Early Mental Health Treatment-Seeking Among U.S. National Guard Soldiers Deployed to Iraq

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The authors examined rates of and factors associated with postdeployment treatment-seeking in a panel of 424 National Guard soldiers who spent 16 months in Iraq. Soldiers completed a self-report, mailed survey 3- to 6-months after returning home. Approximately one third of respondents reported postdeployment mental health treatment. Those who screened positive for mental health problems were more likely to indicate that they had received treatment compared to those who screened negative, but over one half of those who screened positive were not engaged with mental health treatment. Variables related to reported treatment receipt included positive attitudes about mental health therapies, having been injured in-theater, illness-based need, and having received mental health treatment while in-theater. Implications and future research directions are discussed.

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All U.S. veterans of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), including those activated from the National Guard, are eligible for free Department of Veterans Affairs (VA) health care for 5 years following deployment. Early data suggest that approximately 40% of eligible OEF and OIF veterans have sought physical or mental health treatment at VA medical facilities (Veterans Health Administration, 2008). Of the first 103,788 OEF and OIF veterans seen, 25% were given mental health diagnoses and an additional 6% received diagnoses for other psychosocial problems (Seal, Bertenthal, Miner, Sen, & Marmar, 2007). Almost half of those with mental health problems were diagnosed with posttraumatic stress disorder (PTSD).

Although a substantial proportion of OEF and OIF returnees are using VA health care, many OEF and OIF troops, particularly those with mental health problems, may not be seeking needed treatment. Hoge and his colleagues (2004) reported that only 23 to 40% of OEF and OIF troops who screened positive for PTSD, depression, or generalized anxiety had received potentially needed mental health care within 3 to 4 months postdeployment. However, it is unclear whether findings from largely active duty samples extrapolate to National Guard and Reserve units, as there are several reasons to suspect that the National Guard population may have different rates of treatment seeking. National Guard troops tend to be older and may be more likely to have family and civilian work responsibilities than active component troops. This may lead to greater familial and occupational strain and unique reintegration challenges (Office of the Undersecretary of Defense, 2006). Further, because they are not embedded within their military units following deployments, National Guard personnel may have low levels of postdeployment support. Finally, National Guard troops are at increased risk for PTSD and other postdeployment mental health problems compared to active duty troops, possibly due to the environmental factors described above. Of National Guard and Reserve soldiers returning from OIF combat deployments, as many as 42% screen positive for mental health disruptions (Milikken, Aucelteronie, & Hoge, 2007). However, OEF and OIF National Guard troops' involvement with mental health treatment providers has not been examined.

Additionally, there have been no studies examining associations between facilitators or barriers to mental health treatment-seeking and actual care utilization among OEF and OIF soldiers or veterans. In the present study, we addressed these gaps by examining treatment-seeking rates in a panel of returning OIF National Guard soldiers and assessing likely barriers and facilitators. The research was guided by Andersen's behavioral model of health care utilization (Andersen, 1995; Andersen & Newman, 1973). Andersen's model posits three categories of variables that predict health service use: predisposing factors that are present prior to the illness (e.g., sociodemographic characteristics, combat experiences, other illnesses and health conditions), illness-related need (e.g., presence and severity of mental illness), and enabling characteristics that are related to ability to seek treatment (e.g., insurance, proximity to mental health providers).

Trauma history characteristics such as combat exposure, combat intensity, and cumulative trauma exposure are predisposing factors that show positive associations with rates of treatment-seeking by military veterans (Fikretoglu, Brunet, Guay, & Pedlar, 2007; Maguen et al., 2007). Illness-related need in the form of PTSD and depressive symptoms has repeatedly been found to be a salient factor in seeking mental health treatment by earlier veteran cohorts (Elhai, Richardson, & Pedlar, 2007; Maguen et al., 2007). Need has also been shown to mediate the effects of age, race, marital status, combat experiences, and income on treatment-seeking (Maguen et al., 2007). Finally, enabling factors such as treatment costs and public insurance have also predicted treatment-seeking in earlier cohorts of veterans (Litz & Maguen, 2006; Maguen et al., 2007; Sayer et al., 2007). Besides these well-documented predictors, we speculated that receiving mental health treatments either predeployment or in-theater would be associated with mental health treatment-seeking after deployment because positive mental health care experiences could enhance veterans' willingness to engage in needed services.

