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Two-Day, Intensive Cognitive-Behavioral Therapy for Panic Disorder

A Case Study

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Cognitive-behavioral therapy (CBT) is a highly effective treatment for panic disorder. However, few patients have access to this treatment, particularly those living in rural areas. In a pilot study, the author previously described the efficacy of a 2-day, intensive, exposure-based CBT intervention that was developed for the purpose of delivering CBT to a largely rural patient population that must travel long distances to find a treatment provider. The present study describes the successful implementation of this treatment with a 38-year-old woman with panic disorder and agoraphobia whose clinical presentation was complicated by recurrent fainting episodes during her panic attacks. Technical and theoretical issues in the conduct of this treatment are discussed, along with more general strategies to increase the efficiency and efficacy of CBT for panic disorder.

Keywords: *panic disorder; cognitive-behavioral therapy; exposure; brief treatment; psychotherapy; syncope*

Cognitive-behavioral therapy (CBT) that includes interoceptive exposure is the most effective psychological treatment for panic disorder (PD; Barlow, 2002; Schmidt, 1999). Unfortunately, few patients receive this intervention. To illustrate, Stein et al. (2004) reported that less than 10% of individuals with PD had received CBT in the community during the previous 3 months. A host of powerful barriers serves to impede dissemination of this treatment. Panic disorder patients typically seek treatment in medical settings where misdiagnosis is common (Spitzer et al., 1994) and pharmacotherapy is the dominant treatment modality (Stein et al., 2004). Patients who desire immediate improvement may find the duration of CBT too long and turn to medication for more immediate symptom reduction. When patients do receive psychotherapy for PD, it rarely consists of CBT

(Goisman, Warshaw, & Keller, 1999; Stein et al., 2004). In the unlikely event that patients receive CBT, it tends to emphasize relaxation and seldom includes interoceptive exposure (Freiheit, Vye, Swan, & Cady, 2004).

For individuals who live in rural settings, access to evidence-based CBT is even more difficult (Hunter & Windle, 1991). Rural patients wishing to receive this treatment face the prospect of traveling to a distant metropolitan setting where CBT specialists are typically located. The associated time, financial burden, and social and occupational costs render such travel difficult or impossible for many patients and their families, especially when one considers that CBT for PD usually requires 12 to 15 sessions during the course of 3 to 4 months. Accordingly, increasing access to CBT among PD patients in rural settings requires the development of novel dissemination strategies that circumvent these barriers.

Researchers have examined a variety of novel methods for delivering CBT for PD. One common approach has been to reduce or eliminate time spent with the therapist by using self-help books, computer-guided self-exposure, or Internet-based treatment (e.g., Carlbring, Westling, Ljungstrand, Ekselius, & Andersson, 2001; Gould, Clum, & Shapiro, 1993; Marks, Kenwright, McDonough, Whittaker, & Mataix-Cols, 2004). The best of these interventions appear as effective as traditional CBT for PD (Carlbring et al., 2005). However, their duration is typically the same 3 to 4 months as standard-length CBT. As a result, they may not be appealing to patients who lack sufficient time or desire more immediate symptom reduction. In addition, by dramatically reducing therapist contact, these treatments eliminate an important component of CBT: therapist-assisted exposure.

Alternative methods of delivering CBT are most reliably effective when they emphasize therapist-assisted exposure to panic cues. Several studies indicate that brief, exposure-based CBT protocols achieve results comparable to those obtained in standard-length CBT (Clark et al., 1999; Evans, Holt, & Oei, 1991; Morissette, Spiegel, & Heinrichs, 2005; Westling & Öst, 1999). Favorable outcomes may be obtained in a matter of days in some cases (Evans et al., 1991; Morissette et al., 2005), suggesting that very brief CBT may circumvent the potential barrier posed by patients' desire for immediate improvement. Furthermore, by emphasizing therapist-assisted exposure, brief CBT capitalizes on a key ingredient in this therapy.

The author previously described a 2-day, intensive program of delivering CBT for PD for patients living in rural settings (Deacon & Abramowitz, 2006b). This intervention was developed to make CBT available to individuals who lacked local access to a CBT provider and lived too far away

from our anxiety disorders clinic to commute to weekly sessions. After driving to the clinic, patients participated in 6 hours of CBT, spent the night in a hotel, received an additional 3 hours of therapy the next morning, and returned home. The 10 patients described in this study experienced large and clinically significant reductions in panic and related symptoms from pretreatment to 1-month follow-up that compare favorably to those typically observed in standard-length CBT.

