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VA Practice Patterns and Practice Guidelines for Treating Posttraumatic Stress Disorder

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Little is known about how recent ISTSS practice guidelines (E. B. Foa, T. M. Keane, & M. J. Friedman, 2000) compare with prevailing PTSD treatment practices for veterans. Prior to guideline dissemination, clinicians in 6 VA medical centers were surveyed in 1999 ($n = 321$) and in 2001 ($n = 271$) regarding their use of various assessment and treatment procedures. Practices most consistent with guideline recommendations included psychoeducation, coping skills training, attention to trust issues, depression and substance use screening, and prescribing of SSRIs, anticonvulsants, and trazodone. PTSD and trauma assessment, anger management, and sleep hygiene practices were provided less consistently. Exposure therapy was rarely used. Additional research is needed on training, clinical resources, and organizational factors that may influence VA implementation of guideline recommendations.

KEY WORDS: posttraumatic stress disorder; veterans; practice guidelines; translational research.

Interest is growing in the use of guidelines to summarize knowledge about best practices for treating psychiatric disorders (e.g., American Psychiatric Association [APA], 1998; Barry, et al., 1999; Department of Veterans Affairs, 2000). This trend is part of a general movement to increase use of evidence-based practices and improve quality of care. In the area of adult posttraumatic stress disorder (PTSD), the International Society for Traumatic Stress Studies has recently developed practice guidelines (Foa, Keane, & Friedman, 2000), and the *Journal of Clinical Psychiatry* has published results of an expert consensus panel on PTSD treatment (Foa, Davidson, & Frances, 1999).

The VA system is a major provider of care for patients with posttraumatic stress disorder, particularly combat-related PTSD. In fiscal year 2000, the VA provided mental health services to more than 86,000 veterans with posttraumatic stress disorder related to their military service as well as many other veterans treated for nonservice related PTSD (Fontana, Rosenheck, Spencer, & Gray, 2001). Over half of these veterans were treated in outpatient or residential PTSD specialty programs (Fontana, Rosenheck, Spencer, & Gray, 2001). Yet many others were treated in VA general psychiatry or substance abuse treatment programs. Review of administrative data show that 27% of veterans in VA general psychiatry and substance abuse outpatient programs have a clinical chart diagnosis of PTSD (Rosen, 2003). The actual prevalence of PTSD in these programs is unknown, but could be as high as

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35–45% (Hyer, Leah, Boudewyns, & Davis, 1991; Mueser et al., 1998; Switzer et al., 1999; Triffleman, Marmar, Delucchi, & Ronfeldt, 1995).

The VA Sierra-Pacific Veterans' Integrated Service Network (VISN) recently established a Mental Health Education, Research, and Clinical Center (MIRECC) intended to improve quality of mental health care. Provider education and outreach to increase use of recommended practice guidelines for PTSD will be a major component of this Center's efforts. A key first step in this process is determining current PTSD practice patterns in light of the recommendations of emerging practice guidelines.

To address this issue, we surveyed VA clinicians treating PTSD patients and asked how frequently they used specific procedures recommended in the emerging ISTSS practice guidelines. The survey had two primary purposes. The first was to provide an overview of current practice patterns in a system that is a major provider of PTSD care. The second was to identify aspects of current practice that are consistent with or discrepant from emerging practice guidelines, to identify areas that either might be targets for quality improvement efforts or areas where the current guidelines might not reflect the unique needs of VA patients. Two secondary objectives of this study were to compare treatment practices of PTSD specialists and those of generalist mental health providers, and to examine variation in practices across different types of treatment settings.

Method

We used clinician surveys to assess practice patterns because administrative databases and other archival data lack sufficient detail for monitoring many of the specific practices recommended in PTSD practice guidelines. To inform MIRECC education and quality improvement efforts, we conducted two waves of surveys. The first wave was conducted between July and December 1999, prior to publication of the ISTSS guidelines. The second wave was conducted between January and June 2001, when the guidelines had been published but not yet widely disseminated. Both waves were conducted prior to any MIREC interventions aimed at altering specific clinical practices.

Sample

All providers of mental health or substance abuse treatment in six VA health care systems in the Western United States were invited to participate in the survey. Survey populations were identified by enumerating all mental health and addiction treatment programs in the participating health care systems and obtaining staff lists for each clinic or program. Clinicians were categorized as "PTSD specialists" if they (a) worked in an outpatient or residential programs specializing in PTSD, or (b) worked in one of the two medical centers without specialty programs and were identified by the Associate Chief of Staff for Mental Health as having particular expertise in PTSD (even if they treated other disorders as well). All other mental health and substance abuse treatment providers were included in the "Generalist" mental health sample. Individuals were removed from either sample if their duties were entirely nonclinical (i.e., limited to administration or research).