The roles of psychosocial and attitudinal factors in relation to mental health treatment-seeking have also been relatively understudied. Yet, because such factors are modifiable (unlike demographics or trauma characteristics), they may be amenable to interventions designed to encourage treatment-seeking. The limited work that has been conducted on these topics shows that negative postdeployment environments (e.g., veterans' perception of others attitudes regarding veteran status) are associated with lower levels of treatment-seeking (Dobson, Grayson, Marshall, & O'Toole, 1998; Marshall, Jorm, Grayson, Dobson, & O’Toole, 1997). Surprisingly, despite the strong association between social support and PTSD, nonsignificant associations have been found between level of postdeployment social support and treatment-seeking in Vietnam era veterans (Sayer et al., 2007; Fikretoglu et al., 2007).

Attitudes about stigma may be especially salient when active duty personnel and veterans contemplate seeking help for mental health concerns. In one large study of returning OEF and OIF combatants, almost one third of participants thought they would be seen as weak or treated differently by their unit leadership if they sought mental health services, and troops with mental health problems endorsed more concerns about stigma (Hoge et al., 2004). Two other studies, one of peacekeeping veterans and another of Canadian active duty soldiers, also found that many participants had concerns about being stigmatized if they sought mental health treatment. However, none of these studies have directly examined the relationship between these attitudes and actual involvement with mental health treatment providers (Fikretoglu, Guay, Pedlar, & Brunet, 2008; Litz & Maguen, 2006).

Our goals were to determine the rate of reported mental health treatment-seeking in a panel of returning OIF National Guard
soldiers and to examine potential barriers to and facilitators of such treatment-seeking. Predisposing characteristics hypothesized to be associated with mental health treatment included predeployment mental health treatment use, in-theater injury, combat exposure and perceived threat, and poor health. Based on extant literature, we hypothesized that the following need characteristics would be associated with greater mental health treatment-seeking: PTSD and depressive symptomology, perceived need for treatment, and interest in treatment. Enabling characteristics hypothesized to be associated with greater mental health treatment-seeking included receipt of in-theater mental health treatment and satisfaction with this treatment, lower postdeployment stress, and both positive attitudes toward mental health treatments and fewer concerns about mental health-related stigma.

**METHOD**

**Participants**

Participants were 424 U.S. National Guard soldiers recruited for a larger longitudinal project that had been approved by relevant institutional review boards and National Guard command. Soldiers were originally contacted approximately one month prior to deployment to OIF while completing a 6-month mobilization training. Over the course of approximately 2.5 weeks, soldiers were invited through unit announcements and flyers to attend a group briefing session held by investigators. These sessions occurred throughout each day of the recruitment period and were generally attended by 6 to 20 soldiers. Ultimately, 522 of the approximately 2600 individuals in the total brigade completed the predeployment survey. Those who participated at baseline were demographically similar to the larger brigade. For example, 89% of the predeployment cohort versus 91% of the brigade were male; 92% versus 94% were Caucasian, 90% versus 89% were enlisted; 45% versus 39% were married; and 60% versus 65% were between age 18 and 29.

For the present investigation, data were collected using self-report mailed surveys administered approximately 2–3 months after the soldiers’ return from OIF. Surveys and a $50 incentive were mailed to each soldier who had been surveyed predeployment. We achieved an 81% response rate for the postdeployment wave of data collection.

Participants’ average deployment length was 16.3 months ($SD = 3.0$) and the mean age was 31.9 ($SD = 8.8$). Postdeployment responders and nonresponders did not differ on gender, ethnicity, or predeployment PTSD and depressive symptomology. The responders were more likely to be officers (responders = 11%; nonresponders = 4%), $\chi^2 (1, N = 522) = 4.43, p < .05$, married (responders = 49%; nonresponders = 31%), $\chi^2 (1, N = 522) = 10.65, p < .001$, and older (responder $M = 29.9, SD = 8.8$; nonresponder $M = 25.6, SD = 6.9$), $t(520) = -4.46, p < .001$, than the nonresponders.

**Measures**

**Mental health treatment-seeking.** The outcome measure documented self-reported use of VA and non-VA psychotherapy and psychopharmacotherapy since return from OIF using a series of dichotomous (yes or no) items (Erbes, Westermeyer, Engdahl, & Johnsen, 2007). Five types of services were listed: (a) psychopharmacology, (b) one-to-one counseling, (c) group counseling, (d) couple or family counseling, and (e) chemical-dependency treatment. For analysis, all four types of nonpharmacological treatment were combined to reflect any psychotherapy use.