This article presents the case of Amy, a 38-year-old woman with PD and agoraphobia, who was the first patient to participate in 2-day CBT. Indeed, it was Amy's severe and intractable PD symptoms, strong desire for CBT, and the unavailability of a qualified provider in her rural community that prompted the development of this treatment. Although Amy's clinical presentation was otherwise prototypic of PD, she had the unusual and highly distressing symptom of fainting (i.e., vasovagal syncope) during some of her panic attacks. As such, the CBT approach described in this article was applied in a flexible manner to accommodate her unusual symptom presentation. In contrast to the Deacon and Abramowitz (2006b) article in which follow-up data were only available at 1-month posttreatment, this report presents information on Amy's clinical response 1 year after treatment. The purpose of the present article is twofold: (a) to describe 2-day CBT in sufficient detail for interested clinicians to adopt in their own clinical practice and (b) to demonstrate the potential utility of this method of delivering CBT for patients who live in rural settings.

Method

Client Information

Amy is a married, high school educated, White woman with two children in elementary school. She works full-time as a secretary in an office building. The small community in rural Iowa where she lives (population = 10,000) is located approximately 250 miles from the anxiety clinic in the Department of Psychiatry and Psychology at Mayo Clinic. At the time of Amy's treatment, the author was completing a postdoctoral fellowship in this department.

For decades, Amy had been experiencing fainting episodes that her doctors had not been able to explain. These episodes had increased in frequency during the past 2 years in conjunction with family stressors, and she was currently fainting on a weekly basis. In the 12-month period prior to her anxiety clinic evaluation, Amy was seen in the gynecology, neurology,

internal medicine, cardiovascular diseases, and psychiatry and psychology departments at Mayo Clinic. She was variously diagnosed with postural orthostatic tachycardia syndrome, depression, "neurocardiogenic syncope," "emotionally induced syncope," "vasodepressor syncope," "syncope secondary to hyperventilation," and "stress-related symptoms." Although she was noted to have somewhat low blood pressure and blood sugar levels, no medical cause for her symptoms was uncovered. Amy was not unusual in this regard, as unknown causes account for nearly half of all cases of syncope (Kapoor, 2000).

Eight months prior to her evaluation in the anxiety clinic, Amy was evaluated by a psychologist who diagnosed her with depression and taught her deep breathing exercises to manage her anxiety and fainting symptoms. In her hometown, she also received a referral to a clinical psychologist whom she saw for 2 months for biofeedback and relaxation training. These efforts produced little change in the frequency of her fainting episodes. Trials of Wellbutrin, Zoloft, and Nadolol (a beta-blocker) likewise had no effect on her syncope. By the time Amy was eventually referred to the anxiety clinic by a psychiatrist who noted the prominence of anxiety and panic surrounding her syncope, she was experiencing multiple fainting episodes per week despite ongoing pharmacotherapy with Zoloft and Nadolol.

At the time of her evaluation in the anxiety clinic, Amy was experiencing multiple, unexpected panic attacks each day characterized by prominent symptoms of nausea, dizziness, shortness of breath, heart palpitations, weakness, clammy hands, and sweating. Owing to their similarity and temporal association with her vasovagal reactions, Amy's panic disorder symptoms had eluded detection from previous treatment providers who apparently considered them secondary to a syncope-related disorder. Though described as "out of the blue," Amy's panic attacks were often cued by sensation-inducing stimuli such as strong emotions (e.g., excitement, anger), heat, and enclosed spaces. Her physiological reactions often followed the "diphasic response" evident in many blood-injection-injury phobics (Öst, Sterner, & Lindahl, 1984), in which an initial increase in arousal is followed by a precipitous drop in arousal and, if not prevented in time, a loss of consciousness. In the months prior to her evaluation, Amy had fainted at work, restaurants, shopping malls, and sporting events. Not surprisingly, during each panic attack she feared losing consciousness and the resulting embarrassment and possibility of injuring herself (which had, thankfully, never happened). Thus, unlike most PD patients who fear implausible panic-related disasters, Amy's primarily feared consequence regularly came to pass.

Understandably, Amy had developed a large repertoire of safety and avoidance behaviors designed to prevent herself from passing out. These included avoidance of places where her symptoms might be easily provoked or particularly embarrassing (e.g., sporting events, church), as well as activities that produce unpleasant sensations (e.g., exercise, amusement park rides). For situations such as work in which outright avoidance was an unattractive option, Amy relied on a wide array of safety behaviors. These included wearing ted hose based on advice from a physician who noted that her blood “pooled in her legs,” regularly consuming protein bars and salt pills, carrying a cell phone at all times, closely monitoring her respiration and using diaphragmatic breathing to regulate it, staying close to safe persons, and listening to music and talking to others as distractions. When she was feeling anxious or faint, Amy’s sympathetic coworkers pitched in by rubbing her legs, providing her with salty foods, and encouraging her to go home and rest when these efforts failed to relieve her discomfort. It should be noted that beta-blockers, salt pills, and breathing retraining are each recommended treatments for vasovagal syncope (David, Yale, & Vidaillet, 2003).

