Journal of Traumatic Stress, Vol. 10, No. 4, 1997

Brief Report

Time-Limited Psychotherapy with Operation Desert Storm Veterans

Julian D. Ford,[1,2,6] David Greaves,[3,4] Patricia Chandler,[3] Barbara Thacker,[5] David Shaw,[3,4] Shirley Sennhauser,[3,4] and Lawrence Schwartz[3,4]

Time-limited psychotherapy conducted 2 to 9 months after demobilization was evaluated with Persian Gulf Theater veterans of Operation Desert Storm (ODS). Thirty five treatment-seeking veterans were contrasted with 20 non-treatment-seeking ODS Persian Gulf veterans in a repeated measures design at pretest, posttest, and 6-week followup assessments. In addition, psychotherapy participants at followup were contrasted with 80 non-treatment-seeking ODS Persian Gulf veterans from the same military units who were assessed one time at a comparable time point. Time-limited psychotherapy was associated with sustained improved psychosocial functioning and reduced levels of psychiatric and stress-related symptomatology.

KEY WORDS: veterans; family; prevention; treatment effectiveness; posttraumatic stress disorder.

In and after Operation Desert Storm (ODS), military personnel deployed in Saudi Arabia, Kuwait or Iraq encountered war-zone trauma, and in the first year after ODS, 10% experienced clinical-level psychosocial impairment (Perconte, Wilson, Pontius, Dietrick, & Spiro, 1993; Sutker, Uddo, Brailey, & Allain, 1993; Wolfe & Proctor, 1996). After 2 years, the severity of ODS veterans' posttraumatic stress disorder (PTSD) showed no dimunition, and some increase (Southwick et al., 1995). Well before these reports,

[1]National Center for PTSD, Executive Division, VAMC 116D, White River Junction, Vermont 05009.
[2]Dartmouth Medical School, Hanover, New Hampshire 03755.
[3]Portland VA Medical Center, Portland, Oregon 97201.
[4]Oregon Health Sciences University, Portland, Oregon 97201.
[5]Eugene Vet Center.
[6]To whom correspondence should be addressed.

0894-9867/97/1000-0651$12.50/1 © 1997 International Society for Traumatic Stress Studies

experienced clinicians recommended early psychotherapeutic intervention with ODS veterans (Figley, 1993; Hobfoll et al., 1991; Scurfield & Tice, 1992). The only treatment study to date with ODS veterans (Perconte, Wilson, Pontius, Dietrick, Kirsch, & Sparacino, 1993) was done on a group and individual basis with soldiers in the Army Quartermaster unit whose barracks were hit by a SCUD missile. Veterans who were on-site at the barracks during the missile explosion were found to benefit from treatment, but those who were nearby but not actually on-site did not. Given the potential importance of early intervention in the aftermath of warzone military deployment, and data suggesting efficacy of brief psychotherapy (Brom, Kleber, & DeFares, 1989) and early therapeutic intervention (Foa, Hearst-Ikeda, & Perry, 1995), we report a preliminary evaluation of the efficacy of time-limited psychotherapy with veterans in the year after Persian Gulf deployment.

Method

Participants

Thirty five Persian Gulf Theatre ODS veterans who received time-limited psychotherapy served as a *Treatment* group and were compared to 100 Persian Gulf Theatre ODS veterans from the same nine military units who were not seeking treatment. Twenty of the latter group were tested at the same timepoints as the treated participants, serving as *Pre-Post Comparisons*. Treatment and Pre-Post Comparison participants completed all measures at an intake (M = 8.4 [SD = 3.8] months after return from the Persian Gulf), a post-test (M = 5.3 [SD = 3.1] weeks after intake), and a 6-week followup (M = 11.5 [SD = 4.2] months after return from the Persian Gulf). The other 80 served as *Delayed Testing Comparisons*, completing the measures once (M = 15.6 [SD = 2.4] months after return from Persian Gulf). All participants were recruited in educational sessions presented at "Stand-Down" meetings of their military units.

Participants ranged in age from 23 to 57, were 70% men, and were primarily Caucasian (80%) but also African American (8%), Asian American (10%), and Latino (2%). Most were single (68%) or married (22%); 10% were divorced. Most served in ODS as military support (58%) or medical (30%) personnel, although 12% were combat personnel. Most (57%) had been exposed to SCUD missile attacks during ODS, and one in six had served on the front lines and/or witnessed war carnage. There was only one statistically significant demographic difference between groups: the Treatment group had a lower level of education than the comparison groups, $F(2, 126) = 6.59$, $p = .002$.

