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Cognitive Behavior Therapy and Worry Reduction in an Outpatient With Generalized Anxiety Disorder

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Abstract

This article describes the treatment of a 27-year-old female with a particularly challenging manifestation of generalized anxiety disorder (GAD) with prominent worry. A manualized cognitive-behavioral therapy (CBT) protocol, including problem-solving training, cognitive restructuring, and relaxation training techniques, was tailored to the patient's presenting profile. Several self-report measures administered during the pretreatment, post-treatment, and follow-up periods, including: the Penn State Worry Questionnaire (PSWQ), the Why Worry-II (WW-II), the Ahwaz Worry Inventory (AWI), and the Intolerance of Uncertainty Scale (IUS), indicated significant worry reduction following treatment. Many difficulties were encountered, most notably designing and monitoring homework. Treatment implications are discussed.

Keywords

GAD, cognitive behavioral therapy, problem solving training, cognitive restructuring, relaxation training, worry

I Theoretical and Research Basis

Anxiety includes pervasive feelings of tension, dread, apprehension, and impending disaster, as well as unpleasant feelings of stress, uneasiness, tension, and worry (Salm et al., 2004). Among these, worry has often been singled out as a basic component of anxiety (Barlow, 2002). Worry can be explained as feeling uneasy, concerned, or troubled about something replaying in one's mind. It initiates a chain of thoughts and images that may be excessive and uncontrollable (Brosschot, Gerin, & Thayer, 2006). Worry is usually centered on real-life problems, but may not be realistic (Van Rijsoort, Emmelkamp, & Vervaeke, 2001). It can involve rumination about past, present, or anticipated problems. Clark and Claybourn (1997) found that individuals who worry often selectively focus on the possible negative consequences of events.

While worry is something that most people experience, it can reach pathological levels in certain individuals. Evidence suggests that pathological worry may emerge from subjective feelings of vulnerability, perceptions of uncontrollability, and intolerance of uncertainty (Buhr & Dugas, 2006; Dugas, Marchand, & Ladouceur, 2005; Van Rijsoort et al., 2001). Worry is believed

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to be a dimension of many anxiety disorders, including generalized anxiety disorder (GAD; Van Rijsoort, Emmelkamp, & Vervaeke, 1999; Van Rijsoort et al., 2001). Indeed, beginning with the *Diagnostic and Statistical Manual of Mental Disorders 3rd edition, Revised (DSM-III-R*; American Psychiatric Association [APA], 1987) and continuing through the current *DSM-IV-TR* (APA, 2000), excessive worry has been delineated as the primary diagnostic criterion for GAD. In GAD, worry has been characterized by uncontrollable negative thoughts and images about future events (Borkovec, Robinson, Pruzinsky, & Dupree, 1983).

Cognitive behavioral theories suggest that anxiety disorders may be associated with a distorted perception of danger-related information, and empirical research has shown that anxiety is associated with systematic cognitive biases (Khodarahimi, 2005). For example, *interruption theory* (Mandler, 1984) highlights a process whereby ongoing cognitive activity is interrupted by an event, which produces diffuse autonomic arousal. The source of interruption is then evaluated either positively or negatively. If arousal is very high and the appraisal suggests that threat is involved, then fear and anxiety will result. Other research has shown that anxious individuals, including those with GAD (Mogg, Mathews, & Weinman, 1989), can show a pattern of selective information processing that favors the encoding of threatening information (Dalgleish & Watts, 1990; Mathews & Macleod, 1994; Mathews, Mogg, Kentish, & Eysenck, 1995; Williams, Watts, MacLeod, & Mathews, 1988).

Dugas et al. (2005) identified four main variables in conceptualizing anxiety within a cognitive-behavioral framework: (a) intolerance of uncertainty, which promotes “what if” thinking and compensatory worry, (b) positive beliefs about the usefulness of worry, (c) negative problem orientation (e.g., low problem solving confidence which leads to catastrophic worrying), and (d) cognitive avoidance (internal strategies aimed at curtailing distressing thoughts and threatening images). Riskind and Williams (2005) argued that a fifth variable should be included in a cognitive-behavioral model for anxiety: looming cognitive style (LCS). LCS is characterized by a perception of constant impending danger. Individuals with LCS experience anxiety and worry in response to their appraisal that danger is unfolding (Riskind & Williams, 2005). Thus, LCS is theorized to be both a cognitive vulnerability factor and a maintaining factor in anxiety-related disorders. In addition, adverse early life events may influence these five cognitive-behavioral therapy (CBT) components and thereby also serve as a predisposing factor in development of anxiety disorders (Hattema, Prescott, Myers, Neale, & Kendler, 2005).

