

Assessment of Cognitive Behavioral Therapy on Quality of Life of Patients with Chronic War-related Post-traumatic Stress Disorder

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ABSTRACT


Background: Post-traumatic stress disorder (PTSD) is the one of the most commonly observed psychiatric disorder in veterans. The condition can lead to considerable social, occupational, and interpersonal dysfunction. PTSD occurring after combat injury appears to be strongly correlated with the extent of injury, and develops over several months. Present study was designed for assessing the cognitive behavioral therapy in the quality of life (QOL) of war-related PTSD in veterans compared to control group and compare applied treatments with each other. **Materials and Methods:** In the present study, we assessment effects of cognitive behavioral therapy such as problem solving, exposure therapy and their combination on QOL in 120 Iranian PTSD patients veterans after Iran-Iraq war. They were randomly allocated to one of four equal interventional groups: (a) Problem solving therapy (b) exposure therapy (c) combined therapy (exposure therapy plus problem solving) (d) control group. Before and after study intervention, patients were evaluated by short form-36 (SF-36) questionnaire. **Results:** Post-test and follow-up SF-36 scores were 55.6 ± 4 and 55.1 ± 3.6 in exposure therapy, 50 ± 4.4 and 56.1 ± 3.8 in problem solving, and 48.73 ± 3.8 and 50.9 ± 4.2 in combined therapy. In comparing to control group, all intervention showed significant improvement in QOL in PTSD patients. **Conclusion:** According to the results of the present study, behavioral therapy can improve QOL in PTSD patients.

Key words: Exposure therapy, post-traumatic stress disorder, problem solving skills, quality of life, short form-36

INTRODUCTION

War veterans were exposed frequently to a variety of traumatic events and stressors due to their special condition. Post-traumatic stress disorder (PTSD) is the most commonly observed psychiatric disorder

in communities affected by disasters and mass violence.^[1] PTSD has been described as “the complex somatic, cognitive, affective, and behavioral effects of psychological trauma.”^[2] PTSD is characterized by intrusive thoughts, nightmares and flashbacks of past traumatic events, avoidance of reminders of trauma, hypervigilance and sleep disturbance, all of which lead to considerable social, occupational, and interpersonal dysfunction. About 27% of people, who experienced an awful trauma and have been injured physically, would suffer from the PTSD in future.^[3] The pathophysiology of PTSD reflects long-lasting changes in the biological stress response systems that underlie many of the symptoms of PTSD and other trauma related disorders.^[4]

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In the overall, PTSD imparts substantial functional impairment in the exposed and is often comorbid with conditions such as depression, generalized anxiety disorder, and substance abuse.^[5] PTSD occurring after combat NZ injury appears to be strongly correlated with the extent of injury and develops over several months.^[6] Evidence suggests that the severity of PTSD is related to the degree of combat exposure and war duration.^[7-9] Since, Iran-Iraq war lasted for 8 years (1982-1989) it has been presumed to burden a variety of uncompensated psychological damages such as PTSD, on both sides.

Cognitive-behavioral treatment (CBT) comprising interactive psycho education, cognitive restructuring and anxiety management training, offers the best outcome supported by Randomized Clinical Trial (RCT) studies for PTSD patients.^[10-12] Generally, controlled research studies have indicated that behavioral and CBTs are effective in reducing symptoms of PTSD and depression.^[13] Problem solving therapy, a short-term cognitive behavioral intervention teaches a systematic method for solving current, and future problems. Exposure-based behavioral treatments utilize gradual, systematic, repeated exposure to the feared object or situation to allow patients with anxiety disorders to become desensitized to the feared stimulus. The exposures are predictable and under the patient's control. The patient is taught a variety of adaptive coping strategies to utilize throughout treatment.

Present study was designed for assessing the efficacy of problem solving, exposure therapy and combined therapy (both of them) in quality of life (QOL) of war-related PTSD in veterans compared to control group and compare applied treatments with each other.