Although warzone exposure was not assessed on an individual basis, descriptions provided by participants in the initial recruitment sessions indicated that participants served in military units in which all soldiers were exposed to life threat (i.e., three units exposed to repeated SCUD missile attack' one unit exposed to small arms fire and threat of chemical/biological warfare on the front line) and/or had witnessed extreme carnage in Kuwait after the air war (i.e., one unit). Participants from each of the five units were represented in equivalent proportions in the treatment and comparison groups.

Measures

Participants completed questionnaires with demonstrated psychometric reliability and validity. The Impact of Event Scale (IES) is a 15-item measure scored for intrusive (IES-I) and avoidance (IES-A) posttraumatic stress symptomatology severity in the past week. Scores of 19 or greater on each subscale are considered indicative of clinical impairment (Horowitz, Wilner, & Alvarez, 1979). The General Health Questionnaire (GHQ) is a 28-item measure scored for the number of psychiatric symptoms rated for "the past few weeks" as "worse than usual" or "much worse than usual." A score of 5 or more is considered indicative of clinical impairment (Goldberg & Hillier, 1979). The Family APGAR is a five-item measure of satisfaction with family communication, mutual support, and shared activities, with each item scored as satisfied "almost always" (2), "some of the time" (1), or "hardly ever" (0). A score of 4 or below is considered indicative of clinical level impairment (Smilkstein, Ashworth, & Montano, 1982).

Treatment

Time-limited psychotherapy consisted of between one and five (M = 3.2[SD = 1.6]) sessions of 90–120 min length conducted over a period of 2–10 weeks. The study authors (two psychologists, one psychiatrist, one psychiatric nurse practitioner, and three masters-level interns) were randomly assigned as co-therapy teams for each case such that each clinician conducted at least one and no more than three cases with at least four of the other project therapists. Five cases were conducted with one therapist.

Whether done with an individual veteran client (18 cases), a veteran and spouse couple (9 cases), or a veteran and multigenerational family (8 cases), psychotherapy was conducted according to the following structured guidelines. Presenting problem(s) and treatment goals were defined in a therapist-guided but client-centered approach at the outset. Then clients' interpersonal and familial roles and relational/communication patterns and

problems were explored and clarified. Next, each client was guided in recounting and organizing a narrative of the experiences that continued to be most troubling which had occurred at any time from the Iraqi invasion of Kuwait through the present. Concurrent sensory and affect focusing (Gendlin, 1979) was done to facilitate emotion awareness and expression. Concurrently, psychoeducation about trauma and its expectable effects was provided, and cognitive restructuring (Meichenbaum, 1994) was used to challenge and empathically reframe "extreme beliefs" so as to strengthen personal schemas of trust, safety, efficacy, and self-esteem (McCann & Pearlman, 1990). Finally, systematic problem solving (D'Zurilla & Goldfried, 1974), interpersonal therapy (Frank & Spanier, 1995), and structural family therapy (Stanton & Figley, 1978) were utilized to develop effective approaches to coping with or resolving debilitating posttraumatic stress symptoms and to enhance interpersonal and family relationships.

When therapy was done with an individual veteran client and a co-therapy team, a psychologist, psychiatrist, or nurse-practitioner supervisor acted as the lead therapist and an intern served as co-therapist. The therapists explained to these clients (as well as to couple or family) that the co-therapy model was used so that treatment would have the benefit of the perspectives of a two therapist team. The 13 individual clients seen by co-therapy teams were given the option of a single therapist if they found meeting with two therapists in any way unacceptable, and all chose to be seen by a co-therapy team. Family-systems therapy was utilized with all individual clients, as well as clients seen conjointly as couples or families, by getting a historical synopsis of relationships (e.g., a family genogram) and identifying issues and patterns from the family-of-origin or past-relationships (e.g., former marriages) that helped the client to better understand and modify current relational problems or stress reactions.

Therapist postsession ratings with demonstrated interrater reliability (Ford, 1996) confirmed that the basic structure of treatment was consistent in two respects. First, treatment components were consistently implemented in sequence: client-centered goal setting, followed by trauma narration with psychoeducation, affect focusing and cognitive restructuring, and concluding with interpersonal/family systems problem solving. Second, subjective distress related to index traumas decreased and overall client sense of personal control increased with each session.

