team said.

"The effects of chronic stress are killing people and the medical profession has not yet found an answer for how best to treat them," Tegeler said. "We believe there is a need for effective, noninvasive, nondrug therapies for symptoms of post-traumatic stress, which is why we conducted this trial."

Bellehsen reviewed the findings and was cautiously optimistic.

The research is "a novel approach to thinking about and devising treatments for PTSD," Bellehsen said. The brainwave approach seemed to help many participants, he added, and "it is notable that most [patients] seemed to tolerate the intervention and did not experience negative events in the course of the treatment."

However, this remains a small pilot study and "these findings need to be viewed with caution as there is much more work to be done before these efforts can lead to a clinically meaningful intervention," Bellehsen said. That work should include a larger study group, plus clinician-rated measurements of PTSD symptoms, not the patient self-reports the current study relied on, he explained.

Dr. Aaron Pinkhasov directs behavioral health at NYU Winthrop Hospital in Mineola, N.Y. Reviewing the new findings, he agreed that "any progress in the management of PTSD is very welcome."

But he also agreed with Bellehsen that a larger, better-controlled and better-evaluated study is needed.

"It would be great to see a larger study demonstrating good results," Pinkhasov said.

The study was published online April 19 in the journal *BMC Psychiatry*.

More information: The U.S. National Institute of Mental Health has more on PTSD.