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(802) 296-5132
FAX (802) 296-5135
Email: ncptsd@va.gov

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Military Sexual Trauma

Jenny K. Hyun
National Center for Posttraumatic Stress Disorder,
VA Palo Alto Health Care System, Palo Alto, CA

Joanne Pavao
National Center for Posttraumatic Stress Disorder,
VA Palo Alto Health Care System, Palo Alto, CA

Rachel Kimerling
National Center for Posttraumatic Stress Disorder,
VA Palo Alto Health Care System, Palo Alto, CA
Center for Health Care Evaluation,
VA Palo Alto Health Care System, Palo Alto, CA

Sexual assault in the military has received increasing attention over the past two decades. Reports of sexual assault and harassment among active-duty personnel and cadets have catalyzed public law and research focused on the potential traumatic stress associated with these experiences. VA uses the term Military Sexual Trauma (MST), specifically defined by public law, to refer to sexual assault and to repeated, threatening sexual harassment occurring during military service. MST is conceptualized within an occupational exposure framework as a duty-related hazard and therefore, sexual assault and sexual harassment are grouped together. Psychometric research utilizing a variety of methods (McIntyre et al., 1999) provides support for a single factor that includes both sexual assault and more severe types of harassment (e.g., unwanted sexual experiences, including touching, fondling, or threatening attempts to initiate a sexual relationship) that appear to be distinct from more common and often less threatening experiences, such as sexist and offensive remarks. The term MST is specific to the VA healthcare system and will be used only when referring to Veterans Health Administration (VHA) populations. When discussing research conducted with other populations, we will refer specifically to in-service sexual assault or harassment.

Epidemiology of MST

The prevalence of MST among the population of VHA outpatients, as indicated by data from the VHA universal screening program collected shortly after its implementation in 2003, is 21.5% among women and 1.1% among men (Kimerling, Gima, Smith, Street, and Frayne, 2007). Prevalence estimates obtained from these screening data have remained generally consistent since then, and as of 2008, these clinical populations numbered 48,106 women and 43,693 men. The populations are similar in size, despite the lower prevalence of MST among men, because VHA treats so many more men than women. A national study of female VHA outpatients conducted between 1994 and 1995, not long after VHA was first authorized to provide MST-related counseling, found even higher lifetime prevalence, where 55.0% of women reported sexual harassment and 23.0% reported sexual assault during their military service (Skinner et al., 2000).

Prevalence estimates in VHA can be contextualized by surveillance data that are periodically collected from active-duty military personnel using detailed measures of sexual assault and harassment. In the 2006 Department of Defense (DoD) Workplace and Gender Relations Survey of Active Duty Members (Lipari, Cook, Rock, & Matos, 2008), the *annual* prevalence of sexual assault was 6.8% for women and 1.8% for men. Rates were 9.0% and 3.0%, respectively, for sexual coercion (e.g., quid pro quo promises of job benefits or threats of job loss), and 31.0% and 7.0%, respectively, for unwanted sexual attention (e.g., touching, fondling, or threatening attempts to initiate a sexual relationship).

Epidemiological studies of other Veteran populations also have found substantial prevalence of sexual harassment and assault. In a nationally representative sample of former reservists interviewed between

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Authors' Addresses: **Jenny K. Hyun**, **Joanne Pavao,** and **Rachel Kimerling** are affiliated with the Dissemination and Training Division of the National Center for PTSD at the VA Palo Alto Health Care System, Building 334-PTSD, 795 Willow Road, Menlo Park, CA 94025. Dr. Kimerling is also affiliated with the Center for Health Care Evaluation at the VA Palo Alto Health Care System. Email Addresses: Jenny.Hyun@va.gov; Joanne.Pavao@va.gov; Rachel.Kimerling@va.gov.

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2002 and 2003 with measures similar to DoD surveillance, Street, Stafford, Mahan, and Hendricks (2008) found that 60.0% of women and 27.2% of men had experienced repeated or severe sexual harassment at some point during their military service, and sexual assault was reported by 13.1% of women and 1.6% of men. In a national study of Persian Gulf War Veterans (Kang, Dalager, Mahan, & Ishii, 2005), 3.3% of women and 0.2% of men reported sexual assault, and 24.0% of women and 0.6% of men reported sexual harassment during deployment. Lower rates of assault and harassment found in this sample may be explained by the focus only on deployment experiences and the relatively short duration of the Persian Gulf War.

In sum, these studies document a substantial prevalence of sexual assault and harassment across a range of populations and settings, suggesting these experiences may be important factors in understanding and treating traumatic stress in VHA.