**Predisposing characteristics.** Combat experiences and perceived threat were assessed using two scales from the Deployment Risk and Resilience Inventory (DRRI; King, King, & Vogt, 2003). The DRRI consists of 14 subscales assessing a range of risk and resilience factors among military personnel. The DRRI scales demonstrate moderate to high internal consistency estimates, discriminant validity, and criterion-related validity through associations with indicators of mental and physical health among OIF veterans (Vogt, Proctor, King, King, & Vasterling, 2008). The Combat Experiences Scale assesses the presence or absence of a series of warfare circumstances and events. Items reflect objective events, rather than interpretations or judgments of these experiences (present sample $\alpha = .84$). The Perceived Threat Scale was designed to measure subjective fear, including emotional and cognitive appraisals of personal well-being and safety in the war zone (present sample $\alpha = .82$).

Thoughts and beliefs about seeking mental health services were assessed using the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPH; Fischer & Turner, 1970). The ATSPPH is the most widely used instrument for assessing such beliefs (Hatchett, 2006). For the present study, we employed the 10-item abbreviated version, which correlates $r = .87$ with the original scale (Fischer & Farina, 1995). The ATSPPH yields a single score with higher scores indicating more-positive attitudes. Internal consistency for the present sample was $\alpha = .82$.

Perceived barriers and stigma were assessed using 13 items designed to examine barriers to care among OEF and OIF veterans (Britt, 2000) that had been previously administered to a large sample of OEF and OIF military personnel (Hoge et al., 2004). The inventory does not assess respondents’ attitudes towards others who seek psychological services or whether responders’ perceptions of stigma may lead them to avoid services; therefore, three additional items were included in the present investigation: “I would think less of a member of my team if s/he went to a psychiatrist or other mental health professional;” “I would think less of a member of my team if s/he and their spouse went to a marriage counselor;” and “I would avoid going to see a psychiatrist or other mental health professional because of how it would affect my relationship with my unit/team members.” All responses were rated on a 5-point scale ranging from 1 = strongly agree to
5 = strongly disagree. To aid interpretation, we reversed the direction of the scale so that higher scores were indicative of greater barriers and higher stigma. The alpha for the full 16-item scale was .91.

A series of single items were used to assess overall health (“In general would you say your health is:” 0 = excellent to very good; 1 = good to poor), injury in-theater (“Were you ever wounded or injured in or around Iraq?”), and previous psychotherapy (“Before your recent deployment, did you ever receive any type of counseling for personal, emotional, alcohol, or family stress problems?”).

Illness-related need characteristics. The PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993), which consists of 17 self-report items corresponding to each of the symptoms for PTSD according to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, 1994), was used to assess symptom severity. Participants were instructed to rate PCL items in relation to stressful military experiences. The measure generally exhibits good internal consistency, convergent validity with other trauma and PTSD symptom measures, and good specificity and sensitivity (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996; Weathers et al., 1993). For the present sample, coefficient alpha was .94. To screen PTSD positive, participants were required to have a total score of at least 50 and to have endorsed one reexperiencing symptom, three avoidance symptoms, and two arousal symptoms at a moderate level or greater (Hoge et al., 2004).

Depressive symptoms were assessed using the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report instrument that asks respondents to rate the intensity of their depressive symptoms on a 0 to 3 scale. The BDI-II has excellent established validity and reliability (Beck et al., 1996). Coefficient alpha for the present sample was .90. For the current study, a score of 20 (moderate depression) or above was deemed a positive depression screen.

Single items were used to assess perceived mental health need (“Are you currently experiencing a personal, emotional, alcoholic, or family stress problem?”) and interest in receiving mental health treatment (“Are you currently interested in receiving professional help for a personal, emotional, alcohol, or family stress problem?”).

Enabling characteristics. Postdeployment social support was assessed using the DRRI Postdeployment Social Support Scale (King et al., 2003). This subscale assesses emotional and instrumental support provided by others (present sample α = .85). Stressful life experiences following deployment were assessed using the DRRI Postdeployment Stressors Scale, which includes potentially traumatic nondeployment-related events (i.e., car accidents, assaults, deaths of others) and stressors related to reintegration efforts (e.g., job loss, legal problems, divorce, and problems reestablishing roles within the community and family; present sample α = .55).

