Treatment Presentation and Adherence of Iraq/Afghanistan Era Veterans in Outpatient Care for Posttraumatic Stress Disorder

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The ongoing wars in Afghanistan (Operation Enduring Freedom or OEF) and Iraq (Operation Iraqi Freedom or OIF) make the development and application of effective postdeployment mental health treatment programs a high priority. There has been some concern that existing treatment programs for combat-related posttraumatic stress disorder (PTSD) may not fit well with OEF/OIF veterans confronted with acute mental health difficulties while reestablishing community, familial, and occupational connections after their deployment. This study utilized data gathered from a large outpatient Veterans Affairs Medical Center PTSD treatment clinic to examine differences in initial treatment presentation and treatment adherence (attendance and dropout) between a group of Vietnam era veterans (n = 54) and a group of OEF/OIF veterans (n = 54)106). OEF/OIF veterans reported lower levels of symptom distress on questionnaires assessing posttraumatic reexperiencing, avoidance, dissociation, and arousal symptoms but similar levels of anger and acting out behaviors and higher levels of alcohol problems. OEF/OIF veterans had significantly lower rates of session attendance and higher rates of treatment dropout than Vietnam veterans, and this difference was not accounted for by differences in treatment presentation.

Keywords: posttraumatic stress disorder, treatment adherence, Vietnam combat veterans, Iraq/Afghanistan combat veterans

The need for mental health services for returning veterans from the wars in Iraq (Operation Iraqi Freedom or OIF) and Afghanistan (Operation Enduring Freedom or OEF) is substantial. Over 1.6 million United States service members have served in Afghanistan, Iraq, or surrounding territories, and up to 15% of them report significant symptoms of posttraumatic stress disorder

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(PTSD), depression, generalized anxiety, or substance use problems (Hoge et al., 2004; Milliken, Auchterlonie, & Hoge, 2007; Ramchand, Karney, Osilla, Burns, & Calderone, 2008). Of the 347,750 Operation Enduring Freedom/ Operation Iraqi Freedom (OEF/OIF) veterans who have been evaluated at a Department of Veterans Affairs (VA) health care facility through March 31, 2008, mental disorders were the second most frequent (42.5%) category of diagnoses evaluated (Veterans Health Administration, 2008). In response to this pressing need, VA has dramatically increased the size of its mental health staff and programming (Rosenheck & Fontana, 2007). Within the VA, returning veterans with PTSD are treated through an established network of PTSD clinical teams (PCTs) and residential programs that were developed primarily to treat PTSD in Vietnam era veterans dealing with chronic and persistent mental illness. There is a need to evaluate to what extent these existing programs and

models of treatment should be modified to best treat this younger, more acute, cohort of returning veterans.

The provision of timely and effective care for postdeployment mental health disorders, including PTSD, remains an important priority. Combat-related PTSD is associated with substantial distress and impairments in quality of life (Prigerson, Maciejewski, & Rosenheck, 2001) and social and occupational functioning (Kessler, 2000). Treatment outcomes among Vietnam era veterans who have been suffering from PTSD for decades are often mixed, with treatments that are generally efficacious in civilian populations showing only limited efficacy or reduced effect sizes in the veteran population (e.g., Bradley, Greene, Russ, Dutra, & Westen, 2005; Schnurr et al., 2007; Schnurr et al., 2003). This further emphasizes the need to engage with returning veterans early, before symptoms have become chronic and potentially resistant to treatment. By providing prompt and effective care, providers hope to help veterans avoid the years or decades of impairment and distress suffered by substantial proportions of veterans following the Vietnam War (e.g., Kulka et al., 1990). This goal depends, to a large extent, upon the ability of existing treatment programs to successfully engage with and provide effective treatment for returning veterans. It is possible, however, that treatment programs designed for treatment of chronic PTSD in an older cohort of Vietnam veterans may not be the best fit for the newer returning veteran. Important differences in presenting problems, environmental demands, lifestyles, or use of technology may result in different treatment preferences and behaviors.