Case conceptualization and treatment plan. After years of unsuccessful attempts to identify a medical cause for her problem, Amy was willing to consider the possibility that her symptoms were psychological in nature. A cognitive-behavioral conceptual model was formulated to describe the development and maintenance of her panic, agoraphobic, and fainting symptoms. Through a combination of frequent vasovagal reactions and panic attacks, Amy had acquired a classically conditioned fear of the somatic symptoms and environmental cues associated with these experiences. Amy had also acquired the (accurate) belief that these fear cues could trigger a loss of consciousness but incorrectly believed that there was nothing she could do to control her vasovagal response. She had become hypervigilant to feared somatic symptoms and was quick to detect their presence. Her extensive safety-seeking and avoidance behaviors were negatively reinforced by the reduction in distress they engendered. These actions also maintained her interoceptive fear by keeping her constantly preoccupied with perceived threats (both internal and external) and fostering the perception that she was fragile and unable to tolerate uncomfortable body sensations. Moreover, they produced considerable distress and impairment because of the restrictions they placed on her lifestyle.

CBT was described as a means of helping Amy overcome her fear of the body sensations, places, and activities associated with panic attacks and vasovagal reactions. The therapist emphasized the importance of learning

to tolerate uncomfortable somatic sensations and developing new, more adaptive methods of coping with them. One such method was to accept rather than suppress her unwanted feelings. By allowing herself to experience feared sensations without the use of harmful safety or avoidance behaviors, Amy would be able to see that dizziness, shortness of breath, and so on, whereas unpleasant, eventually dissipate and are not dangerous. She would also learn to live her life with their presence instead of requiring their absence to do so. Additionally, by learning to tense her muscles at the first sign of faintness through a procedure known as "applied tension" (Öst & Sterner, 1987), Amy could learn to control her vasovagal reactions and experience intense physiological arousal without the threat of passing out.

A course of CBT was recommended that included education, applied tension, interoceptive exposure, in vivo exposure, and the elimination of safety behaviors. Given that Amy's primary feared consequence (passing out) occurred on a regular basis, stand-alone cognitive restructuring was excluded from treatment, and cognitive interventions were limited to comments during exposure that supported her self-efficacy in managing and tolerating panic-related symptoms. The common CBT procedure of breathing retraining was also omitted because it was deemed inconsistent with the emphasis on learning to tolerate uncomfortable sensations without attempting to minimize or suppress one's reaction to them. In support of this notion, clinical evidence suggests that this procedure does not contribute to the effectiveness of CBT (Craske, Rowe, Lewin, & Noriega-Dimitri, 1997; Schmidt et al., 2000).

Amy's eagerness to participate in CBT was matched by her disappointment in living too far from the clinic to commute to weekly sessions. At 4 hours, one-way, even occasional trips placed a heavy burden on Amy's responsibilities at work and home. The author, who enjoyed the luxury of 2 days of protected research time each week, proposed an alternative to the standard, weekly schedule of implementing CBT. What if Amy were to return to the clinic for 2 consecutive days of as much therapy as could be fit into this time frame? With such limited time, the therapy would need to proceed swiftly, with exposure accounting for the lion's share of the work. Interoceptive and in vivo exposure would need to progress in a largely ungraded fashion because time would not permit a slow, gradual progression through her fear hierarchy. Last, Amy would need to arrive with a basic understanding of the principles and procedures of CBT so she could "hit the ground running."

Amy enthusiastically agreed to this approach, and 2-day CBT was scheduled for 2 weeks after the initial anxiety clinic assessment. Amy was sent

home with a packet of self-report anxiety questionnaires and the *Mastery of your anxiety and panic: Client workbook* (MAP-3; Barlow & Craske, 2000). She was instructed to read the entire workbook, excepting the material covering breathing and relaxation training, prior to returning to the clinic. Last, the therapist encouraged Amy to begin the process of gradually fading her safety and avoidance behaviors prior to the scheduled therapy.

Measures

Mini International Neuropsychiatric Interview (MINI). Amy's diagnosis of panic disorder with agoraphobia was formally established using the mood and anxiety disorders sections from the MINI (Sheehan et al., 1998), a relatively brief, structured diagnostic interview patterned after the Structured Clinical Interview for *DSM-III-R* (SCID; Spitzer, Williams, Gibbon, & First, 1990). Owing to its brevity relative to the SCID, the MINI is more easily integrated into clinical practice. The MINI has demonstrated good reliability and validity and has a high concordance rate with the SCID diagnosis of current panic disorder ($\kappa = .76$; Sheehan et al., 1998).