As originally formulated by Clark and Fairburn (1997), the CBT model for GAD mostly emphasized techniques for identifying and modifying thoughts and beliefs that prevent GAD patients from engaging in or benefiting from exposure treatment (Alford & Beck, 1997; Zinbarg, Barlow, Brown, & Hertz, 1992). GAD patients report greater frequency and intensity of worry, more difficulty controlling worry, and increased levels of impairment and depression compared to control groups (Mennin, Heimberg, & Turk, 2004). In addition, Dugas et al. (2005) found that intolerance of uncertainty is more characteristic of patients with GAD as compared to patients with panic disorder. Dugas and Robichaud (2006) examined the predictive value of the cognitive-behavioral model for severity of GAD diagnoses. Utilizing a clinical sample, they demonstrated that all components of the cognitive-behavioral model accurately predicted severity of GAD diagnosis, with intolerance of uncertainty again showing the strongest predictive value of the components. In sum, several strands of evidence suggest that worry is an integral part of GAD and that CBT may be useful method of reducing worry. Despite the aforementioned, there is a lack of systematic evidence that specific CBT techniques contribute to ameliorating the worry component in GAD. Thus, our case study examined the efficacy of the CBT techniques for worry reduction in an outpatient with GAD.

2 Case Presentation

Sahar (a pseudonym) was 27 years old and referred for outpatient psychological services in Shiraz city, Fars Province, Iran. She was married, had two children, and belonged to an upper social class. She had been feeling tense since her teens. She reported excessive worry, was self-conscious, tended to have sweaty palms, and perspired profusely when tense. She described her symptoms as follows: “my heart is shaken with overwhelming worry about threatening events but without any obvious danger.” She and her family experienced significant distress as a result of her symptoms. For example, her spouse stated that she became easily and frequently worried about everyday life, particularly if she was slightly delayed in returning home. The family also experienced apprehension at the prospects of traveling, shopping, and working with her.

3 Presenting Complaints

The patient’s primary complaints were global worrying thoughts, beliefs, and images about herself or her family. She was aggressive in coping with stressful situations and also overconscientious. She reported palpitations, breathing difficulties, sweaty palms, increased muscular tension, tension headaches, butterflies in her stomach, nausea, abdominal cramps in her right lower quadrant, and frequent loose bowel movements. When she became highly anxious, her face became flushed or pale, she exhibited tremor, and her hands became cold. She had difficulty falling asleep (initial insomnia) and frequently awoke from sleep after 2 to 3 hours with chaotic dreams of failure and breakdowns. Her condition was usually chronic and mild, but became worse when she encountered interpersonal stressors. For example, exacerbation of her problems during the 2 years prior to treatment was coincident with difficulty adjusting to her first newborn and sexual problems with her husband. She also had increased premenstrual tension and painful menstruation.

4 History

Sahar’s mother also suffered from chronic anxiety. Her father died when she was an adolescent. Sahar showed signs of anxiety in her young infancy. Though she was a shy girl, her early childhood and school adjustment were satisfactory until high school, when she became self-conscious about her weight. At the age of 16, she developed a peptic ulcer and was treated with Librium for her high stress. She performed normally in academic tasks in her university years but suffered from behavioral, emotional, physical, and cognitive symptoms of anxiety. These symptoms were partly related to disturbed interpersonal relationships with her peers at school. In sum, she exhibited anxiety and worry symptoms throughout adolescence, college, and her later adulthood. At the age of 22, she met full diagnostic criteria for GAD.

5 Assessment

Sahar was screened and evaluated by clinical interview to determine whether she met *DSM-IV-TR* (APA, 2000) diagnostic criteria for GAD and/or other Axis I disorders. She also completed the self-report measures described below.

Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990). The PSWQ is a 16-item self-report measure of the tendency, intensity, and uncontrollability of excessive and uncontrollable worry in adults. Example items include, “My worries really bother me” and “I know I shouldn’t worry but I just can’t help it.” All items are rated on a 5-point Likert-type scale ranging from 1 (*not at all typical of me*) to 5 (*very typical of me*), and its scores range from 16 to 80 with higher scores reflecting greater levels of worry. The PSWQ has shown good

internal consistency, $\alpha = .86-.95$, test–retest reliability, $r = .74-.93$, and good convergent and divergent validity in prior research (Molina & Borkovec, 1994).

Why Worry-II (WW-II) (Holowka, Dugas, Francis, & Laugesen, 2000). The WW-II is a 25-item questionnaire of positive beliefs about worry (e.g., “By worrying, I can find a better way to do things”). All items are rated on a 5-point Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*) yielding total scores ranging from 25 to 125. Five factors have emerged from the WW-II suggesting five subscales characterizing worry as: (a) an aid to problem solving, (b) a source of motivation, (c) a way of preventing negative emotion, (d) a way of preventing negative outcomes, or (e) a positive personality trait. However, only the WW-II total scale score was examined in the present study. The WW-II has demonstrated high internal consistency and adequate validity and reliability in prior studies (Dugas, Letarte, Rheume, Freeston, & Ladouceur, 1995; Freeston, Rheume, Letarte, Dugas, & Ladouceur, 1994).

Ahwaz Worry Inventory (AWI) (Taghvae, 1997). The AWI assesses economic worry, self-esteem worry, future worry, vocational worry, worry about relations with others, cognitive worry, worry from insecurity, and worry about details. It consists of 20 items (e.g., “I feel insecure”) with four possible answers: “always,” “often,” “sometimes,” and “never” coded 3, 2, 1, and 0 respectively. AWI total scores range from 0 to 60. In previous research, the AWI has demonstrated good test–retest reliability, $r = .71$ (Taghvae, 1997) and construct validity, that is, positive correlations with the somatic complaints subscale of SCL-90-R (Derogatis, 1977) and the *Emotional Control Questionnaire (ECQ)* (Roger & Neshhoever, 1987).

Intolerance of Uncertainty Scale (IUS) (Freeston et al., 1994). The IUS is a 27-item self-report instrument assessing the general idea that uncertainty in life is unacceptable, bad, or frustrating. Sample items include, “I can’t stand being undecided about my future” and “One should always look ahead so as to avoid surprises.” All items are rated on a 5-point Likert-type scale from 1 (*not at all characteristic of me*) to 5 (*entirely characteristic of me*). IUS total scores range from 27 to 135. The IUS has shown excellent internal consistency ($\alpha = .91$), good test–retest reliability ($r = .78$) (Dugas, Freeston, & Ladouceur, 1997), and acceptable convergent and divergent validity (e.g., stronger correlations with other measures of worry than measures of obsessions or panic; Dugas, Gosselin, & Ladouceur, 2001).

6 Case Conceptualization

Interview and rating-scale data indicated that Sahar met diagnostic criteria for GAD at the beginning of treatment. Based on information gleaned from the patient and her spouse, she experienced above average levels of pathological worry since the time she was 23 years old and exhibited clear symptoms for GAD with prominent worry. Specifically, Sahar developed a chain of worries about future events in a range of domains including: financial, familial, and interpersonal dimensions of her life. She was very agitated, restless, impulsive, irritable, excessively worried, embarrassed, upset, and self-conscious.

7 Course of Treatment and Assessment of Progress

Sahar was treated with individual CBT for GAD. CBT emphasizes the connection between thoughts, feelings, and behavior (Allen, MacKenzie, & Hickman, 2000; Dugas & Robichaud, 2006; Flores, Russell, Latessa, & Travis, 2005; Grant, Mills, Mulhern, & Short, 2004; McGuire, 1996) and focuses on providing practical, short-term, and present-centered techniques that can be implemented by the client in a variety of situations (Corey, 2005; Ryckman, 2004). The concepts and techniques of cognitive–behavioral treatment have received ample empirical support (Bourne, 1995; Corey, 2005; Craske, Barlow, & O’Leary, 1992; Dugas & Robichaud, 2006;

McGuire, 1996). Clinicians are also free to choose from a variety of CBT techniques, leading to great flexibility in treatment (Clark & Fairburn, 1997; Corey, 2005).