Finally, single items were used to assess in-theater psychotherapy use (“Did you receive one-on-one counseling for combat stress from any mental health professional during your recent deployment?”), in-theater medication use (“During your most recent deployment to Iraq, how often did you use prescribed medications for your mood, nerves, mental health, or sleep?”), and satisfaction with in-theater mental health services (“How satisfied are you with emotional, stress-related, or mental health support you received in Iraq to deal with the demands of this most recent deployment?”). Responses to the medication item were coded dichotomously to reflect any use.

Data Analysis

We determined the number of individuals who reported receiving psychotherapy alone, medication alone, or both, and we determined the percentage of veterans who received each of the five categories of care from the VA, the military, or another source. We performed Pearson chi-square tests to determine whether soldiers with presumptive PTSD or depression reported treatment at higher rates than those without mental health problems. We hypothesized that there may be factors uniquely associated with receiving either psychotherapy or psychiatric medications; therefore, we examined the two outcomes separately. Due to the large number of potential associated variables, we first conducted a series of single predictor univariate logistic regressions to determine the relationship between the predictor variables and reported treatment-seeking. All continuously distributed variables were converted to z-scores prior to entry into the regression models. Significant univariate predictors were then entered into a stepwise forward conditional logistic regression. Variables reaching the significance level of $p < .05$ were initially entered in the model. Once entered, a $p$-value $>.10$ led to exclusion from the final model. For both the univariate and stepwise forward conditional logistic regressions, the dependent variable was a dichotomous measure of reported treatment-seeking. The fit of the final model was evaluated using the Hosmer and Lemeshow (2000) goodness-of-fit statistic, for which a good model fit is evidenced by a low chi-square statistic and a high $p$ value (Hosmer & Lemeshow, 2000). All analyses were conducted using SPSS Version 17.

RESULTS

Rates of Mental Health Treatment-Seeking

Approximately one third (34.7%, $n = 147$) of the respondents reported receiving some type of mental health services since returning from Iraq (see Table 1). Nearly one quarter (22.9%, $n = 97$) of the respondents indicated they had received psychotherapy only, 4.5% ($n = 19$) indicated psychiatric medications only, and 7.3% ($n = 31$) indicated both psychotherapy and psychiatric medications. Compared to the soldiers who screened negative for PTSD,
Variables Associated With Postdeployment Psychotherapy

We conducted a principal component analysis of the 16 items included in our stigma scale. The rotated solution resulted in four factors that accounted for 68% of the total variance. Similar to Britt and colleagues (2008), this identified a Barriers to Care factor that reflects practical barriers such as inadequate transportation (five items; 15% of variance; \( \alpha = .72 \)). Two stigma factors were also identified: a Self Stigma factor, which reflects the impact of care on the respondents’ self-image and military career (seven items; 28% of variance; \( \alpha = .92 \)); and an Others Stigma factor, which reflects perceptions about others who seek treatment (two items; 12% of variance; \( \alpha = .78 \)). Finally, there was a Mental Health Treatment Doesn’t Work factor (two items; 13% of variance; \( \alpha = .76 \)) that is conceptually similar to the ATSPH, but which more explicitly measures negative and distrustful attitudes towards mental health treatment and providers (i.e., “Mental health care doesn’t work” and “I don’t trust mental health professionals”).

Table 2 presents the unadjusted associations between the hypothesized predictor variables and reported postdeployment psychotherapy. As hypothesized, receiving therapy prior to deployment, receiving therapy in-theater, higher levels of combat and perceived threat, being injured in Iraq, greater PTSD and depressive symptomology, poorer health, and greater postdeployment stressors, and more positive attitudes regarding mental health treatment were all associated with increased report of treatment-seeking. Endorsing a current mental health problem and expressing interest in mental health treatment were also significantly related to reported psychotherapy use.

We examined the total score on the stigma scale and each of the four factors in relation to reported psychotherapy treatment-seeking using a series of univariate logistic regressions. The potential range of scores for the overall scale is 16–80; the range within our sample was 16–66 (\( M = 37.1, SD = 10.6 \)). The only factor significantly related to reported psychotherapy treatment-seeking was Mental Health Treatment Doesn’t Work. More negative attitudes were associated with lower reports of psychotherapy use.

Due to relatively high multicollinearity between the four illness-based need variables (\( r = .44–.77 \)), we conducted a principal component analysis of the four variables. Using varimax rotation, one underlying factor of Illness-Based Need emerged. The factor accounted for 67% of the total variance. We used that Illness-Based Need factor score in the regression analyses.