Several factors may contribute to difficulties engaging returning veterans in existing PTSD treatment programs. First, there are several reports of high levels of perceived stigma among returning soldiers (e.g., Hoge et al., 2004) and relatively low rates of service use even among veterans reporting significant clinical distress (e.g., Erbes, Westermeyer, Engdahl, & Johnsen, 2007; Milliken et al., 2007; Ramchand et al., 2008). It is possible that returning veterans, who have only recently left their military careers and are likely to still have ties with military peers, may be more susceptible to this perceived stigma than veterans from prior conflicts and as a result may have a more difficult time engaging

in care. Second, returning veterans from Iraq and Afghanistan have substantially different demographic profiles than veterans from earlier conflicts, including the first Persian Gulf War and the Vietnam War. The only reported comparison between OEF/OIF veterans and veterans from other wars has found differences in gender composition, marital status, legal history, deployment experiences, and age (Fontana & Rosenheck, 2008). Thus, OEF/OIF veterans may have different environmental demands and concerns. Differences in occupational status and scheduling, family obligations, and financial resources may lead to differences in engagement with treatment (e.g., treatment attendance and dropout) and different presenting problems and priorities. This new, younger cohort may also view the role of technology in their life differently (text messages, e-mail, video games, etc.), and this may be an unclear contributing factor. Finally, returning veterans with more acute symptoms of PTSD, whose lives have not been shaped by those symptoms for decades, may have different symptom presentations and thus differing treatment needs than the more chronic presentations seen in veterans from other eras.

Clinically, we have seen differences in both treatment presentation and treatment behavior (particularly attending or dropping out of treatment) in OEF/OIF veterans. We have also heard, anecdotally, from other VA clinicians and medical centers that veterans who serve in Iraq and Afghanistan are less likely to remain in treatment for extended periods of time and are more likely to drop out of care. However, we are unaware of any empirical reports examining the treatment presentation and behavior of returning veterans in this regard. Given the need to effectively engage and treat individuals returning from these wars, such data will be important. The present study sought to quantitatively explore treatment presentation and behavior in returning veterans and to contrast that presentation and behavior with Vietnam era veterans, for whom most PTSD treatment programs were established. Based on our clinical observations, we expected OEF/OIF veterans to demonstrate greater difficulties with treatment compliance (as indicated by numbers of missed sessions and rates of treatment attrition), equal or higher levels of alcohol related difficulties, and lower rates of trauma-related avoidance than veterans from the Vietnam War.

Method

As part of their clinical care, veterans presenting at a large outpatient PTSD specialty program at a Midwestern Veterans Affairs Medical Center (VAMC) were asked to complete a battery of questionnaires on symptoms and functioning prior to their first intake session. They were also asked if they would consent to this information being used in research studies examining treatment for PTSD. Veterans are referred to this treatment program if they report trauma-related psychiatric symptoms, but they are not required to have a diagnosis of PTSD to enter the program. Data were gathered from intake questionnaires and medical records for veterans who presented for intake and consented to take part in the study between July 2006 and July 2007. Questionnaire packets were administered individually and completed in a privacy kiosk in the clinic waiting room, and clinic staff were available to assist with any questions veterans may have had about the questionnaires. Packets included questionnaires assessing alcohol use, PTSD symptoms, more general trauma symptoms, and quality of life, in that order. Veterans in the program were offered comprehensive care, including psychiatric medication, exposure based therapy (including Cognitive Processing Therapy), and/or presentcentered skill-based therapy (such as anger management or skills training for comorbid substance abuse and posttraumatic stress) from individual and group modalities. Treatment was open ended (i.e., veterans remained in the program as long as needed and could return to the program for follow-up care as needed) and tailored for the individual needs of each veteran in collaboration between the veteran and an assigned case manager.

Participants

Veterans were included in the study if they were admitted to the treatment program during the specified time period, had been deployed to either Vietnam or Afghanistan/Iraq (OEF/OIF), completed intake questionnaires, and consented to participate. In the study period, 212 veterans met eligibility requirements of having completed intake questionnaires and had been deployed as part of OEF/OIF or the war in Vietnam. Of those, 161 consented to participate. One participant was excluded because he had served in both Iraq and Vietnam, yielding a final N of 160, which represents a 75% response rate. Fifty-four of the participants had served in Vietnam, and 106 had served in Iraq or Afghanistan. Demographics are listed in Table 1.

