Hazardous Alcohol Use and Receipt of Risk-Reduction Counseling Among U.S. Veterans of the Wars in Iraq and Afghanistan

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Objective: Military service in Afghanistan (Operation Enduring Freedom [OEF]) and Iraq (Operation Iraqi Freedom [OIF]) has been associated with high rates of mental health problems. Relatively little is known, however, about the prevalence of risky drinking among OEF/OIF veterans using U.S. Department of Veterans Affairs (VA) health care. This study examined the prevalence of hazardous alcohol use among OEF/OIF veterans and the incidence of alcohol risk-reduction counseling offered by VA providers.

Method: A secondary analysis of data extracted from the VA outpatient Survey of Healthcare Experiences of Patients, a stratified random sample of VA clinic users from the fiscal year 2005 (October 1, 2004, to September 30, 2005), was conducted. The Alcohol Use Disorders Identification Test (AUDIT-C) was scored to assess hazardous drinking and possible alcohol use disorder (AUD). Patient report of alcohol counseling by a VA provider in the past year was queried for those with risky drinking behavior. The association of demographic variables with potentially hazardous alcohol use, alcohol use disorder, and receipt of alcohol risk-reduction counseling was estimated using logistic regression.

Results: Overall, 40% of the sample screened positive for potentially hazardous alcohol use, and 22% screened positive for possible AUD. Only 31% of those with hazardous drinking behavior, however, reported being counseled to cut back or to not drink alcohol. Higher AUDIT-C scores were associated with increased likelihood of risk-reduction counseling. Among patients reporting hazardous drinking, there was a trend for those with less education and lower income to be more likely to report receiving advice about their drinking.

Conclusions: Hazardous alcohol use is prevalent among OEF/OIF veterans seeking VA health care. There is a need for increased vigilance and action to identify and counsel at-risk veterans in this population.

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American military personnel serving in support of Operation Iraqi Freedom (OIF) in Iraq and Operation Enduring Freedom (OEF) in Afghanistan are at increased risk of developing mental health problems.[1,2] Consistent with research examining veterans of previous conflicts,[3,4] deployment to Iraq and Afghanistan and exposure to combat are associated with increased rates of posttraumatic stress disorder, major depressive disorder, and generalized anxiety disorder.[1] Service in Iraq and Afghanistan has also been associated with increased rates of potentially hazardous alcohol use.[1]

Alcohol misuse is a significant public health problem and accounts for as much disability and mortality as tobacco and hypertension.[5] As much as 8% of the U.S. population will experience alcohol abuse or dependence,[6] and even more drink at risky levels.[7] Addressing alcohol misuse is particularly salient for the Department of Defense (DoD) and the U.S. Department of Veterans Affairs (VA), as recent evidence suggests that military personnel have higher rates of heavy drinking (defined as consumption of 5 or more drinks on the same occasion at least once a week in the past 30 days) than civilians (16.1% versus

12.9%), even after adjusting for sociodemographic differences between civilian and military populations.[8] Recent data collected in a representative sample of veterans using VA services suggest that 22% of VA users meet criteria for hazardous drinking based on a well-validated screening instrument.[9]

Deployment to a war zone may increase the likelihood of hazardous drinking. For example, the National Vietnam Veterans Readjustment Study[3,4] found that male theater veterans were significantly more likely than their civilian counterparts to have ever experienced alcohol abuse or dependence. Similarly, initial surveys of veterans deployed to Iraq and Afghanistan suggest that service in OIF and OEF may increase the risk of hazardous drinking. In an anonymous survey of 3 Army units and 1 Marine Corps unit, Hoge and colleagues[1] found deployment to Iraq and Afghanistan was significantly associated with increased alcohol misuse compared to predeployment levels. Following deployment, 18% to 20% of the Army study groups and 29% of the Marine study group endorsed wanting or needing to cut down on their drinking.[1]

As OEF/OIF veterans leave military service, the VA is likely to experience an increased demand for services from this cohort and will be faced with addressing the problem of alcohol misuse. To date, relatively little is known about the rates of potentially hazardous alcohol use among OEF/OIF veterans using VA services. The primary objectives of this study were (1) to examine the prevalence of hazardous alcohol use among recently returning veterans using VA services, (2) to examine whether those with at-risk drinking behavior perceived that they had received risk-reduction counseling from their VA provider, and (3) to explore correlates of hazardous drinking and risk-reduction counseling in a national sample of OEF/OIF veterans.

