Do Veterans With Posttraumatic Stress Disorder Receive First-Line Pharmacotherapy? Results From the Longitudinal Veterans Health Survey

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ABSTRACT

Objective: Guidelines addressing the treatment of veterans with posttraumatic stress disorder (PTSD) strongly recommend a therapeutic trial of selective serotonin reuptake inhibitors (SSRIs) or serotonin-norepinephrine reuptake inhibitors (SNRIs). This study examined veteran characteristics associated with receiving such first-line pharmacotherapy, as well as how being a veteran of the recent conflicts in Afghanistan and Iraq impact receipt of pharmacotherapy for PTSD.

Method: This was a national study of 482 Veterans Affairs (VA) outpatients between the ages of 18 and 69 years who had been newly diagnosed with PTSD (*DSM-IV* criteria: 309.81) during a VA outpatient visit between May 31, 2006, and December 7, 2007. Participants completed a mailed survey between August 11, 2006, and April 6, 2008. Veterans from the Afghanistan and Iraq conflicts and female veterans were intentionally oversampled. Logistic regression models were developed to predict 2 dependent variables: odds of initiating an SSRI/SNRI and, among veterans who initiated an SSRI/SNRI, odds of receiving an adequate therapeutic trial. Each dependent variable was regressed on a variety of sociodemographic and survey characteristics.

Results: Of the 377 veterans prescribed a psychotropic medication, 73% (n = 276) received an SSRI/SNRI, of whom 61% (n = 168) received a therapeutic trial. Afghanistan and Iraq veterans were less likely to receive a therapeutic trial (odds ratio [OR] = 0.45; 95% CI, 0.27–0.75; $P < .01$), with presence of a comorbid depression diagnosis in the year after the index episode moderating this relationship, which further decreased the odds of completing a therapeutic trial (OR = 0.29; 95% CI, 0.09–0.95; $P < .05$).

Conclusions: Reduced levels of receipt of first-line pharmacotherapy among recent veteran returnees parallel previous findings of less mental health treatment utilization in this population and warrant investigation.

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The recent Veterans Affairs (VA)/Department of Defense (DoD) posttraumatic stress guidelines[1] provide an update on earlier government recommendations for treating veterans with posttraumatic stress disorder (PTSD).[2] The guidelines were derived via a comprehensive literature search, identifying the best available evidence and, finally, formulating recommendations.[1,2] The VA/DoD pharmacologic guidelines strongly recommend that veterans with PTSD be offered as a first-line intervention medication from either of the following classes: selective serotonin reuptake inhibitors (SSRIs) or serotonin-norepinephrine reuptake inhibitors (SNRIs). These medications are endorsed in other PTSD practice guidelines as well.[3] Moreover, before considering that medication might not be working, the VA/DoD guidelines highlighted optimizing a "therapeutic trial" of SSRIs/SNRIs by maximizing dosage and allowing sufficient response time (at least 8 weeks), with an additional 4 weeks if the patient is experiencing a partial response and tolerating the medication.[1,2]

Psychotropic medications are commonly prescribed for veterans with PTSD, with antidepressants accounting for 80% to 88% of all such prescriptions.[4–6] However, there is an important distinction between initiating antidepressant treatment and maintaining it. In 2004–2005 administrative data of veterans who received any medication, 80% received antidepressants; however, only 44% of this sample received at least a 4-month supply.[6] To date, most studies have focused on rates of antidepressant prescribing without examining whether SSRI/SNRI antidepressant medications are prescribed at adequate dosages and for a sufficient length of time.[4–6]

Veterans who receive a PTSD diagnosis in a mental health specialty clinic are more likely to receive an adequate course of antidepressant.[6] Furthermore, psychotropic medication use has been noted to be higher for veterans treated in such settings,[4] with utilization of psychotropics increasing with greater mental health service use and the presence of comorbid psychiatric disorders.[5] The salience of stigma, as well as institutional barriers to care, on mental health treatment seeking among veterans has previously been described.[7] Whether such factors predict that a veteran will access first-line pharmacotherapy for PTSD is unknown.

