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Single Case Evaluation of an Intensive Cognitive Behavioral Treatment for Generalized Social Anxiety Disorder

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Abstract

The present study investigated the efficacy of an 8-day, 6-session, intensive individual cognitive behavioral therapy protocol for social anxiety disorder using a multiple baseline across subjects design with 1, 2, and 3 months follow-up assessments. Participants were 5 outpatients with generalized social anxiety disorder. The intervention had variable effects on clinician-rated and self-report measures of anxiety and depression. The results question the efficacy of intensive psychotherapy as a general therapeutic strategy for social anxiety disorder. Directions for future research are discussed.

Keywords

social anxiety disorder; cognitive-behavioral therapy; intensive treatment

In the current climate of accountability in the managed healthcare system, increasing pressure to contain health care expenditures has treatment researchers working to maximize the efficiency of existing treatments. Probably the most common approach to streamlining interventions is simply to condense therapy into a smaller number of treatment sessions. Briefer treatment has a number of potential benefits, including more rapid relief from debilitating psychiatric symptoms and increased cost-effectiveness, advantages for both consumers and third-party payers alike. In addition, while the general consensus in the literature suggests that 13-18 sessions are required for 50% of patients to improve, patients in naturalistic settings actually participate in an average of only 5 treatment sessions (Hansen, Lambert, & Forman, 2002). Thus, condensed treatments may reach and effectively treat a greater number of patients than traditional psychotherapies.

Several studies of cognitive and behavioral therapies for anxiety disorders, depression, eating disorders, couples therapy, alcohol use, and pain management have demonstrated successful outcomes with brief (defined here as fewer than 10 sessions) psychotherapy. Of these, brief interventions for panic disorder (with and without agoraphobia) (Baker Morissette, Spiegel & Heinrichs, 2005; Botella & Garcia-Palacios, 1999) and specific phobias (Öst 1989, 1996; Öst, Salkovskis, & Hellstrom, 1991; Öst, Hellstrom, & Kaver, 1992) have the most empirical support (Hazlett-Stevens & Craske, 2002).

In their current format, traditional treatments for social anxiety disorder demonstrate varying degrees of effectiveness, often failing to result in high end-state functioning. In addition, existing treatments can be time consuming and costly. Mounting evidence has provided support for the efficacy of short-term, intensive treatments for some anxiety disorders, including

specific phobias and panic disorder. However, little information is available regarding the efficacy of abbreviated treatments for social anxiety disorder (Hazlett-Stevens & Craske, 2002). Effective intensive treatment for social anxiety disorder may result in more rapid relief of debilitating anxiety symptoms and a decrease in healthcare utilization and expenditures. Preliminary evidence suggests that cognitive behavioral therapy (CBT) may effectively alleviate the symptoms of social anxiety disorder over the course of approximately 6 weeks, half the time of traditional CBT (Wells & Papageorgiou, 2001).

For the present study, we aimed to add to the literature by developing and evaluating a modified version of CBT; specifically, an eight-day, six-session, intensive treatment format. Wells' (1997) CBT manual served as a model for the current intervention. All components of CBT were included, albeit delivered over the course of eight consecutive days, rather than 6-12 weeks, and exposure components consisted of massed rather than spaced exposures.

It was hypothesized that following a stable baseline period and subsequent phase change (i.e., introduction of treatment), participants would demonstrate improvements in cognitive, behavioral, and physiological symptoms of social anxiety disorder. In response to treatment, participants were expected to evidence at least moderate improvement and endstate functioning according to composite measures of outcome. Finally, it was expected that participants would no longer meet criteria for a diagnosis of social anxiety disorder by the 3-month follow-up assessment point.

