Military-Related Sexual Trauma Among Veterans Health Administration Patients Returning From Afghanistan and Iraq

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We examined military-related sexual trauma among deployed Operation Enduring Freedom and Operation Iraqi Freedom veterans. Of 125 729 veterans who received Veterans Health Administration primary care or mental health services, 15.1% of the women and 0.7% of the men reported military sexual trauma when screened. Military sexual trauma was associated with increased odds of a mental disorder diagnosis, including posttraumatic stress disorder, other anxiety disorders, depression, and substance use disorders. Sexual trauma is an important postdeployment mental health issue in this population. (*Am J Public Health.* 2010;100:1409–1412. doi:10.2105/AJPH.2009.171793)

Emerging research with US veterans of Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom in Iraq suggests that the mental health effects of these deployments are significant. An estimated 19% to 42% of this population have mental health conditions.[1–4] One of the potential contributors to this burden of mental illness is exposure to sexual assault or harassment during service, referred to within the Veterans Health Administration as military sexual trauma.[5] Considerable data attest to the negative mental health consequences of such experiences in both military and civilian populations,[5–13] yet no data investigating military sexual trauma in the context of postdeployment mental health among the Operation Enduring Freedom and Operation Iraqi Freedom cohort are currently available.

Operation Enduring Freedom and Operation Iraqi Freedom veterans are eligible for 5 years of free care through the Veterans Health Administration for conditions related to their military service. This cohort is turning to the Veterans Health Administration for health care in record numbers, with nearly 40% enrolled to date.[14] The Veterans Health Administration has recently invested significant resources in the detection and treatment of military sexual trauma, implementing universal military sexual trauma screening in 2002 and providing free care for all related conditions.[5] Although military sexual trauma had been documented in veterans of previous war eras,[15,16] Operation Enduring Freedom and Operation Iraqi Freedom veterans are the first generation of Veterans Health Administration users to return from a large-scale deployment to these comprehensive screening and treatment services.

For our study, we completed, to our knowledge, the first national, population-based assessment of the mental health profile associated with a history of military sexual trauma among deployed Operation Enduring Freedom and Operation Iraqi Freedom veterans who used Veterans Health Administration services. We describe the prevalence of military sexual trauma and characterized the postdeployment mental health conditions among patients who reported a history of military sexual trauma.

METHODS

We included all veterans deployed in service of Operation Enduring Freedom and Operation Iraqi Freedom and separated from military service by September 30, 2006, who used Veterans Health Administration mental health or primary care services between October 1, 2001, and September 30, 2007. This cohort had 21 834 women and 142 769 men.

Data were extracted from centralized electronic medical records and coded for military sexual trauma screen status and *International Classification of Diseases, Ninth Revision*,[17] diagnoses for mental health conditions with methods identical to those used in a previous study.[5] The Veterans Health Administration Operation Enduring Freedom and Operation Iraqi Freedom roster was used to identify our cohort and to provide demographic and military service characteristics.[4] We used the χ^2 analysis to determine demographic characteristics, use of Veterans Health Administration mental health or primary care services, and military service characteristics that were associated with military sexual trauma status in veterans by gender. For each mental health condition, we modeled the odds of the diagnosis as a function of military sexual trauma and adjusted for all demographic characteristics, health care services use, and military service characteristics that were significant ($P<.05$) in χ^2 analysis. Statistical analyses were conducted in SPSS, Version 14.0 (SPSS Inc, Chicago, IL).

RESULTS

We focused analyses on the members of the cohort who were screened for military sexual trauma, 17 580 (80.5%) women and 108 149 (75.8%) men, exclusive of the small minority who declined screening (0.8% of women; 0.3% of men). Unscreened patients used fewer Veterans Health Administration services: median outpatient visits for unscreened versus screened patients were 2 versus 6 among women ($P<.001$) and 4 versus 7 among men ($P<.001$). All other group differences were either nonsignificant or of minimal effect size, with the exception that higher proportions of unscreened men were Hispanic compared with screened men (21.7% vs 9.4%; $P<.001$).

Military sexual trauma was reported by 15.1% of the women and 0.7% of the men. Military sexual trauma screen status was significantly related to several demographic characteristics, health care services use, and military service characteristics (Table 1).

Each of the most frequently reported mental health conditions in the sample was significantly more likely among women and men who reported military sexual trauma than among those who did not (Table 2), even after we adjusted for demographic characteristics, health care services use, and military service characteristics. For both women and men, the odds of each mental health condition did not differ substantially between adjusted and unadjusted estimates, suggesting that associations between military sexual trauma and these conditions are distinct from the associations of demographic characteristics, health care

services use, and military service characteristics with these conditions.