Additional characteristics of veterans that may influence the likelihood of receiving first-line pharmacotherapy can be postulated using the Andersen model.[8] In this model, use of health services is a function of predisposing (eg, demographic characteristics), need (eg, symptom severity), and facilitative factors (eg, clinic in which patient is diagnosed).[8] For example, gender, age, era of service, and need for mental health care (reflected in the severity of symptoms) are all known to influence mental health service utilization in veteran populations.[9–14] Specifically, with regard to gender, women are joining the military in unprecedented numbers and currently constitute 11.5% of veterans who served in Operation Enduring Freedom (OEF) in Afghanistan or Operation Iraqi Freedom (OIF).[14] High rates of PTSD have also been found in these veterans, and further study is needed to improve our understanding of the role that gender plays in accessing psychiatric treatment.[15] Need-based factors such as severity of mental health symptoms (as reflected by reporting severe symptoms, presence of comorbid psychiatric diagnoses, and higher

Clinical Points

- Guidelines addressing the treatment of veterans with posttraumatic stress disorder (PTSD) strongly recommend a therapeutic trial of selective serotonin reuptake inhibitors (SSRIs) or serotonin-norepinephrine reuptake inhibitors (SNRIs).
- There may be obstacles in engaging Afghanistan and Iraq war veterans with PTSD, who also have a diagnosis of depression, to complete this recommended pharmacotherapy.
- Clinicians should actively involve veterans in treatment planning. It would appear to be important to specifically inform veterans about the consequences of prematurely stopping SSRIs/SNRIs.

rates of utilization of psychotherapy and inpatient care) and the degree to which the patient wants or desires help from mental health providers may also influence whether or not the veteran receives first-line pharmacotherapy.

Era of service is a potential predictive factor worthy of elaboration. OEF/OIF veterans have lower rates of retention in mental health treatment for PTSD,[12,13] and this finding has been shown to be associated with age and comorbid psychiatric conditions.[13] Previous investigators have hypothesized that competing responsibilities such as work or childcare obligations may also explain these findings.[12]

The present study uses data from the Longitudinal Veterans Health Study (LVHS), an observational study of VA patients recently diagnosed with PTSD, to examine patient factors associated with receiving first-line pharmacotherapy. Our primary hypotheses were as follows: veterans would be more likely to receive first-line pharmacotherapy if they (1) received their PTSD diagnosis in a mental health clinic, (2) perceived fewer institutional and stigma-related barriers to seeking VA mental health care, (3) were male, (4) were non-Hispanic whites, (5) served in the military prior to OEF/OIF, (6) were older relative to others in one's period of service cohort, (7) had more severe symptoms, (8) wanted help for mental health problems, (9) had other comorbid psychiatric diagnoses, (10) engaged in psychotherapy, and (11) received inpatient mental health care in the prior year.

Our secondary hypotheses, based on previous studies,[12,13] were that predisposing factors, such as age and gender, and need-based factors, such as presence of comorbid psychiatric diagnoses of depression and anxiety, would moderate the relationship between OEF/OIF veteran status and the receipt of first-line pharmacotherapy for PTSD. Also, life context factors such as competing responsibilities (ie, work or childcare obligations) would mediate this relationship.

This study will contribute to the existing literature[4–6] by specifically focusing on receipt of first-line pharmacotherapy for PTSD and utilizing survey data to examine clinically relevant behaviors, attitudes, and symptoms that may predict receipt of first-line pharmacotherapy for PTSD. Also, as OEF/OIF and female veterans were oversampled, we will provide previously unreported data on PTSD-related pharmacotherapy outcomes sufficiently powered for these populations. To date, no study has specifically investigated receipt of first-line pharmacotherapy for PTSD in OEF/OIF veterans versus veterans from other eras. This gap in the literature, coupled with public and professional concern regarding lack of access to mental health services for recent veteran returnees, highlights the importance of investigating characteristics associated with receiving first-line pharmacotherapy for PTSD.