Providers were sent questionnaires by mail, with up to five rounds of follow-up mail and telephone contact to encourage participation. Responses rates of 85 and 81% were obtained in the first and second waves of the study, respectively. We believe these high participation rates reflect both our extensive follow-up procedures and endorsement of the study by the Associate Chief of Staff for Mental Health in each of the participating health care systems. Sample characteristics are summarized in Table 1.

Measures

We developed two survey instruments based on our review of the ISTSS guidelines (Foa et al., 2000), one for PTSD specialists and one for generalist mental health providers. Both surveys asked about specific assessment, psychotherapy, and pharmacotherapy practices for PTSD. Questions were asked in the format, "Of all your PTSD patients, for how many do you (perform specific practice)," with a 6-point response scale ranging from 1 = *less than 10% of my PTSD patients* to 6 = *over 90% of my PTSD patients*. Because some procedures might be specialized functions performed by only certain clinicians (e.g., one or two staff members in a large residential program might be responsible for conducting all intake assessments), participants were also given the option of reporting, "Someone else does this."

Areas Common to Both Specialist and Generalist Questionnaires

The generalist questionnaire for the first wave of the study focused on screening and referral. However, after finding that many generalists were themselves treating PTSD, additional treatment items from the specialist questionnaire were added to the Wave 2 questionnaire for

Table 1. Characteristics of Survey Participants

	PTSD specialists		Generalist mental health providers	
	1999–2000	2001	1999–2000	2001
% Responding	87	84	84	80
(*n*)	(59)	(61)	(262)	(210)
Proportion of respondents who participated in prior wave	NA	64%	NA	77%
Median patients treated in 6 months				
With definite PTSD	40	30	20	22
With probable PTSD	10	10	15	15
Proportion of caseload that has definite or probable PTSD (mean estimate)	NA	NA	40%	45%
Profession (%)				
Psychiatrist	25	28	18	17
Psychologist	22	23	27	28
Social worker	29	28	18	17
Nurse	14	10	27	30
Substance abuse counselor	3	2	4	3
Other	7	9	6	5
Work setting (%)				
PTSD outpatient team	34	31	—	—
PTSD residential program	25	28	—	—
PTSD outpatient and residential programs	12	7	—	—
Outpatient mental health	20	21	34	37
Inpatient mental health	—	2	12	13
Substance abuse (inpatient and outpatient)	5	10	11	14
Medical program	2	2	9	7
Other setting	—	—	14	14
Multiple settings	2	—	20	14

generalists who provided psychotherapy or pharmacotherapy to over 30% of their PTSD patients.

Both specialists and generalists were asked how often they used validated self-report and interview measures of trauma and PTSD, and screened for comorbid substance use disorders and for depression. A sample assessment question was: "For how many of your PTSD patients do you have the patient complete a self-report measure of PTSD symptoms such as the PTSD Checklist (PCL), Mississippi PTSD Scale, or Impact of Event Scale?"

All specialists (in both waves) and generalists in Wave 2 who personally provided psychotherapy for PTSD were asked how frequently they provided psychoeducation about PTSD, taught patients techniques for coping with PTSD symptoms, and used behavioral interventions for sleep. They were also asked often they directly discussed traumatic experiences in psychotherapy, and how often they used reprocessing of trauma-related beliefs and feelings, repeated therapeutic exposure, or EMDR when doing trauma-related work. The questionnaires intentionally used language that could be endorsed by providers adhering to different theoretical orientations. For example, rather than asking about use of "cognitive therapy," clinicians were asked for how many of their PTSD patients they "work through or restructure the patient's trauma-related beliefs or feelings (e.g., guilt, complicity)." Clinicians were also asked how often they "conduct psychotherapy for PTSD following a treatment manual."

Both specialist (both waves) and generalist (wave 2) psychiatrists were asked how frequently they prescribed various medications to treat Cluster B symptoms (reexperiencing), Cluster C symptoms (avoidance and numbing), and Cluster D symptoms (hyperarousal). A sample medication question was, "To treat Cluster B symptoms (recurrent trauma memories or dreams, flashbacks, distress in response to trauma cues) for how many of your PTSD patients do you initiate or continue a prescription for SSRIs (e.g., fluvoxamine, sertraline, fluoxetine)?"

