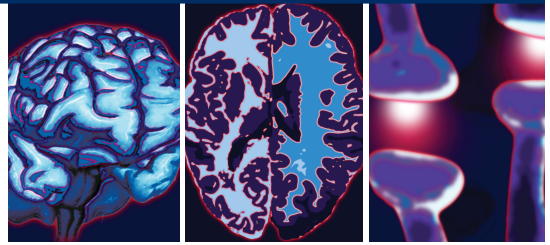


CASE REPORT



Behavior therapy for a 75-year-old woman with chronic motor tic disorder

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Practice points

- Tics are sudden, rapid, recurrent, nonrhythmic motor movements or vocalizations.
- Chronic motor tic disorder is characterized by the presence of multiple motor tics that persist for more than 1 year, and may fluctuate in frequency or severity.
- Although traditionally managed with psychotropic medications, behavior therapy presents an efficacious treatment option to reduce tic severity.
- The Comprehensive Behavioral Intervention for Tics (CBIT) has demonstrated efficacy in reducing tics, but may require tailoring for specific patient needs.
- The described case highlights modifications to the structured CBIT treatment protocol for a geriatric patient that included the incorporation of goal setting and an increased emphasis on awareness training.
- CBIT is a safe and efficacious intervention even for geriatric patients with tics.
- Further research is needed to disseminate this treatment, increase access to behavior therapy practitioners, and address the misconceptions and/or controversies concerning the use of behavior therapy to treat tics.

SUMMARY Chronic tic disorders are neuropsychiatric conditions characterized by the presence of motor or phonic tics that can cause distress and impairment. Although tic symptoms have been historically managed with psychotropic medications, behavior therapy presents an efficacious treatment option that is unaccompanied by concerns of medication management (e.g., side effects, drug–drug interactions and medication adherence). Previous case reports and randomized controlled trials have emphasized behavioral treatments in youth and adults, with minimal attention directed toward geriatric patient populations. We present the successful treatment of a 75-year-old woman with chronic motor tic disorder and describe how a manualized behavior therapy (Comprehensive Behavioral Intervention for Tics) was tailored to address the chronic symptom presentation relevant to geriatric patients with tics.

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Chronic motor tic disorder (CMTD) is a neuropsychiatric condition characterized by the presence of multiple motor tics that persist for more than 1 year [1]. For many adults, tics and co-occurring conditions cause significant distress and impairment [2]. Historically, tics have been managed with psychotropic medications such as antipsychotics (e.g., haloperidol), atypical antipsychotics (e.g., risperidone) and α -2 agonists (e.g., guanfacine and clonidine) [3]. Indeed, a recent survey identified that approximately 93% of adults with a chronic tic disorder (e.g., Tourette's disorder, CMTD or chronic vocal tic disorder) have been on these tic influencing medications [4]. Although effective, psychiatric medications may not be an optimum intervention for tics, especially in geriatric patients, given concerns about medical comorbidities, drug–drug interactions, patient acceptability, side-effect profiles and medication compliance. Behavior therapy (e.g., habit reversal training and Comprehensive Behavioral Intervention for Tics [CBIT]) is another treatment option that has been evaluated across several treatment trials [5]. Randomized controlled trials (RCTs) of behavior therapy have identified significant reductions in tic severity comparable in magnitude to pharmacotherapy, without an adverse side-effect profile [6,7]. Indeed, the efficacy of behavioral interventions has resulted in their recommendation as a first-line intervention by several professional organizations [5,8]. Thus, behavior therapy presents an acceptable and safe treatment option unaccompanied by the concerns involved with psychotropic medication management.

Although most emphasis of behavior therapy has been focused on youth and adults [6,7], there has been minimal examination of behavior therapy for geriatric patients with tics. Some clinicians may believe that geriatric patients may not benefit from behavior therapy due to the chronicity of tic symptoms, difficulty with tic awareness, and/or concerns over tic suppression abilities. Indeed, geriatric patients' ability to detect tics, suppress tics and/or implement competing responses has been relatively unexamined, with most investigations on tic control restricted to youth and adults [9,10]. In response, we present the successful treatment of LB (not her real initials), a 75-year-old woman with CMTD, and highlight how a manualized behavioral therapy intervention (CBIT [11]) was tailored to address her chronic symptom presentation.