Results

No client terminated prematurely or required acute psychiatric care during the study. A Multivariate Analysis of Variance (MANOVA) showed

that Treatment participants at pretest were significantly more distressed than comparison participants, $F[4, 50] = 4.58, p < .001$, with significant univariate differences on the GHQ, IES-Intrusion, and IES-Avoidance measures.

A repeated measures MANOVA, with Time (i.e., pretest versus post-test versus followup) as the within-subject factor and Treatment (i.e., Treatment versus Pre-Post Comparison) as the between-subjects factor, resulted in a significant main effect for *Time*, $F[8, 46] = 4.99, p = .001$, and for the *Treatment* × *Time* interaction, $F[8, 196] = 4.40, p < .001$. Univariate ANOVAs testing the *Time* factor resulted in significant main effects for the GHQ, IES-I, and IES-A, but not for the APGAR, with all pretest-post-test (and no posttest-followup) differences significant, $F[2, 51] = 5.5, 9.9, 11.8, p < .01$, respectively. Univariate ANOVAs for the *Treatment* × *Time* interaction revealed significant effects for the GHQ and APGAR, $F[2, 50] = 12.2, 4.2$; $p < .05$, but not for the IES-I or IES-A. Cell means indicated that GHQ scores decreased for the Treatment group at post-test and remained stable at followup, while comparison participants scored more distressed on the GHQ at posttest and returned to baseline at followup. Family APGAR improved 20% at posttest for the Treatment group and remained stable at followup, while not changing at posttest for comparison participants and decreasing 10% at followup. IES Intrusion and Avoidance scores for the Treatment group decreased at posttest, continuing to decline at followup. Comparison group IES-I and IES-A scores remained essentially unchanged at posttest and followup. At followup, Treatment and comparison group scores were essentially equivalent on all four outcome measures.

A MANOVA comparing the Treatment group at followup versus the Delayed-Testing comparison group yielded a nonsignificant multivariate effect, $F[4, 104] = 1.76, p = .12$, although one univariate effect attained significance: the Treatment group reported higher levels of satisfaction on the Family APGAR, $F[1, 107] = 4.10, p = .04$, at followup (see Table 1). On the symptom measures, the Treatment group's scores were consistently but nonsignificantly more favorable than the Delayed-Testing group's scores.

Clinical significance of therapeutic outcome was estimated utilizing Jacobson & Revenstorf's (1988) methodology of establishing a cutoff distinguishing a clinical range from a nonclinical range for each of the dependent variables. Participants were classified as "clinically distressed" if they scored in the clinical range on two or more of the four measures. Treatment participants were significantly more likely to be classified as clinically distressed prior to therapy than the Pre-Post comparisons: 85% versus 40%, χ^2 (1, N = 55) = 14.3, $p = .001$. At post-test, the difference was non-significant (57% versus 55%, χ^2 (1, $N = 55$) = 0.7, $p = .8$). By followup fewer Treatment than Pre-Post or Delayed-Testing comparison participants were clinically distressed, although the difference was not statistically significant

Table 1. Outcome Scores for the Treatment, Pre-Post Comparison, and Delayed-Testing Groups

Outcome Measure	Group	N	Pretest		Post-test		6-Week Followup	
			M	*SD*	*M*	*SD*	*M*	*SD*
GHQ	Treatment	34	10.76	(7.11)	5.42	(4.77)	5.00	(4.39)
	Pre-post	20	5.90	(4.79)	8.05	(5.37)	5.70	(6.07)
	Delayed-testing	80	—		—		6.01	(5.14)
Family APGAR	Treatment	34	6.03	(2.80)	7.40	(2.34)	7.73	(3.18)
	Pre-post	20	6.75	(2.97)	6.60	(2.68)	6.00	(2.13)
	Delayed-testing	80	—		—		6.43	(3.06)
IES-Intrusion	Treatment	33	19.67	(9.03)	12.40	(8.60)	10.48	(9.11)
	Pre-post	20	13.75	(11.33)	11.60	(7.90)	9.95	(9.59)
	Delayed-testing	80	—		—		13.99	(9.26)
IES-Avoidance	Treatment	35	21.94	(10.30)	14.94	(10.73)	12.18	(9.88)
	Pre-post	20	12.65	(8.55)	8.60	(8.33)	7.25	(7.22)
	Delayed-testing	80	—		—		13.36	(9.62)

(40% versus 50% and 52%, respectively), χ^2 (1, N = 135) = 2.4, p = .30. All Treatment participants reported improvement on at least half the outcome measures at posttest and at followup. Of the 30 Treatment participants who were initially classified as clinically impaired, 18 (60%) moved into the nonclinical range. The five initially nonclinical-range Treatment participants made small gains and remained in the nondistressed range.