PTSD Specialist Questionnaire

In addition to the common elements noted above, PTSD specialists were asked how frequently they assessed PTSD by clinical interview (rather than standardized measures), asked about additional traumatic events, helped patients reassess thoughts and feelings about safety and trust, and provided anger management treatment for patients with anger problems. Specialist psychiatrists were also asked to specify which medications they used to treat disturbed sleep.

Generalist Mental Health Provider Questionnaire

In addition to the common items noted above, generalist clinicians were asked how often they verbally screened for PTSD by asking patients about life-threatening traumatic experiences, intrusive memories related to trauma, avoidance/numbing, and feeling on guard. Participants were also asked how often they referred PTSD patients to other programs, including VA PTSD specialty programs and Vet Centers (outpatient PTSD programs based on a peer counseling model). Although referral to specialty programs is not addressed in the ISTSS practice guidelines, the VA has dedicated considerable resources to creating Vet Centers, PTSD Care Teams, PTSD Residential Rehabilitation Programs, and other programs specializing in treatment of PTSD. It therefore seemed worthwhile to determine how frequently VA generalists were referring PTSD patients to these specialized programs.

Data Analysis

Clinicians were characterized as "routinely" using a given practice if they reported performing it for 70% or more of their patients. This 70% cut-point acknowledges the clinical reality that a given procedure may not be appropriate for every patient. "Someone else does this" responses were analyzed in two different ways to generate best and worst case estimates of provision of each practice. The best-case analysis included only providers who acknowledged being responsible for each procedure (i.e., "someone else does this" responses were treated as nonapplicable data). The worst-case analysis treated "someone else does this" responses as equivalent to "I do this for less than 10% of my patients," on the assumption that there might not actually be any other staff member providing that service. All figures present both the best and worst case estimates. A wide range between the best and worst case estimates for a given procedure indicates that a large proportion of providers reported "someone else does this."

To maximize power, data were treated as continuous in all statistical analyses. *t* Tests were used to analyze differences between PTSD specialists and other clinicians, and to assess changes in practice from wave 1 to wave 2. Differences in practices by treatment setting were assessed by ANOVA and repeated four times using best and worst case estimates at both time points. Only results that were significant in at least three of the four analyses are reported. PTSD specialists were coded as working in a residential specialty program (irrespective of other settings in which they worked), in an outpatient specialty program, or in nonspecialty settings only. Generalist mental health providers were coded as working in outpatient mental health, inpatient psychiatry, substance abuse treatment, medical settings, or in multiple settings.

Results

PTSD Specialists

The bars in Fig. 1 indicate the range between "worst case" and "best case" estimates of the proportion of clinicians who routinely used various PTSD assessment procedures. About one quarter to half of all PTSD specialists routinely employed validated questionnaires to assess PTSD symptoms or trauma exposure. Less than one quarter routinely conducted structured diagnostic interviews such as the CAPS or SCID. The large ranges between best and worst case estimates for use of assessment questionnaires and structured interviews indicates that these were specialized functions for which many providers reported, "someone else does this." Roughly two-thirds of PTSD specialists assessed patients' PTSD symptoms and trauma history verbally. More than three-quarters of PTSD specialists routinely asked patients about comorbid depression and substance abuse.

With regard to present-focused psychotherapy, over two-thirds of PTSD specialists routinely addressed patients' concern about safety and trust, provided education on stress response in PTSD, and taught skills for coping with PTSD symptoms (see Fig. 2). Anger management training for those patients who had difficulty managing anger was routinely provided by 35–65% of clinicians. The wide range between best and worst case estimates for anger management again indicates this was a specialized function performed by only some clinicians. Roughly 40–50% of the PTSD specialists routinely taught behavioral techniques to improve sleep to their patients who had difficulty sleeping. Very few clinicians routinely used any manualized psychotherapy.

Because psychotherapy focusing on traumatic events may not be appropriate for all psychotherapy patients (some might be too unstable to handle intense affect, whereas others might have previously completed intensive trauma work) we not only assessed how many providers used each practice routinely (i.e., for over 70% of their patients), but also how many used them occasionally (for between 30% and 70% of their patients). To simplify presentation, we present only "best case" estimates, excluding clinicians who said someone else was responsible for trauma-focused psychotherapy.