Sahar was prescribed the typical regimen of CBT for GAD, which is one session weekly for 16 weeks. The cognitive component of her treatment consisted of problem solving training (PST) and cognitive restructuring (CR; Craske et al., 1992), and the behavioral component consisted of relaxation training (RT) readily available through self-help books (Bourne, 1995; Dobson, 2001; Otto, Smits, & Reese, 2004; Zinbarg et al., 1992). In Craske et al. (1992) GAD treatment protocol, PST is first introduced to the client using psychoeducation. Clients are told that many people with GAD tend to view problems in vague and catastrophic terms and that many fail to generate solutions to problems (Meichenbaum & Jaremko, 1983). Clients are instructed as to how to break problems into more manageable segments and multiple “brainstorming” sessions teach clients how to generate productive solutions.

CR was developed as a means of addressing negative cognitive representations, such as expectations, beliefs, or self-statements. There are various types of CR, but all variations involve first helping the client become aware of self-statements, expectations, or beliefs that reflect unhelpful ways of thinking about the self, the world, or the future (Arciero & Guidano, 2000; Bryant, Moulds, Guthrie, & Nixon, 2005; Dudley, 1997; Khodarahimi, 2005). Cook and Heath (1999) provided a four stage process for CR of cognitive distortions in cognitive-behavior therapy: (a) elicit automatic thoughts, (b) identify underlying irrational beliefs, (c) challenge the irrational beliefs, and (d) replace the irrational beliefs with suitable alternatives.

Sessions 1 and 2: Psychoeducation

The first and second sessions are designated for introducing patients to the philosophy and rationale of PST, CR, and RT. Sahar was provided with education about the CBT view of GAD and the rationale for the CBT techniques. She was also told that successful treatment would require considerable effort on her part including practicing techniques in and out of sessions.

Sessions 3 Through 6: CBT Training and Practice of GAD

The second phase of treatment included training and practicing cognitive and relaxation techniques for coping with GAD and outlining Sahar’s specific symptom pattern. CBT techniques including effective problem solving and cognitive restructuring techniques were addressed carefully. She monitored her performance and recorded her progress in a daily notebook. She discussed these records in each session with her therapist.

Sessions 7 Through 15: Problem Solving Training, Cognitive Restructuring, and Relaxation Training

In this stage, Sahar was encouraged to engage in various in-session and out-session worry evoking situations. Each in-session situation was scripted, read, and closely observed by the therapist following the patient’s hierarchy of worrying situations from least to most worrying. Complete mastery of each step was required before the patient moved to more anxiety-provoking steps on her hierarchy. Toward the most severe end of the hierarchy, the scripted content included imagining that a worrying situation was occurring in the room, and that the patient encountered it using problem solving, cognitive restructuring, and/or relaxation during 20 minute intervals without activating worry, upset, or other GAD symptoms. Several sessions lasted longer than the traditional one hour appointment time to accommodate the imaginal exposure.

Session 16: Relapse Prevention and Termination

The final treatment session involved a review of Sahar's progress, completion of her CBT guided tasks, generalization of her gains to other problematic symptoms, and a discussion of how to prevent relapse. In addition, she was asked to discuss ways to use what she learned in therapy to confront other GAD and worry symptoms that were not specifically targeted in treatment. Finally, the majority of the last session was devoted to creating a written document to summarize her progress and achievements for future reference. She completed the self-report outcome measures on the day following her final session and then again 2 months later (to assess the stability of her gains).

8 Complicating Factors

A few challenges were encountered in the treatment. Consistent with her cultural context, Sahar voiced an initial preference for receiving pharmacologic treatment for her GAD. She required additional psychoeducation in Stage 1 to become persuaded by the CBT rationale and approach to treating GAD. In addition, extra effort was required to motivate Sahar to prioritize completing the psychotherapy homework, which she perceived to be in competition with her household responsibilities and the needs of her spouse and children. To assist with this, the anxiety hierarchy was prepared and the homework was assigned in collaboration with her spouse. The actual implementation of the CBT homework was arranged and supervised by an experienced assistant in her home. A final complicating factor emerged when Sahar reported that she might have a physical illness that would interfere with her treatment. However, after referral to a university medical center, she was deemed to be physically healthy and able to complete the CBT treatment.