Measures

Chart review. Medical (mental health) records were examined to assess treatment diagnosis and treatment behavior. Specifically, we examined the number of appointments scheduled for mental health care, and of those, how many appointments were attended, cancelled, or "no-showed." Demographic variables (gender,

Table 1

Demographic Characteristics by Group

Characteristics	Vietnam	OEF/OIF	Comparison
Male gender, %	100	95	$\chi^2 = 2.63 (df = 1)$
White race, %	91	95	$\chi^2 = 1.26 (df = 1)$
Marital status, n (%)			$\chi^2 = 16.11 (df = 2)^{***}$
Married or remarried	39 (72)	61 (58)	
Separated, divorced, or widowed	15 (28)	19 (18)	
Single/never married	0 (0)	26 (24)	
Employment status, n (%)		` ,	$\chi^2 = 1.86 (df = 2)$
Employed full-time	25 (46)	50 (48)	
Employed part-time	3 (6)	12 (12)	
Unemployed	26 (48)	42 (40)	
Age in years (SD)	58.6 (2.3)	29.8 (8.3)	$t = 33.14 (df = 158)^{***}$
Cohort size, n	54	106	

Note. N = 160 for all χ^2 calculations.

^{***} p < .001.

age, marital status, and employment status) were also examined. Based on clinic practice and observation, premature dropout was operationalized as having no contact with the clinic in 2 months, no scheduled future appointments, and no transfer of care or termination summary note indicating that treatment was completed.

Alcohol Use Disorders Identification Test (AUDIT; Babor, Biddle-Higgins, Saunders, & Monteiro, 2001). The AUDIT is a widely used self-report measure of alcohol use developed by the World Health Organization. It has demonstrated test-retest reliability (r=.86) and good internal consistency reliability as well as being strongly correlated to other measures of alcohol use.

PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL is a 17-item checklist that has participants rate to what extent each of the 17 symptoms of PTSD have bothered them in the past month. It has established reliability and validity.

Trauma Symptom Inventory (TSI; Briere, 1995). The TSI is a widely used (Elhai, Gray, Kashdan, & Franklin, 2005) self-report measure of a broad spectrum of trauma-related symptoms. The current study used an established short form consisting of 86 items, including eight subscales. The subscales and their reliabilities (from Briere, 1995) include Anxious Arousal ($\alpha = .87$; including PTSD symptoms of hyperarousal), Depression ($\alpha = .90$), Anger/Irritability ($\alpha = .89$), Intrusive Experiences ($\alpha = .90$; including reexperiencing symptoms of PTSD), Defensive Avoidance ($\alpha =$.88; including avoidance symptoms of PTSD), Dissociation ($\alpha = .88$), Impaired Self Reference $(\alpha = .87; including symptoms of an unstable$ sense of self and lack of self-awareness) and Tension Reduction Behaviors ($\alpha = .74$; including externalizing behaviors such as impulsivity, acting out, and self-injury). Validity data for the TSI comes from data showing expected relationships between symptoms and trauma characteristics and concordance with other self-report distress measures (Briere, Elliott, Harris, & Cotman, 1995; McDevitt-Murphy, Weathers, & Adkins, 2005; Runtz & Roche, 1999).

World Health Organization Quality of Life Scale-Brief (WHOQOL-BRIEF; Skevington, Lotfy, & O'Connell, 2004). The WHOQOL-BRIEF is a 26-item brief assessment of quality of life in four factor analytically confirmed dimensions. It assesses quality of life in the Phys-

ical ($\alpha = .87$), Psychological ($\alpha = .87$), Social ($\alpha = .69$), and Environmental ($\alpha = .84$) domains. It has shown predicted relationships with health status, single items assessing quality of life, and demographic variables.