Health Correlates of MST

PTSD is the most common mental health condition observed among Veterans who report MST. MST appears to be a significant source of traumatic stress among both men and women seeking VA disability for PTSD, where 4.2% of men and 71.0% of women report sexual assault during their military service (Murdoch, Polusny, Hodges, & O'Brien, 2004). Using medical record data from all VHA outpatients in 2003, Kimerling et al. (2007) found strong associations between MST and PTSD, with stronger effects observed for women than for men. Among former reservists, Street, Gradus, Stafford, and Kelly (2007) and Street et al. (2008) also found that sexual assault and harassment during military service were significantly associated with PTSD symptoms, as well as current and lifetime PTSD diagnosis. However, these correlations of in-service sexual assault and harassment with post-military PTSD do not provide empirical support for a causal relationship. A recent prospective study of Marine recruits (Shipherd, Pineles, Gradus, & Resick, 2009), however, found that reports of sexual harassment were associated with increases in PTSD symptoms six months later among both men and women.

Notably, the association between MST and PTSD remains, even when other deployment stressors are accounted for. Among Persian Gulf War Veterans, Kang et al. (2005) found that sexual assault and harassment during military service were still associated with PTSD after controlling for combat exposure in both female and male Veterans. The study also found a dose-response relationship between sexual trauma levels (no sexual trauma, sexual harassment only, sexual assault only, sexual harassment and assault) and the adjusted odds of having a PTSD diagnosis in men and women alike. Vogt, Pless, King, and King (2005) also found a significant association between sexual harassment and PTSD symptoms among Persian Gulf war-zone Veterans. The association remained after adjusting for social support during deployment.

Studies have also found MST to be associated with a variety of other mental health conditions, such as anxiety disorders, depression, dissociative disorders, eating disorders, bipolar disorder, substance use disorders and personality disorders. While MST appears to be primarily linked to mental health problems, research has found a relationship with increased numbers of medical conditions as well. Women in VHA who were sexually or physically assaulted during military service demonstrate poorer health-related quality of life as compared to non-assaulted women (Sadler, Booth, Nielson, & Doebbeling, 2000). Behaviorally linked conditions, including liver disease, pulmonary disease, obesity, and hypertension are associated with MST among VHA patients (Frayne et al., 1999; Kimerling et al., 2007), suggesting that MST, like other traumatic stressors, may be correlated with negative health behaviors. These studies have also found associations with sexual and reproductive conditions like endometriosis and HIV, similar to findings in research on sexual assault conducted with civilian samples.

Treatment for MST and Related Conditions

Because MST is a stressor, rather than a diagnosis, treatment efforts in VHA focus on detection and access to care. Treatment for Veterans who report MST is provided based on each individual's symptoms or diagnoses. Like other traumatic stressors, MST may be the principal determinant of PTSD or other mental health conditions or one of several clinically relevant life events. In both military and civilian populations, few individuals disclose sexual trauma unless asked because of factors such as social stigma and self-blame. A preliminary evaluation of the VHA's universal screening program using all VHA outpatient care users who were screened during 2005 found screening to be an efficient method to promote access to specialty mental health care (Kimerling, Street, Gima, & Smith, 2008). This study calculated the number needed to screen and found that one new patient accessed mental health care for every 5.5 women and 7.2 men who screened positive for MST.

The majority of these mental health treatment episodes are focused on PTSD. Interventions with the strongest level of empirical support (i.e., exposure based-cognitive behavioral therapies like prolonged exposure and cognitive processing therapy), were initially developed for, and have been rigorously tested among, civilian sexual assault survivors (e.g., Foa, Rothbaum, Riggs, & Murdock, 1991; Resick, Nishith, Weaver, Astin, & Feuer, 2002). A large randomized clinical trial of prolonged exposure has been conducted in VHA for the treatment of PTSD among female Veterans and active-duty personnel, with about 70% of women participants reporting some type of unwanted sexual encounter that involved force or threat of force while in the military (Schnurr et al., 2007). The study found that prolonged exposure was superior to present-centered therapy in reducing PTSD symptoms and suggests that treatments with demonstrated success in treating sexual assault among civilian women are likely to be effective among female Veterans with MST. There have yet to be controlled trials for the treatment of PTSD among male Veterans who have experienced MST.

Seeking Safety, a cognitive behavioral treatment for comorbid PTSD and substance use disorders (Najavits, Weiss, Shaw, & Muenz, 1998), is another example of a potentially effective intervention for Veterans who have experienced MST, as effectiveness has been demonstrated with sexually assaulted civilian women. This treatment has demonstrated feasibility with women seeking treatment from VHA homeless programs (Desai, Harpaz-Rotem, Najavits, & Rosenheck, 2008) and warrants additional research with MST populations.