Roughly half of PTSD specialists reported at least occasionally addressing traumatic events in psychotherapy,

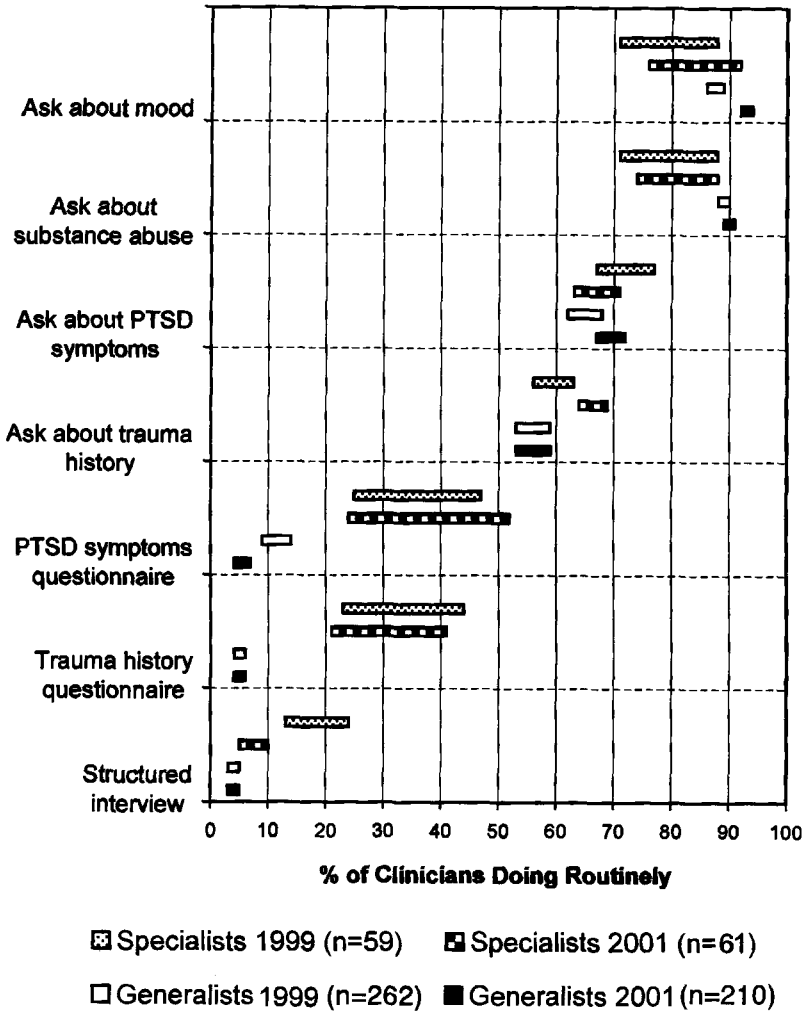

Fig. 1. Assessment practices of VA clinicians. Bars indicate range from worst case to best case estimates of the proportion of clinicians performing each procedure routinely, that is, for at least 70% of their PTSD patients.

although fewer than 25% did so routinely (see Fig. 3). PTSD specialists doing trauma-oriented psychotherapy commonly worked through or restructured trauma-related beliefs and feelings. However, fewer than 20% of PTSD specialists conducted repeated exposure to traumatic memories or trauma-related stimuli, and fewer than 10% did so routinely. No clinicians in our survey occasionally or routinely used EMDR (not shown in Fig. 3).

Because pharmacotherapy might not be appropriate for every patient, we focused on determining which medications were used most and least often, rather than the proportion of patients prescribed various medications. Prescription practices were broadly consistent with practice guidelines. SSRIs were the medications most commonly prescribed for reexperiencing (Cluster B) and for avoidance/withdrawal (Cluster C) symptoms of PTSD (see Fig. 3). SSRIs and anticonvulsants were the medications most commonly prescribed for hyperarousal, irritability, or paranoia (Cluster D symptoms). Trazodone was the most commonly prescribed medications for disturbed sleep. Benzodiazepines and beta-blockers were not widely prescribed for veterans with PTSD: only one quarter of psychiatrists prescribed these drugs occasionally (i.e., for more than 30% of their patients).

Our specialist sample included both staff in PTSD specialty programs and providers who worked in other settings but were often referred PTSD patients. Trauma exposure questionnaires were more widely used by clinicians in PTSD specialty programs than by specialists working in other settings, Fs(2, 26–54) = 3.4–6.5, ps < .05. Providers in residential PTSD programs, which tend to have standardized assessment procedures, were less likely