Method

Participants

Participants were recruited from an outpatient anxiety clinic in Boston (the Center for Anxiety and Related Disorders at Boston University). All participants met Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV; APA, 1994) criteria for a principal diagnosis of generalized social anxiety disorder (i.e., social anxiety disorder was the most interfering and/or distressing clinical diagnosis). Participants were excluded for conditions that might threaten their safety or limit their ability to participate in the study, including current suicidality, history of or active psychosis, or current diagnosis of alcohol or substance dependence. In addition, participants taking psychotropic medications were excluded unless the medication type and dose remained stable for a period of 3 months immediately preceding and during the course of the study.

Of the first 9 individuals who were offered participation, 6 agreed (reasons for decline included inability to participate immediately due to an unanticipated move, inability to take time off from work, experimental nature of treatment). After signing consents, only one terminated treatment early (following session one due to law school obligations). The 5 individuals who completed study participation included 3 males and 2 females who ranged in age from 21-53, with a mean age of 32. All were Caucasian, 4 were single, 1 was divorced, and all had at least a high school education. Four reported childhood onset of social anxiety disorder.

Measures

A battery of self-report, clinician-administered, and independent evaluator administered measures of symptomatology were collected over the course of baseline, treatment, and for 3 months following treatment termination. The following measures were included:

The Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV-L; DiNardo, Brown, & Barlow, 1994) was used for diagnostic purposes and was conducted by an independent evaluator. The ADIS-IV-L has demonstrated high interrater reliability for diagnosing social anxiety disorder ($k=.77$; Brown, DiNardo, Lehman, & Campbell, 2001).

The Social Phobia Anxiety Inventory (SPAI; Turner, Beidel, Dancu & Stanley, 1989) was used as the primary outcome measure of overall social anxiety disorder symptomatology. The SPAI has demonstrated adequate test-retest reliability (.86) and internal consistency with coefficients ranging from .94-.96 for the social phobia subscale and from .85-.86 for the agoraphobia subscale (Turner et al., 1989).

The Clinical Global Impressions scale (CGI; Guy, 1976) and *Fear Questionnaire* (FQ; Marks & Mathews, 1979) were used in calculating the *Index of Social Phobia Improvement* (ISPI; Turner, Beidel, & Wolff, 1994) and the *Social Phobia Endstate Functioning Index* (SPEFI; Turner, Beidel, Long, Turner, Townsley, 1993), two composite measures for determining clinically significant improvement and endstate functioning following treatment for social anxiety disorder (see *data analyses* for additional detail). The CGI is a clinician-rated scale designed to assess illness severity and improvement based on a 7-point scale. Severity scores (CGI-S) range from 1 (normal, not at all ill) to 7 (extremely ill). Improvement scores (CGI-I) range from 1 (very much improved) to 7 (very much worse). The CGI has demonstrated good interrater reliability (Turner et al., 1993). The FQ has demonstrated adequate internal consistency (.71-.83), test-retest reliability (.82-.96), and treatment sensitivity in clinical samples. The FQ also effectively discriminates individuals with panic disorder and social anxiety disorder (Oei, Moylan, & Evans, 1991).

Finally, the *Beck Depression Inventory-II* (BDI-II; Beck, Steer, & Brown, 1996) was used to measure depression. The BDI-II has yielded excellent internal consistencies ranging from .91-.93 and adequate content, factorial, and discriminant validity has been established (Dozois et al., 1998).

Procedure

The present study employed a single case within-series phase change design applied in a multiple baseline across subjects (Hayes, Barlow, & Nelson-Gray, 1999). Participants were assigned (2 per condition) to a 2, 4, or 6-week baseline period prior to the start of treatment. The baseline phase maximizes validity by illustrating stability of symptoms prior to the introduction of the intervention.

After completing a diagnostic evaluation with an independent evaluator, eligible participants were scheduled for an informed consent meeting with the therapist, and the first set of baseline measures was collected from those who agreed to participate. In addition, participants met with the therapist weekly during the baseline phase to complete study materials.