METHOD

Survey and Sample

A secondary analysis of data from the outpatient Survey of Healthcare Experiences of Patients (SHEP) was employed. The SHEP is a cross-sectional survey conducted and managed by the Veterans Health Administration (VHA) Office of Quality and Performance and is designed to measure patient satisfaction and aid in quality improvement efforts. The SHEP is mailed monthly to a stratified random sample of veterans to solicit responses related to each veteran's most recent episode of VA health care.[10] The sample of VA outpatients is selected each month from patients who had a VA clinic visit in the past 60 days and who had not been surveyed during the same fiscal year. To ensure representation of primary and specialty care, a fixed number of patients are randomly selected from each of 3 categories including new primary care patients, established primary care patients, and specialty care. Specifically, 15 cases per group per VA site of care for a total of 45 patients per site per month are selected. In addition to location of care, the sampling design also accounts for unequal probability of selection based upon clinic size.

For the purposes of this study, a de-identified patient-level data file consisting of all OIF and OEF veterans who were mailed the outpatient SHEP survey based on an outpatient care visit during fiscal year 2005 (October 1, 2004, to September 30, 2005) was obtained through an approved data-use agreement with the VHA Office of Quality and Performance after approval was obtained from the Durham VA Medical Center Institutional Review Board. During fiscal year 2005, surveys were mailed to 7156 outpatients who were identified as veterans of OIF or OEF by the DoD Defense Manpower Data Center and the VA Healthcare Eligibility Center; 164 or 2.3% were returned as undeliverable.

Measures

Alcohol misuse. The Alcohol Use Disorders Identification Test-Consumption Items (AUDIT-C)[11] was used to assess self-reported hazardous alcohol use. The AUDIT-C comprises the first 3 items of the World Health Organization's 10-item AUDIT, which was designed to be consistent with ICD-10 definitions of alcohol dependence and harmful alcohol use.[12] The AUDIT-C has demonstrated reliability and validity in numerous studies that have compared results to interview-based diagnostic assessment of hazardous drinking and alcohol abuse and dependence in both the VA[11,13] and general U.S. populations.[11,14,15] Standard AUDIT-C scoring was employed with possible scores ranging from 0–12. Empirically based, gender-specific cutoff scores based on studies in the VA and general populations[9,11,13,16] were used to assess potentially hazardous alcohol use. Hazardous drinking was defined as an AUDIT-C score ≥ 4 for men and ≥ 3 for women. Cutoff scores that maximized sensitivity and specificity in previous studies conducted in the general and VA populations were chosen in order to identify possible alcohol use disorders. Possible alcohol use disorder (AUD) was defined as an AUDIT-C score ≥ 4 for women[11,13,16] and ≥ 6 for men.[11,16] Binge drinking was defined as consuming ≥ 6 drinks on 1 occasion at least monthly in the past 12 months.

Alcohol risk-reduction counseling. Veterans' perception of risk-reduction counseling was assessed with a single yes or no item: "*In the past 12 months* has a VA doctor or other VA health care provider *advised you* about your drinking (to drink less or not to drink alcohol)?"

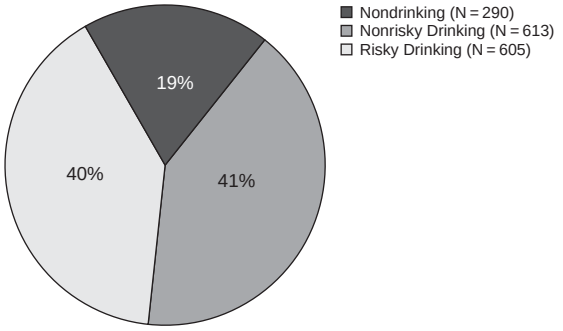
Demographic variables. Age, gender, race, and unit type (active duty vs. reserves/National Guard) were available from VA administrative data files linked to the SHEP survey. Self-reported information on education, income,

Table 1. Demographic Characteristics of OEF/OIF Veterans Responding to the SHEP Survey (N = 1508)