Summary and Future Directions

Studies investigating the prevalence of sexual assault and harassment during military service using Veteran samples have found consistently high rates among women and men. Differences in sample selection and characteristics, as well as differences in the specificity of questions related to experiences of sexual assault and harassment during military service, contribute to some variation between prevalence numbers. Prevalence rates of sexual assault and harassment during military service are sensitive to the questions used to identify sexual assault and harassment experiences. The SEQ-DOD (e.g., Lipari et al., 2008; Street et al., 2007, 2008) is a detailed survey of sexual assault and harassment experiences with good reliability and validity. Suris and Lind (2008) provide a thorough review of the various survey instruments used in studies of Veterans and MST. The prevalence of MST and associated health and mental health conditions is likely to be higher among treatment-seeking samples than among epidemiological samples. Additional research is needed to assess the generalizability of VHA studies to the larger Veteran population, as we do not know whether the VHA samples represent those most severely affected by their traumatic military experiences.

Veterans who have experienced MST are at increased risk for a variety of medical and mental health conditions. The positive association between MST and PTSD in both men and women is consistent throughout the literature, but additional research is warranted with respect to potential gender differences, especially those related to comorbidity and treatment needs. The majority of research on sexual trauma has been conducted with women, but the large numbers of men reporting MST necessitate research focused on the potentially unique experiences of men (e.g., Street et al., 2007; Vogt et al., 2005). Research is also needed to better elucidate traumatic stress observed in association with sexual harassment, which is not traditionally conceptualized as a Criterion A stressor for PTSD. Finally, understanding more about the synergistic effects of traumatic experiences prior to military service, sexual trauma in the military, and combat trauma will shed light on the often complex picture of military stressors and mental health comorbidities among Veterans.

Although effective therapies exist for many of the mental health conditions associated with MST, clinical studies that report stressor exposure in greater detail could help us learn more about the effectiveness of these treatments with MST populations. Public health approaches, such as VHA's universal screening program, represent promising models for secondary prevention strategies. Preliminary evidence that screening for sexual assault and harassment facilitates detection and access to mental health care suggests that MST is a relevant factor for future studies on VHA systems of care for PTSD and other mental health conditions.

References

Foa, E. B., Rothbaum, B. O., Riggs, D. S., & Murdock, T. B. (1991). **Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling.** *Journal of Consulting and Clinical Psychology, 59,* 715-723.

Najavits, L. M., Weiss, R. D., Shaw, S. R., & Muenz, L. R. (1998). **"Seeking safety": Outcome of a new cognitive-behavioral psychotherapy for women with posttraumatic stress disorder and substance dependence.** *Journal of Traumatic Stress, 11,* 437-456.

Resick, P. A., Nishith, P., Weaver, T. L., Astin, M. C., & Feuer, C. A. (2002). **A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims.** *Journal of Consulting and Clinical Psychology, 70,* 867-879.

ABSTRACTS

Frayne, S. M., Skinner, K. M., Sullivan, L. M., Tripp, T. J., Hankin, C. S., Kressin, N. R., et al. (1999). **Medical profile of women Veterans Administration outpatients who report a history of sexual assault occurring while in the military.** *Journal of Women's Health and Gender-Based Medicine, 8,* 835-845. To profile differences in current physical symptoms and medical conditions among women users of Veterans Administration (VA) health services with and without a self-reported history of sexual assault sustained during military service, we conducted a cross-sectional analysis of a nationally representative, random sample of women Veterans using VA outpatient services (n = 3632). A self-administered, mailed survey asked whether women had sustained sexual assault while in the military and requested information about a spectrum of physical symptoms and medical conditions. A history of sexual assault while in the military was reported by 23% of women VA users and was associated with current physical symptoms and medical conditions in every domain assessed. For example, women who reported sexual assault were more likely to indicate that they had a "heart attack" within the past year, even after adjusting for age, hypertension, diabetes, and smoking history (OR 2.3, 95% CI 1.3-4.0). Among women reporting a history of sexual assault while in the military, 26% endorsed > or = 12 of 24 symptoms/conditions, compared with 11% of women with no reported sexual assault while in the military ($p < 0.001$). Clinicians need to be attuned to the high frequency of sexual assault occurring while in the military reported by women VA users and its associated array of current physical symptoms and medical conditions. Clinicians should consider screening both younger and older patients for a sexual violence history, especially patients with multiple physical symptoms.

Kang, H., Dalager, N., Mahan, C., & Ishii, E. (2005). **The role of sexual assault on the risk of PTSD among Gulf War veterans.** *Annals of Epidemiology, 15,* 191-195. *Purpose:* The 1991 Gulf War was the first major military deployment where female troops were integrated into almost every military unit, except for combat ground units. We evaluated the impact of reported sexual trauma during this deployment on the risk of PTSD after the war. *Methods:* A nested case–control analysis was conducted using the data collected in a population-based health survey of 30,000 Gulf War era Veterans. A total of 1,381 Gulf War Veterans with current PTSD were compared with 10,060 Gulf Veteran controls without PTSD for self-reported in-theater experiences of sexual harassment/assault and combat exposure. *Results:* The adjusted odds ratio (aOR) for

PTSD associated with a report of sexual assault was 5.41 (95% confidence interval [CI], 3.19–9.17) in female Veterans and 6.21 (95% CI, 2.26–17.04) in male Veterans. The aOR for PTSD associated with "high" combat exposure was also statistically significant (aOR, 4.03 [95% CI, 1.97–8.23] for females; aOR, 4.45 [95% CI, 3.54–5.60] for males). *Conclusion:* Notwithstanding a possibility of recall bias of combat and sexual trauma, for both men and women, sexual trauma as well as combat exposure appear to be strong risk factors for PTSD.