Results

Treatment Presentation

Differences in treatment presentation were analyzed with a two-group (OEF/OIF vs. Vietnam) MANOVA with follow-up univariate t tests. Dependent variables included the PCL, subscales of the TSI, and the AUDIT. Means are listed in Table 2. The omnibus MANOVA statistic was significant and accounted for 24.9% of the overall variance, Wilks' $\Lambda =$.751, F(10, 138) = 4.248, p < .001. Univariate analyses revealed that for most symptoms, Vietnam era veterans reported higher levels of distress than OEF/OIF veterans. This was true for overall PTSD, intrusive symptoms (i.e., DSM-IV Criterion B symptoms of PTSD), defensive avoidance symptoms (i.e., DSM-IV Criterion C symptoms), anxious arousal symptoms (i.e., DSM-IV Criterion D symptoms), as well as dissociation and impaired self-reference. The two groups did not differ significantly on scales measuring anger or tension reduction behavior (which reflect largely impulsive and "acting out" behaviors). OEF/OIF veterans reported higher rates of problematic alcohol use, as measured on the AUDIT, than Vietnam veterans. A separate two-group MANOVA was run on the subscales of quality of life measure. Group means are listed in Table 2. The overall group comparison was not significant, Wilks' $\Lambda =$.996, F(4, 149) = 0.145, p > .10. Exploratory univariate analyses also failed to find group differences on any individual subscales.

Treatment Behavior

Differences in session attendance and dropout were examined with a series of *t* tests using separate variance estimates due to unequal cell sizes and heteroskedasticity. MANOVA procedures were not used because some of the variables analyzed are linear derivatives of each other. Mean numbers of sessions scheduled, attended, and the proportion of sessions attended are listed in Table 3. While Vietnam and

Table 2		
Means, Standard Deviations,	and Univariate Comparisons	in Treatment Presentation

	Vietnam		OEF/OIF			
Variables	M	SD	M	SD	t	df
PCL	59.50	9.81	52.42	12.80	3.82	128.62***
AUDIT	6.38	9.13	9.98	9.74	-2.29	110.36*
TSI-Anxious Arousal	16.20	4.67	13.78	4.96	2.96	105.45**
TSI-Depression	14.71	6.02	10.84	5.47	3.86	91.65***
TSI-Anger/Irritability	16.53	6.51	17.32	6.09	-0.72	93.75
TSI-Intrusive Experiences	15.90	5.44	11.72	5.81	4.42	108.54***
TSI-Defensive Avoidance	15.77	6.16	11.57	6.18	4.00	103.08***
TSI-Dissociation	14.12	6.34	11.19	5.00	2.88	82.22**
TSI-Impaired Self-Reference	12.86	5.56	11.15	5.05	1.82	86.59
TSI-Tension Reduction Behavior	6.12	3.90	6.06	3.90	0.09	99.61
QOL-Physical	19.87	3.55	19.79	3.01	0.13	83.91
QOL-Psychological	18.00	2.81	17.95	3.25	0.10	110.55
QOL-Social	8.62	2.38	8.88	2.50	-0.61	101.02
QOL-Environment	27.33	4.36	27.48	5.14	-0.18	112.50

Note. PCL = PTSD Checklist Total Score; AUDIT = Alcohol Use Disorders Identification Test total score; TSI = Trauma Symptom Inventory raw score; QOL = World Health Organization Quality of Life Scale–Brief. $^*p < .05. ^{***}p < .01. ^{****}p < .001.$

OEF/OIF veterans had an equivalent number of sessions scheduled and sessions cancelled ahead of time, OEF/OIF veterans had significantly more sessions that they failed to attend without canceling, t = -6.05, df = 146.03, p < .001, and consequently attended a smaller proportion of scheduled appointments, t = 5.78, df = 135.5, p < .001. Examination of the frequency of dropouts between groups showed that rates of dropout among OEF/OIF veterans were more than twice those of Vietnam veterans, a difference that was statistically significant, $\chi^2 = 5.00$, df = 1, p < .05.

In order to examine the possibility that differences in treatment behavior represent differences in clinical need, we simultaneously examined the

Table 3
Treatment Attendance by Group

Variables	Vietnam	OEF/OIF
Sessions scheduled	10.41 (6.82)	11.22 (10.47)
Sessions attended	7.74 (5.48)	6.08 (7.24)***
Sessions no-showed	0.43 (0.84)	1.96 (2.35)***
Sessions canceled by patient	1.35 (1.23)	1.82 (2.03)
Proportion scheduled		
sessions attendeda	0.71 (0.22)	0.47 (0.29)***
Patients who dropped out	14.80	31.10*

Note. Data are presented as M (SD) or %.