Characteristic	N	%
Sex		
Women	242	16
Men	1266	84
Age, y		
20–25	317	21
26–35	419	28
36–45	406	27
46+	366	24
Race/ethnicity		
African American	225	15
Other	216	14
White	1067	71
Military unit type		
Reserve/National Guard	908	60
Active duty	600	40
Marital status		
Married	825	55
Divorced/other	244	16
Never married	439	29
Education		
High school or less	374	25
Some college	749	50
College degree	379	25
Employment		
Wages/self-employed	854	57
Student	286	19
Unemployed/other	359	24
Income, $		
< 30,000	861	57
≥ 30,000	647	43

Abbreviations: OEF = Operation Enduring Freedom, OIF = Operation Iraqi Freedom, SHEP = Survey of Healthcare Experiences of Patients.

Figure 1. Risky Drinking Among OEF/OIF Veteran Survey Respondents



Abbreviations: OEF = Operation Enduring Freedom, OIF = Operation Iraqi Freedom.

employment, and marital status were included on the SHEP survey and were available for respondents.

Analyses

Response rates were calculated as the proportion of delivered surveys that were returned with the primary dependent measure, the AUDIT-C, completed. We compared available demographic characteristics between responders and nonresponders through logistic regression and analysis of variance. Descriptive statistics were calculated to characterize demographic attributes of respondents.

Primary analyses examined the proportion of respondents who screened positive for risky drinking including hazardous drinking, binge drinking, and AUD. Patient report of receiving risk-reduction counseling was examined for those screening positive for any risky drinking. Logistic regression analyses were used to explore demographic correlates of risky drinking and risk-reduction counseling. Given small cell sizes in analyses examining receipt of risk-reduction counseling, several variables were dichotomized, including race (white vs. nonwhite), education (some college or more vs. high school or less), marital status (married vs. nonmarried), and employment status (employed vs. not employed/student). A conservative α level of $p < .01$ was chosen to determine statistical significance of main effects. All statistical analyses were performed using SAS PC, version 8 (SAS Institute, Inc., Cary, N.C.).

RESULTS

Response Rate and Demographics

The response rate among OEF/OIF veterans mailed the SHEP survey was 21.9% (N = 1530). Of those who responded, 22 (1.4%) did not complete the AUDIT-C and were excluded from the study for a total response rate of 21.6% (N = 1508). Comparing responders to nonresponders indicated that response rates were slightly lower among men (women = 25%, men = 21%; OR = 0.80, 95% CI = 0.69 to 0.94, p = .007). Response rates were also slightly lower among those who served in active duty units (19%) versus those in the reserves or National Guard (23%; OR = 0.79, 95% CI = 0.70 to 0.88, p < .0001). There were no differences in response rates as a function of race ($\chi^2 = 6.61$; df = 4, 6992; p = .15). Respondents were older (mean age = 36.8 years, SD = 10.9 years) than nonrespondents (mean age = 32.0 years, SD = 9.2 years) (F = 292.3; df = 1, 6990; p < .0001; r = 0.20).

Demographic characteristics of OEF/OIF veterans responding to the SHEP survey are presented in Table 1. The majority of the sample was white, male, and married. Most were working or in school and had at least some college education. Forty percent of the sample had served in active duty units, with 60% serving in the reserves or National Guard.

Risky Drinking

As shown in Figure 1, of the 1508 respondents, 605 (40%) screened positive for risky drinking, i.e., either hazardous drinking or alcohol abuse/dependence. Binge