Cell means and standard deviations for treatment participants who received psychotherapy (a) as individuals, (b) in a couple with their primary partner/spouse, or (c) with multiple family members were comparable at pretest, post-test, and followup. Univariate analyses of variance with repeated measures comparing the three groups at each assessment point showed no significant differences.

Four Treatment participants began anxiolytic or antidepressant medications during the study. Analyses excluding these participants revealed no differences in the reported effects. Treatment change does not appear to be due to medication for these participants, because they showed *less* positive change on all measures (not only at posttest but also at followup) than the rest of the Treatment group.

Discussion

Brief psychotherapy was associated with consistent, clinically significant, and sustained reductions in traumatic stress symptomatology, and particularly with gains in family functioning, for ODS military veterans. Non-treatment-seeking Comparisons, by contrast, reported little change or even mild regression in psychiatric and family problems, and small improvements in stress symptoms. At followup the Treatment group reported significantly better family functioning than the Delayed-Testing comparison group, and nonsignificantly lower symptom levels. No treated client reported regression of clinical significance. The fact that 60% of participants whose initial distress was of clinical severity were in the normal range at followup suggests that early brief psychotherapy can be ameliorative as well as prophylactic for trauma survivors. Thus, early psychotherapeutic treatment appears to enhance psychosocial adjustment, which is related to enhanced recovery from PTSD (Solomon, Waysman, & Mikulincer, 1990). Had treatment included a specific focus on direct trauma exposure (Foa, Hearst-Ikeda, & Perry, 1995), the promising results for reduced intrusion (McFarlane, 1992) and general psychiatric symptoms might have achieved statistical significance.

Despite the nonequivalence of the Treatment and Comparison groups on treatment-seeking status and initial severity of symptomatology, the

groups were demographically equivalent except for an education difference that should lead Treatment participants (who had less education) to be *less* likely than comparison participants to show posttraumatic improvement (e.g., McNally & Shin, 1995). The study design—a nonequivalent groups quasi-control design (Campbell & Stanley, 1966, p. 48)—controls for all threats to internal validity except for regression (i.e., Treatment improvements may be artifacts of their more extreme pretest scores) and the interaction of selection with factors such as maturation or history (e.g., Treatment improvements may be due to unique characteristics of participants choosing to enroll in therapy). The superiority of the Treatment group at followup compared to the Delayed-Testing group suggests that, if untreated, stress-related problems may actually increase rather than abate with the passage of time. It is not clear, however, whether treatment *per se* or alternative potential causal factors (e.g., self-monitoring due to repeated testing) led to the positive findings at followup.

The provision of brief psychotherapy immediately after war is, unfortunately, the exception rather than the rule (Borus, 1973; Scurfield & Tice, 1993). Data from longitudinal followups of ODS veterans (Southwick et al., 1995; Wolfe & Proctor, 1996) suggest that at least a substantial minority do not readjust well. Thus, timely psychotherapy for high-risk trauma survivors may be critical not only in the civilian sector (Foa et al., 1995) but also for soldiers in order to go beyond relatively ineffective generic models of posttraumatic debriefing (Kenardy et al., 1995).

Acknowledgment

Funding for this Project was provided in part by a Clinical Services grant from the Department of Veterans Affairs Mental Health Section, PTSD Programs Division. The authors thank Laurent Lehmann and Gay Koerber of VACO, and Robert Rosenheck of DVA NEPEC, for their support of the Project, and Paula Schnurr for methodologic consultation. The authors also thank the officers and soldiers of the participating Army Reserve, Army National Guard, and Marine Reserve units for their support and involvement.

References

Borus, J. T. (1973). Reentry III. Facilitating healthy readjustment in Vietnam veterans. *Psychiatry, 36,* 428-439.

Brom, D., Kleber, R. J., & Defares, P. B. (1989). Brief psychotherapy for post-traumatic stress disorders. *Journal of Consulting and Clinical Psychology, 57,* 607-612.