Kimerling, R., Gima, K., Smith, M. W., Street, A., & Frayne, S. (2007). **The Veterans Health Administration and military sexual trauma.** *American Journal of Public Health, 97,* 2160-2166. *Objectives:* We examined the utility of the Veterans Health Administration (VHA) universal screening program for military sexual violence. *Methods:* We analyzed VHA administrative data for 185,880 women and 4,139,888 men who were Veteran outpatients and were treated in VHA health care settings nationwide during 2003. *Results:* Screening was completed for 70% of patients. Positive screens were associated with greater odds of virtually all categories of mental health comorbidities, including PTSD (adjusted odds ratio [*AOR*] = 8.83; 99% confidence interval [*CI*] = 8.34, 9.35 for women; *AOR* = 3.00; 99% *CI* = 2.89, 3.12 for men). Associations with medical comorbidities (e.g., chronic pulmonary disease, liver disease, and for women, weight conditions) were also observed. Significant gender differences emerged. *Conclusions:* The VHA policies regarding military sexual trauma represent a uniquely comprehensive health care response to sexual trauma. Results attest to the feasibility of universal screening, which yields clinically significant information with particular relevance to mental health and behavioral health treatment. Women's health literature regarding sexual trauma will be particularly important to inform health care services for both male and female Veterans.

Kimerling, R., Street, A. E., Gima, K., & Smith, M. W. (2008). **Evaluation of universal screening for military-related sexual trauma.** *Psychiatric Services, 59,* 635-640. *Objectives:* In response to growing concerns about sexual violence as an underrecognized traumatic consequence of military service, Veterans Health Administration policy requires universal screening for sexual trauma sustained during military service. This prospective study, the first to evaluate national efforts to screen for military sexual trauma, investigated whether sexual trauma screening is associated with increased utilization of mental health services. *Methods:* This study examined data for all male (*N*=540,381) and female (*N*=33,259) Veterans who had valid responses to screens for military sexual trauma in 2005. The use of mental health services during the three months after screening was examined for persons who screened positive for military sexual trauma and for those who screened negative. Findings were stratified by use of mental health services in the six months before the screening. *Results:* Compared with negative screens, positive screens were associated with significantly increased rates of postscreen mental health treatment. A more than twofold increase was observed for patients without previous use of mental health treatment (women: relative risk [*RR*]=2.52, 95% confidence interval [*CI*]= 2.38–2.66; men: *RR*=2.47, 95% *CI*=2.34–2.61). In this group, the number of positive screens needed for one additional patient to access treatment was 5.5 for women and 7.2 for men. *Conclusions:* Our findings suggest that detection via screening is associated with increased rates of mental health treatment. An effective screening program that promotes detection of sexual trauma and access to mental health care can help to reduce the burden of psychiatric illness for those who have experienced military sexual trauma.

Lipari, R. N., Cook, P. J., Rock, L. M., & Matos, K. (2008). *2006 Gender Relations Survey of Active Duty Members.* Arlington, VA: Department of Defense Manpower Data Center. DMDC Report No. 2007-002. "This report presents the results of the 2006 Workplace and Gender Relations Survey of Active Duty Members (WGRA2006). The Defense Manpower Data Center (DMDC) conducted the survey as part of the quadrennial cycle of human relations surveys outlined in Title 10 U.S. Code Section 481 which directs the Secretary of Defense to conduct cross-Service surveys on gender issues and discrimination among members of the Armed Forces."

Murdoch, M., Polusny, M. A., Hodges, J., & O'Brien, N. (2004). **Prevalence of in-service and post-service sexual assault among combat and noncombat veterans applying for Department of Veterans Affairs posttraumatic stress disorder disability benefits.** *Military Medicine, 169,* 392-395. *Objective:* To describe the prevalence of in-service and post-service sexual assault among combat and noncombat Veterans seeking Veterans Affairs disability benefits for PTSD. *Methods:* Cross-sectional survey of 4,918 Veterans. *Results:* Surveys were returned by 3,337 Veterans (effective response rate, 68%). Among men, 6.5% of combat Veterans and 16.5% of noncombat Veterans reported in-service or post-service sexual assault. Among women, 69% of combat Veterans and 86.6% of noncombat Veterans reported in-service or post-service sexual assault. *Conclusions:* Reported rates of sexual assault were considerably higher among Veterans seeking Veterans Affairs disability benefits for PTSD than historically reported rates for men and women in the general population. In this population, male gender and Veterans' combat status should not dissuade clinicians from screening for sexual traumas.