METHOD

Sample, Recruitment, and Sources of Data

Study participants were recruited as part of the LVHS.[7,16] The final sample of participants comprised 482 male and female VA outpatients between the ages of 18 and 69 years who served during the Vietnam era or later and had been newly diagnosed with a *DSM-IV* diagnosis of PTSD (309.81) during a VA outpatient visit between May 31, 2006, and December 7, 2007. Participants completed a mailed survey between August 11, 2006, and April 6, 2008.

Study procedures were overseen by the Stanford University Institutional Review Board (Stanford, California). VA patients recently diagnosed with PTSD (n = 1,609) were contacted by mail and telephone using the Dillman method.[17] This method involved contacting potential participants up to 3 times by mail plus up to 4 times by phone. Participants received a $10 VA canteen coupon for completion of the survey. Potential participants were randomly sampled from the following 4 strata: male OEF/OIF patients, female OEF/OIF patients, male patients who served prior to OEF/OIF, and female pre-OEF/OIF patients.

Of 500 patients (31%) who agreed to participate, 5 were excluded because their surveys indicated pre-Vietnam service, 12 were excluded because their survey was completed more than 6 months after diagnosis, and 1 asked to withdraw from the study. Thus, the final sample of 482 participants included 134 male OEF/OIF patients (19% response rate), 109 female OEF/OIF patients (32% response rate), 121 male pre-OEF/OIF patients (51% response rate), and 118 (41% response rate) female veterans from prior periods.

To assess response bias, participants were compared to a random sample of 490 patients (identified through VA administrative databases) newly diagnosed with PTSD during the same time period (May 31, 2006, through December 7, 2007) (Table 1). Survey respondents' utilization of VA psychotherapy was similar to that of the random sample. Psychotropic prescribing patterns were also similar, although prescriptions for nonbenzodiazepine sedative hypnotics and antiadrenergics were more prevalent in the random sample. Survey respondents were slightly younger (median age of 40.0 vs 43.5 years, $P < .05$) than the random sample. Survey respondents had less missing data for race and ethnicity and were correspondingly more likely to be white, Hispanic/Latino, or "other" (Native American, Asian-American,

Table 1. Characteristics of the Survey Sample Versus Randomly Selected Veterans From the Sampling Frame

Characteristic	Survey Participants (N = 482)	Random Comparison Sample (N = 490)	Statistic	*df*	*P*
Female, n (%)	227 (47)	231 (47)	$\chi^2 = 0.00$	1	.96
Period of service, n (%)			$\chi^2 = 2.25$	2	.33
OEF/OIF (combat eligible)	243 (50)	248 (51)			
Post-Vietnam	116 (24)	101 (21)			
Vietnam era	123 (26)	141 (29)			
Age, median (interquartile range), y	40.0 (27.0)	43.5 (28.0)	Z = −2.22[a]	1	.03
Currently married, n (%)	215 (45)	206 (42)	$\chi^2 = 0.80$	1	.37
Service-connected disability, n (%)	119 (25)	201 (41)	$\chi^2 = 1.93$	1	.17
Race/ethnicity from self-report, n (%)					
White	329 (68)	…			
Black	92 (19)	…			
Hispanic/Latino	66 (14)	…			
Other race/ethnicity	41 (9)	…			
Race/ethnicity missing	17 (4)	…			
Race/ethnicity in medical record, n (%)					
White	311 (65)	302 (62)	$\chi^2 = 0.87$	1	.35
Black	81 (17)	95 (19)	$\chi^2 = 1.09$	1	.30
Hispanic/Latino	46 (10)	29 (6)	$\chi^2 = 4.49$	1	.03
Other race/ethnicity	16 (3)	19 (4)	$\chi^2 = 0.22$	1	.64
Race/ethnicity missing	42 (9)	56 (11)	$\chi^2 = 1.98$	1	.16
Setting where diagnosed, n (%)			$\chi^2 = 0.49$	2	.78
Mental health	311 (65)	315 (64)			
Primary care	158 (33)	158 (32)			
Other medical setting	13 (3)	17 (4)			
Main hospital vs satellite clinic, n (%)			$\chi^2 = 0.11$	1	.74
Main hospital	305 (63)	315 (64)			
Satellite clinic	177 (37)	175 (36)			
Any VA mental health visits (not for PTSD) in prior year, n (%)	212 (44)	197 (40)	$\chi^2 = 1.42$	1	.23
Any VA PTSD psychotherapy visits in year after diagnosed, n (%)	279 (58)	265 (54)	$\chi^2 = 1.43$	1	.23
≥ 8 VA PTSD psychotherapy visits (among those with 1 or more), n (%)	93 (19)	80 (16)	$\chi^2 = 0.62$	1	.43
Income, mean ± SD, US $	26,655 ± 39,871	25,704 ± 39,051	$t = -0.38$	1	.71
No. of comorbid psychiatric diagnoses when diagnosed with PTSD, mean ± SD	0.57 ± 0.66	0.58 ± 0.71	$t = 0.21$	1	.84
Distance (miles) to closest VA location, mean ± SD	12.33 ± 11.68	12.01 ± 11.80	$t = -0.43$	1	.67
All VA visits in year prior to PTSD diagnosis, median (interquartile range)	6.0 (14.0)	6.0 (16.0)	Z = −0.89[a]	1	.38