Campbell, D., & Stanley, J. (1966). *Experimental and quasi-experimental designs for research.* Chicago: Rand McNally.

D'Zurilla, T., & Goldfried, M. (1971). Problem solving and behavior modification. *Journal of Abnormal Psychology, 78,* 107-126.

Figley, C. (1993). Coping with stressors on the home front. *Journal of Social Issues, 49* (4), 51-72.

Foa, E. B., Hearst-Ikeda, D., & Perry, K. (1995). Evaluation of a brief cognitive-behavioral program for the prevention of chronic PTSD in recent assault victims. *Journal of Consulting and Clinical Psychology, 63,* 948-955.

Ford, J. D. (1996). *Process analysis of brief posttraumatic psychotherapy.* Submitted for publication.

Frank, E., & Spanier, C. (1995). Interpersonal psychotherapy for depression. *Clinical Psychology, 2,* 349-369.

Gendlin, E. (1979). Experiential psychotherapy. In R. Corsini (Ed.) *Current psychotherapies* (2nd ed.). Itasca, IL.

Goldberg, D., & Hillier, V. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine, 9,* 139-145.

Hobfoll, S. E., Speilberger, C. D., Breznitz, D., Figley, C., Folkman, S., Green, B., Milgram, N. A., Candler, I., Sarason, I., & van der Kolk, B. (1991) War related stress. *American Psychologist, 46,* 848-885.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine, 41,* 209-218.

Jacobson, N. S., & Revenstorf, D. (1988). Statistics for assessing the clinical significance of psychotherapy techniques. *Behavioral Assessment, 10,* 133-145.

Kenardy, J., Webster, R., Lewin, T., Carr, V., Hazell, P., & Carter, G. (1996). Stress debriefing and patterns of recovery following a natural disaster. *Journal of Traumatic Stress, 9,* 37-49.

McCann, L., & Pearlman, L. (1990). *Psychological trauma and the adult survivor.* New York: Brunner/Mazel.

McFarlane, A. C. (1992). Avoidance and intrusion in posttraumatic stress disorder. *Journal of Nervous and Mental Disease, 180,* 439-445.

McNally, R., & Shin, L. (1995). Association of intelligence with severity of posttraumatic stress disorder symptoms in Vietnam combat veterans. *American Journal of Psychiatry, 152,* 936-938.

Meichenbaum, D. (1994). *A clinical handbook/practical therapist manual.* Waterloo, Canada: Institute Press.

Perconte, S., Wilson, A., Pontius, E., Dietrick, A., Kirsch, C., & Sparacino, C. (1993). Unit-based intervention for Gulf War soldiers surviving a SCUD missile attack. *Journal of Traumatic Stress, 6,* 225-238.

Perconte, S., Wilson, A., Pontius, E., Dietrick, A., & Spiro, K. (1993). Psychological and war-stress symptoms among deployed and non-deployed Reservists following the Persian Gulf War. *Military Medicine, 158,* 516-521.

Scurfield, R., & Tice, S. (1992). Acute psycho-social intervention strategies with medical and psychiatric evacuees of Operation Desert Storm and their families. *Military Medicine, 157,* 88-97.

Smilkstein, G., Ashworth, C., & Montano, D. (1982). Validity and reliability of the Family APGAR. *Journal of Family Practice, 15,* 303-311.

Solomon, Z., Waysman, M., & Mikulincer, M. (1990). Family functioning, societal support, and combat-related psychopathology. *Journal of Social and Clinical Psychology, 9,* 456-472.

Southwick, S. M., Morgan, A., Darnell, A., Bremner, J. D., Nicolaou, A., Nagy, L., & Charney, D. (1995). Trauma-related symptoms in veterans of Operation Desert Storm. *American Journal of Psychiatry, 152,* 1150-1155.

Stanton, M., & Figley, C. R. (1978). Treating the Vietnam veteran within the family. In C. R. Figley (Ed.), *Stress disorders among Vietnam veterans* (pp. 281-291). New York: Brunner/Mazel.

Sutker, P., Uddo, M., Brailey, K., & Allain, A., Jr. (1993). War-zone trauma and stress-related symptoms in Operation Desert Shield/Storm (ODS) returnees. *Journal of Social Issues, 49*(4), 33-50.

Wolfe, J., & Proctor, S. (1996). The Persian Gulf War. *PTSD Research Quarterly, 7*(1), 1-7.