Sadler, A. G., Booth, B. M., Nielson, D., & Doebbeling, B. N. (2000). **Health-related consequences of physical and sexual violence: Women in the military.** *Obstetrics and Gynecology, 96,* 473-480. *Objectives:* To identify differences in health-related quality of life among women Veterans who were raped, physically assaulted (not in the context of rape or domestic violence), both, or neither during military service. *Methods:* We did a cross-sectional telephone survey of a national sample of 558 women Veterans who served in Vietnam and subsequent eras of military service. A stratified survey design selected subjects according to era of service and location. The interview included socioeconomic information, lifetime violence history, the Women's Military Environment Survey to assess women's military experiences, and the Medical Outcomes Study Short Form-36 to assess health-related quality of life. *Results:* Five hundred thirty-seven women completed the interview. Half (48%) experienced violence during military service, including rape (30%), physical assault (35%), or both (16%). Women who were raped or dually victimized were more likely to report chronic health problems,

prescription medication use for emotional problems, failure to complete college, and annual incomes less than $25,000 ($P < .05$). Women who were physically assaulted or raped reported significantly lower health-related quality of life ($P < .05$). Those who had both traumas reported the most severe impairment, comparable to women with chronic illnesses. *Conclusion:* This study suggests that the sequelae of violence against women are an important public health concern. More than a decade after rape or physical assault during military service, women reported severely decreased health-related quality of life, with limitations of physical and emotional health, educational and financial attainment, and severe, recurrent problems with work and social activities.

Schnurr, P. P., Friedman, M. J., Engel, C. C., Foa, E. B., Shea, M. T., Chow, B. K., et al. (2007). **Cognitive behavioral therapy for posttraumatic stress disorder in women: A randomized controlled trial.** *Journal of the American Medical Association, 297,* 820-830. *Context:* The prevalence of PTSD is elevated among women who have served in the military, but no prior study has evaluated treatment for PTSD in this population. Prior research suggests that cognitive behavioral therapy is a particularly effective treatment for PTSD. *Objective:* To compare prolonged exposure, a type of cognitive behavioral therapy, with present-centered therapy, a supportive intervention, for the treatment of PTSD. *Design, Setting, and Participants:* A randomized controlled trial of female Veterans ($n = 277$) and active-duty personnel ($n = 7$) with PTSD recruited from 9 VA medical centers, 2 VA readjustment counseling centers, and 1 military hospital from August 2002 through October 2005. Intervention Participants were randomly assigned to receive prolonged exposure ($n = 141$) or present-centered therapy ($n = 143$), delivered according to standard protocols in 10 weekly 90-minute sessions. *Main Outcome Measures:* PTSD symptom severity was the primary outcome. Comorbid symptoms, functioning, and quality of life were secondary outcomes. Blinded assessors collected data before and after treatment and at 3- and 6-month follow-up. *Results:* Women who received prolonged exposure experienced greater reduction of PTSD symptoms relative to women who received present-centered therapy (effect size, 0.27; $P = .03$). The prolonged exposure group was more likely than the present-centered therapy group to no longer meet PTSD diagnostic criteria (41.0% vs 27.8%; odds ratio, 1.80; 95% confidence interval, 1.10-2.96; $P = .01$) and achieve total remission (15.2% vs 6.9%; odds ratio, 2.43; 95% confidence interval, 1.10-5.37; $P = .01$). Effects were consistent over time in longitudinal analyses, although in cross-sectional analyses most differences occurred immediately after treatment. *Conclusions:* Prolonged exposure is an effective treatment for PTSD in female Veterans and active-duty military personnel. It is feasible to implement prolonged exposure across a range of clinical settings.

Shipherd, J. C., Pineles, S. L., Gradus, J. L., & Resick, P. A. (2009). **Sexual harassment in the Marines, posttraumatic stress symptoms and perceived health: Evidence for sex differences.** *Journal of Traumatic Stress, 22,* 3-10. Sex differences and pretrauma functioning have been understudied in examinations of posttraumatic stress symptoms (PSS) and health. This study examined relationships between sexual harassment and assault in the military (MST), PSS, and perceived physical health when accounting for pre-MST PSS, pre-MST health, and current depression. Relationships were examined separately in 226 female and 91 male Marines endorsing recent MST (past 6 months). MST predicted increased PSS for women and especially men. For men, higher levels of MST were associated with worse perceived physical health, whereas for women, lower levels of MST were associated with worse perceived health. For men with MST, there was some evidence for the association being partially mediated by PSS, but no mediation was found in women.

