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Case Report

The Role of Cognitive Behaviour Therapy in Worry Reduction: A Case Study of an Outpatient with Post-Traumatic Stress Disorder

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Abstract

The purpose of this study was to examine the role of Cognitive Behaviour Therapy (CBT) on worry reduction in a 36-year-old female with posttraumatic stress disorder (PTSD). Sexual abuse and war exposure were the sources of PTSD for the patient. Using a manualized protocol, CBT techniques were tailored to the patient's problems and content of symptoms within a case study. Self-rating scales were used to measure the role of CBT on worry reduction during pre-treatment, post-treatment and follow-up. Results showed the importance of CBT components for worry reduction in PTSD. Particular issues were encountered; the most notably were the designing and monitoring of out-session practices which involved careful planning. The treatment implications are discussed including the tailoring of therapy for personalized interventions and patient screening with regards to the construct of worry for clinicians.

Keywords

Post traumatic stress disorder; Cognitive-behavioral therapy; Worry

Literature and Theoretical Framework

Patients with Post-traumatic Stress Disorder (PTSD) tend to show a high level of worry about the future and re-experience occurrence of traumatic events [1,2]. Worry contributes to the sense of vigilance and preparedness, dampens autonomic arousal, and fuels the belief that uncertain events and overall risk cannot be controlled [3]. Studies showed that PTSD is a worry-prone disorder [4-7]. People with pathological worry often follow a pattern of selective processing that favours the encoding of stressors related to threatening information [8,9]. However, few studies have shown that Cognitive Behavioural Therapy (CBT) can reduce the use of worry, or that CBT may increase the individual's ability to apply accurate reappraisal and social control in traumatic and anxiety disorders [10-13]. Based on the CBT theories, PTSD is a result of dysfunctional cognitive processing due to cognitive distortions, or biases that produce maladaptive emotional and behavioral symptoms, including clinical worry [1,2,4-6,14]. A convergence of evidence confirms the role of CBT as an efficient form of treatment in PTSD for women [15-17].

Marsella et al. [18] proposed an ethno-cultural approach in PTSD. Iranian culture has a stronger normative system of emotional display, particularly in the case of emotions such as intense shame, anger, humiliation and sadness [19], which may provoke a higher re-experience in individuals with PTSD, particularly in females. Similarly, Lab, Santos and De Zulueta [20] showed that PTSD treatment may be influenced by psychological and social factors. In line with ethno-cultural approaches, research indicated that PTSD is more prevalent among females, and it has a higher incidence among Iranians than females from Turkey and Saudi Arabia [21,22].

This study speculated that clinical features in women with PTSD in Iran are accompanied by elevated emotional dysfunctions such as shame from self-disclosure because of religious and cultural barriers [23], worry, sense of hopefulness and insecurity, fear from ambiguity in social networks, and heightened alertness and arousal towards disaster reoccurrence. Because these negative emotions are assumed as feminine traits in this culture, the present study predicts that women tend to experience more vulnerability towards PTSD and pathological worry. In addition, this culture inhibits self-disclosure of traumatic experiences such as rape and sexual abuse in females because of social stigma. They cannot express their negative emotions about prohibited traumas. Therefore, women with PTSD due to rape and sexual abuse have higher levels of suppressed negative emotions about the trauma they have experienced and these may increase the incidence of flashback, thus triggering their memories toward previous traumatic experiences, and, in turn, increase their pathological worry. This study speculates that CBT techniques may decrease pathological worry in a female outpatient with PTSD.

Case Presentation

Maryam (a pseudonym) is a 36 year-old female, who was referred to me for evaluation of her son's problem by a family physician. After informed consent was obtained, she participated in this study for outpatient psychological services in Shiraz city, Fars Province, Iran. Maryam's immediate family consists of her husband and their two children (a boy and a girl). Currently Maryam's mother is alive, her father is deceased and she has four siblings (a brother and three sisters). Maryam has achieved a high level of education and currently has a bachelor degree in biology. Maryam showed a high level of motivation to overcome her disorder and wished to attempt psychotherapy. She presented with high levels of anxiety related symptomology including increased irritability, impulsivity, fear of further traumatic events, extreme worry, insecurity and anger in her interactions with her son, spouse and husband's family. Sometimes she used alcohol to cope with her anxiety and worry. Maryam indicated that she continuously suffers with flashbacks of traumatic events related to sexual abuse and war. She confirmed that she has been restless and worried since her exposure to explosions and sexual abuse and that she is unable to control the symptoms any longer. Also, Maryam has been emotionally unavailable in her familial relations because she is preoccupied with managing the mental stress related to the aforesaid traumas.