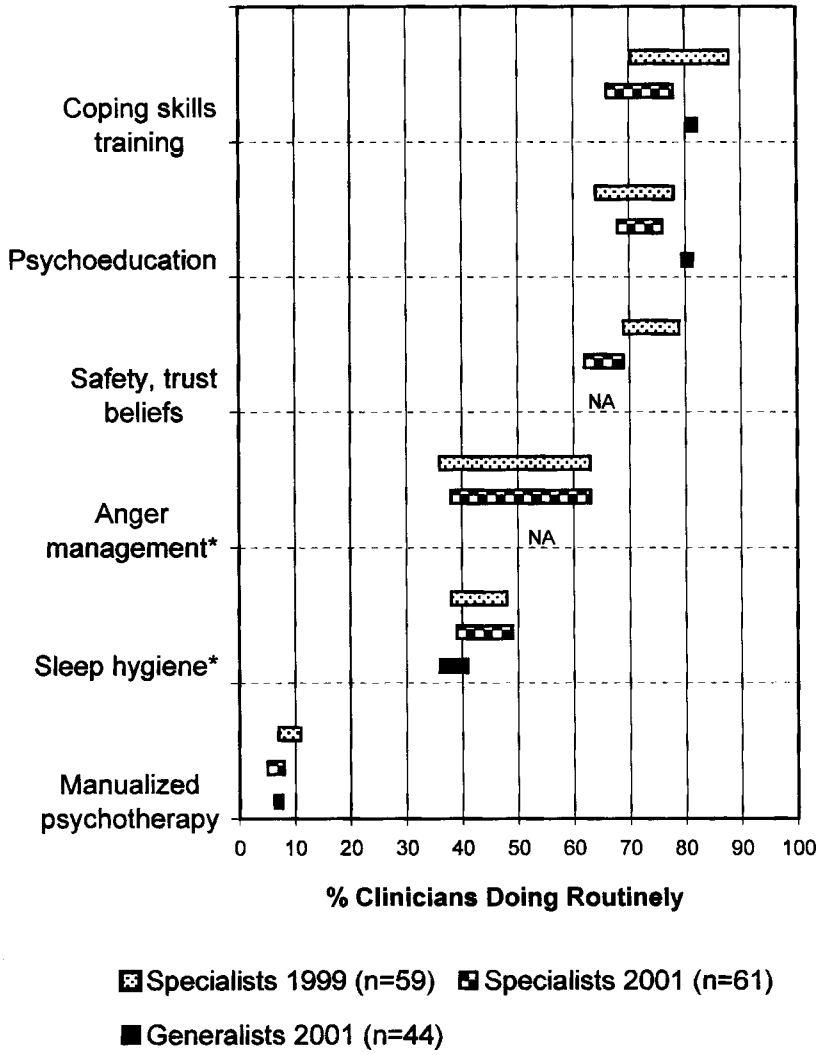

Fig. 2. Present-focused psychosocial treatment practices of VA clinicians. Bars indicate range from worst case to best case estimates of the proportion of clinicians performing each procedure routinely (i.e., for over 70% of their PTSD patients). Only generalists who performed psychotherapy for at least 30% of their PTSD patients were included. Generalists were not asked about anger management or addressing trust issues. *Routinely perform these procedures for patients with sleep or anger problems.

than outpatient clinicians to rely on clinical interview to assess PTSD, Fs(2, 48–55) = 4.3–8.3, ps < .05. Clinicians in residential PTSD programs were more likely to review specific traumatic events in psychotherapy than were clinicians in outpatient specialty or nonspecialty programs, Fs(2, 52–55) = 4.0–10.4, ps < .05.

PTSD specialists' treatment practices were fairly stable across Waves 1 and 2. The one exception was psychotherapy directly addressing traumatic events, which was routinely or occasionally provided by 65% of clinicians in Wave 1 but only 42% of clinicians in Wave 2, $t(114) = 3.59$, $p < .01$.

Generalist Mental Health Providers (Not PTSD Specialists)

Although roughly 90% of generalists routinely screened for depression and substance abuse, only about 60% routinely asked their patients about PTSD symptoms or exposure to traumatic events. Generalists were significantly less likely than PTSD specialists to use validated questionnaires to assess patients' trauma history or PTSD symptoms, ts(162–260) = 5.07–9.38, ps < .01.