Panic Disorder Severity Scale (PDSS). The PDSS is a 7-item clinician rated interview that assesses the frequency of panic attacks, distressed caused by panic attacks, anticipatory anxiety, agoraphobic avoidance, fear and avoidance of panic-related sensations, and impairment in work and social functioning because of panic symptoms during the past month (Shear et al., 1997). The PDSS possesses good interrater reliability, internal consistency, and construct validity (Shear et al., 1997; Shear et al., 2001).

Panic and Agoraphobia Scale (PAS). The PAS is a 13-item measure of panic disorder symptoms that is available in an observer-rated version and the self-report version used in the present study (Bandelow, 1995). Items assess panic attacks, agoraphobic avoidance, anticipatory anxiety, disability and functional impairment, and health concerns. The self-report version of the PAS has been shown to possess good internal consistency, treatment sensitivity, and concurrent validity with other measures of panic (Bandelow, 1999; Bandelow et al., 1998).

Focal fear ratings. Constructed for the present study, this measure assessed Amy's primary panic-related feared consequences, in-situation safety behaviors, and avoided situations. She was asked to generate up to three concerns in each category and rate them on a 9-point scale. For

cognitions, this measure assessed the degree of endorsement of a given feared consequence on a scale ranging from 0 (*None*) to 8 (*Severe*). For safety behaviors, frequency of use during the past week was rated on a scale ranging from 0 (*Never*) to 8 (*Constantly*). Last, the frequency of avoidance of each situation during the past week was rated on a 0-8 scale ranging from 0 (*Never—0%*) to 8 (*Always—100%*).

Anxiety Sensitivity Index—Revised (ASI-R). The ASI-R is a 36-item, expanded version of the original ASI (Reiss, Peterson, Gursky, & McNally, 1986) and measures the fear of anxiety-related sensations based on beliefs about their harmful consequences (Taylor & Cox, 1998). The ASI-R has demonstrated excellent internal consistency and validity in clinical samples (Deacon & Abramowitz, 2006a; Taylor & Cox, 1998).

Body Vigilance Scale (BVS). The BVS measures the tendency to attend to panic-related body sensations (Schmidt, Lerew, & Trakowski, 1997). The BVS has demonstrated good internal consistency and adequate test-retest reliability (Schmidt et al., 1997). BVS scores are elevated in panic disorder relative to other anxiety disorders (Olatunji, Deacon, Abramowitz, & Valentiner, in press) and decrease with successful cognitive-behavioral treatment (Schmidt et al., 1997).

Beck Anxiety Inventory (BAI). The BAI assesses 21 common symptoms of clinical anxiety (Beck, Epstein, Brown, & Steer, 1988). Respondents indicate the degree to which they have recently been bothered by each symptom during the past week. The BAI was designed to assess anxiety symptoms independently from depression symptoms and has good reliability and validity (Beck et al., 1988).

Beck Depression Inventory (BDI). The BDI is a 21-item self-report scale that assesses the severity of depressive symptoms experienced during the past week (Beck, Ward, Mendelsohn, Mock, & Erlbaugh, 1961). The BDI has excellent reliability and validity and is widely used in clinical research (Beck, Steer, & Garbin, 1988).

Procedure

The MINI was administered during the initial anxiety clinic evaluation. The PDSS and focal fear ratings were administered in person during the evaluation and by the telephone at 1-month and 12-month follow-up assessments.

Self-report measures were collected through U.S. mail for the 1-month and 12-month follow-up assessments.

Treatment: Day 1 (7 hours)

Amy arrived for treatment in good spirits as she had experienced some mild improvements in her panic and vasovagal symptoms during the last 2 weeks (e.g., no fainting episodes). The therapist began by reviewing the cognitive-behavioral model of panic disorder presented previously. Amy demonstrated a clear understanding of this model, especially the safety behaviors portion as she had been closely monitoring these actions since our first meeting. She had good insight into how safety behaviors kept her preoccupied with threat, and in many cases played no logical role in preventing the occurrence of negative consequences. Amy also reported doubts regarding the therapeutic value of her prescribed syncope treatments (Nadolol, ted hose, and salt pills).

Education and applied tension. The educational material in the *MAP-3* was reviewed, with an emphasis on the physiology of the flight-or-flight response and the harmless nature of its associated somatic sensations. Common panic “myths” (e.g., heart attack, suffocation, insanity) were refuted, though loss of consciousness was obviously not among them. To address her vasovagal reactions, this discussion was amended to include the diphasic response and its role in producing syncope. Following the procedures outlined by Öst and Sterner (1987), the therapist instructed Amy in the use of applied tension. This technique is effective in increasing blood pressure, which counteracts the sudden drop in arousal that leads to fainting (Hellstrom, Fellenius, & Öst, 1996). After describing the rationale for this procedure, Amy was taught to tense her muscles for 15-20 seconds, followed by a 20-30 seconds pause, and to repeat this exercise for five trials or until she no longer felt faint. The importance of implementing applied tension at the first sign of faintness was stressed. It was expected that Amy would have numerous occasions for the application of this technique during subsequent exposures.