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Case History

Maryam's exposure to sexual rape by her uncle and war related experiences occurred 29 years earlier. Maryam never disclosed her exposure to these traumatic events to anyone, though she re-experienced them in her sleep continuously. She felt that she could cope with the psychological pain of these experiences by suppressing them and attempting to forget them. However, the occurrence of sexual abuse by her boss in the last year elevated her symptoms, and resulted in her leaving her job. Maryam reported that her symptoms had escalated over the previous six months after leaving her work. This problem resulted in some disagreement and relational problems with her husband and son. These issues resulted in her being generally irritable and being aggressive in particular towards her son. Typically, her sleep was disturbed with nightmares and dreams about her traumatic experiences, and also her sexual behaviour patterns were altered. Maryam reported she had severe vaginismus at the beginning of her marriage. Her attitude towards men was negative and mistrustful with increased levels of anxiety, worry, irritability and emotional numbness. Maryam told the therapist that her worries were related to having a nervous breakdown, going crazy or even suffering with insanity. Careful history taking from Maryam, her mother and spouse revealed that she was born and raised in a normal family in a city, southern Iran. She was the third of three children in the family, her father died when she was 3 years-old, and the first traumatic event of her life was being raped by her uncle during her middle childhood years. During the clinical interview, she recalled her rape and war experiences frequently. At the time she sought treatment, Maryam meet the criteria for chronic PTSD with excessive worry.

Assessment

Based on the DSM-IV-TR [24], Maryam was evaluated utilizing a clinical interview and was screened for a differential diagnosis of PTSD, as well as co-morbid disorders. It was found that she met the diagnostic criteria. In addition, Maryam was evaluated using the PTSD Symptom Scale (PSS), [25] and the Posttraumatic Stress Disorder Checklist (PCL), [26] for a diagnosis of PTSD. Also, she completed the *Penn State Worry Questionnaire* (*PSWQ*), Why Worry-II (WW-II), Ahwaz Worry Inventory (AWI), and Intolerance of Uncertainty Scale (IUS).

Penn State Worry Questionnaire (*PSWQ*); [27]. The PSQW is a 16-item self-report of excessive and uncontrollable worry in adults. Item examples include, "My worries really bother me" and "I know I shouldn't worry but I just can't help it." All items are rated in a five-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. This measure was designed to measure tendency, intensity, and uncontrollability of pathological worry. The PSWQ possess good internal consistency, α = .86- .95, and test-retest reliability, r=.74-.93 27).

Why Worry-II (*WW-II*); [28]. The WW-II is a 25-item questionnaire of positive beliefs about worry. All items are rated on a 5-point Likert type scale from 1 (strongly disagree) to 5 (strongly agree) and its scores range from 25 to 125. An example item from the WW-II is "By worrying, I can find a better way to do things?" The WW-II demonstrates high internal consistency and adequate validity and reliability [28].

Ahwaz Worry Inventory (*AWI*); [25]. AWI invented by Taghvaee [29] consists of 20 items with four possible answers that include "always, "often", "sometimes" and "never" with numerical values of 3, 2, 1, and 0 respectively, and its scores range from 0 to 60. An example item from the AWI is "Worries really upset my mind to do things?" AWI shows worry contents in Iranian culture that include economic worry, self–esteem worry, future worry, vocational worry, worry about relations with others, cognitive worry, worry from insecurity and worry about detail problems. AWI reliability by test –retest method was been r=.71[29].

Intolerance of Uncertainty Scale (*IUS*); [30]. The IUS is a 27-item instrument assessing ideas held by an individual that uncertainty in life is unacceptable, reflects badly, and leads to frustration. 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 scale from 1 (not at all characteristic of me) to 5 (entirely characteristic of me) and its scores range from 27 to 135. The IUS shows excellent internal (α =.91) and good test-retest reliability (r=.78) [30].

Case Conceptualization

Interview and rating-scales data indicated that Maryam met the diagnostic criteria for PTSD. Also, she reported that her higher pathological worry levels appeared when she was 7 years-old and have continued since then, particularly when re-experiencing and recalling traumatic events. Taken together, Maryam developed a chain of worries related to past events recall and the possibility of going crazy. She was very agitated, fearful from ambiguity, impulsive, irritable, worry, embarrassed, upset, and self-conscious. She presented with symptoms of PTSD and pathological worry, particularly in her sleep pattern with recurrent nightmares about the earlier traumas.