Case

LB's tics onset at approximately 6 years of age, and caused significant distress and impairment throughout adulthood. Based on her historical account, LB had mild-to-moderate tic severity throughout her life. While LB reported that her tics fluctuated in frequency and severity, no periods of tic remission were identified. When socializing, LB experienced emotional distress, self-consciousness and anxiety due to her frequent eye blinking and facial tics. Her tics impaired her social functioning (e.g., minimized social contact and distracted her due to symptom monitoring), resulted in increased stress (e.g., worries about social judgment) and led to the development of poor coping strategies (e.g., sitting facing the wall at restaurants to minimize observance of tics). Although experiencing symptoms since an early age, LB stated that she first sought treatment for her tics at 59 years of age. At this time, LB had a 2-week trial of pimozide that was terminated due to side effects (e.g., agitation). This unsuccessful treatment attempt left LB frustrated and hesitant about future treatment attempts.

At presentation, LB exhibited eye blinking, eye squinting, nose scrunching, neck movements and several hand tics. Based on LB's historical report and current symptom presentation, she did not have any vocal tics and, thus, met criteria for CMTD. LB had difficulty identifying premonitory urges for her tics and perceived them to be automatic, but stated that she 'felt something' for some of her tics before they occurred. No co-occurring psychiatric conditions were identified. The Yale Global Tic Severity Scale was administered to assess tic severity [12]. LB had a Total Tic Score of 13, and Impairment Scale Score of 30.

LB received eight CBIT sessions over 10 weeks (sessions seven and eight were biweekly). Session one focused on psychoeducation about tics, reviewed inconveniences caused by tics, oriented LB to the behavioral model of treatment of tic symptoms and developed a tic treatment hierarchy. Psychoeducation included information about the etiology, prevalence and phenomenology of tic disorders, as well as common social difficulties and co-occurring psychiatric conditions. Psychoeducation was intended to reduce blame and negative feelings associated with symptoms.

During the discussion about the behavioral treatment model, LB expressed concern about her treatment prognosis due to the chronicity of

her tic symptoms and poor response to a trial of pimozide. In response, goal setting was incorporated to help LB identify and monitor benchmarks of improvement of her symptoms. Benchmarks included reduced avoidance and/or early discontinuation of social activities, and increased control over her tics in previously challenging situations (e.g., going out to eat at a restaurant or spending time with specific individuals). Goal setting was intended to help LB focus on reducing tic severity and tic impairment, rather than complete remission of tic symptoms. The development of a tic treatment hierarchy included rating the bothersomeness of each tic on a 0–10 scale using Subjective Units of Distress.

Sessions two to seven instructed LB on awareness training and implementation of competing responses for each bothersome tic. Awareness training involved self-monitoring of current tics by focusing on either premonitory urges associated with a tic or other early signs that a tic would occur (e.g., movement preceding a tic). Awareness training was intended to help LB detect tics before they overtly occurred. LB experienced difficulty with tic recognition, which she attributed to the chronicity of her symptoms and perceived automaticity of tics. As such, approximately half of each session was spent on awareness training to enhance tic recognition abilities. Although we assessed for the presence of premonitory urges during awareness training, the intensity of premonitory urges was not quantified and monitored throughout treatment. Rather, awareness training focused on developing LB's urge and early tic movement recognition so that she could learn to implement competing responses appropriately. Competing response training involved teaching LB to engage in a socially appropriate behavior that was physically incompatible with a targeted tic. Competing responses were applied contingent on either the recognition of the premonitory urge or movements preceding the tic. All of LB's current tics were targeted in treatment with some tics (e.g., eye blinking and eye squinting) requiring more than one session of treatment. Competing responses for tics included controlled eye blinks (for eye tics), keeping lips pressed shut (for nose scrunch), tensing neck muscles with chin pushed down slightly (for neck movements) and crossing arms/folding hands (for hand tics).