Skinner, K. M., Kressin, N., Frayne, S., Tripp, T. J., Hankin, C. S., Miller, D. R., et al. (2000). **The prevalence of military sexual assault among female Veterans' Administration outpatients.** *Journal of Interpersonal Violence, 15,* 291-310. Considerable publicity has focused on sexual violence among military women. The authors report the prevalence of military sexual violence and make comparisons among women Veterans who report they experienced sexual violence while in the military and those who did not. Data are from the Veterans' Administration (VA) Womens' Health Project, which was designed to assess the health status of women Veterans receiving VA ambulatory care. The nationally representative sample ($N = 3,632$) consists of female Veterans who had at least one ambulatory visit at a VA facility between July 1, 1994, and June 30, 1995. More than half (55%) of the women report they were sexually harassed while in the military, and almost one quarter (23%) report they were sexually assaulted. There are differences in sociodemographic characteristics, military experiences, and current health perceptions of women who reported sexual harassment or sexual assault while in the military as compared to those who did not. The prevalence of military sexual harassment and sexual assault is high and screening for sexual assault is important in all women patients given the differences between groups.

Street, A. E., Gradus, J. L., Stafford, J., & Kelly, K. (2007). **Gender differences in experiences of sexual harassment: Data from a male-dominated environment.** *Journal of Consulting and Clinical Psychology, 75,* 464-474. The goal of this investigation was to examine gender differences in experiences of sexual harassment during military service and the negative mental health symptoms associated with these experiences. Female ($n = 2,319$) and male ($n = 1,627$) former reservists were surveyed about sexual harassment during their military service and current mental health symptoms. As expected, women reported a higher frequency of sexual harassment. Further, women had increased odds of experiencing all subtypes of sexual harassment. Being female conferred the greatest risk for experiencing the most serious forms of harassment. For both men and women, sexual harassment was associated with more negative current mental health. However, at higher levels of harassment, associations with some negative mental health symptoms were stronger for men than women. Although preliminary, the results of this investigation suggest that although women are harassed more frequently than men, clinicians must increase their awareness of the potential for sexual harassment among men in order to provide the best possible care to all victims of harassment.

ABSTRACTS *continued*

Street, A. E., Stafford, J., Mahan, C. M., & Hendricks, A. (2008). **Sexual harassment and assault experienced by reservists during military service: Prevalence and health correlates.** *Journal of Rehabilitation Research and Development, 45,* 409-419. The current investigation identified the gender-specific prevalence of sexual harassment and assault experienced during U.S. military service and the negative mental and physical health correlates of these experiences in a sample of former reservists. We surveyed a stratified random sample of 3,946 former reservists about their experiences during military service and their current health, including depression, PTSD, somatic symptoms, and medical conditions. Prevalence estimates and confidence intervals of sexual harassment and assault were calculated. A series of logistic regressions identified associations with health symptoms and conditions. Both men and women had a substantial prevalence of military sexual harassment and assault. As expected, higher proportions of female reservists reported sexual harassment (60.0% vs. 27.2% for males) and sexual assault (13.1% vs. 1.6% for males). For both men and women, these experiences were associated with deleterious mental and physical health conditions, with sexual assault demonstrating stronger associations than other types of sexual harassment in most cases. This investigation is the first to document high instances of these experiences among reservists. These data provide further evidence that experiences of sexual harassment and assault during military service have significant implications for the healthcare needs of military Veterans.

Vogt, D. S., Pless, A. P., King, L. A., & King, D. W. (2005). **Deployment stressors, gender, and mental health outcomes among Gulf War I veterans.** *Journal of Traumatic Stress, 18,* 272-284. Findings indicate that war-zone exposure has negative implications for the postdeployment adjustment of Veterans; however, most studies have relied on limited conceptualizations of war-zone exposure and focused on male samples. In this study, an array of deployment stressors that were content valid for both female and male Gulf War I military personnel was examined to elucidate gender differences in war-zone exposure and identify gender-based differential associations between stressors and mental health outcomes. While women and men were exposed to both mission-related and interpersonal stressors and both stressor categories were associated with mental health outcomes, women reported more interpersonal stressors and these stressors generally had a stronger impact on women's than on men's mental health. Exceptions are described, and implications are discussed.

CITATIONS

Campbell, R., Greeson, M. R., Bybee, D., & Raja, S. (2008). **The co-occurrence of childhood sexual abuse, adult sexual assault, intimate partner violence, and sexual harassment: A mediational model of posttraumatic stress disorder and physical health outcomes.** *Journal of Consulting and Clinical Psychology, 76,* 194-207. In a study of 268 female and predominantly African American Veterans, cluster analyses revealed 4 patterns of lifetime experiences of violence: Low levels of all 4 forms of violence; high levels of all 4 forms; sexual revictimization with sexual harassment; and high intimate partner violence with sexual harassment. In structural equation models, PTSD fully mediated the relationship between violence and physical health.