relative contributions of symptom distress and cohort membership (Vietnam vs. OEF/OIF) on treatment behavior. The proportion of sessions attended served as the dependent variable, while symptom distress scales that had shown differences between groups, current marital status (married vs. not), and cohort membership were entered in an ordinary least squares multiple linear regression model. As shown in Table 4, cohort membership continued to predict rates of session attendance even after controlling for differences in

Table 4
Simultaneous Regression Analyses Predicting
Session Attendance

Predictor	В	SE(B)	β
Cohort	-0.20	0.05	-0.33***
Currently married	0.03	0.05	0.06
PCL	0.00	0.00	-0.01
TSI-Anxious Arousal	0.00	0.01	0.03
TSI-Depression	0.01	0.01	0.28^{*}
TSI-Intrusive Experiences	0.01	0.01	0.17
TSI-Defensive Avoidance	-0.01	0.01	-0.15
TSI-Dissociation	-0.01	0.01	-0.18
TSI-Impaired Self-Reference	-0.00	0.01	-0.08
AUDIT	-0.00	0.00	-0.06

Note. R = .47, adjusted $R^2 = 0.16$, F(10, 134) = 3.78. PCL = PTSD Checklist Total Score; AUDIT = Alcohol Use Disorders Identification Test total score; TSI = Trauma Symptom Inventory raw score.

^a Mean of individual proportion of sessions attended.

p < .05. *** p < .001.

^{*} p < .05. *** p < .001.

symptom distress. We conducted a similar analysis of rates of dropout using the same predictors in a logistic regression. The logistic regression model correctly classified 76.6% of cases but failed to reach overall statistical significance, $\chi^2 = 17.81$, df = 10, p = .06, presumably due to the intercorrelation of predictors and reduced variance available in a dichotomous dependent variable (as opposed to the continuous variable of proportion of sessions attended).

Discussion

Results from this study are consistent with clinical impressions that returning OEF/OIF veterans have greater difficulty attending and remaining in treatment. OEF/OIF veterans as a group attended fewer sessions and dropped out of treatment more frequently than Vietnam veterans. As we had hypothesized based on clinical experience, OEF/OIF veterans showed lower rates of avoidance and actually higher rates of active alcohol problems than Vietnam veterans. On the other hand, we had not expected the general trend for OEF/OIF veterans to report less distress across many measures of symptom distress (such as anxious arousal, depression, intrusive symptoms, and dissociation). Follow-up analyses suggested that, at least for session attendance, the differences in treatment behavior are not due to these different levels of pretreatment distress.

The difference in treatment behavior is likely to be multiply determined. It was surprising to find that the two groups of treatment seeking veterans did not differ in their level of employment. This does suggest, however, that the differences in attendance and dropout seen here are not likely to be due to differences in occupational status. The fact that our groups did not show the differences in employment status that have been previously supported by Fontana and Rosenheck (2008) suggests that patients were referred at a different stage of dysfunction or postdeployment (i.e., before they had resumed work after deployment or after losing work due to symptom distress) and highlights the importance of replication of these results in future studies. The differences in symptom presentation may represent different referral practices (i.e., it may be that outside clinicians are more likely to refer returning veterans to PTSD clinics at lower thresholds of distress). In any case,

our data suggest that veterans reporting greater levels of depression are more likely to attend sessions. This finding is consistent with an earlier study that showed that levels of depression, and not PTSD per se, were predictive of receiving treatment in a sample of returning veterans (Erbes et al., 2007). As noted earlier, perceived stigma associated with mental health problems and treatments may pose a significant barrier for returning veterans engaging in treatment (e.g., Hoge et al., 2004). It is unclear if the younger generation of veterans is more sensitive to this stigma than the Vietnam veterans. Additional data collection using pretreatment measures could, therefore, be useful.

Another possible interpretation of our results is that the differences in treatment behavior are indicative of differences in response to treatment and course of distress. The question to answer is are OEF/OIF veterans improving more quickly and as a result feeling less need for remaining in treatment? Our clinical experience does not support this idea. Rather, we are observing patterns of withdrawing from care and then returning in crisis when symptoms either worsen or life circumstances deteriorate in response to substance use or other acting out behaviors. In a population-based study using Department of Defense data, Milliken, Auchterlonie, and Hoge (2007) reported that rescreening returning soldiers several months after their return from deployment uncovered increased rates of mental health concerns. This finding suggests that this is not a population prone to spontaneous remission in symptoms, at least in the short term, and supports our initial impression of increased symptoms over time among veterans who do not receive an adequate amount of treatment. Efforts at careful follow-up of both treatment completers and drop outs would be helpful in determining the outcome and perceived barriers to care in returning veterans.