[a]Mann-Whitney test.
Abbreviations: OEF/OIF = Operation Enduring Freedom/Operation Iraqi Freedom, PTSD = posttraumatic stress disorder, VA = Veterans Affairs.

Pacific Islander, or other). More detailed analyses regarding sampling procedures have been reported previously.[16]

Measures

Data about medication type, amount, and refills were obtained from the Decision Support System National Data Extracts for Pharmacy database for the 12 months after patients first received their PTSD diagnosis. The National Patient Care Database (NPCD) Outpatient Event File was used to obtain diagnostic information. Clinic stop codes were used to determine whether the PTSD was initially diagnosed during a visit to a mental health or primary care clinic.

Patient age, gender, date of index visit, clinic type and procedure codes, history of inpatient stay, and concurrent depression and anxiety diagnoses were determined from the NPCD. OEF/OIF status and race/ethnicity were determined from survey data.

Barriers to VA health care. Perceived barriers to help seeking were assessed with a 25-item measure using selected items from the Barriers to Help Seeking Scale[18] and additional items based on a literature review of reasons veterans endorse for not seeking help.

Use of psychotherapy. Psychotherapy visits were determined from the NPCD. PTSD-related psychotherapy was defined as a visit in a mental health clinic (stop codes 500 through 599, excluding telephone, administrative visits, and medical care in mental health) with a PTSD diagnosis, and at least 1 psychotherapy procedure code (selected from 90804–90810, 90812, 90814, 90845, 90846, 90847, 90849, 90853, 90857, 90875, 90876, 90880, 90901, and 96152–96155).

Symptom severity. Symptom severity was assessed by averaging *Z* scores for PTSD symptoms on the following 3 scales. The Impact of Events Scale-Revised[19] was used to assess overall PTSD symptom severity as well as the severity of PTSD symptom clusters (reexperiencing, avoidance, and hyperarousal). This scale is a valid and reliable measure of PTSD among veterans.[20] The Center for Epidemiologic Studies Depression Scale[21] is a well-validated measure of the symptoms of clinical depression.[22] The 12-item Short-Form Mental Health Aggregate subscale[23] is a self-report

Table 2. Predictors of Initiating an SSRI/SNRI in the Year After Being Diagnosed With Posttraumatic Stress Disorder

Variable	Univariate Odds Ratio (95% CI)[a]	Model 1 Adjusted Odds Ratio (95% CI)[b]	Model 2 Adjusted Odds Ratio (95% CI)[b]
Sex	1.32 (0.92–1.89)	1.34 (0.93–1.93)	0.87 (0.54–1.38)
OEF/OIF	1.00 (0.69–1.43)	0.99 (0.69–1.43)	1.15 (0.73–1.80)
Age within cohort	1.00 (0.98–1.02)	1.00 (0.98–1.02)	0.99 (0.96–1.01)
White non-Hispanic	0.85 (0.59–1.23)	0.84 (0.57–1.22)	0.95 (0.60–1.50)
Index clinic type (mental health vs primary care)	1.60 (1.10–2.32)**	…	1.00 (0.62–1.61)
Psychotherapy	3.63 (2.48–5.31)**	…	2.39 (1.51–3.79)**
Desire for help	4.21 (2.29–7.73)**	…	1.90 (0.91–3.96)
Symptom severity	1.85 (1.48–2.31)**	…	1.20 (0.91–1.57)
Inpatient mental health stay	2.14 (0.94–4.92)	…	0.68 (0.26–1.77)
Depression	9.12 (6.01–13.84)**	…	8.10 (4.99–13.15)**
Anxiety	1.73 (1.11–2.71)*	…	1.76 (1.03–3.02)*
Model χ^2		3.17[c]	159.64[d,e]

