

Behavioral intervention can reduce tics in adults with Tourette syndrome

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Specially designed comprehensive behavioral therapy is more effective than sessions offering patient support and education in helping adults with Tourette syndrome manage their tics – sudden, repetitive motions or vocalizations – according to a study in the August issue of *Archives of General Psychiatry*. The findings come from a team of investigators at Massachusetts General Hospital (MGH)/Harvard Medical School, Yale University, the University of Texas Health Science Center at San Antonio, and other institutions.

"The program we tested, which teaches patients new ways to manage the urge to tic, was associated with a greater decrease in tic severity than the control [treatment](#)," says Sabine Wilhelm, PhD, director of the OCD and Related Disorders Program at Massachusetts General Hospital and lead author of the study.

[Tourette syndrome](#) (TS) is a neurological disorder associated with motor or vocal [tics](#) that can be embarrassing and disruptive. Tics begin in childhood, typically peak in early adolescence and often decrease by adulthood. For some [adults](#), the tics persist and cause substantial impairment. Many individuals with TS describe an unwanted urge or sensation prior to the tic that is relieved only by performing the tic.

TS is commonly treated with medications, including potent antipsychotics such as pimozide or risperidone. But these medications rarely eliminate all tics and can result in such troubling side effects as weight gain or sedation. Because of these adverse effects, many patients

refuse or discontinue taking medications. Although some studies of behavioral interventions have had promising preliminary results, few have been large enough to guide clinical practice.

The current study compared the effectiveness of a Comprehensive Behavioral Intervention for Tics (CBIT) to supportive patient education in a randomized trial of 122 participants between the ages of 16 and 65 years. Those already taking medication continued their treatment during the study period. Designed by some members of the study team, the CBIT program features multiple treatment components, including tic awareness, competing-response and relaxation training. During the awareness training phase, patients learn to detect early warning signs that a tic is about to occur. They also learn to identify and manage situations that increase the frequency and severity of tics.

Competing-response training teaches patients to engage in voluntary behaviors that are physically incompatible with the impending tic. For example, a patient who blurts out words or sounds inappropriately may be taught slow rhythmic breathing techniques, or a patient who thrusts out his arm would learn to press his elbow to his torso. This combination of awareness training and competing response training is intended to disrupt the cycle of premonitory urge and performance of the tic.

Participants who enrolled at the three lead sites – MGH/Harvard, Yale and University of Texas – were randomized to receive either CBIT or the control treatment, which provided information about the neurobiology, effects of and treatments for TS, along with supportive discussions that did not include strategies for tic management. Each group received eight training sessions over a 10-week period. Those who showed a positive response to either treatment had the opportunity to continue with three monthly "booster sessions" and were followed for six months after the initial treatment period to observe whether the short-term benefit would last.

At the end of the 10-week treatment phase, participants were evaluated by mental health professionals who did not know to which groups they had been assigned. Overall, 38 percent of the patients who received CBIT showed significant symptom improvement, compared with 6 percent of those receiving the control treatment. Participants reassessed six months after showing a positive response to CBIT reported continued benefit. These findings complement an earlier trial in children and adolescents conducted by the same investigators.

"Although these results are encouraging," notes Wilhelm, "the positive response rate in this study of adults was somewhat lower than in our previous CBIT study in children. It may be that patients with persistent tics in adulthood have a more chronic form of the disorder. Still, this is the first treatment for TS-associated tics to be examined across the lifespan."

Thomas R. Insel, MD, director of the National Institute of Mental Health, which funded the study, says, "TS is often associated with considerable impairment and social isolation, and treating adults with TS can be especially difficult because chronicity tends to increase with age. This study shows that cognitive-behavioral approaches can be an important part of the treatment of TS."

Provided by Massachusetts General Hospital

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