Course of Treatment and Assessment of Progress

Maryam requested individualized CBT for PTSD and worry reduction but she refused medications for her disorder. The CBT average number of sessions per client is 16, with one session per week. This was determined as being the appropriate treatment level for Maryam The CBT for worry typically includes a combination of education about worry; self-recording of worries; relaxation training; imagined exposure to worries; focus on present-moment experience; and challenging the worrier's distorted thoughts, intolerance for uncertainty, and overvaluation of worry [31]. Also, the psychotherapeutic procedures for PTSD include a Critical Incident Stress Debriefing (CISD) and CBT. A number of studies demonstrated success in the attenuation and recovery from PTSD by utilizing CBT techniques [15]. In PTSD, many CBT therapists also ask the patient to describe the traumatizing event while utilizing relaxation techniques [7].

In the present case study, the cognitive component of CBT involved problem solving training and cognitive restructuring, and the behavioural component included relaxation techniques that are readily available through self-help books. Problem-solving training is a well-established cognitive component of CBT of PTSD therapy [32]. Problem-solving is first introduced to the client via a psycho-educational format. Clients are told that many people with anxiety tend to view problems in vague and catastrophic terms, and many fail to generate solutions to problems [33]. Instructions follow on how to break problems into more manageable segments, and multiple "brainstorming" sessions teach clients to generate multiple solutions.

Cognitive reconstructuring was developed as a means of

addressing negative cognition representation including expectations, beliefs or self-statements, and it remains at the core of CBT with adults. There are various types of cognitive reconstructuring but all variations involve helping the client become aware of self-statements, expectations or beliefs that reflect unhelpful ways of thinking about the self, the world and the future [34,35]. Cook and Heath [36] provided a four stage model for cognitive restructuring of cognitive distortions in CBT. This model is as follows: Elicit automatic thoughts, identify underlying irrational beliefs, challenge the irrational beliefs, and replace the irrational beliefs with suitable alternatives. Foa and colleagues [37] demonstrated that cognitive restructuring is beneficial for PTSD treatment in adults.

Session 1 and 2: Psychoeducation of CBT

The first session was devoted to Critical Incident Stress Debriefing (CISD) and the second session was designed based on the philosophy and rationale of Problem Solving Training (PST), Cognitive Reconstructuring (CR), and Relaxation Training (RT). The CISD is a process that helps people cope with, and recover from an incident's aftereffects. The CISD enables participants to understand that they are not alone in their reactions to a distressing event, and provides them with an opportunity to discuss their thoughts and feelings in a controlled, safe environment. CBT is able to assist in a wide range of problems [35,38]. The first step included the rationale for problem solving as well as education about the nature and treatment of PTSD. In particular she was presented with a comprehensive conceptualization of CBT in terms of the psycho educational model.

Additionally, the role of her personal effort in practices and rehearsal in and out of sessions was discussed and clarified carefully. Few challenges were encountered in this stage of the treatment. There was an attitude bias towards pharmacotherapy for mental disorder treatment among public culture that was resolved with the discussion of PTSD treatment in CBT frameworks. Another challenge was her "fear from going crazy" symptom that was discussed as a clinical symptom of PTSD. Furthermore, the baseline assessment for worry scales was done before beginning treatment intervention.

Sessions 3 through 6: CBT Training and Practice of PTSD

The second phase of treatment included training and practice of cognitive techniques and relaxation for coping with PTSD and outlining Maryam's specific pattern of re-experience and associated affects, especially negative emotionality and worry. Also, CBT goals included effective problem solving procedures, cognitive reconstructuring techniques (i.e. elicit automatic thoughts, identify underlying irrational beliefs, challenge the irrational beliefs, and replace the irrational beliefs with suitable alternatives), and relaxation method were addressed carefully. She was taught for all practices to write in a daily notebook and monitor her everyday performance and the nature of her PTSD symptoms including worry, and therapy effectiveness. Furthermore, she discussed her records in each session with the therapist.

Sessions 7 through 15: PST, CR and RT continuing practice

In this stage Maryam worked through various PTSD symptomologies and worry evoking situations with in-session and out-session effort required. It should be noted that complete mastery of each step was achieved before moving to more intense steps on the hierarchy. Each session was closely supervised and observed by the therapist. Many of these trials lasted over sixteen minutes. As a result, a number of these sessions lasted longer than the traditional 1-hr appointment time. Towards the most severe end of the hierarchy, the scripted content read by the therapist included imagining that the worrying situation was present in the room, and she encountered it via problem solving, cognitive reconstructuring and relaxation during 20 minute intervals without the occurrence of worry, upset and other PTSD symptoms.