[a]n = 477–482 (reduced N secondary to missing data).
[b]n = 476 (reduced N secondary to missing data).
[c]*df* = 4; not significant.
[d]*df* = 11; *P* < .000.
[e]Difference between models: $\chi^2_7 = 156.5$, *P* < .01.
*$P < .05$.
**$P < .01$.
Abbreviations: OEF/OIF = Operation Enduring Freedom/Operation Iraqi Freedom, SSRI/SNRI = selective serotonin reuptake inhibitor/serotonin-norepinephrine reuptake inhibitor.

shortened version of the widely used 36-item Short-Form Health Survey and has strong psychometric properties. The scale yields a subscale for mental health with well-developed norms.[24]

Desire for help. Help-seeking attitudes were assessed in the baseline survey. Desire for care was assessed with a yes/no question, "Have you needed or wanted help for an emotional or mental health problem in the last 6 months?"

Analysis Plan

Logistic regression models were developed to predict 2 dependent variables: odds of initiating any prescription SSRI/SNRI and, among veterans who initiated an SSRI/SNRI, odds of receiving a therapeutic trial in the year after the index day. For the purposes of this study, we defined a therapeutic trial of SSRI/SNRI as being at least 90 continuous days of same-name SSRI/SNRI prescribed at an adequate dosage.

Each dependent variable was univariately regressed on the following explanatory variables: type of clinic wherein the patient was diagnosed (mental health versus primary care), barriers to seeking help such as feeling that one does not "fit in" at the VA, age, gender, race/ethnicity, era of service, patient self-reported symptom severity, whether the patient had at least 1 psychotherapy visit in the year after the index visit, whether the patient had received inpatient mental health treatment during this same time period, concurrent diagnosis of depression and/or anxiety, and wanting help for mental health problems. To avoid confounding of period of service and age, we used relative age compared to others stratified within the same period of service/gender cohort. Barriers to seeking help were not significant in univariate analyses and were therefore excluded from the multivariate analyses. We compared the fit of 2 multivariate logistic regression models. Model 1 included only demographic factors. Model 2 included both demographic factors and clinical characteristics. Statistical analyses were performed using SPSS software, version 18.0 (SPSS, Inc, Chicago, Illinois).

RESULTS

Table 1 presents data on demographic and other characteristics of the sample. The oversampling of females and OEF/OIF veterans resulted in an almost equal proportion of males and females (53% and 47%, respectively) and veterans from OEF/OIF and from prior periods of service (50% and 50%, respectively). Non-Hispanic whites accounted for 69% of the sample. The median age was 40 years.

A total of 78% (n = 377) of the 482 sample patients were prescribed at least 1 psychotropic medication. Of these, 73% (276/377) initiated a first-line SSRI/SNRI, with 61% (168/276) of those prescribed an SSRI/SNRI receiving a therapeutic trial. Odds of initiating a SSRI/SNRI did not vary by period of service, age, gender, or race/ethnicity (Table 2, Model 1). Addition of clinical factors resulted in a significantly better-fitting model (see Table 2, Model 2). The odds of being initiated on a SSRI/SNRI were significantly higher for those veterans also receiving psychotherapy (odds ratio [OR] = 2.39; 95% CI, 1.51–3.79; *P* < .01) and for those with either a concurrent diagnosis of depression (OR = 8.10; 95% CI, 4.99–13.15; *P* < .01) or anxiety (OR = 1.76; 95% CI, 1.03–3.02; *P* < .05).