The stepwise forward conditional logistic regression was conducted using all significant univariate factors and the Need factor score (see Table 3). The final model was a good fit for the data; the Hosmer-and-Lemeshow fit statistic was \( \chi^2(8, N = 424) = 8.02, p = .43 \). Final variables associated with self-reported treatment-seeking included in-theater injury, positive attitudes about mental health treatment; the Need factor score; and receiving therapy in-theater, which had the strongest association.

### Variables Associated With Postdeployment Psychiatric Medication Use

As shown in Table 2, injury in-theater, receiving therapy in-theater, receiving psychiatric medications in-theater, higher levels of combat, greater PTSD and depressive symptomology, poorer health, and greater postdeployment stressors were all associated with increased postdeployment psychiatric medication use. Endorsing a current mental health problem, expressing interest in mental health treatment, and poor social support were also significantly related to reported psychiatric medication use. The Mental Health Treatment Doesn’t Work factor was the only stigma variable significantly associated with medication use, with more negative attitudes relating to lower levels of reported medication use. As in the psychotherapy analyses, the Need factor score was significantly related to self-reported medication treatment-seeking.

The stepwise forward conditional logistic regression was conducted using all significant univariate variables and the Need factor score (see Table 3). The Hosmer and Lemeshow fit statistic indicated that the model was a very good fit for the data, \( \chi^2(8, N = 424) = 3.99, p = .86 \). Final variables associated with self-reported psychiatric medication use included the Need factor score; the predisposing factors of in-theater injury and the stigma factor Mental Health Treatment Doesn’t Work; and the enabling

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Table 1. Type and Location of Postdeployment Mental Health Services Among a Panel of Iraq War Returnees (\( n = 424 \))

<table>
<thead>
<tr>
<th>Type of mental health service</th>
<th>Total %</th>
<th>Facility %</th>
<th>Military %</th>
<th>Other %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication</td>
<td>10.8</td>
<td>6.6</td>
<td>4.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Individual therapy</td>
<td>20.3</td>
<td>11.6</td>
<td>8.0</td>
<td>6.4</td>
</tr>
<tr>
<td>Group therapy</td>
<td>10.0</td>
<td>1.9</td>
<td>7.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Couple therapy</td>
<td>11.6</td>
<td>2.4</td>
<td>6.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Chemical dependency treatment</td>
<td>2.8</td>
<td>0.9</td>
<td>1.7</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Note. Participants could have received more than one type of service and may have received the same service in multiple settings. VA = Veterans Affairs.
### Table 2. Univariate Predictors of Postdeployment Psychotherapy and Psychiatric Medication (N = 424)

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Psychotherapy</th>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>95% CI</td>
</tr>
<tr>
<td><strong>Predisposing factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predeployment MH service use</td>
<td>1.71*</td>
<td>1.04–2.81</td>
</tr>
<tr>
<td>Injury in-theater</td>
<td>2.42**</td>
<td>1.49–3.91</td>
</tr>
<tr>
<td>DRRI combat experiences</td>
<td>1.28*</td>
<td>1.04–1.57</td>
</tr>
<tr>
<td>DRRI perceived threat</td>
<td>1.25*</td>
<td>1.01–1.55</td>
</tr>
<tr>
<td>Poor health</td>
<td>1.75*</td>
<td>1.13–2.72</td>
</tr>
<tr>
<td>Positive attitudes about MH treatment</td>
<td>1.39**</td>
<td>1.11–1.73</td>
</tr>
<tr>
<td>MH treatment stigma (full scale)</td>
<td>0.94</td>
<td>0.76–1.15</td>
</tr>
<tr>
<td>Self Stigma (Factor 1)</td>
<td>0.99</td>
<td>0.81–1.23</td>
</tr>
<tr>
<td>Practical Barriers (Factor 2)</td>
<td>1.09</td>
<td>0.88–1.35</td>
</tr>
<tr>
<td>MH Doesn't Work (Factor 3)</td>
<td>0.78*</td>
<td>0.63–0.98</td>
</tr>
<tr>
<td>Other Stigma (Factor 4)</td>
<td>0.88</td>
<td>0.71–1.09</td>
</tr>
<tr>
<td><strong>Illness-Based Need factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD symptoms (PCL)</td>
<td>1.54**</td>
<td>1.25–1.91</td>
</tr>
<tr>
<td>Depression symptoms (BDI-II)</td>
<td>1.42**</td>
<td>1.15–1.75</td>
</tr>
<tr>
<td>Current problem</td>
<td>2.81**</td>
<td>1.71–4.62</td>
</tr>
<tr>
<td>Interested in help</td>
<td>4.48**</td>
<td>2.48–8.07</td>
</tr>
<tr>
<td>Need factor score</td>
<td>1.72**</td>
<td>1.38–2.13</td>
</tr>
<tr>
<td><strong>Enabling factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric medications in-theater</td>
<td>1.16</td>
<td>0.73–1.84</td>
</tr>
<tr>
<td>Psychotherapy in-theater</td>
<td>3.29**</td>
<td>1.86–5.82</td>
</tr>
<tr>
<td>Dissatisfaction with in-theater MH services</td>
<td>0.96</td>
<td>0.84–1.09</td>
</tr>
<tr>
<td>DRRI postdeployment stressors</td>
<td>1.37**</td>
<td>1.12–1.68</td>
</tr>
<tr>
<td>DRRI postdeployment social support</td>
<td>1.12</td>
<td>0.91–1.38</td>
</tr>
</tbody>
</table>