Table 2. Risky Drinking Among OEF/OIF Veterans by Demographic Variables

Characteristic	N	Any Hazardous Drinking, N (%)	Binge Drinking, N (%)	Possible AUD, N (%)
Sex				
Women	242	89 (37)	32 (13)	63 (26)
Men	1266	516 (41)	313 (25)	265 (21)
Age, y				
20–25	317	163 (51)	101 (32)	102 (32)
26–35	419	179 (43)	97 (23)	90 (21)
36–45	406	149 (37)	86 (21)	79 (19)
46+	366	114 (31)	61 (17)	57 (16)
Race/ethnicity				
African American	225	65 (29)	37 (16)	37 (16)
Other	216	84 (39)	49 (23)	44 (20)
White	1067	456 (43)	259 (24)	247 (23)
Military unit type				
Reserve/National Guard	908	348 (38)	189 (21)	181 (20)
Active duty	600	257 (43)	156 (26)	147 (25)
Marital status				
Married	825	292 (35)	152 (18)	143 (17)
Divorced/other	244	103 (42)	64 (26)	61 (25)
Never married	439	210 (48)	129 (29)	124 (28)
Education				
High school or less	374	147 (39)	97 (26)	85 (23)
Some college	749	322 (43)	184 (25)	176 (23)
College degree	379	135 (36)	63 (17)	66 (17)
Employment				
Wages/self-employed	854	344 (40)	177 (21)	168 (20)
Student	286	121 (42)	68 (24)	72 (25)
Unemployed/other	359	136 (38)	97 (27)	85 (24)
Income, $				
< 30,000	861	352 (41)	224 (26)	205 (24)
≥ 30,000	647	253 (39)	121 (19)	123 (19)

Abbreviations: AUD = alcohol use disorder, OEF = Operation Enduring Freedom, OIF = Operation Iraqi Freedom.

drinking, defined as consuming 6 or more drinks on 1 occasion at least monthly in the past year, was prevalent among 23% (N = 345) of the sample. Most veterans with binge drinking behavior (98%) screened positive for hazardous drinking on the AUDIT-C. As many as 22% of respondents (N = 328) met criteria for possible AUD. The frequencies of potentially hazardous drinking, binge drinking, and AUD by demographic variables are summarized in Table 2. Bivariate analyses (results not shown) indicated significant associations between hazardous drinking and several demographic variables including age ($p < .0001$), race ($p < .001$), marital status ($p < .0001$), education ($p = .053$), and military unit type ($p = .08$). Similarly, binge drinking was associated with age ($p < .0001$), sex ($p < .0001$), race ($p = .039$), military unit type ($p = .019$), marital status ($p < .0001$), education ($p = .003$), employment status ($p = .053$), and income ($p = .0008$). Screening positive for AUD was associated with age ($p < .0001$), marital status ($p < .0001$), military unit type ($p = .035$), and income ($p = .025$) in bivariate analyses.

To examine the unique contribution of demographic variables to risky drinking, multivariate logistic regression analyses were conducted that included all the demographic variables in Table 2. After adjusting for all covariates, screening positive for hazardous drinking was uniquely associated with age (Wald $\chi^2 = 20.78$, $df = 3$, $p < .0001$), race (Wald $\chi^2 = 11.87$, $df = 2$, $p < .01$), and marital status (Wald $\chi^2 = 9.32$, $df = 2$, $p < .01$). As shown in Table 3, younger veterans were at increased risk of hazardous drinking compared to those in their mid forties. African American veterans were less likely to screen positive for hazardous drinking compared to whites. Similarly, married veterans were less likely to engage in hazardous drinking compared to those who had never married. Similar results were found when examining those who reported engaging in binge drinking. Binge drinking was associated with age (Wald $\chi^2 = 10.69$, $df = 3$, $p < .01$), gender (Wald $\chi^2 = 21.26$, $df = 1$, $p < .0001$), and marital status (Wald $\chi^2 = 14.04$, $df = 2$, $p < .001$). Younger veterans were more likely to engage in binge drinking compared to older veterans (see Table 3). Women and those who were married were less likely to endorse binge drinking.

Adjusted results examining possible AUD, defined as an AUDIT-C score ≥ 4 for women and ≥ 6 for men, indicated that only age (Wald $\chi^2 = 11.76$, $df = 3$, $p < .001$) was significantly associated with screening positive for a possible AUD. Both race (Wald $\chi^2 = 6.68$, $df = 2$, $p < .04$) and marital status (Wald $\chi^2 = 8.11$, $df = 3$, $p < .02$) were marginally associated with screening positive for AUD. After controlling for other covariates, being younger was associated with screening positive for AUD while African American race and being married were protective factors against meeting AUD criteria.