OEF/OIF veterans were significantly less likely (OR = 0.45; 95% CI, 0.27–0.75; *P* < .01) to receive a therapeutic trial of pharmacotherapy than veterans from Vietnam and later eras (Table 3, Model 1). Overall, 52% of OEF/OIF veterans

Table 3. Predictors of Veterans Receiving a Therapeutic Trial of SSRI/SNRI in the Year After Being Diagnosed With Posttraumatic Stress Disorder[a,b]

	Univariate	Model 1	Model 2
Variable	Odds Ratio (95% CI)[c]	Adjusted Odds Ratio (95% CI)[c]	Adjusted Odds Ratio (95% CI)[c]
Sex	1.00 (0.62–1.62)	0.97 (0.59–1.61)	0.96 (0.56–1.65)
OEF/OIF	0.46 (0.28–0.75)*	0.45 (0.27–0.75)*	0.44 (0.26–0.75)*
Age within cohort	1.02 (0.99–1.05)	1.02 (0.99–1.05)	1.02 (0.99–1.05)
White non-Hispanic	0.63 (0.38–1.04)	0.67 (0.40–1.12)	0.69 (0.41–1.17)
Index clinic type (mental health vs primary care)	1.53 (0.92–2.56)	…	1.39 (0.80–2.42)
Psychotherapy	1.35 (0.77-2.22)	…	1.32 (0.74–2.35)
Desire for help	1.23 (0.44–3.41)	…	1.58 (0.54–4.62)
Symptom severity	0.83 (0.61–1.13)	…	0.85 (0.60–1.19)
Inpatient mental health stay	0.75 (0.31–1.81)	…	0.98 (0.38–2.53)
Depression	0.85 (0.48–1.49)	…	0.81 (0.43–1.52)
Anxiety	1.08 (0.62–1.86)	…	0.92 (0.51–1.66)
Model χ^2		13.94[d]	18.77[e]

[a]Therapeutic trial of SSRI/SNRI: at least 90 continuous days of same name SSRI/SNRI prescribed at adequate dosage.
[b]Note that 30-day identical prescriptions written within 14 days of each other or 60-day identical prescriptions written within 30 days of one another were viewed as duplicates or entry errors and hence not counted. Up to 14-day gaps were allowed between identical 30-day prescriptions and 30-day gaps between identical 60-day prescriptions before contiguity was considered to be broken.
[c]n = 273 (reduced N secondary to missing data).
[d]$df = 4$; $P < .01$.
[e]$df = 11$; $P < .065$.
*$P < .01$.
Abbreviations: OEF/OIF = Operation Enduring Freedom/Operation Iraqi Freedom, SSRI/SNRI = selective serotonin reuptake inhibitor/serotonin-norepinephrine reuptake inhibitor.

received a therapeutic trial compared to 70% of veterans from other eras receiving a therapeutic trial. No other demographic or clinical variables predicted odds of receiving a therapeutic trial (see Table 3, Model 2).

We tested our secondary hypotheses that predisposing factors, such as age and gender, and need-based factors, such as presence of comorbid psychiatric diagnoses of depression and anxiety, would moderate the relationship between OEF/OIF veterans' status and the receipt of first-line pharmacotherapy for PTSD. Receipt of a therapeutic trial was significantly predicted by the interaction of the cohort with a depression diagnosis in the year after the index visit (OR = 0.29; 95% CI, 0.09–0.95; $P < .05$). Without a depression diagnosis in the year after the index visit, OEF/OIF and prior era of service veterans completed a 90-day course of SSRI/SNRI at about the same rate (62.5% and 63.3%, respectively). However, with a diagnosis of depression, the percentage of OEF/OIF patients completing a therapeutic dose dropped to 46% compared to the prior era of service cohort's increase by 8 percentage points to 71%.