Interoceptive exposure. The rationale for this technique emphasized the extinction of conditioned fear responses to somatic cues. It was also described as an opportunity for Amy to practice applied tension and learn that she can effectively prevent the occurrence of vasovagal syncope during high states of arousal. This treatment phase began with an assessment

during which Amy completed nine 30-60 seconds exercises designed to evoke various somatic sensations. Amy reported little anxiety in response to hyperventilation, breathing through a thin straw, holding a push-up position, placing her head between her legs, and the gag response. In contrast, four exercises elicited substantial anxiety: spinning in a swivel chair (Subjective Units of Distress = 9/10), running in place (SUDS = 9), holding her breath (SUDS = 7), and shaking her head from side to side (SUDS = 6). Each of these exercises produced moderately intense sensations of dizziness, nausea, or sweating (i.e., feeling hot) that were rated as similar to those experienced during her typical panic attacks.

The four anxiety-provoking interoceptive exposure exercises formed Amy's fear hierarchy. Prior to the beginning of the first exposure, the therapist reviewed a list of guidelines that emphasized the importance of tolerating uncomfortable sensations, not engaging in safety behaviors or otherwise fighting one's fear, and continuing until anxiety decreases by at least 50%. Safety aids were physically removed from the office, including Amy's cell phone, Nadolol, protein bars, and salt pills. She was asked to monitor signs of vasovagal reactions and was encouraged to use applied tension on an as-needed basis during or after the exercises.

Interoceptive exposure trials were implemented with the explicit goal of maintaining a constantly high level of physiological arousal to promote habituation and were not followed by the use of coping strategies such as diaphragmatic breathing. Amy held her breath for as long as possible during the first exposure, pausing between trials only long enough to catch a quick breath and provide a verbal SUDS rating. Her SUDS never exceeded 1 on a 0-10 scale and she was ready to move on to head shaking after just 3 minutes. At this point, she asked for a drink, and the therapist accompanied her to the vending area where she purchased a bottle of orange juice. It occurred to the therapist that ingesting this beverage might have the effect of raising her blood sugar and preventing a loss of consciousness during the next exercise. Prior to taking the first sip, Amy was confronted with this possibility and, after some deliberation, acknowledged the plausibility of this outcome. The orange juice was discarded and replaced by bottled water, which like other potential safety aids was subsequently left outside the therapy office.

The second interoceptive exposure exercise consisted of rapidly shaking her head from side to side, a task that elicited strong dizziness and nausea during the assessment. Amy participated in 12 minute-long trials, each consisting of 45 seconds of continuous head shaking and 15 seconds of brief resting and providing SUDS ratings. This exercise was terminated after

Amy's SUDS decreased from 9 to 3. However, her somatic sensations remained intense following the exercise, and Amy elected to use five trials of applied tension when she felt "clammy" and "tired" afterward. This proved successful in suppressing her vasovagal response, and Amy retired for an hour-long lunch break after 4 hours of CBT.

After lunch, Amy presented with what appeared to be renewed confidence and a less anxious demeanor. Her SUDS decreased from 6 to 3 after only 6 minutes of continuous running in place, despite experiencing intense sweating and heart palpitations. The final exercise and highest item on her fear hierarchy was spinning in a swivel chair. As with head shaking, Amy participated in minute-long trials, each consisting of 45 seconds of moderately paced chair spinning and 15 seconds of brief resting and providing SUDS ratings. After peaking at 7, her SUDS declined to 2 after 13 minutes despite intense feelings of dizziness and nausea. To her surprise, she was unconcerned about fainting, despite the similarity of her feelings to those associated with vasovagal reactions.

In vivo exposure. The final 2 hours of the first day were devoted to in vivo exposure to agoraphobic situations. A fear hierarchy was generated that included the following exercises: (a) sitting in a hot car (estimated SUDS = 9/10), (b) sitting in a sauna (SUDS = 8), (c) riding a crowded elevator (SUDS = 7), (d) shopping in a crowded mall (SUDS = 6), (e) walking outside on a hot day (SUDS = 6), and (f) eating in a crowded restaurant (SUDS = 5). In the interest of time, several of these tasks (b and f) were assigned as homework. The remaining hierarchy items were attempted in a therapist-assisted manner during CBT.