Based on the information from this study, a focus on short-term models of treatment may be necessary in order to maximize treatment benefit for these individuals during the limited time they are engaged in treatment. One possible approach involves one-session psychoeducational groups that focus on giving the veterans skills for coping with specific symptom clusters. At the Minneapolis VAMC, we have developed a cycle of drop-in "coping skills classes" utilizing

this model. The classes focus on topics including trauma reactions and resiliency, coping with emotions, reducing avoidance behaviors, sleep hygiene skills, and restoring family roles and relationships. At present, we do not have outcome data on the effectiveness of these classes. Based on verbal feedback from participants and staff members, however, they have been well received by veterans and their families. In addition, motivational enhancement interventions, based on Motivational Interviewing (Miller & Rollnick, 2002), or pretreatment training and preparation (such as video presentations; Reis & Brown, 2006), may prove useful in improving the likelihood that these patients will continue engaging in treatment in order to receive maximal benefit.

Recent VA initiatives have disseminated empirically supported, time-limited treatments for PTSD and related conditions. Cognitive Processing Therapy (CPT; Resick & Schnicke, 1992) is a time limited (approximately 12 weeks) model that can be administered in individual, group, or combined formats. CPT focuses on both exposure to traumatic memories and cognitive restructuring of trauma-related cognitions. Prolonged Exposure (PE; Foa & Rothbaum, 1998) is another empirically supported treatment that focuses on habituation to memories and reminders of the trauma. At present, no completed large-scale studies have tested these models specifically in an OEF/OIF population. Therefore, it will be important to conduct outcome research on the use of these models to determine which model may work best with which particular patients. Our present results suggest that such studies should utilize broadly representative samples and carefully examine rates of attendance and dropout in addition to treatment efficacy. It may also be important to focus on development and testing of treatment models that engage participants in novel ways (e.g., with couples therapy, Erbes, Polusny, MacDermid, & Compton, 2008; Monson, Fredman, & Adair, 2008) or that are even briefer.

It is important to note that these results come from a single outpatient treatment clinic and may not generalize to other clinical settings or the country at large. Replication at other sites, or with national data collection (e.g., Fontana & Rosenheck, 2008), can bolster confidence in these findings. This is especially true regarding

samples with different demographic make-ups, such as more diverse racial or gender composition. Larger sample sizes will also allow detailed examination of treatment behaviors of female veterans, who remain an understudied population. However, we can state anecdotally that concerns about attendance and engagement with this cohort of veterans are widespread throughout the VA system and are not confined to this single clinic. Further information is also needed regarding the reasons for early dropout or missed sessions, as such data collection will hopefully help to further tailor treatment approaches to engage with this population. Finally, investigations of larger and broader samples may allow for the consideration of differences between groups on other pretreatment characteristics, such as the presence and type of drug abuse, age, and specific types of prior treatment experience (e.g., substance abuse treatment vs. medication vs. individual therapy), that may help to better explain differences in treatment behavior such as those found here.

In our view, the differences in symptom presentation and treatment behavior found here in no way demonstrate overall differences in the severity of trauma experiences, the potential for overall distress, or the need for care between these two groups. Rather, they represent different expressions of posttraumatic distress at different points in the course of the disorder (acute vs. chronic), different age cohorts, and different environmental contexts. However, since there is a real need for effective and engaging care in returning OEF/OIF veterans, it is important that ongoing treatment development be informed by the treatment behavior and presentation of returning veterans. Years of working to provide the best clinical care for Vietnam veterans has helped clinicians develop the knowledge base and treatments that may help the OEF/OIF veterans. The knowledge that will be gained from providing and refining care for our newest generation of veterans may also reinform how to provide improved care to Vietnam veterans who are arriving decades after their combat service. Thus, efforts at engaging and treating OEF/OIF veterans should help to provide better care to other groups of survivors of combat trauma.

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