MATERIALS AND METHODS

Study samples

The sample of present randomized control study was comprised of Iranian veterans in 8 years consecutive Iraq-Iran War combat, who presented with a variety of concerns to the Deployment Health Clinic of Bonyad-e-Shahid and Sepah Pasdaran between 2005 and 2006 in Tehran. The Deployment Health Clinic is structured to screen for PTSD purely or PTSD with concomitant depression by Diagnostic and Statistical Manual of Mental Disorder, 4th Edition, Text Revision diagnosis criteria and psychological interview. Participants were a random sample of men, ages 25-50 years, diagnosed with PTSD merely or PTSD with concomitant depression, who had a recorded profile in Hazrat Abolfazl clinic, Sani Khani clinic, and psychiatric Sadr Bonyad center.

In the first stage, 150 PTSD patients were selected among patient's dossiers of clinical centers belonging to Islamic Revolution Guards Corp and Bonyad in Tehran. Of 150 patients invited after sending written invitation and making phone contact, 92 participated in the explaining session and 85 volunteered to participate in the study. They were informed about the reason of the invitation, study conditions, procedures, and treatments. To make up the deficit, the dossiers were checked again, and those absent in the session were invited again. Finally, 120 patients included to the study.

Before the beginning of the study, all participants filled demographic questionnaires and gave written informed consent. According to the participant's answers, it has been programmed that patients attend therapeutically sessions twice weekly. They were randomly allocated to one of four equal interventional groups: (a) Problem solving therapy (b) exposure therapy (c) combined therapy (exposure therapy plus problem solving) (d) control group.

Study interventions

Problem solving therapy

Fifteen therapy sessions were held containing seven group sessions each lasting 2 h, and eight individual sessions each lasting 45 min. Patients were trained five steps of problem solving therapy by an expert therapist, throughout seven group sessions. At the end of the first session, patients were assessed by the questionnaires as pre-therapy tests. Individual sessions were devoted to recognizing the exact stressor situations and memories of each case. Then patients were asked to perform their learning on their own virtual problems and trying to go through each step by therapist assistance. Post-therapy tests were held at the end of 15 session and 3 months later.

Exposure therapy

This program contained 13 therapy sessions and two sessions dedicated to prior and post-therapy tests. The aim of individual sessions was to achieve annoying memories, images, and situations by focusing on and describing the details of that traumatic experience. Then relaxation is trained by the therapist and the patients were asked to repeat recalling arousing memories by some relaxation intervals. Here, again we held post-therapy tests at the end of 15 sessions and in subsequent 3 months.

Combined therapy

Seven group sessions were held to train problem solving and relaxation skills. Further individual eight sessions are devoted to learning implementation on problem solving and stressors recalling.

Study outcome variable measurement tools

QOL questionnaire

It is measured by SF-36 as a multi-purpose, short-form health survey with only 36 questions. It yields an eight-scale profile of functional health and well-being scores as well as psychometrically-based physical and mental health summary measures and a preference-based health utility index.

Global severity index

We used Symptom Checklist 90-Revised (SCL90-R) to assess the rate of psychological disorders. The SCL-90-R instrument from Pearson Assessments helps evaluate a broad range of psychological problems and symptoms of psychopathology. The instrument is also useful in measuring patient progress or treatment outcomes. This is a self-assessment test and is answered by subjects themselves. It has 90 questions and 9 scales in the following aspects: Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR) and Psychoticism (PSY) for assessing psychological symptoms. This checklist is widely used self-report instrument for assessing psychiatric problems and a wide range of psychopathic comorbid problems and is brief enough to be taken in only 15-20 min. The checklist has many archival databases. It is possible to measure PTSD by this instrument in a wide range of clinical and research settings. We applied GSI of this checklist in this study.

Statistical analysis

Data were analyzed using the SPSS for Windows version 16. Quantitative variables were presented by central indices (Mean and Standard error of mean) and qualities variables were presented by frequencies tables (frequency and Percentages). Independent sample *t* tests for comparison of quantities variables between

two groups and analysis of variance for comparing quantities in more than two groups. Chi-square was used for detecting significant association between qualities variables. Two-tailed significance level of 0.05 was used to detect a difference between variables.

RESULTS

Each of four study groups was composed of 25 individuals. Overall mean age was 42.37±4.55 (34-57). Mean of age in patients of each of study groups had no significant difference [Table 1].