DISCUSSION

Although the issue of sexual trauma among deployed Operation Enduring Freedom and Operation Iraqi Freedom service members continues to receive significant attention from the media[18,19] and advocacy groups,[20] until now no data have been available to quantify the significant mental health burden of illness associated with military sexual trauma in this population. Consistent with other research, we observed high rates of postdeployment mental health conditions among all Operation Enduring Freedom and Operation Iraqi Freedom patients.[21] Women and men who reported a history of military sexual trauma were significantly more likely than those who did not to receive a mental health diagnosis, including

TABLE 1—Demographics, Health Care Services Use, and Military Service Characteristics of Operation Enduring Freedom and Operation Iraqi Freedom Veterans Health Administration Outpatients and Military Sexual Trauma Screen Results: October 1, 2001, to September 30, 2007

	Women			Men		
	Screened Positive for Military Sexual Trauma (n = 2648), %	Screened Negative for Military Sexual Trauma (n = 14 932), %	*P*	Screened Positive for Military Sexual Trauma (n = 732), %	Screened Negative for Military Sexual Trauma (n = 107 417), %	*P*
Demographics						
Age, y			.95			.006
18–24	35.8	36.2		24.0	29.7	
25–34	38.6	38.5		36.6	35.4	
35–44	17.9	17.5		26.0	22.8	
≥45	7.7	7.8		13.4	12.1	
Race/ethnicity			<.001			.097
White	59.3	49.6		64.1	68.3	
Black	25.5	34.6		20.1	17.3	
Hispanic	10.0	10.0		10.7	9.4	
Other/unknown	5.2	5.7		5.2	4.9	
Marital status			.003			.007
Married	32.7	30.2		49.1	46.9	
Never married	56.8	60.3		43.5	47.8	
Divorced/separated/widowed	10.5	9.5		7.4	5.3	
Health insurance	21.5	23.0	.09	19.0	27.0	<.001
Service connection > 50%	27.6	13.7	<.001	27.6	16.6	<.001
Veterans Health Administration services use before Operation Enduring Freedom and Operation Iraqi Freedom	7.3	5.8	.002	9.2	5.5	<.001
Time in Veterans Health Administration care > 12 mo	88.7	87.2	.04	84.3	85.4	.41
Military service characteristics						
Component			<.001			<.001
Active duty	54.9	47.0		53.3	46.0	
National Guard/Reserve	45.1	53.0		46.7	54.0	
Rank			.92			.53
Enlisted	93.3	93.3		94.7	94.1	
Officer	6.7	6.7		5.3	5.9	
Branch			.002			<.001
US Air Force	12.7	13.0		9.7	7.7	
US Army	69.1	71.7		66.4	70.3	
US Navy/Coast Guard	14.4	12.2		14.6	9.1	
Marines	3.8	3.1		9.3	12.9	
Multiple deployments	32.2	35.3	.002	35.8	37.1	.46
Most recent deployment > 6 mo duration	50.9	53.2	.03	51.9	58.3	.001

TABLE 2—Military Sexual Trauma Screen Results and Mental Health Conditions of Operation Enduring Freedom and Operation Iraqi Freedom Veterans Health Administration Outpatients: October 1, 2001, to September 30, 2007

	Women				Men			
Mental Health Condition	Screened Positive for Military Sexual Trauma, %	Screened Negative for Military Sexual Trauma, %	OR (95% CI)	AOR (95% CI)[a]	Screened Positive for Military Sexual Trauma, %	Screened Negative for Military Sexual Trauma, %	OR (95% CI)	AOR (95% CI)[a]
Any mental health condition	75.7	46.6	3.57 (3.25, 3.92)	3.28 (2.97, 3.62)	76.5	51.5	3.07 (2.58, 3.64)	3.08 (2.57, 3.67)
Depressive disorders	56.2	30.3	2.96 (2.72, 3.22)	2.64 (2.41, 2.88)	46.6	25.9	2.49 (2.15, 2.88)	2.32 (1.99, 2.70)
Posttraumatic stress disorder	51.1	21.5	3.82 (3.51, 4.16)	3.83 (3.49, 4.21)	52.5	31.8	2.37 (2.05, 2.74)	2.53 (2.16, 2.97)
Other anxiety disorders	29.1	16.6	2.05 (1.87, 2.26)	1.80 (1.64, 1.99)	28.3	16.1	2.06 (1.75, 2.42)	1.98 (1.68, 2.34)
Alcohol and substance use disorders	13.9	5.2	2.89 (2.53, 3.29)	2.51 (2.19, 2.87)	22.0	12.7	1.93 (1.62, 2.30)	1.84 (1.53, 2.20)
Adjustment disorders	20.6	13.4	1.68 (1.51, 1.86)	1.68 (1.50, 1.87)	20.9	13.4	1.71 (1.43, 2.04)	1.72 (1.44, 2.06)