Risk-Reduction Counseling

The rate of risk-reduction advice reported by respondents increased as the severity of alcohol misuse increased. Thus, while only 31% (N = 190) of all those meeting criteria for hazardous drinking or alcohol abuse/dependence (N = 605) reported that a VA provider had advised them to drink less or stop drinking in the past 12 months, rates were higher among those who met AUDIT-C criteria for possible AUD (41%, 136/328) and among those who reported binge drinking behavior (41%, 141/345). Consistent with these findings, results from logistic regression analyses that controlled for demographic variables from Table 2 indicated that total AUDIT-C scores (Wald $\chi^2 = 49.72$, $df = 1$, $p < .0001$) were strongly associated with reported receipt of risk-reduction counseling. Higher AUDIT-C scores were associated with an increase in the likelihood of receiving advice to cut back or quit drinking (OR = 1.39, 95% CI = 1.26 to 1.52). For each point increase on the AUDIT-C, patients were an estimated 39% more likely to report they received advice about their alcohol use.

Table 3. Multivariate Logistic Regression Models for Any Hazardous Drinking, Binge Drinking, and Alcohol Use Disorder (AUD)

	Any Hazardous Drinking		Binge Drinking		Possible AUD	
Characteristic	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
Sex						
Women	0.74	(0.54 to 1.01)	0.37	(0.24 to 0.57)	1.17	(0.83 to 1.65)
Men	1.00		1.00		1.00	
Age, y						
20–25	2.59	(1.71 to 3.91)	2.21	(1.36 to 3.58)	2.24	(1.38 to 3.63)
26–35	1.81	(1.29 to 2.54)	1.57	(1.04 to 2.37)	1.39	(0.92 to 2.12)
36–45	1.36	(1.00 to 1.85)	1.48	(1.02 to 2.15)	1.34	(0.83 to 1.65)
46+	1.00		1.00		1.00	
Race/ethnicity						
African American	0.58	(0.41 to 0.80)	0.67	(0.45 to 1.02)	0.64	(0.43 to 0.95)
Other	0.71	(0.43 to 1.17)	0.81	(0.56 to 1.17)	0.72	(0.49 to 1.06)
White	1.00		1.00		1.00	
Military unit type						
Reserve/National Guard	1.06	(0.83 to 1.36)	1.06	(0.79 to 1.41)	1.01	(0.75 to 1.35)
Active duty	1.00		1.00		1.00	
Marital status						
Married	0.70	(0.52 to 0.93)	0.60	(0.43 to 0.84)	0.68	(0.49 to 0.95)
Divorced/other	1.03	(0.76 to 1.46)	1.06	(0.71 to 1.58)	1.06	(0.71 to 1.58)
Never married	1.00		1.00		1.00	
Education						
High school or less	0.98	(0.71 to 1.35)	1.24	(0.84 to 1.82)	1.15	(0.78 to 1.71)
Some college	1.24	(0.94 to 1.64)	1.33	(0.94 to 1.87)	1.21	(0.86 to 1.71)
College degree	1.00		1.00		1.00	
Employment						
Wages/self-employed	1.15	(0.86 to 1.51)	0.75	(0.55 to 1.02)	0.85	(0.62 to 1.11)
Student	0.78	(0.55 to 1.11)	0.60	(0.40 to 0.90)	0.74	(0.50 to 1.17)
Unemployed/other	1.00		1.00		1.00	
Income, $						
< 30,000	0.88	(0.68 to 1.13)	1.12	(0.83 to 1.51)	0.99	(0.73 to 1.32)
≥ 30,000	1.00		1.00		1.00	

A multivariate logistic regression model with demographic variables from Table 2 and total AUDIT-C scores examined the correlates of receipt of risk-reduction counseling. Results indicated that education (Wald $\chi^2 = 4.72$, df = 1, $p < .03$) and income (Wald $\chi^2 = 4.02$, df = 1, $p < .05$) were marginally associated with the perception that a VA provider had provided risk-reduction counseling. Among those with at-risk drinking behavior, those with only a high school education (OR = 1.63, 95% CI = 1.05 to 2.55) and those with less income (OR = 1.58, 95% CI = 1.01 to 2.47) were more likely to report receipt of risk-reduction counseling than those with more education and higher income.