In both waves of the study, roughly one quarter of generalists provided psychotherapy for PTSD either

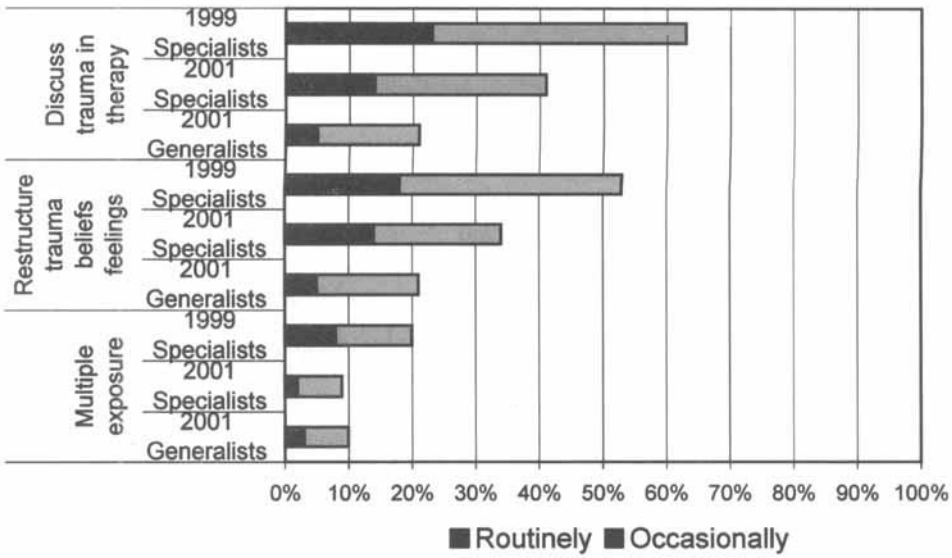

Fig. 3. Trauma-focused psychotherapy practices of VA clinicians. Bars indicate best case estimates of the proportion of clinicians performing each procedure routinely (for over 70% of patients) or occasionally (for 31–70% of patients). Samples included 1999 specialists ($n = 43$), 2001 specialists ($n = 56$) and 2001 generalists ($n = 40$). Only generalists who performed any type of psychotherapy for at least 30% of their PTSD patients were included.

routinely (13%) or occasionally (11% provided it for 30–70% of their patients). In Wave 2, generalists who provided PTSD psychotherapy either routinely or occasionally ($n = 44$) were asked about the specific treatment approaches they used. These generalists were similar to PTSD specialists in their use of present-oriented treatments (see Fig. 2). Most routinely provided psychoeducation and taught skills for managing PTSD symptoms, about half routinely taught behavioral techniques to improve sleep to patients with sleep problems, and fewer than 10% routinely used any manualized treatment.

Generalists who provided psychotherapy either routinely or occasionally were significantly less likely than PTSD specialists, $t(131) = 6.0$, $p < .001$, to routinely (5%) or occasionally (16%) discuss traumatic events in psychotherapy with their PTSD patients (see Fig. 3). When reviewing traumatic events, generalists were more likely to address trauma-related beliefs and feelings than to use repeated exposure.

Nearly all psychiatrists in general mental health or substance abuse programs personally prescribed medications for their PTSD patients. Generalist psychiatrists' primary choices of medications, SSRIs and anticonvulsants, were similar to those of PTSD specialists. Generalists were somewhat more likely than PTSD specialists to prescribe SSRIs, $t(47) = 2.7$, $p < .05$, or anticonvulsants, $t(46) = 3.7$, $p < .01$, for reexperiencing or withdrawal/avoidance symptoms. Generalists were also slightly less likely than PTSD specialists to use beta-blockers to treat hyperarousal, $t(41) = 3.6$, $p < .01$.

We also examined referral practices among generalists who did not personally provide either psychotherapy or pharmacotherapy for PTSD. Overall, 55% (worst case)–70% (best case) of these clinicians routinely referred PTSD patients to either PTSD specialty programs at VA medical centers or Vet Centers (community-based counseling centers focused on PTSD). Referral practices varied by geography and local resources, but patients were most frequently referred to PTSD specialty programs at VA medical centers, followed by Vet Centers, followed by a specialty dual diagnosis PTSD and substance abuse program (there was only one such program available in the region).

We hypothesized that providers in outpatient mental health clinics might provide more comprehensive PTSD care than would providers in settings that might be primarily focused on acute stabilization (inpatient psychiatry) or other disorders (addiction treatment and medical settings). As expected, outpatient mental health providers were more likely to ask about PTSD symptoms, Fs(4, 154 to 213) = 4.0 to 12.6, ps $< .01$, and to personally provide psychotherapy for PTSD, Fs(4, 102 to 201) = 2.2 to 5.7, ps $< .05$, than were generalists working in other settings. Generalists in medical settings (including small community-based outpatient clinics) were the most