Note. AOR = adjusted odds ratio; CI = confidence interval; OR = odds ratio.
[a]The AOR compares likelihood of the specified mental health condition in military sexual trauma positive versus military sexual trauma negative patients, adjusting for age, race/ethnicity, marital status, health insurance, service connection greater than 50%, Veterans Health Administration services use before Operation Enduring Freedom or Operation Iraqi Freedom, time in Veterans Health Administration care greater than 12 months, component, branch, multiple deployment, and recent deployment of more than 6 months' duration.

posttraumatic stress disorder (PTSD), other anxiety disorders, depression, and substance use disorders. These results are consistent with data suggesting that patients who experience military sexual trauma frequently present with substantial mental health treatment needs.[15,22,23] Effect sizes for the relation of military sexual trauma to PTSD were substantially stronger among women compared with men, suggesting that military sexual trauma may be a particularly relevant gender-specific clinical issue in PTSD treatment settings.

The results of this study bear several caveats. The rate of military sexual trauma and the rate of mental illness reported in this study likely represent conservative estimates because both tend to be underreported.[24–27] Although significant proportions of Operation Enduring Freedom and Operation Iraqi Freedom veterans use Veterans Health Administration services, these data do not necessarily generalize to other health care settings. Our analyses were cross-sectional, so the exact timing of military sexual trauma, deployment, and the onset of mental health conditions cannot be determined. Thus, no conclusion can be drawn about causal relations between military sexual trauma and mental health. Finally, although frequency and length of deployment (measured in this study) may serve as proxies for combat exposure, research accounting for a broader range of service-related stressors, including both military sexual trauma and combat exposure, is needed.

Studies of mental health care for military sexual trauma among veterans of previous service eras have focused on experiences that were detected at times considerably more distal from military service. The Veterans Health Administration's ability to detect military sexual trauma in this recently returned cohort will help focus early interventions for this population. However, survivors of sexual trauma often delay disclosure and treatment of their experiences,[28] and Operation Enduring Freedom and Operation Iraqi Freedom Veterans report stigma associated with help-seeking.[29] Thus, the population of Operation Enduring Freedom and Operation Iraqi Freedom veterans seeking Veterans Health Administration care for military sexual trauma may increase with time. These data highlight the need to ensure adequate access to and capacity of mental health care for military sexual trauma and associated postdeployment mental health conditions. ■

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Contributors

R. Kimerling conceptualized the study. R. Kimerling and A. E. Street wrote the brief. J. Pavao analyzed the data. T. H. Holmes provided statistical consultation. All authors collaborated on study conceptualization, interpreted the findings, and reviewed and edited drafts of the brief.

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Human Participant Protection

All research was approved by the human subjects research institutional review board at the Stanford University School of Medicine.

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Prevalence of Intimate Partner Violence Among an Abortion Clinic Population

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In this cross-sectional, clinic-based study, we estimated 1-year prevalence of intimate partner violence among 986 patients who had elective abortions. We assessed physical, sexual, and battering intimate partner violence via self-administered, computer-based questionnaires. Overall, physical and sexual intimate partner violence prevalence was 9.9% and 2.5%, respectively; 8.4% of those in a current relationship reported battering. Former partners perpetrated more physical and sexual assaults than did current partners. Violence severity increased with frequency. Abortion patients experience high intimate partner violence rates, indicating the need for targeted screening and community-based referral. (*Am J Public Health.* 2010;100:1412–1415. doi:10.2105/AJPH.2009.178947)

Intimate partner violence has far-reaching, adverse consequences for women, children, and families.[1–5] In live birth populations, women with unintended pregnancies reported higher intimate partner violence rates than did those with planned conceptions.[6–9] Women seeking abortion may be an important target population for intervention because a small but growing body of research suggests that intimate partner violence prevalence is higher among abortion patients than among women who continue their pregnancies.[10–15] Most studies, however, have been limited by small sample sizes and failure to measure nonphysical abuse.

METHODS

We conducted this cross-sectional study from November 1, 2007, through July 18, 2008, within a large family planning clinic that provides aspiration and medication abortion. Eligibility criteria included attendance for elective abortion, age 18 years or older, Iowa residency, and English or Spanish proficiency. Following clinic intake, education staff introduced the study to eligible patients in a private room. Participants who provided informed, voluntary consent completed a 10-minute