Session 16: Relapse Prevention and Termination

The final treatment session involved a review of Maryam's progress, completion of her CBT guided tasks, generalization of gains to other problematic symptoms, and a discussion of how to prevent relapse. However, the majority of the last session was spent creating a written document in her notebook to summarize her outcome and achievements that would serve as a reference for future use. Also, Maryam was asked to discuss ways to use what she learned during therapy sessions to confront other PTSD and worry symptoms that were not specifically targeted in treatment. Then, she was invited to complete the worry scales the next day, and two months later. Maryam completed theses ratings in the clinic and the results are described in Figure 1.

Complicating Factors

As discussed previously, to be able to provide Maryam with successful tools in critical incident stress debriefing, problem solving training, cognitive reconstructuring and relaxation training procedures it was necessary to change her attitude toward CBT rationale and its efficacy in comparison to the traditional medical model of PTSD and worry treatment in her cultural context. Also, it was necessary to motivate Maryam to accept all decisions related to what tasks were included in the therapeutic sessions, to consider the balance between her therapy, house hold tasks, her spouse and children's needs. In addition, each subsequent practice was discussed with her spouse and all requirements for CBT rehearsal in the home setting were arranged and supervised by one trained and experienced assistant in her house. Her final complicating factor emerged when she reported that she might have a psychotic illness. But, with reference to a clinical interview screening and the MMPI 2 test, it was demonstrated that she suffers with chronic PTSD case and that it was more effective to apply CBT.

Follow-Up

As noted earlier, 2 months after the final treatment session, Maryam and her spouse attended a post-treatment follow-up session, a celebration of accomplishments, and a careful review of relapse prevention strategies occurred in these follow-ups. In this session, Maryam completed self-rating worry scales and an assessment in

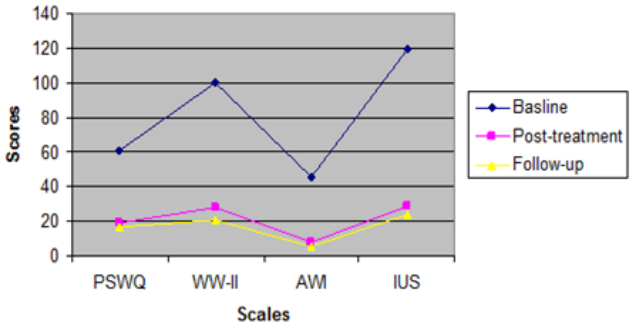

Figure 1: CBT effects on Worry in PTSD.

relation to PTSD diagnostic criteria, based on the DSM-IV-TR. It was then recommended that another follow-up occur in three months' time. Follow-up assessments indicated the maintenance of substantial and continuous attenuation in PTSD symptoms, including worry (Figure 1).

Treatment Implications of the Case

The present case has obvious implications for the tailoring of CBT interventions to individual clients in outpatient settings. As Spira, Pyne and Wiederhold [7] noted, CBT techniques mostly place emphasis on identifying and modifying the thoughts and beliefs of patients which redirect them from engaging in re-experience, and help patients to modify dysfunctional cognitive processing that produce symptoms including worry. This study shows CBT may increase an individual's ability for tolerance of uncertainty and ambiguity via worry reduction in patients with PTSD. Thus, in congruency to the earlier conceptualizations [4,6,10,13,15,17,32,33,35,38], cognitive and behavioural components of CBT are useful for worry reduction in outpatients with PTSD. It is likely that problem solving training, cognitive restructuring and relaxation techniques are a beneficial package set for successful healing of pathological worry in PTSD, improving the therapeutic alliance and trust in the therapist, and can lead to favourable adjustment. In addition, CBT successfully altered worry processes. Finally, the present case study provides potential insight into how to understand moderating factors that may help answer questions related to matching treatments to patients of various cultural backgrounds. It seems that CBT is the best fit for individuals who search for self-knowledge with higher education, have good motivation, are open minded towards psychological disorders, and seems to be effective as a process in rape victims.

Recommendations to Clinicians

Enacting CBT techniques and procedures with less experienced clinicians requires both rigorous theoretical and practical experience, and requires detailed monitoring. In the present case study, there was permanent and enduring discussion between the therapist and the professional university faculty regarding the feasibility of enacting the CBT techniques for PTSD. As we noted previously, therapy was tailored for the patient with respect to cultural considerations. This study suggests that CBT had a significant role in worry reduction for the present case but it requires further group trials. Also, it is essential for clinicians to access a comprehensive protocol and manuals for CBT in the case of PTSD patients in outpatient settings. Similarly, in agreement with CBT models, the worry construct and its vicious cycle in PTSD treatment requires tailoring interventions in clinical practice. Finally, future research and theory development should be directed to apply CBT techniques for treatment of pathological worry in PTSD among both genders, in children and adult populations within experimental designs.

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