QOL and GSI between study groups before and after intervention

Mean of SF36 scores in patients in baseline was 36.4±3.2 in the group (a), 41.18±2.4 in group (b), 35.53±3.3 in group (c) and 45.9±4.6 in group (d). After study intervention mean of SF36 scores were significantly improved. Same significant improvement was seen in the mean of SF36 scores after a follow-up period.

Mean of GSI in patients in baseline was 1.78±0.3 in the group (a) 1.62±0.3 in group (b) 1.85±0.2 in group (c) and 1.5±0.3 in group (d). After study intervention mean of GSI were significantly improved. Same significant improvement was seen in the mean of GSI after a follow-up period [Table 2].

DISCUSSION

Present study was designed for assessment of effects of cognitive behavioral therapy such as exposure therapy and problem solving on QOL of PTSD patients in veterans of Iraq-Iran war. In our study, these therapeutic modalities significantly improved both of QOL and global severity scores in them.

Pharmacotherapy and psychotherapy for treatment of PTSD patients are the focus in different studies. Among psychotherapy method, cognitive-behavioral therapy appeared to be the first line of treatment especially in chronic cases of combat-related PTSD and several studies use that for treatment of PTSD.^[14] Cognitive behavioral therapy presented as an effective therapy for

Table 1: Baseline characteristics of individuals enrolled in the study

Basal variables	Exposure therapy	Problem solving	Combined therapy	Control
Age	42.9±5.3	41.58±3.9	42.4±5.2	42.52±3.4
Academic education (%)	52	46	35	64
Percent of injury (%)	43	41.5	42.5	42.4

Table 2: SF36 and GSI score in pre, post-test and follow-up period

Treatment type	SF36			GSI		
	Pre-test	Pre-test*	Follow-up*	Pre-test	Post-test*	Follow-up*
Exposure therapy	41.18±2.4	55.6±4	55.1±3.6	1.62±0.3	0.81±0.18	0.99±0.18
Problem solving	36.4±3.2	50±4.4	56.1±3.8	1.78±0.3	1.38±0.2	1.32±0.3
Combined therapy	35.53±3.3	48.73±3.8	50.9±4.2	1.85±0.2	1.18±0.2	1.12±0.2
Control	45.9±4.6	45.7±3.2	46.1±2.5	1.5±0.3	1.54±0.2	1.3±0.2

SF36 – Short form of quality of life questionnaire; GSI – Global severity index; *Post-test and follow-up have significant difference with pre-test measurements

PTSD patients^[14,15] and can cause accelerated symptoms removing.^[16,17] Foa *et al.* believed that highest results of cognitive therapy was presented during 1st 2 months of treatment of PTSD patients.^[16]

QOL suggested as one the important parts of human health.^[18,19] There are some studies that discussed on QOL in mental disorders.^[20,21] QOL in veterans and nonveterans of PTSD might impaired due to their disorders and in recent meta-analysis on QOL in patients with anxiety disorders, found that PTSD had main effects on QOL in them among several causes.^[20] In social-material condition, studies showed that PTSD increased rate of unemployment and homelessness.^[22-25] PTSD either can increase marital instability.^[26]

In functioning part of QOL, PTSD accompanying with some problems such as social and interpersonal functioning,^[27,28] marital function,^[29] family function,^[30] and occupational functioning.^[28] Most of the published evidence in the literature showed that PTSD might be related to impair QOL of veterans. However, one main question was remained: How PTSD treatment can improve QOL? Some evidences showed that psychotherapy can improve psychosocial QOL.^[31-33] Researchers work on psychosocial and physical health related QOL.^[34-36] They showed different and even opposite findings in their research. In one of them Malik *et al.* reported that PTSD treatment can improved psychosocial function and had no effects on physical functioning,^[34] against of this results was presented by Mueser *et al.*^[35] and in another study by Schnurr *et al.* PTSD treatment did not improve physical and psychological function of health related QOL.^[36]

Finally, we had another question: How we can apply evidences of cognitive behavioral therapy effects on QOL to design treatment modalities for PTSD patients? We need a large sample studies for psychological assessment of PTSD patients to providing basic data. Clinicians may need to collaboration with a group of specialist including, rehabilitation specialists, social workers to present better treatment for PTSD patients.

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