We also explored if life context factors such as competing responsibilities (ie, work or childcare obligations) would mediate the relationship between OEF/OIF veterans' status and the receipt of first-line pharmacotherapy. Using the method described by Baron and Kenny,[25] we found that number of dependents was unrelated to cohort status ($t = 0.13$, $P < .90$). "Days paid in the last month" was significantly predicted by cohort status (OR = 2.30; 95% CI, 1.41–3.75; $P < .01$). However, we did not meet the requirement of finding a significant relationship between the mediator and the dependent variable after controlling for the independent variable. Specifically, days paid did not predict receipt of first-line pharmacotherapy when controlling for cohort status (OR = 1.28; 95% CI, 0.77–2.14; $P < .34$).

DISCUSSION

Previous studies have documented the prevalence of antidepressant use among VA patients diagnosed with PTSD[4–6]; the aim of this study was to better understand patient characteristics associated with receiving first-line pharmacotherapy. Of the veterans who received at least 1 psychotropic prescription, 73% received an SSRI or SNRI, with approximately 61% of those prescribed an SSRI or SNRI receiving a therapeutic trial. The relationship between being in mental health therapy and being initiated on SSRI/SNRI treatment may reflect an existing degree of patient engagement within the mental health system that either creates opportunities to be evaluated for medication or contributes to the patient's agreement to try medication as part of a treatment plan. The concurrent diagnosis of depression and anxiety may predict initiation of an SSRI/SNRI via a similar mechanism in addition to reflecting a complexity in patient diagnosis emphasizing a dual approach to treatment.

Our oversampling of OEF/OIF veterans allowed us to investigate previously unreported pharmacotherapy utilization for this population. Despite similar odds of starting SSRI/SNRI pharmacotherapy, OEF/OIF veterans had significantly reduced odds of receiving a therapeutic trial. Our secondary hypothesis finding that a concurrent diagnosis of depression moderates this relationship suggests that there may be obstacles in engaging depressed OEF/OIF veterans with PTSD to complete recommended

pharmacotherapy. The existing literature investigating why civilian patients prematurely discontinue SSRI medication prescribed for major depression suggests that bothersome side effects, patients receiving inadequate information regarding dosing, patients experiencing no improvement in symptoms, being male, and being employed all contribute to early discontinuation.[26–28] Of note, there was an elevated risk of discontinuation found in patients who felt uninvolved in treatment planning or who disagreed with the diagnosis for which they were receiving the medication.[27]

We would suggest that these reasons are of relevance to OEF/OIF veterans as they are more likely to be new to treatment, and this may contribute to less familiarity with psychotropic medications, greater caution about potential side effects, and more skepticism about their overall effectiveness. Furthermore, their relative earlier stage of presentation may contribute to a hesitation in fully committing to medication before exhausting all other avenues, eg, a full course of psychotherapy. These findings emphasize the importance of actively involving veterans in treatment planning. Furthermore, it would appear to be important to inform them about the consequences of prematurely stopping SSRI/SNRI treatment.

Our finding that comorbid depression moderates whether OEF/OIF veterans receive a therapeutic trial is concerning. Symptoms of depression such as anhedonia, poor motivation, and negativistic thinking may impact veteran attitudes toward medications in unfavorable ways. This is of concern when we consider that the presence of depressive symptoms is associated with more severe PTSD symptoms.[29] Identifying the obstacles to engaging depressed OEF/OIF veterans with PTSD to complete recommended pharmacotherapy treatment in the VA is an area worthy of future consideration. Furthermore, how resources should be specifically targeted to meet the needs of this vulnerable population are additional areas worthy of focus.

There are a number of limitations to our study. The 31% response rate was low, although the main focus of our study was not to present prevalence estimates but to identify factors associated with receiving first-line pharmacotherapy. We may have underestimated the number of veterans receiving a therapeutic trial by limiting the time period under investigation to 52 weeks and by not including 90-day trials of SSRI/SNRI treatments that were composed of more than 1 type of SSRI/SNRI. Furthermore, we did not include second-line antidepressants that might also benefit veterans. Finally, we cannot completely determine the diagnoses for which medication was being prescribed, and we did not have information on actual medication adherence.

Reduced levels of receipt of a therapeutic trial of pharmacotherapy for PTSD among OEF/OIF veterans parallel previous findings of less mental health treatment utilization in this population and warrant further investigation.

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