Relaxation training exercises and problem solving were incorporated throughout session two to seven to help LB manage situational

triggers that exacerbated her tics as needed. Relaxation training included diaphragmatic breathing and progressive muscle relaxation. LB was instructed to practice these exercises daily, and implement them when confronted by stressors that exacerbated her tics. Problem solving included the identification of factors that influenced tics (e.g., stress, anxiety, specific individuals and specific activities) and the development of function-based strategies to manage tics in these situations. For instance, LB reported that she had increased hand tics during her knitting group. In response, different knitting postures were identified to minimize hand tics during this activity. Additionally, LB was encouraged to use relaxation training exercises during this activity and to keep her hands folded when not otherwise engaged in knitting.

Over the course of sessions two to seven, LB learned to implement competing responses in social settings and discontinued pre-existing coping strategies (e.g., early discontinuation of social activities). Session eight concluded with relapse prevention strategies to maintain treatment gains and discuss strategies to manage the possible development of new tics using learned strategies (e.g., awareness training and competing responses). After treatment, LB experienced reduced tic severity (Yale Global Tic Severity Scale Total Tic Score: 9) and tic-related impairment (Yale Global Tic Severity Scale Impairment score: 0).

Conclusion

Despite the chronicity of her tic symptoms, LB successfully learned to manage her tics with behavior therapy. Although her tic symptoms improved modestly, this 30% reduction in tic symptom severity is consistent with a clinically meaningful response to treatment among youth and adults [13,14]. Consistent with her reduction in tic symptom severity, LB reported experiencing markedly reduced impairment because she felt in control of her tic symptoms in social situations, and no longer reported experiencing even subtle difficulties in her social functioning due to her tics. LB's case suggests that behavioral therapy for tics and tic-related impairment is an acceptable, safe and effective treatment among older adults.

For youth, adults and older adults with tics, treatment response to behavior therapy may vary for several reasons. First, older adults probably have had a longer duration of tics that have

not significantly reduced with previous treatment attempts. Thus, these patients may have a more severe clinical presentation, and/or may feel despondent due to previously failed treatment attempts. Indeed, this was the case with LB, who expressed concern about her prognosis owing to the chronicity of her symptoms and poor response to medication. Second, motivation for treatment may differ across age groups. For instance, adults and older adults often seek treatment themselves whereas the parents of affected youth often pursue treatment for youth's tic symptoms. Thus, motivation to engage in therapy may differ across age groups owing to treatment-seeking behavior and perceived impairment from tics. Third, behavior therapy is contingent upon the use of competing responses preceding tics. As many youth under 10 years of age experience difficulty with premonitory urge recognition [15], these youth and other individuals with difficulty recognizing premonitory urges may struggle to implement competing responses in a timely fashion.

Although the CBIT treatment manual served as an informative guide for LB's treatment, it required tailoring for an older adult patient with chronic tic symptoms. These adjustments included goal setting to help manage expressed concerns of treatment prognosis resulting from symptom chronicity and unsuccessful prior treatment attempts, and an increased emphasis on awareness training exercises to improve tic recognition and counter the perceived automaticity of tics.

Future perspective

Several professional organizations recommend behavior therapy as a first-line treatment for tic disorders [5,8]. Despite its demonstrated efficacy, there is a clear need to disseminate this treatment, and address misconceptions and/or

controversies about the use of behavior therapy to treat tics [16]. Although efforts are underway to increase availability of behavior therapy via videoconference [17] and increase the number of trained practitioners [101], continued research efforts are needed to educate and address misconceptions and/or controversies (e.g., symptom substitution). Additionally, as treatment response rates in multisite RCTs of behavior therapy range from 38 to 53% [6,7], further research is needed to improve treatment response rates and enhance therapeutic gains obtained in existing behavior therapy protocols. Finally, behavior therapy primarily focuses on reducing tic severity. Although tics are the hallmark symptom of chronic tic disorders, patients with tics often experience impaired social functioning [2,18] and/or social deficits [19]. While open-label case series and case reports exhibit promising results of cognitive behavioral therapy to address these social problems in youth [20] and adults [21], systematic RCTs are needed to develop manualized interventions and evaluate their efficacy among patients with tic disorders.

Informed consent disclosure

The authors state that they have obtained verbal and written informed consent from the patient/patients for the inclusion of their medical and treatment history within this case report.

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