Following the baseline period, participants met with the therapist on 5 consecutive days (Monday through Friday) for approximately 2-4 hours per day during which they participated in treatment strategies aimed at reversing self-focused attention, negative self-processing, and safety behaviors via psychoeducation, cognitive restructuring, behavioral experiments and exposure (with cognitive preparation and video feedback). On the sixth and seventh days (Saturday and Sunday), participants were asked to carry out homework assignments without the assistance of the therapist. On the eighth day (Monday), participants met with the therapist for a final 2-hour treatment/termination session (see Wells, 1997, for additional treatment details). Following treatment termination, participants returned monthly for 3 months to complete follow-up assessments consisting of self-report measures and independent clinician ratings.

Data Analyses

Data were examined for changes in symptomatology by examining the patterns in level, trend, and variability (e.g., Kazdin, 1998). Changes that are characterized by large magnitude, a close

temporal relationship to the phase change, consistency throughout the intervention, and similarity across participants, allow for the most definitive conclusions to be drawn (Hayes, et al., 1999). Additionally, confidence intervals for the primary outcome measure (SPAI, Turner et al., 1989) were calculated (68%, 73.2-118; 95%, 51.7-139.5) based on means and standard deviations derived from a reference sample of individuals with untreated social anxiety disorder (Hofmann & DiBartolo, 2000). Also, the percent improvement over time on the SPAI was calculated at post-treatment and follow-up time points. Finally, we examined two composite measures designed to assess patients' level of functioning and degree of improvement, respectively, following treatment. These measures were the Social Phobia Endstate Functioning Index (SPEFI; Turner et al., 1993), and the Index of Social Phobia Improvement (ISPI; Turner et al., 1994). The ISPI and SPEFI consist of five outcome measures and participants receive one point for each met criterion. Scores of 0-1 indicate no-minimal improvement and low endstate status; scores of 2-3 indicate moderate improvement and endstate status; and scores of 4-5 indicate significant improvement and high endstate status. Criteria for the ISPI include a 20% reduction in SPAI difference score, a decline of 2 or more on the FQ, a decline of 2 or more on the CGI, and 50% increase in speech duration during an impromptu speech task, and a decline of 2 or more on a 0 (no anxiety) to 10 (extreme anxiety) point Likert scale. Criteria for the SPEFI include a SPAI score of 59 or less, a FQ rating of 2 or less, a CGI rating of 2 or less, a speech duration of at least 5.7 minutes, and a speech SUDS rating of 5 or less.

Results

Overview

Table 1 presents the SPAI scores (percent improvement from pre-treatment) at post-treatment and the three follow-up assessments. The results showed a notable variation in the degree of improvement, ranging from .6% to 48.3% at post-test and from -8.7 to 66% at 3-month follow-up. Four of the 5 patients showed improvements of 15% or more at the 3-month follow-up assessment. Figure 1 shows the change in SPAI scores over the course of baseline, treatment and follow-up, and Figure 2 presents changes in BDI-II.

The results of the two composite measures (SPEFI and ISPI) are consistent with the SPAI findings (Table 2). Four of the 5 participants showed moderate improvement immediately after treatment. The treatment gains were maintained or further increased in 4 of the 5 participants over the 3-month follow-up period. Table 3 presents the clinical severity of social anxiety disorder and additional diagnoses at the various assessment points. Four out of five participants demonstrated decreases in clinician rated severity, however one returned to baseline at follow-up, one did not improve at all, and all remained diagnosed with clinically significant social anxiety disorder at 3-month follow-up.