9 Follow-Up

Two months after the final treatment session, Sahar and her spouse attended a follow-up session. The session involved: (a) post-treatment assessment, (b) celebration of accomplishments, and (c) review of relapse prevention strategies. In this session, Sahar completed the self-report measures described above and was assessed for *DSM-IV-TR* diagnostic criteria for GAD. Results indicated that she maintained a substantial decrease in GAD symptoms, including worry (see Figure 1).

10 Treatment Implications of the Case

The present case has implications for tailoring cognitive behavior therapy interventions to individual clients in outpatient settings. First, in general agreement with CBT models for GAD (Clark & Fairburn, 1997), the techniques employed in the case emphasized identifying and modifying the thoughts and beliefs that prevented Sahar from engaging in accurate thinking (Alford & Beck, 1997; Zinbarg et al., 1992). The specific components, that is, problem-solving training, cognitive restructuring and the relaxation training techniques were apparently useful in this outpatient situation, as anticipated by earlier work (Bourne, 1995; Cook & Heath, 1999; Dobson, 2001; Otto et al., 2004; Zinbarg et al., 1992). The treatment was effective in increasing certainty and worries tolerance and thus was able to improve problem solving and reduce cognitive distortions (Dugas et al., 2005). The therapy also reduced worries about the future, family, interpersonal, emotional, and physical contexts. Finally, the present case study documents one way of addressing cultural concerns and other barriers to participating in CBT for GAD.

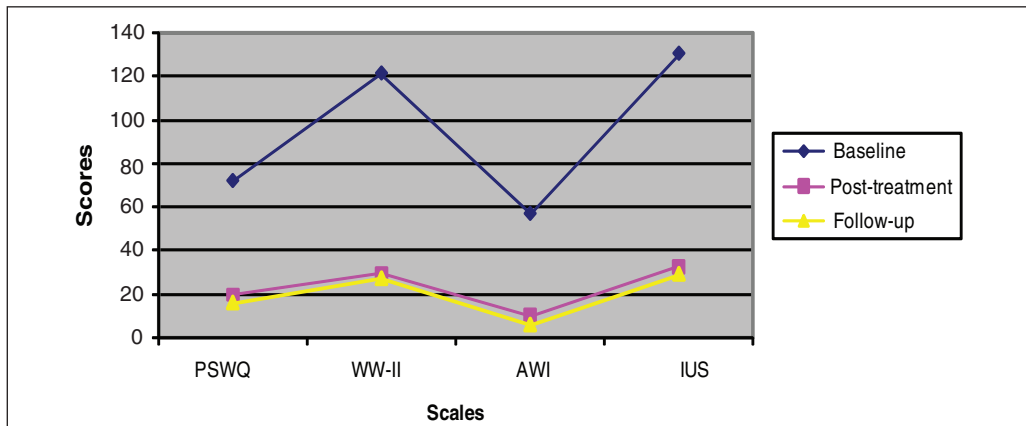


Figure 1. CBT Effects on Worry and GAD

II Recommendations to Clinicians and Students

Enacting CBT techniques and procedures requires both rigorous theoretical and practical training, and attention to detail. For example, patients should be assessed for education, intelligence, and cognitive capabilities to determine whether they are capable of understanding and implementing CBT. Clinicians should also be sure to apply a comprehensive manualized CBT protocol for treating GAD in outpatient settings. Similarly, careful, progressive and ongoing assessment of GAD symptoms, including differential and complementary diagnosis, self-report scales, assessment of comorbidity, and an analysis of correspondence between treatment components and outcome should be taken into consideration by the clinician throughout of therapy. Similarly, in agreement with CBT models, the worry construct and its vicious cycle in GAD treatment may require personalized tailored intervention in clinical practice. Finally, future research and theory development may be directed to refining these CBT techniques for implementation in outpatient cross-cultural settings.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interests with respect to their authorship or the publication of this article.

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