Integrated Behavior Therapy for Selective Mutism: A randomized controlled pilot study

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ABSTRACT

Objective: To evaluate the feasibility, acceptability, and preliminary efficacy of a novel behavioral intervention for reducing symptoms of selective mutism and increasing functional speech.
Method: A total of 21 children ages 4 to 8 with primary selective mutism were randomized to 24 weeks of Integrated Behavior Therapy for Selective Mutism (IBTSM) or a 12-week Waitlist control. Clinical outcomes were assessed using blind independent evaluators, parent-, and teacher-report, and an objective behavioral measure. Treatment recipients completed a three-month follow-up to assess durability of treatment gains.
Results: Data indicated increased functional speaking behavior post-treatment as rated by parents and teachers, with a high rate of treatment responders as rated by blind independent evaluators (75%). Conversely, children in the Waitlist comparison group did not experience significant improvements in speaking behaviors. Children who received IBTSM also demonstrated significant improvements in number of words spoken at school compared to baseline, however, significant group differences did not emerge. Treatment recipients also experienced significant reductions in social anxiety per parent, but not teacher, report. Clinical gains were maintained over 3 month follow-up.
Conclusion: IBTSM appears to be a promising new intervention that is efficacious in increasing functional speaking behaviors, feasible, and acceptable to parents and teachers.

Selective Mutism (SM) is a childhood behavioral disorder characterized by persistent failure to speak in specific social situations despite speaking in other situations. According to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM–IV–TR; American Psychiatric Association, 2000), lack of speech must cause interference, last at least one month, and not be due to a lack of knowledge of the relevant language. SM is considered to be an impairing condition that can interfere with both educational achievement and socialization (e.g., Bergman, Piacentini, & McCracken, 2002; Carbone et al. 2010), with a typical onset age ranging from ages 3 to 5 (Cunningham, McHolm, Boyle, & Patel, 2004; Garcia, Freeman, Francis, Miller, & Leonard, 2004). While previously thought to be quite rare with rates as low as .18% (Kopp & Gillberg, 1997), more recent studies have revealed higher prevalence rates of approximately .71–.76% (Bergman et al., 2002; Elizur & Perednik, 2003).

Although SM has received increased attention in the last decade, there remains a dearth of knowledge regarding the phenomenology and treatment of the disorder. There is a general consensus that SM is closely related to social anxiety disorder, with an increasing conceptualization of SM as a developmental variant of social phobia (Bogels et al., 2010; Yeganeh, Beidel, Turner, Pina, & Silverman, 2003). Evidence to support the link between SM and social phobia is derived from multiple sources. For one, numerous studies report comorbidity rates approaching or greatly exceeding 50% (e.g., Alyanak et al., 2012; Arie et al., 2006; Manassis et al., 2007), with some co-occurrence rates greater than 80% (Dummit et al., 1997; Vecchio & Kearney, 2005). Additionally, several investigations have revealed that parents of children with SM have elevated rates of social phobia (Black & Uhde, 1995; Chavira, Shipon-Blum, Hitchcock, Cohan, & Stein, 2007). Further, evidence suggests that some treatments that are effective in reducing social anxiety are also efficacious for SM, such as certain pharmacological agents (Carlson, Mitchell, & Segool, 2008; Manassis & Tannock, 2008). Accordingly, it is reasonable to suspect that the benefits of other extant empirically supported treatments for childhood social phobia may extend to children with SM. Indeed, efforts to treat SM

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using modified manualized interventions initially developed for social anxiety (Fisak, Oliveros, & Ehrenreich, 2006) or more general forms of child anxiety (Hudson, Krain, & Kendall, 2001) have been somewhat successful. Similarly, modular CBT, which has shown promise as treatment for anxiety disorder in children, was used successfully to treat SM as reported in two recent case studies (Christon, Robinson, & Arnold, 2012; Reuther, Davis, Moree, & Matson, 2011).

SM presents unique challenges that must be addressed during treatment. Unfortunately, these critical aspects of treatment are not present in existing manualized child anxiety interventions or are, at best, tacked on as supplemental additions. Children with SM often fail to speak to the therapist in early sessions, which necessitates unique strategies for engagement and parental involvement early in the treatment process. Further, the typical age of onset for SM (age 5; Cunningham et al., 2004; Garcia et al., 2004) is considerably younger than those of other anxiety disorders, requiring developmental adaptations of commonly used CBT intervention (see Piacentini & Bergman, 2001). In addition, children with SM tend to be most symptomatic in the school environment (Bergman, Keller, Piacentini, & Bergman, 2008), thus requiring extensive treatment involvement of and coordination with school personnel, most notably, the child's teacher. As a result, current treatment approaches shown effective for childhood social phobia and other childhood anxiety disorders may not be sufficient for the treatment of SM.

