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An Empirical Examination of Symptom Substitution Associated With Behavior Therapy for Tourette's Disorder

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Over the past six decades, behavior therapy has been a major contributor to the development of evidence-based psychotherapy treatments. However, a long-standing concern with behavior therapy among many nonbehavioral clinicians has been the potential risk for symptom substitution. Few studies have been conducted to evaluate symptom substitution in response to behavioral treatments, largely due to measurement and definitional challenges associated with treated psychiatric symptoms. Given the overt motor and vocal tics associated with Tourette's disorder, it presents an excellent opportunity to empirically evaluate the potential risk for symptom substitution associated with behavior therapy. The present study examined the possible presence of symptom substitution using four methods: (a) the onset of new tic symptoms, (b) the occurrence of adverse events, (c) change in tic medications, and (d) worsening of co-occurring psychiatric symptoms. Two hundred twenty-eight participants with Tourette's disorder or persistent motor or vocal tic disorders were randomly assigned to receive behavioral therapy or

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supportive therapy for tics. Both therapies consisted of eight sessions over 10 weeks. Results indicated that participants treated with behavior therapy were not more likely to have an onset of new tic symptoms, experience adverse events, increase tic medications, or have an exacerbation in co-occurring psychiatric symptoms relative to participants treated with supportive therapy. Further analysis suggested that the emergence of new tics was attributed with the normal waxing and waning nature of Tourette's disorder. Findings provide empirical support to counter the long-standing concern of symptom substitution in response to behavior therapy for individuals with Tourette's disorder.

Keywords: Tourette's disorder; chronic tic disorder; behavior therapy; symptom substitution; comprehensive behavioral intervention for tics

OVER THE PAST SIX decades, behavior therapy has been a major contributor to the development of evidence-based psychotherapy treatments (Antony & Roemer, 2011). However, since the earliest emergence of behavior therapy, a long-standing concern among many psychodynamic and other nonbehavioral psychotherapists has been the potential risk for symptom substitution associated with behavior therapy (Kazdin, 1982; Nurnberger & Hingtgen, 1973; Tryon, 2008). This concern about symptom substitution stems from the belief that behavior therapy is a superficial treatment that does not target the underlying causes of psychopathology such as unconscious internal conflicts (Scahill et al., 2013). As a result, many nonbehavioral clinicians believe that focusing on overt, observable, or measureable behaviors—rather than the "underlying cause"—is not therapeutic and might even cause harm if the substituted symptom is worse than the targeted one (Kazdin, 1982). For instance, if behavior therapy was used to successfully treat one symptom of a particular disorder, there might be an increase in other symptoms of that disorder or a worsening of a comorbid symptom or condition.

One factor that has contributed to the continued belief in symptom substitution is that few studies have attempted to systematically evaluate its presence in response to behavioral interventions. This is largely attributed to the measurement and definitional challenges that complicate the investigation of symptom substitution (Kazdin, 1982; Tryon, 2008). First, symptoms that emerge or are "substituted" need to be differentiated from the targeted disorder prior to the initiation of behavior therapy. As many psychiatric problems include multiple distinct psychiatric symptoms, the clear identification of symptoms that are present at the onset of treatment is critical to clarifying which symptoms could be considered "new" or "substituted." Second, a temporal relationship between the original and substituted symptoms must be demonstrated with the new symptoms appearing within a specific window of time. While some suggest that the primary focus should be the time in which the patient is receiving behavior therapy (Tryon, 2008), monitoring patients during a follow-up period after treatment can prove important as well (Kazdin, 1982). Finally, substituted symptoms have to be associated with the behavioral intervention beyond that of normal fluctuations of symptoms. While the internal nature of many psychiatric symptoms complicates these measurement and definitional challenges, psychiatric symptoms with overt behaviors present an ideal opportunity to empirically evaluate the potential risk of symptom substitution in response to behavior therapy. For instance, a recent randomized controlled trial (RCT) that compared psychoanalytic psychotherapy with cognitive-behavioral therapy (CBT) for bulimia nervosa found that CBT outperformed the psychoanalytic condition at the 2-year assessment point, with no evidence of symptom substitution (Hollon & Wilson, 2014; Poulsen et al., 2014). The overt nature of motor and vocal tic symptoms associated with Tourette's disorder (TD) presents another opportunity to empirically assess the potential presence of symptom substitution in response to behavior therapy. Specifically, the natural occurrence of TD involves a waxing and waning of tics (Lin et al., 2002), with the onset of new tics not being uncommon. Therefore, the onset of new tic symptoms or worsening of tic severity that might be perceived as "evidence" of symptom substitution may result from the natural waxing and waning nature of tics.

Tics are sudden motor movements or vocalizations that begin in childhood and may persist into adulthood (Leckman, 2002). A persistent motor or vocal tic disorder (PTD; also known as chronic tic disorder) is defined by the presence of a single tic or multiple motor or vocal tics that persist for more than a year, with the diagnosis of Tourette's disorder (also known as Tourette syndrome) requiring both multiple motor tics and at least one vocal tic (not necessarily concurrently) that last more than a year (American Psychiatric Association, 2013). The prevalence of TD ranges from 0.4 to 1.6% (Knight et al., 2012; Scahill, Specht, & Page, 2014). Common tics in children and adults with TD/PTD include eye blinking, head jerking, mouth movements, and simple vocalizations (McGuire et al., 2013). In community and clinical samples, TD/PTDs are associated with a wide range of behavioral and emotional difficulties (Conelea et al., 2011, 2013; Specht et al., 2011; Storch et al., 2007; Sukhodolsky et al., 2003). Thus, efficient and effective treatments are needed for individuals with TD/PTD.