Amy elected to begin at the top of her hierarchy and accompanied the therapist to his car whereupon it was discovered that the heater had apparently been broken for some time. Undaunted, therapist and patient set off on a brisk walk outdoors in the warm (= 85 degree) and humid weather. Amy reported little anxiety (SUDS < 2) throughout 20 minutes at a brisk, sweat-inducing pace. The next exposure involved briskly walking through a shopping mall and periodically stopping in crowded stores where her anxiety symptoms might be noticed by others. Amy reported little anxiety (SUDS < 2) during 80 minutes of prolonged exposure in this context. Her SUDS also failed to increase during the crowded elevator ride back to the therapy office.

In summary, after habituating to feared body sensations through interoceptive exposure Amy failed to become anxious in several of her most frightening agoraphobic situations. She also did not experience vasovagal

symptoms and reported no concern about passing out, despite the presence of intense body sensations reminiscent of those associated with fainting. As the day progressed, the therapist gradually shifted from describing exposure as an opportunity to control vasovagal reactions with applied tension to an opportunity to learn that uncomfortable sensations no longer affected her in the way they had previously. At the end of the 7-hour CBT session, Amy reported “realizing” that her feared somatic sensations were “no big deal,” and she described little remaining concern about fainting in their presence. For homework, she was asked to eat dinner with her husband and children at a restaurant, sit in her hotel sauna until habituation, and sit in her car with the heat on until habituation.

Treatment: Day 2 (2 hours)

Amy presented on time for the second scheduled CBT session feeling “great” and appearing visibly proud of what she had accomplished. During the previous night her family had overruled her homework assignment of going out to eat by insisting on having pizza delivered to their hotel room. However, Amy did manage to conduct a 30-minute exposure in the hotel sauna and a 20-minute exposure consisting of sitting in her car with the windows closed. In each case, her SUDS declined from 6 to 2, and she experienced no vasovagal reactions or concerns about fainting.

The session was scheduled at 7:30 a.m. to coincide with the time of day most medical center staff begin arriving at work. The staff elevators are packed tightly and can seem hot and stuffy, thus, providing ideal conditions for combining interoceptive and in vivo exposure. The therapist accompanied Amy to the staff elevators at 7:40 and rode up and down (19 floors) with her for one trial. Amy remained on the elevator for a further 30 minutes on her own and returned to the therapy office afterward. She reported experiencing intense sweating and moderate nausea but no vasovagal reactions or fainting concerns. Her SUDS decreased from 6 to 2 during the exposure. By this point, Amy had successfully habituated to each item on her fear hierarchy with the exception of eating at a restaurant.

Measurement. To assess the immediate therapeutic effects of CBT, the therapist obtained focal fear ratings from Amy for her primary feared consequences of panic: fainting and embarrassment. The four interoceptive exposure exercises from her fear hierarchy (head shaking, running in place, holding breath, spinning in swivel chair) were repeated using the procedures from the interoceptive exposure assessment. Peak SUDS ratings for

the exercises were as follows: spinning in a swivel chair (SUDS = 2), running in place (SUDS = 2), holding breath (SUDS = 4), and shaking head from side to side (SUDS = 3).

Relapse prevention. Educational material about relapse prevention was reviewed, including factors that contribute to relapse and what to do (and what not to do) in the event that panic and vasovagal symptoms return. On a written form, the author detailed a four-part plan to help Amy maintain and improve on her gains in CBT. The first section prescribed conducting frequent, planned interoceptive and in vivo exposures. The second involved eliminating avoidance in her normal routine by conducting exposures when the chance arises in everyday life. Third, Amy was urged to identify and eliminate all safety and avoidance behaviors related to her panic and vasovagal symptoms. This list included her medically prescribed safety aids (e.g., beta-blocker, salt pill, ted hose) and the actions of her coworkers (e.g., encouraging her to rest or leave work when feeling stressed). Last, use of applied tension to prevent fainting was recommended but only in situations in which she felt the clear onset of a vasovagal reaction. The therapist and patient agreed that based on her progress in 2-day CBT such situations would likely be infrequent.

The 2nd day of CBT lasted 2 hours. Though the original agreement was for 2 full days of treatment, Amy had habituated to the items on her interoceptive and in vivo fear hierarchies after only 9 hours of therapy. Similarly, she appeared to have overcome her fear of fainting and embarrassment. An unexpected benefit of CBT was that her once prominent vasovagal responses had been essentially eliminated. Given these outcomes, there was little need to continue therapy beyond this point. A 1-month follow-up telephone assessment was arranged and Amy was invited to contact the therapist on an as-needed basis with any questions or concerns.