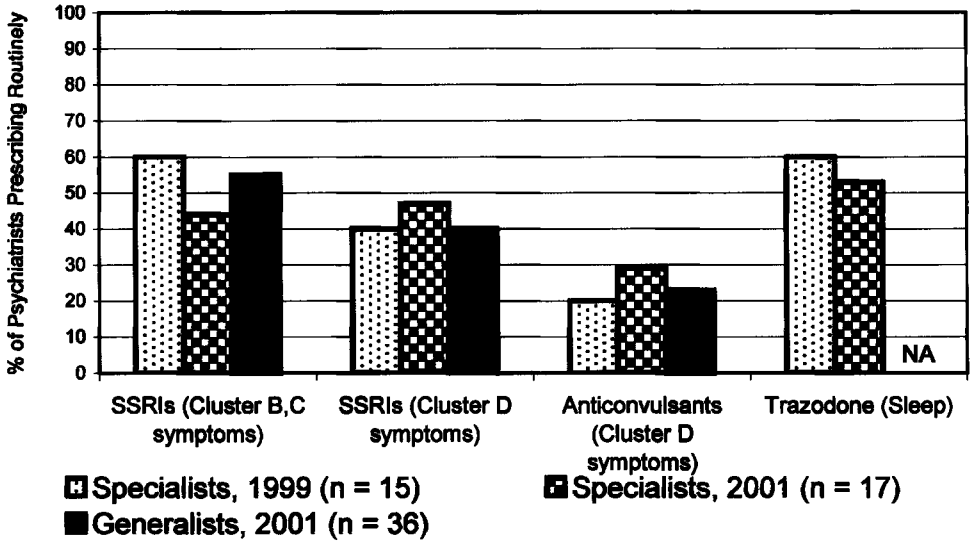

Fig. 4. PTSD prescribing patterns of VA clinicians. Bars indicate percentage of psychiatrists prescribing each medication routinely (for at least 70% of their PTSD patients presenting with each type of symptoms). SSRIs = selective serotonin reuptake inhibitors. Generalists were not asked about trazodone use.

likely to refer their PTSD patients to Vet Centers, $Fs(4, 102 \text{ to } 201) = 3.4 \text{ to } 5.6$, $ps < .05$.

Changes in Practice Over Time

Generalists' practices were relatively stable over time, with a few exceptions. Use of standardized PTSD symptom questionnaire decreased significantly from Wave 1 to Wave 2, $ts(296 \text{ to } 449) = 2.5 \text{ to } 2.8$, $ps < .05$, although screening for depression increased, $ts(441 \text{ to } 453) = 2.4 \text{ to } 2.6$, $ps < .05$. There was also a significant decrease from Wave 1 to Wave 2 in reported referrals of PTSD patients to PTSD specialty programs, $ts(333 \text{ to } 421) = 3.5 \text{ to } 3.7$, $ps < .05$, and to Vet Centers, $ts(336 \text{ to } 423) = 2.0 \text{ to } 2.4$, $ps < .05$. This is consistent with VA administrative data showing a 12% decline from 1999 to 2001 in PTSD specialty team visits in the region where the survey was conducted (Fontana et al., 2000, 2001).

Discussion

These surveys were conducted prior to publication (Wave 1) and prior to widespread dissemination (Wave 2) of the ISTSS practice guidelines, so we had not necessarily expected that current VA care practices for PTSD would accord with guideline recommendations. However, profiling aspects of current VA care that are highly consistent with, moderately consistent with, or divergent from the emerging consensus on best practices can inform efforts to enhance treatment for veterans with PTSD.

PTSD specialists and generalist mental health providers showed similar guideline-concordance in several areas of care. Few generalists personally provided psychotherapy for their PTSD patients, but those who did were similar to specialists in their use of recommended present-focused psychotherapy practices. This may reflect self-selection, with only those generalists who are relatively knowledgeable about trauma electing to provide psychotherapy for PTSD. However, specialists were significantly more likely than generalists to use validated assessment measures and to provide psychotherapy directly addressing traumatic events.

Reported VA practices accord well with guideline recommendations in several domains. These include screening for comorbid depression and substance use disorders, psychoeducation, coping skills training, attention to safety and trust issues, use of SSRIs as a first-line treatment, use of anticonvulsants for hyperarousal symptoms, and use of trazodone for sleep disturbances.

Other practices were more variable. Anger management and psychosocial interventions for sleep, practices endorsed in the clinical management section of the ISTSS guidelines, were routinely provided by some clinicians, but not by others.