Desai, R. A., Harpaz-Rotem, I., Najavits, L. M., & Rosenheck, R. A. (2008). **Impact of the Seeking Safety Program on clinical outcomes among homeless female veterans with psychiatric disorders.** *Psychiatric Services, 59,* 996-1003. The effectiveness of Seeking Safety, a manualized cognitive-behavioral therapy intervention for comorbid substance abuse and trauma histories, was examined in 91 homeless women. Participants showed significant improvement on most clinical outcome measures over 1 year.

Fontana, A., Litz, B., & Rosenheck, R. (2000). **Impact of combat and sexual harassment on the severity of posttraumatic stress disorder among men and women peacekeepers in Somalia.** *The Journal of Nervous and Mental Diseases, 188,* 163-169. The impact of combat and sexual harassment on the severity of PTSD was studied in 1,307 male and 197 female peacekeepers. For men, combat influenced severity of PTSD symptoms both directly and indirectly through fear and sexual harassment. For women, combat influenced severity of PTSD symptoms indirectly through the same two influences.

Frayne, S. M., Skinner, K. M., Sullivan, L. M., & Freund, K. M. (2003). **Sexual assault while in the military: Violence as a predictor of cardiac risk?** *Violence and Victims, 18,* 219-225. In a national survey of 3,632 women using VA ambulatory care, obesity, smoking, problem alcohol use, sedentary lifestyle, and hysterectomy before age 40 were found to be more common in women reporting a history of sexual assault while in the military than in women without such history.

Hankin, C. S., Skinner, K. M., Sullivan, L. M., Miller, D. R., Frayne, S., & Tripp, T. J. (1999). **Prevalence of depressive and alcohol abuse symptoms among women VA outpatients who report experiencing sexual assault while in the military.** *Journal of Traumatic Stress, 12,* 601-612. In a national sample of 3,632 female VA outpatients, 23% reported military-related sexual assault. This experience, in turn, was associated with current depression, alcohol abuse, and use of mental health treatment.

Himmelfarb, N., Yaeger, D., & Mintz, J. (2006). **Posttraumatic stress disorder in female veterans with military and civilian sexual trauma.** *Journal of Traumatic Stress, 19,* 837-846. Relationships among military sexual trauma (MST), nonmilitary sexual trauma, and PTSD were examined in 196 female Veterans assessed before,

CITATIONS *continued*

during, and after military service. MST was more prevalent than premilitary and postmilitary sexual trauma and more strongly associated with PTSD.

McIntyre, L. M., Butterfield, M. I., Nanda, K., Parsey, K., Stechuchak, K. M., McChesney, A. W., et al. (1999). **Validation of a trauma questionnaire in veteran women.** *Journal of General Internal Medicine, 14,* 186-189. In a study of 127 women, the Trauma Questionnaire, which assesses history of childhood and adult sexual trauma, sexual harassment, and domestic violence, showed good to excellent agreement with a semi-structured clinician interview and good sensitivity and specificity.

Murdoch, M., Polusny, M. A., Hodges, J., & Cowper, D. (2006). **The association between in-service sexual harassment and post-traumatic stress disorder among Department of Veterans Affairs disability applicants.** *Military Medicine, 171,* 166-173. In a nationally representative sample of 3,337 VA PTSD disability applicants, women's reported in-service sexual harassment severity was significantly associated with PTSD symptom severity.

Sadler, A. G., Booth, B. M., Mengeling, M. A., & Doebbeling, B. N. (2004). **Life span and repeated violence against women during military service: Effects on health status and outpatient utilization.** *Journal of Women's Health, 13,* 799-811. In a survey of 520 female Veterans, type of violence was unrelated to differences in medical utilization, but women reporting repeated violence exposures during military service had significantly more outpatient visits in the past year.

Suris, A., Lind, L., Kashner, T. M., & Borman, P. D. (2007). **Mental health, quality of life, and health functioning in women veterans: Differential outcomes associated with military and civilian sexual assault.** *Journal of Interpersonal Violence, 22,* 179-197. In a sample of 270 women receiving VA outpatient services, history of military sexual assault had negative consequences above and beyond the effects of civilian sexual assault.

Suris, A., & Lind, L. (2008). **Military sexual trauma: A review of prevalence and associated health consequences in veterans.** *Trauma, Violence, and Abuse, 9,* 250-269. The authors review the literature documenting the prevalence and consequences of military sexual trauma (MST) and make recommendations for future research, policy, and practice.

Yaeger, D., Himmelfarb, N., Cammack, A., & Mintz, J. (2006). **DSM-IV diagnosed posttraumatic stress disorder in women veterans with and without military sexual trauma.** *Journal of General Internal Medicine, 21 Suppl 3,* S65-S69. In a study of 196 female Veterans enrolled in heath care, women with military sexual trauma had higher rates of PTSD (60%) than women with other types of trauma (43%).