*Note. MH = Mental health; DRRI = Deployment Risk and Resilience Inventory; PTSD = Posttraumatic stress disorder; PCL = PTSD Checklist; BDI-II = Beck Depression Inventory-II.

*p < .05. **p < .01.

A factor of psychiatric medication in Iraq. Having been injured in Iraq had the strongest association.

**DISCUSSION**

In a panel of OIF National Guard soldiers, almost one third endorsed receiving mental health care within 6 months of returning home. Reported treatment-seeking was more common among soldiers who screened positive for either PTSD or depression. Reports of receiving mental health care appear to be higher in this panel than in a sample of active duty OIF soldiers (Hoge et al., 2004). Although greater treatment-seeking may be partially due to greater need among National Guard soldiers (Milliken et al., 2007), different postdeployment environments may also play a role. Active duty component soldiers may have less time between deployments to engage in mental health services and may have greater concerns about the impact of receiving mental health care on their military career. The difference may also be due to contextual changes that have occurred in the 5 years since the Hoge et al. study, including the extension of VA benefits, campaigns to foster and encourage access to treatment, and an accumulation of individuals who have experienced multiple deployments. Direct comparison between National Guard and active duty troops who were deployed at the same time and who have equal access to care would be required to address this scientifically.

Injury in-theater, attitudes regarding mental health treatment, illness-based need, and mental health treatment in-theater were significantly associated with both self-reported psychotherapy and medication treatment-seeking. More-positive attitudes regarding mental health treatment were associated with greater reported utilization of both psychotherapy and medication. A study of civilian primary care patients similarly found that positive attitudes toward seeking professional help were related to use of mental health treatments (Elhai, Patrick, Anderson, Simons, & Frueh, 2006). Providing education regarding efficacious treatments for PTSD and making those treatments more widely available to returning...
patients reported that they had received mental health treatment in the first 3- to 6-months postdeployment. Although reported

Table 3. Stepwise Forward Conditional Logistic Regression Model of Postdeployment Psychotherapy and Psychiatric Medication Use (N = 424)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychotherapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injured in-theater</td>
<td>0.68</td>
<td>0.29</td>
<td>1.98*</td>
<td>1.13–3.47</td>
</tr>
<tr>
<td>Positive attitudes about mental health treatment-seeking</td>
<td>0.34</td>
<td>0.13</td>
<td>1.40*</td>
<td>1.10–1.79</td>
</tr>
<tr>
<td>Need factor score</td>
<td>0.42</td>
<td>0.13</td>
<td>1.52**</td>
<td>1.18–1.96</td>
</tr>
<tr>
<td>Therapy in-theater</td>
<td>0.79</td>
<td>0.34</td>
<td>2.21*</td>
<td>1.12–4.33</td>
</tr>
<tr>
<td>Medication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injured in-theater</td>
<td>1.47</td>
<td>0.36</td>
<td>4.33**</td>
<td>2.13–8.79</td>
</tr>
<tr>
<td>Belief that mental health treatment doesn't work</td>
<td>−0.37</td>
<td>0.17</td>
<td>0.69*</td>
<td>0.49–0.97</td>
</tr>
<tr>
<td>Need factor score</td>
<td>0.62</td>
<td>0.17</td>
<td>1.86**</td>
<td>1.32–2.61</td>
</tr>
<tr>
<td>Medication in-theater</td>
<td>0.90</td>
<td>0.36</td>
<td>2.45*</td>
<td>1.20–4.99</td>
</tr>
</tbody>
</table>

Note. OR = odds ratio.