With the exception of a small medication trial (Black & Uhde, 1994), there are no published randomized controlled treatment trials for children with SM to date. In fact, until quite recently, what little treatment research that did exist lacked scientific rigor (e.g., no comparison group, single subjects) among other methodological limitations (e.g., failure to identify diagnostic procedures, assessment or outcome methods, number of treatment sessions, or details of the treatment method; Viana, Biedel, & Rabian, 2009; Cohan, Chavira, & Stein, 2006). These shortcomings, along with the lack of controlled trials, make it difficult to assess treatment efficacy or to replicate described treatments. Despite these limitations, recent reviews of the literature indicate empirical support for individual behavioral intervention of SM (Cohan et al., 2006; Stone, Kratochwill, Sladezcek, & Serlin, 2002), and recent more methodologically sound studies using behavioral techniques show promising results (e.g., Oerbeck, Johansen, Lundahl, & Kristensen, 2012; Sharkey, McNicholas, Barry, Begley, & Ahern, 2008; Vecchio & Kearney, 2009).

The goals of the present study were to examine the feasibility, tolerability, and preliminary efficacy of a behavioral intervention developed for selective mutism using a randomized controlled methodology. Following a baseline assessment to determine eligibility, participants were randomly assigned to either 20 sessions of individual Integrated Behavior Therapy for Selective Mutism (IBTSM) or 12 weeks of waitlist (WL). We hypothesized that the active treatment condition would be feasible, tolerable, and associated with statistically significant decreases in symptoms compared to WL condition. To assess durability of gains, children randomized to IBTSM completed a follow-up assessment 3 months post-treatment. We anticipated that symptom improvement would be maintained over the follow-up period.

Method

Participants

Participants were recruited from a pediatric anxiety specialty clinic, mental health practitioner referrals, and postings on internet websites focused on selective mutism. Children were eligible for inclusion if they were ages 4–8 years, inclusive, at baseline and met.

DSM-IV criteria for a primary diagnosis of selective mutism (SM). Because a goal of this intervention was to integrate treatment within a functional context, children were required to be attending school or some other form of structured daily group activity (e.g., day camp during school breaks) continuously throughout their enrollment. Children were excluded from study entry if they had undergone treatment with psychotropic medication within 2–6 weeks of study entry (depending upon medication); b) had failed a trial of CBT for anxiety within the previous two years; c) met criteria for any psychiatric illness that contraindicated study participation, including prominent mood disorder, psychosis, or pervasive developmental disorder. Children were also excluded if they or their participating parent was unable to complete measures, interviews, or treatment in English.

Sixty-seven interested parents completed a structured telephone screen to assess initial eligibility. Twenty-five qualifying families completed informed consent/assent and the baseline eligibility evaluation. A total of 21 children with SM participated in the present study. The study consort diagram is presented in Fig. 1.

Study design and procedures

All study procedures were approved by the University Institutional Review Board. Children were randomly assigned to either 20 sessions of Integrated Behavior Therapy for Selective Mutism (IBTSM) or to a 12-week Waitlist (WL) using a randomization scheme generated by Random Allocation Software (Saghaei, 2004). Children in the IBTSM treatment condition received 20 sessions of manualized treatment over 24 weeks. Children assigned to WL were offered open IBTSM treatment at end of WL. To explore the durability of treatment gains, a 3-month post-treatment assessment was conducted for participants randomly assigned to the IBTSM condition (Week 36).

We employed a 12-week Waitlist (rather than a methodologically favorable matched 24-week period) due to ethical and clinical concerns associated with maintaining youths on an extended Waitlist of 24 weeks without treatment. This design adaptation has been utilized previously in the pediatric anxiety CBT literature (e.g., Kendall, 1990, 1994) and seems especially reasonable in the early stages of treatment development To account for the unmatched duration of IBTSM and Waitlist, assessments were completed by independent evaluators, blind to treatment condition, at baseline, week 12, and week 24 for all participants, regardless of group assignment (IBTSM or WL). This was done in order to a) maintain the same number of assessments across study conditions, b) preserve blindness of the independent evaluator, and c) allow for a direct comparison of outcomes between IBTSM and WL at the end of the WL condition (i.e., matched duration of 12 weeks following baseline). Of note, the primary comparison of interest to address our study goals occur at the end of randomized study condition (week 12 for WL and week 24 for IBTSM), as performed in previous treatment studies with similar designs (Kendall, 1990, 1994). For simplicity, comparison of these time points in the IBTSM and WL groups is hereafter referred to as *End of Condition*.

Measures

The Anxiety Disorders Interview Schedule for DSM-IV, Parent Version (ADIS-P; Silverman & Albano, 1996) was used to assess diagnostic status. The ADIS provides direct coverage of a broad range of anxiety, mood, and externalizing behavior disorders in youth. The ADIS has been described as the premier instrument for assessing anxiety disorders in youth (Wood, Piacentini, Bergman,