PUBLICATIONS ON MILITARY SEXUAL TRAUMA from the National Center for PTSD

The National Center for PTSD has several publications available that focus on the topic of Military Sexual Trauma (MST).

Military Sexual Trauma: Issues in Caring for Veterans
From the Iraq War Clinician Guide, this 4-page chapter discusses the meaning of military sexual trauma, its epidemiology, and the psychological effects MST has on military members. Information is provided on screening for and assessing MST and on available treatments.

The Veterans Health Administration and Military Sexual Trauma
This article appeared in the December, 2007, issue of *American Journal of Public Health.* The authors examined the utility of the Veterans Health Administration's universal screening program for military sexual violence. The results attest to the feasibility of universal screening, which yields clinically significant information with particular relevance to mental health and behavioral health treatment.

Sexual Harassment Scale
Part of the Deployment Risk and Resilience Inventory (DRRI), the Sexual Harassment Scale assesses exposure to unwanted sexual touching or verbal conduct of a sexual nature from other unit members, commanding officers, or civilians in the war zone that creates a hostile working environment.

Military Sexual Trauma
Intended for a general audience, this fact sheet gives an overview of MST which includes the definition of MST, its prevalence, a description of some common reactions to this type of trauma, and suggestions for getting help. This resource can be useful as a patient education handout.

These are available on the National Center's website at: **www.ncptsd.va.gov.**

Soon after the PILOTS Database moved to the CSA Illumina platform, we were astonished at the number of searches reported. This was an order of magnitude higher than we were used to, and we suspected that some error had been made in the calculations. CSA explained to us that the figures were indeed correct — but the vast majority were performed by people who did not even know that they were searching the PILOTS Database.

One of the most popular features of the CSA Illumina platform is the ability to perform a search in several databases simultaneously. Academic and research libraries that subscribe to CSA Illumina can offer "crossfile searching" to their users, and many libraries provide this as the default condition. That is, searches are automatically performed in all of the available databases unless the searcher specifies the database(s) to be used.

In other cases, someone using one CSA Illumina database is offered the opportunity to switch to crossfile searching. A "Change Subject Area" drop-down menu offers the choice of four subject areas: Arts & Humanities, Natural Sciences, Social Sciences, and Technology. An "All Subject Areas" option is also on offer. The actual databases vary from one library to another, depending on which subscriptions each library maintains.

The PILOTS Database is offered free of charge to all libraries that subscribe to any CSA Illumina product. Thus it is readily accessible to a great many library users, and is automatically searched whenever a searcher selects "Social Sciences" or "All Subject Areas" — or whenever the library's online database search system makes that selection for the searcher.

To conduct as thorough a search as possible, the best course is to search individual databases. Each one will use a different indexing vocabulary, and offer slightly different techniques for identifying relevant publications. This takes more time than a simple crossfile search, of course; and there are many databases that contain literature on PTSD. (A recent search on the term "PTSD" in the Social Sciences Subject Area databases available to users of the Dartmouth College Library found 52,397 results, distributed among 19 databases. And that did not include the 15,110 results obtained when the same search was run in PubMed, because CSA considers that to be a Natural Sciences database.) One compromise worth considering is to search on an individual basis the three databases (PILOTS, MEDLINE, and PsycINFO) that contain the most records on PTSD, and conducting a crossfile search on the remaining available databases to pick up those records that eluded the big three.

A particularly good use of crossfile searching is to find papers on a topic too new to be included in the indexing vocabularies of the relevant databases. Consider the topic of this issue of the *PTSD Research Quarterly.* The PILOTS Thesaurus does not currently use "Military Sexual Trauma" as a descriptor, though this term is among those under consideration for addition when we next revise the thesaurus.

A recent crossfile search retrieved 40 results for KW = "military sexual trauma." Of these, 17 were from the PILOTS Database, 14 from PsycINFO, and the remainder from five other databases. It is important to enter the phrase within quotation marks, and with the prefix indicating that the search is to be limited to the "Key Words" fields, which comprise the Title (TI), Abstract (AB), Descriptor (DE), and Identifier (ID) fields. Otherwise your search will return many irrelevant records.

As might be expected, there can be considerable duplication among the results received from crossfile searching. CSA Illumina can dynamically remove duplicate records, using a proprietary algorithm that favors the most complete record. This is done automatically, but an option at the bottom of the results screen allows the display of all results.

Crossfile searching offers a way of increasing the number of records your search will retrieve. Our standard advice still applies: you will get better results from your database searches if you seek the advice of a skilled reference librarian.

National Center for PTSD
Posttraumatic Stress Disorder

National Center for PTSD
VA Medical Center (116D)
215 North Main Street
White River Junction, VT 05009-0001