*p <.05. **p <.01.

soldiers may improve attitudes towards mental health treatment and possibly encouraged treatment-seeking.

The finding that illness-based need was associated with reported treatment-seeking is consistent with previous findings in both veteran and civilian populations (Elhai, North, & Frueh, 2005; Maguen et al., 2007). However, 51% of soldiers who screened positive for PTSD and 40% who screened positive for depression did not report involvement in mental health treatment, suggesting the influence of factors other than illness-based need. Hoge et al. (2004) similarly reported that many soldiers with probable mental health problems were not receiving treatment, although the rate of reported treatment-seeking among those potentially in need appeared to be higher in this panel of National Guard soldiers than in the active duty sample described by Hoge and colleagues.

Another factor that was strongly related to self-reported treatment-seeking was in-theater injury. Previous studies of treatment-seeking have found that poorer physical health is related to mental health service use (Elhai et al., 2007; Maguen et al., 2007). It may be that veterans who are presenting for physical problems resulting from an injury are more likely to be screened for mental health problems and referred for mental health care. Further, within settings such as VA medical centers in which physical and mental health services are delivered at the same location, practical barriers for receiving mental health care may be lessened once the veteran is already accessing physical health services.

Finally, in-theater use of psychotherapy and psychiatric medications was associated with OIF troops’ reports of initiating mental health treatment postdeployment. This is consistent with other recent studies showing that previous use of mental health services predicts future use (e.g., Elhai et al., 2006) and is likely indicative of a propensity to seek professional help when experiencing distress. Predeployment mental health treatment, however, did not show the expected relationship with reported postdeployment treatment-seeking. This may be due to low levels of distress and associated low illness-based need prior to deployment or perhaps there is something unique to in-theater help that promotes postdeployment treatment-seeking. For example, in-theater service use may lessen practical barriers (e.g., the in-theater mental health provider may give specific information or referrals for postdeployment help) or reduce soldiers’ concerns about stigma.

An unexpected finding was the lack of a relationship between stigma and self-reported mental health treatment-seeking. A previous study of OEF and OIF troops found significant concerns about stigma, and a report about PTSD among the Canadian military revealed that soldiers reported not receiving help due to fear of being ostracized (Hoge et al., 2004; Marin, 2002). However, to our knowledge, no study has directly linked fears about perceived stigma to actual health service utilization by troops or veterans. Our analyses indicate that although concerns about stigma were present, these concerns were not associated with reported treatment-seeking behavior. This finding is tempered by the fact that the measure we used to assess stigma and barriers lacks formal validation.

Limitations of the current study begin with reliance on a self-report measure of treatment-seeking. An objective alternative such as VA administrative data might provide a more accurate and detailed record of mental health service utilization, although it would suffer from the limitation of not capturing treatment that occurred outside of a VA facility. A second limitation is sampling from a single National Guard brigade that may not be representative of the National Guard population. For example, there may be variations in treatment-seeking by National Guard troops based on proximity to a VA medical facility or differences in unit leadership and community support. Further, the brigade from which we sampled had a higher proportion of Caucasian soldiers than the National Guard as a whole, and race has been differentially associated with involvement with mental health treatment (Elhai, Reeves, & Frueh, 2004). Another limitation is the reliance on single, unvalidated items for a number of the predictor variables. This approach was dictated by the need to limit time demands for participants with the aim of maximizing response rate for the follow-up survey. Replication of these findings using more comprehensive methods of assessment is warranted. Finally, the use of cross-sectional data is a limitation because we are unable to determine the temporal relationship between variables (e.g., participants may have better attitudes regarding mental health treatment because they had received treatment since returning from Iraq). Longitudinal follow-up data collection from this panel is underway.

In summary, approximately one third of the study sample reported that they had received mental health treatment in the first 3- to 6-months postdeployment. Although reported
treatment-seeking was higher among those who screened positive for mental health problems, approximately one half of those who were potentially in need were not engaged in treatment. Future research on this topic should utilize longitudinal data to clarify temporal relationships between variables. It should also examine the quality of both treatment engagement and services because these variables are likely to be more strongly related to symptom improvement than treatment initiation alone.

REFERENCES