Results

Improvement from Pretreatment to 1-Month and 12-Month Follow-Ups

Table 1 presents scores on standardized measures of panic and related symptoms at pretreatment, 1-month follow-up, and 12-month follow-up. At the time of her anxiety clinic assessment, Amy scored at or above PD norms on each measure. On the clinician-rated PDSS, her score of 2.86 was more than two standard deviations higher than the PD mean (Shear et al., 2000).

Table 1
Outcome Measures at Pretreatment,
1-Month Follow-Up, and 12-Month Follow-Up

Measure	Pretreatment	1-Month Follow-Up	12-Month Follow-Up
Panic Disorder Severity Scale			
Total score	2.86	0	0
Panic frequency	4	0	0
Panic distress	4	0	0
Anticipatory anxiety	3	0	0
Agoraphobia	2	0	0
Interoceptive fear	2	0	0
Work interference	3	0	0
Social interference	2	0	0
Panic and Agoraphobia Scale	23	0	0
Anxiety Sensitivity Index—Revised	71	7	23
Body Vigilance Scale	26.53	10.33	6.86
Beck Anxiety Inventory	28	5	13
Beck Depression Inventory	20	7	5

Focal fear ratings for her primary panic-related negative consequences, safety behaviors, and avoided situations from each assessment are presented in Table 2.

At the first follow-up assessment 1 month after completing 2-day CBT, Amy's panic and vasovagal symptoms had all but disappeared. By telephone, she happily reported that she had not experienced a single panic attack or even significant panic-like symptoms since returning home. Moreover, she reported no vasovagal reactions and exclaimed, "I don't even think about fainting anymore." All safety behaviors had reportedly been eliminated, and she had not missed a day of work. Amy reported pushing herself to do exposures and had taken up jogging, even in the heat of late summer. Previously aversive somatic sensations such as feeling hot and dizzy were described as no longer bothersome. Amy summed up her current level of functioning with the statement, "I feel like I got my life back." The scores presented in Tables 1 and 2 from this assessment provide further evidence of the extent of her improvement.

The telephone interview conducted approximately 1 year following 2-day CBT yielded similar results. Amy had still not experienced a single panic attack since her treatment, and panic-related worry and interoceptive fear were described as nonexistent. As shown in Table 2, her primary safety

Table 2
Focal Fear Ratings at Pretreatment, Posttreatment,
1-Month Follow-Up, and 12-Month Follow-Up

Measure	Pretreatment (Day 1)	Posttreatment (Day 2)	1-Month Follow-Up	12-Month Follow-Up
Feared consequences				
Fainting	7	1	1	1
Embarrassment	6	2	2	1
Safety behaviors				
Eating salted foods	8	N/A	0	0
Deep breathing	7	N/A	0	0
Going home to bed	6	N/A	0	0
Avoidance				
Church	7	N/A	0	0
Children's sporting events	6	N/A	0	0
Restaurants	5	N/A	0	0

Note: Each item was rated on a 0 to 8 scale. Because safety behavior and avoidance ratings were based on the past week, scores were not available immediately following the 2nd day of CBT.

and avoidance behaviors had been successfully eliminated. Six months prior to this assessment, Amy had experienced an unexpected loss of consciousness at a friend's house. She reacted to this event with irritation rather than anxiety and conducted interoceptive exposures for several days until she was convinced that her interoceptive fear had not returned. She described adopting the habit of pushing herself to experience uncomfortable somatic sensations; for example, she often forced herself to walk outside on especially hot days. She remained on 150mg of Zoloft per day but had not taken Nadolol or any salt pills since participating in CBT. Amy's scores on clinician-rated (PDSS) and self-rated (PAS) measures of panic symptoms remained at 0.

Clinical Significance of Changes

The clinical significance of treatment effects was examined using the procedures outlined by Jacobson and Truax (1991) and normative data reported in the published literature on ASI-R, BVS, and BAI. At 1-month and 12-month follow-up assessments, Amy achieved reliable change, clinically significant improvement, and "recovered" status (i.e., both reliable and clinically significant change) on each of these measures. All follow-up

scores were within one standard deviation of the normative mean. Because published nonpatient norms are not available for the PDSS and PAS, clinically significant change was determined according to whether her follow-up scores on these measures were at least two standard deviations below the mean according to PD norms (Jacobson & Truax, 1991). With scores of 0 on both measures at each follow-up assessment, Amy clearly met this criterion for recovery.

Discussion

The present article describes the process and outcome of 2-day, intensive CBT for a woman with PD and vasovagal syncope. This method of delivering CBT was intended to make treatment accessible for individuals who live in rural settings where CBT is not available. Designed to balance efficiency and potency, 2-day CBT emphasized therapist-assisted exposure and response prevention and did not include coping strategies such as breathing retraining. After 9 hours of therapy during 2 consecutive days, the patient achieved full remission of her PD and syncope symptoms, which was maintained 1 year later. In conjunction with the results of Deacon and Abramowitz (2006b), this article supports the feasibility and efficacy of 2-day CBT and highlights its potential utility for patients without local access to this treatment.