Single Case Analysis

Participant 1 (P1) was a 24 year-old, never married, Caucasian female with a college degree. She was the only patient of the sample who received concurrent pharmacotherapy (Buspar 10mg/day; Lorazepam .5mg/day; Lexapro 10mg/day). She demonstrated improvement of moderate to significant magnitude on the BDI-II (Figure 2) that appeared clearly functionally related to the introduction of the intervention. She evidenced (1) no variation (or improvement of symptoms) in these dependent measures in the absence of the intervention, (2) changes of moderate to significant magnitude that occurred in close temporal relation to the phase change, (3) consistent decreases throughout the course of the intervention, and (4) maintenance of gains at 3-month follow-up. Therefore, it may be concluded that the improvement in the dependent variables was a result of the manipulation of the independent variable. Her scores on the SPAI (Figure 1) varied intermittently over the course of baseline, treatment, and follow-up making

it difficult to draw conclusions regarding the functional relationship of the phase change to the dependent variable. While her baseline SPAI was somewhat erratic, her scores following the phase change were improved over all baseline scores, thereby suggesting a positive effect of treatment on social anxiety symptoms, though this conclusion must be made cautiously.

Participant 2 (P2) was a 24 year-old, never married, Caucasian male with a college degree. Following a stable baseline, P2 demonstrated improvement of moderate to significant magnitude on the SPAI that immediately followed the phase change and was maintained throughout follow-up assessments. His improvement on the BDI-II varied intermittently over the course of baseline, treatment, and follow-up, limiting conclusions that may be drawn regarding the functional relationship of the phase change to the dependent variable.

Participant 3 (P3) was a 53 year-old, divorced, Caucasian female with a general equivalence degree. She demonstrated improvement of moderate to significant magnitude on the SPAI that immediately followed the phase change and remained improved throughout follow-up.

Participant 4 (P4) was a 38 year-old, never married, Caucasian male with a college degree. He showed evidence of improvement on the SPAI in response to the intervention. However, the response was lost by the 3-month follow-up. The BDI-II varied intermittently over the course of baseline, treatment, and follow-up, limiting any conclusions that may be drawn regarding the functional relationship of the phase change to the dependent variable.

Participant 5 (P5) was a 21 year-old, never married, Caucasian male who was a junior in college. He demonstrated improvement of moderate to significant magnitude on all dependent measures that appeared functionally related to the introduction of the intervention and was maintained at 3-month follow-up (see Figures 1 and 2).

Discussion

The present study was a modified version of Wells (1997) cognitive therapy for social anxiety disorder where all components of CBT were included, albeit delivered daily for 8 days as opposed to weekly for 12-16 weeks, and exposures were massed instead of spaced. In the present multiple baseline study, this modified intensive treatment showed limited efficacy. Although it effected change in four of the five study participants, only 3 of them maintained their treatment gains across follow-up assessment points. None of them reached high endstate status at 3-month follow-up and all remained diagnosed with clinically significant social anxiety disorder following treatment.

It is possible that social anxiety disorder is simply not amenable to intensive treatment. This is in contrast to other phobic disorders, such as panic disorder with agoraphobia and specific phobias, have responded well to intensive treatment, although individuals treated with massed exposure are more likely to evidence a return of fear than those treated with spaced exposure (Rowe & Craske, 1998; Lang & Craske, 2000). It is possible that conventional CBT strategies are inadequate to promote change in a disorder that is maintained by a complex network of disorder-specific cognitive factors (Hofmann, 2007). A comparison of the efficacy of conventional CBT protocols between the various anxiety disorders is certainly consistent with the notion that social anxiety disorder is less responsive to conventional CBT strategies (Hofmann & Smits, in press).

At the same time, the treatment effects showed a great degree of variability. While in general participants appeared to make only modest gains in the standardized outcome measures, anecdotal data suggest that participants benefited in important ways that the assessment instruments did not capture. For example, P1 retook a test she had been avoiding which allowed her to apply for a higher position within her company. She also began assertively

communicating with her family, something she had completely avoided in the past, and reported notable increases in the quality of these relationships. P2 actively began searching for a job in his field of study, something he had been avoiding for a significant period of time, and started taking steps to move out of his parents' home. He also resigned from a job he had long been wanting to leave, a situation that topped his fear and avoidance hierarchy. P3 applied for a promotion at work and went back to school after years of being unable to achieve this important goal because of her social anxiety disorder. P4 actively began participating in volunteer work and began socializing with people in person, rather than only on the Internet; this included conversations with women, a situation that topped his fear and avoidance hierarchy. P5 got a job in his field of study and while his diagnostic interview suggested a return to clinical status, his only remaining area of avoidance he endorsed was dating, perhaps a normative deficit for a 21-year-old college junior.