DISCUSSION

In a national sample of 1508 VA outpatients who had served in Iraq and Afghanistan, as many as 40% screened positive for potentially hazardous drinking on the AUDIT-C. Twenty-three percent of OEF/OIF veterans reported regularly (at least once per month in the past year) drinking 6 or more drinks per occasion and 22% screened positive for possible AUD. Only 31% of veterans who screened positive for hazardous drinking, however, reported that they had received risk-reduction counseling by a VA provider. Consistent with previous research,[9,17] the rate of reported receipt of counseling increased as severity of alcohol misuse increased. Forty-five percent of patients who screened positive for possible AUD reported receipt of advice to cut back or quit drinking.

This is the first study to report rates of potentially hazardous alcohol use among veterans from the wars in Iraq and Afghanistan who are using the VA for health care. Demographic factors associated with risk of hazardous and binge drinking among the current sample of OEF/OIF veterans include younger age, male gender, white race, and being single. The rate of hazardous drinking found in this study among OEF/OIF veterans (40%) is almost twice that found among all VA outpatients in a study that used the same assessment strategy and cutoff scores for hazardous drinking.[9]

The finding of both high prevalence of potentially hazardous alcohol use and relatively low rates of reported risk-reduction counseling has significant public health implications. Those with nondependent risky drinking account for the majority of adverse outcomes associated with alcohol use.[9] Brief counseling following alcohol screening has been shown to be effective in reducing morbidity and costs associated with alcohol use, par-

ticularly among those with nondependent risky drinking behavior.[18,19]

The VHA has led the nation in the provision of screening for hazardous drinking and has successfully implemented the use of the AUDIT-C at each facility to detect potential alcohol misuse (including hazardous drinking and AUDs) as a first step toward implementation of evidence-based brief alcohol counseling.[9] In contrast, most private managed care organizations have not implemented systematic screening.[20] A survey of national managed care organizations found that only 14.9% of managed care products (e.g., health maintenance organizations, preferred provider organizations, point of service plans) required any alcohol screening by primary care providers.[20] Among a large nationally representative survey of patients with a past-year visit to a general medical provider in the United States, only 29% of the population report being asked about their alcohol use.[21] Of those who are asked about their drinking, 21% reported receiving some type of advice.[21] In contrast, we found that 31% of OEF/OIF veterans with potentially hazardous drinking behavior reported receiving advice to quit from a VA medical provider.

Still, current results suggest room for improvement in the provision of brief counseling to those with at-risk drinking behavior and are consistent with the finding that increased screening does not dramatically increase the rate of alcohol counseling.[22] Although current results may be an underestimate of the rate of actual risk-reduction counseling (e.g., when counseling does not include explicit advice to decrease alcohol intake or when advice is offered but not recalled), the prevalence of risk-reduction counseling received by at-risk OEF/OIF veterans is consistent with the rate of 28% found among the entire VA population of veterans with risky drinking behavior based on analysis of earlier SHEP data from 2004[9] and is higher than the 26% rate of counseling found in a study of audiotaped encounters between VA providers and patients.[23] As Bradley and colleagues[9] argue, implementation of brief alcohol counseling will likely require system-wide incentives that are contingent on the provision of appropriate brief alcohol counseling, education of primary care providers about the efficacy of brief alcohol counseling, and skills training to develop knowledge and skills associated with behavior change counseling (e.g., motivational interviewing).

The finding from the current study that more educated and affluent patients were less likely to receive advice about their alcohol use than those with only a high school education or less income is consistent with population-based survey research examining demographic correlates of alcohol screening and counseling.[21] In previous research, older patients, those with more education, and those living in non-urban settings were less likely to be asked about their drinking. We might speculate that these findings may be related to provider discomfort with asking about alcohol use in these populations. Increased education and skills training may decrease provider barriers to the provision of counseling to all demographic groups.