The present case study underscores several important observations about the process of CBT for PD. First, it may be possible to make this treatment more efficient without compromising its overall effectiveness. When delivered via popular manuals such as *Mastery of Your Anxiety and Panic* (Barlow & Craske, 2000), CBT includes a variety of procedures including education, diaphragmatic breathing, cognitive restructuring, interoceptive exposure, and in vivo exposure. CBT may be made more efficient by de-emphasizing or eliminating procedures that contribute little to its efficacy, such as breathing retraining (Schmidt et al., 2000) and perhaps even cognitive restructuring (Bouchard et al., 1996; Murphy, Michelson, Marchione, Marchione, & Testa, 1998; Öst, Thulin, & Ramnerö, 2004; Öst, Westling, & Hellstrom, 1993). In addition to the present report, several studies have found that very brief, intensive CBT emphasizing therapist-assisted exposure is highly effective (Deacon & Abramowitz, 2006b; Evans et al., 1991; Morrisette et al., 2005; Westling & Öst, 1999). Dissemination of CBT for PD to both patients and therapists could be facilitated by a more straightforward (i.e., less multimodal) and efficient manner of delivering this treatment.

Second, the procedures used to conduct interoceptive exposure in the present case report differed from those typically recommended in the treatment of PD. Prominent CBT manuals (e.g., Antony & Swinson, 2000; Barlow & Craske, 2007) encourage therapists to conduct a series of brief trials of interoceptive exposure, each followed by a resting period during which physiological arousal is allowed to subside and coping strategies (e.g., diaphragmatic breathing) are used. Moreover, the total number of trials is sometimes fixed in advance (e.g., 3 in Barlow & Craske, 2007) without regard to between-trial habituation. In contrast, in the present study interoceptive exposure was delivered in a prolonged manner until habituation occurred and no coping strategies were employed. Between-trial coping strategies that diminish arousal appear at risk of producing context effects (Powers, Smits, Leyro, & Otto, 2007) in which learned safety is conditional on the efficacy of these coping strategies and the experience of only transient, moderately intense somatic arousal. In this study, Amy engaged in as many as 13 consecutive 60-second trials of interoceptive exposure. The between-trial resting period for all interoceptive exposures was no more than 15 seconds, effectively ensuring that arousal remained constantly high throughout the duration of the exercises. In this manner, the patient habituated to sustained intense arousal, which may provide for superior fear structure activation and provision of corrective information (Foa & Kozak, 1986) than the more common brief trials approach typically recommended in CBT manuals.

Third, this study illustrates the value of a case formulation-driven approach to CBT (Persons, Roberts, Zalecki, & Brechwald, 2006). Despite the well-documented efficacy of manualized CBT treatments for PD such as that of Barlow and Craske (2000), inflexible adherence to a manual in Amy's case would not have addressed her syncope and would have likely produced a worse treatment response. By formulating a treatment plan that matched the dysfunctional cognitive-behavioral processes of the patient, the therapist was free to select empirically supported procedures from existing treatment protocols that best suited Amy's needs. In the present study, this approach resulted in the provision of applied tension, interoceptive exposure, in vivo exposure, and the exclusion of cognitive restructuring and breathing retraining. Amy's case demonstrates several risks of strict adherence to manual-based treatments pointed out by Eifert (1996), including assuming more homogeneity within a diagnostic category than is warranted and engaging in therapy overkill by providing unnecessary procedures. By combining the strengths of the idiographic case formulation and nomothetic approaches, empirically supported procedures from treatment manuals may be used in accordance with the unique psychopathology of the individual patient.

Although the present study demonstrates effectiveness of 2-day CBT in one patient, it shares the limitations of other case reports. The patient was highly motivated and complied well with all aspects of the treatment. She also had an excellent response to CBT—somewhat better than the average patient reported in a previous study of this treatment (Deacon & Abramowitz, 2006b). Nevertheless, this case study demonstrates the feasibility and potential efficacy of 2-day CBT and highlights its utility in serving patients who live in rural areas and do not have local access to a CBT provider. Sufficient evidence now exists to justify the use of a brief, exposure-based approach in place of more traditional approaches of delivering CBT for at least some patients with PD. Future research will need to elucidate (a) which PD patients are appropriate for brief, intensive CBT and (b) which methods of administering this treatment (e.g., therapist-assisted, Internet-based) are most cost-effective and efficacious. In the meantime, the largely unmet needs of rural patients with PD can be served by increasing their access to treatments like the ones described in the present case report.

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