The major limitation of the study is related to the multiple baseline design and the lack of a comparison group, which limits the ability to determine whether treatment effects were simply placebo effects. Despite its limitations, the present study advances our knowledge of treatment for generalized social anxiety disorder. Based on our results, we would advise against the use of massed CBT at the current time. Instead, we recommend that future studies focus on identifying the mediators of change and the disorder-specific CBT strategies to improve the efficacy of CBT for social anxiety disorder.

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Figure 1.
Social Phobia and Anxiety Inventory

Figure 2.
Beck Depression Inventory II

Table 1
Raw Scores and Percent Improvement from Pre-treatment for the Social Phobia and Anxiety Inventory (SPAI) by Participant

Participant	Pre-treatment SPAI	Post-treatment SPAI (% improved)	1-month follow-up SPAI (% improved)	2-month follow-up SPAI (% improved)	3-month follow-up SPAI (% improved)
P1	155.0	154.1 (.6)	112.3 (27.6)	missing	132.9 (15)
P2	156.2	151.7 (2.9)	133.0 (14.9)	129.2 (17.3)	121.1 (22.5)
P3	169.5	118.4 (30.1)	131.2 (22.6)	138.0 (18.6)	143.2 (15.5)
P4	128.4	75.9 (40.9)	81.9 (36.3)	146.2 (-13.8)	139.6 (-8.7)
P5	130.8	67.7 (48.3)	65.1 (50.2)	45.3 (65.4)	44.5 (66.0)

Table 2
Index of Social Phobia Improvement (ISPI) and Social Phobia Endstate Functioning Index (SPEFI) by Participant

Participant	Composite Measure	Post	1mo f/u		2mo f/u		3mo f/u	
P1	ISPI	3	5	significant	n/a	Missing	3	moderate
	SPEFI	2	1	low	n/a	Missing	0	low
P2	ISPI	2	2	moderate	2	moderate	4	significant
	SPEFI	1	1	low	2	moderate	2	moderate
P3	ISPI	2	2	moderate	1	moderate	1	moderate
	SPEFI	1	0	low	1	minimal	0	minimal
P4	ISPI	1	3	moderate	1	moderate	1	Low
	SPEFI	0	0	low	0	minimal	0	minimal
P5	ISPI	3	4	significant	4	low	4	low
	SPEFI	3	4	high	4	significant	3	significant
						high		moderate

Table 3

Clinical Diagnoses and Clinical Severity Ratings

Participant	Pre-treatment Diagnosis	Pre-treatment CSR	Post-treatment Diagnosis	Post-treatment CSR	3-month follow-up Diagnosis	3-month follow-up CSR
P1	SAD, generalized GAD	5	SAD	4	SAD, generalized GAD in partial remission	5
P2	SAD, generalized MDD GAD	7 5	SAD, generalized MDD in partial remission	6 4	SAD MDD in partial remission GAD	4 4 4
P3	SAD, generalized none	5 6	SAD, generalized none	4 n/a	SAD, generalized none	4 n/a
P4	SAD, generalized GAD MDD	6 4	SAD, generalized Dysthymia	7 6	SAD, generalized MDD	7 5
P5	SAD, generalized Cannabis Abuse	5 4	None Cannabis Abuse	n/a 4	SAD Cannabis Abuse	4 4

Note: SAD = Social Anxiety Disorder; GAD = Generalized Anxiety Disorder; MDD = Major Depressive Disorder.