Several limitations of this study deserve notice. While the AUDIT-C has been validated extensively in the general and VA populations, it is a self-report screening instrument and, therefore, results do not represent definitive diagnoses. While cutoff scores were selected that maximized sensitivity and specificity in previous studies, some participants may be misclassified (e.g., false positives and false negatives). Historically, when the AUDIT-C was first implemented in the VA, many clinicians and administrators were alarmed by the fact that an individual drinking daily, but within recommended limits, could screen positive for potentially hazardous drinking.[9] Results of interview-based studies, however, suggested that the majority of individuals in this situation had underreported their actual use and thus were true positives.[13] Both interview-based studies and a recent scientific review of the AUDIT support the use of the cutoff scores chosen for this study.[9,11,13–16]

Analyses were restricted to OEF/OIF veterans who returned the SHEP survey, and we measured small but statistically significant differences between responders and nonresponders. Response rates were slightly lower among men, those who had served in active duty units, and younger veterans. The response rate of 21% among OEF/OIF veterans mailed the SHEP, however, is consistent with an age-matched, non–OEF/OIF sample of SHEP participants (J.R.E., VHA Office of Quality and Performance, oral communication, 2006). Still, results may not generalize to all veterans who served in support of the wars in Iraq and Afghanistan and who are using the VA for health care services.

Indeed, it is possible that the rate of hazardous drinking might be even higher among those who did not respond to the survey. For example, results suggest that younger veterans are more likely to drink at hazardous levels and they were slightly less likely to respond to the survey. Thus, it is possible that the obtained rates in the current study underestimate the rate of potentially hazardous drinking among returning veterans using the VA for health care services.

Data from other recent studies, however, provide converging evidence regarding the prevalence of hazardous and problem drinking among OEF/OIF veterans and increase confidence in the generalizability of the current findings. For example, results from the present study are consistent with preliminary data among a sample of OEF/OIF veterans participating in an ongoing research study examining postdeployment mental health.[24] Unpublished data from participants in the VA Mid-Atlantic Mental Illness Research, Education, and Clinical Center OEF/OIF Registry (N = 546; 437 men, 109 women) that includes

both users and nonusers of VA health care services indicate that 38% (N = 206) of participants are drinking at risky/hazardous levels and as many as 20% (N = 110) screen positive for a possible AUD on the AUDIT-C. These rates of hazardous drinking and possible AUD are essentially the same as found in the current national sample of OEF/OIF veterans using the VA. Further, the rate of possible AUD in the current study of 22% is consistent with estimates obtained by Hoge and colleagues[1] in a survey of active duty Army soldiers assessed 3–4 months following their return from deployment to Iraq and Afghanistan, in which rates of alcohol problems ranged from 18%–25% on the basis of a 2-item screen.[25]

Despite this converging evidence, more research is needed to examine the rate of hazardous drinking among returning veterans. Results from the current investigation are cross-sectional, and it is possible that prevalence of hazardous alcohol use may change over time with postdeployment readjustment (decreased use) or with chronicity of problems (increased use). Previous longitudinal research conducted in Vietnam veterans has suggested that symptoms of substance abuse may increase rapidly in the first few years after war.[16] Longitudinal designs that assess risk of alcohol misuse over time would be ideal.

The reported rates of receipt of counseling by a VA provider may be an underestimate of the actual rate of counseling provided by VA providers. The relatively low rate among those with lower AUDIT-C scores may reflect that some of the patients with these low scores might have false-positive alcohol screening results. Department of Veterans Affairs medical record reviews from 2005 indicated that there was follow-up assessment to positive AUDIT-C screens in 42% of cases; however, documentation of actual alcohol counseling was not assessed.[9] There is currently no "gold standard" to indicate the provision of alcohol counseling. Since alcohol counseling might be incorporated into clinical care but not documented for a number of reasons, medical record reviews may also underestimate the actual rates of alcohol screening. Audiotaped encounters may be the best method to operationally define a gold standard of the provision of counseling, but they are expensive.

Despite these limitations, this study is the first to suggest that hazardous alcohol use is a significant problem among returning veterans using the VA health care system. The VA has led the nation in successfully implementing routine screening for hazardous alcohol use in primary care that is consistent with clinical practice guidelines[26] and has been proactive in developing a national system to ensure that veterans of Iraq and Afghanistan are screened for alcohol abuse, posttraumatic stress disorder, and major depressive disorder once they present for VA medical care.[27] Current findings, however, highlight the need for VA providers to remain vigilant for potentially hazardous alcohol use among this relatively young cohort of new patients and to implement evidence-based follow-up interventions, including brief counseling, that will reduce alcohol-related morbidity and mortality.

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