Although many generalists did screen for PTSD symptoms, they did so less consistently than they screened for depression or substance use, and they rarely used validated assessment measures. Generalists estimated that roughly 40–45% of their patients have either "definite" or "probable" PTSD. Although there are no definitive data

on the prevalence of PTSD in VA general psychiatry programs, generalists' estimate is broadly consistent with 35–45% prevalence rates reported for VA inpatient substance abuse programs (Hyer et al., 1991; Triffleman et al., 1991) and 42% prevalence rates reported for non-VA programs serving severe psychiatric patients (Mueser et al., 1998; Switzer et al., 1999). Only 27% of veterans in VA general psychiatry and addiction programs have a PTSD diagnosis in their chart (Rosen, 2003). If the true prevalence is in fact around 40%, then one-third of all patients with PTSD may be undiagnosed. This suggests a need for more consistent PTSD screening and assessment.

Perhaps the most striking discrepancy between the ISTSS guidelines and current practices was the infrequent use of exposure therapy, which the guidelines endorse as a first-line treatment (Foa et al., 2000). Few clinicians routinely discussed traumatic events in psychotherapy, and those who did were more likely to address trauma-related beliefs and feelings (i.e., cognitive therapy) than to use repeated exposure. Specialists' provision of trauma-oriented psychotherapy also declined from 1999 to 2001.

Further research is needed to identify specific factors that may explain areas of convergence and divergence between guidelines and current practice. Awareness of guideline recommendations is of course an important factor—these surveys were conducted prior to widespread dissemination of the ISTSS guidelines. However, dissemination alone is unlikely to change clinical practice (Freemantle et al., 2000).

Administrative policies and standards are important in shaping clinicians' behavior. Current VA policies mandate assessment and documentation of some traumatic military stressors (POW status and military sexual trauma), but not routine screening for PTSD. This may change if the VA adopts its own practice guidelines for PTSD (VA/DoD Clinical Practice Working Group, 2003), as it has for substance use and depression (Department of Veterans Affairs, 2000).

There may be a need for staff training to enhance clinicians' knowledge, skills, and comfort level in areas such as asking patients about potentially traumatic events, using validated assessment instruments, using behavioral interventions for sleep (Kirkwood, 1999), treating anger problems (DiGiuseppe, 1999), and conducting exposure. Such training efforts are more likely to change practice if they are interactive and repeated, rather than limited to a single lecture or workshop (Bero et al., 1998).

Clinical resources are important considerations. Clinical programs may see little value in increasing their PTSD screening if they lack sufficient resources to provide PTSD treatment for these newly diagnosed patients. For VA programs that provide much of their treatment in groups, adoption of empirically supported psychotherapies may depend on whether they can be delivered effectively in a group format. For example, a recent VA multisite effectiveness study testing a group therapy form of exposure found no advantage for this treatment relative to present-oriented group psychotherapy (Schnurr et al., 2003).

In addition to the general factors outlined above, there may specific barriers to adoption of particular practices. For example, use of exposure therapy may limited by patient reluctance to undergo an aversive procedure, questions about its effectiveness for patients with complex PTSD, and lack of consensus on what patients factors (e.g., recent homelessness, history of substance abuse) are contraindications for undergoing exposure.

Although the data generated by this research are novel and important, this study has some important limitations. All data are based on clinician self-report, which may not perfectly reflect providers' actual behavior. However, the variability in responses across procedures and the consistency of aggregated responses over time suggests that survey respondents could differentiate procedures that they used more frequently from those they used less often. Our sample was limited to only one region that includes some academically affiliated VA medical centers with strong expertise in PTSD. Given possible geographic variation (Ashton et al., 1999) these results may not be representative of VA care nationwide. Our sample also does not include data from VA Vet Centers, counseling programs that operate independently of VA medical centers, which are major providers of PTSD care for many veterans. Finally, although we could determine how commonly various interventions were performed, we could not assess the quality with which they were delivered. For example, we could not determine whether "teach the patient skills for coping with PTSD symptoms" involved a cursory lecture or stress inoculation training. We also could not assess whether medication dosing was appropriate: This can better be determined in future research using VA pharmacy records.

In sum, this study provides a snapshot of PTSD treatment practices in a system that is a major provider of mental health services for trauma survivors. Our results suggest several important areas of strength, including psychotherapy addressing symptom management, medication management, and assessment of comorbid conditions. We also found some discrepancies between current practices and emerging guideline recommendations, including infrequent use of exposure therapy and variability in use of standardized assessments, anger management, and psychosocial interventions for sleep. Further research is needed to explore potential factors influencing

implementation of guideline-recommended practices, including clinician knowledge and atitudes, patient preferences, clinical resources, and administrative policies. This next generation of research can inform specific strategies to increase use of best practices in caring for veterans with PTSD.

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