

Suicide prevention in women Veterans: Risk and resiliency factors

Lauren M. Denneson, PhD

Center to Improve Veteran Involvement in Care, VA Portland Health Care System

Jaimie Gradus, DSc, MPH

National Center for PTSD, VA Boston Health Care System

Jennifer Strauss, PhD

Women's Mental Health, Office of Mental Health and Suicide Prevention

VA HSR&D Cyberseminar

September 25, 2017

Today's objectives

- Discuss relevance of examining sex & gender in suicide prevention
- Overview of previous work examining female Veterans' suicide risk
- Discuss opportunities for suicide prevention activities and future directions
- Specific findings on sexual trauma and suicidal behaviors among female Veterans
- Discussion and Q&A

Why is it important to focus on female Veterans in suicide prevention?



Poll question

Why is it important for us to focus on female Veterans in suicide prevention work (select all that apply)?

- The number of female Veterans is growing
- Female Veterans are increasingly accessing VHA care
- Female Veterans have unique healthcare needs and barriers
- Sex and gender impact health and health outcomes
- Female Veterans are disproportionately at risk for suicide

The number of female Veterans is rising



America's Women Veterans: Military Service History and VA Benefits Utilization
Statistics, Department of Veterans Affairs, National Center for Veterans Analysis and Statistics, Nov. 23, 2011;
http://www.va.gov/VETDATA/docs/SpecialReports/Final_Womens_Report_3_2_12_v_7.pdf

Female Veterans are increasingly accessing VHA care

- Proportion of female Veterans utilizing VHA care
 - 2000: 10%
 - 2009: 19%
 - 2013: 27%
- Proportion of male Veterans utilizing VHA care
 - 2013: 31%

National Center for Veterans Analysis and Statistics. *America's Women Veterans: Military Service History and VA Benefit Utilization Statistics*. National Center for Veterans Analysis and Statistics, Department of Veterans Affairs, Washington, DC. November 2011.

National Center for Veterans Analysis and Statistics. *Profile of Women Veterans: 2013*. National Center for Veterans Analysis and Statistics, Department of Veterans Affairs, Washington, DC. June 2015.

Female Veterans have unique health needs & barriers to care

- Female Veterans have higher rates of chronic conditions and mental health comorbidities than male Veterans or female civilian counterparts
- Female Veterans receiving VHA care typically have worse mental and physical health than those who are not in the VHA system
- Female Veterans report relying on VHA for their care more often than males
 - Half who leave VHA care say they felt unwelcome as females
 - 30% who leave VHA care within a year of initial access
 - Half who receive VHA mental health care say it met their needs



HSR&D-funded women's health projects:

https://www.hsrd.research.va.gov/research/portfolio_studies.cfm?PortID=10

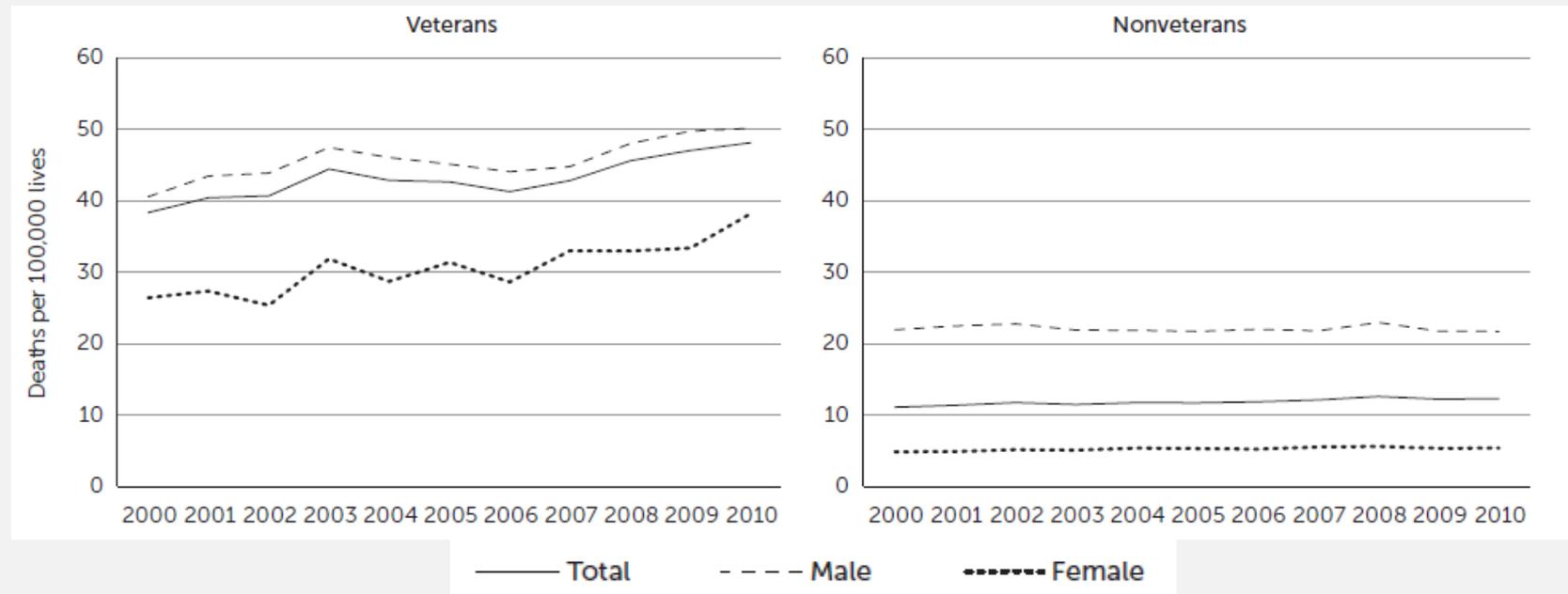
Female Veterans are at higher risk for experiencing unmet needs, especially those with the highest care needs

Sex and gender impact health and health outcomes

- Gender role socialization
 - Shapes things like real and perceived opportunities/choices in education and career
- Higher rates of exposure to certain life stressors
 - Victimization (e.g., MST)
 - Power held in relationships and society
 - Poverty
- Biobehavioral responses to stress differ
 - Males adhere more to “fight or flight” while women “tend and befriend” (Taylor et al, 2000)

Taylor, S.E., et al., Biobehavioral responses to stress in females: Tend and Befriend, not fight-or-flight. *Psychol Review*, 2000;107:411-429; Nolen-Hoeksema S. Gender differences in depression. *Current Directions in Psychological Science*, 2001;10:173-176; Klose M, Jacobi F. Can gender differences in the prevalence of mental disorders be explained by sociodemographic factors? *Archives of Women's Mental Health*, 2004;7:133-148

Female Veterans are disproportionately at risk for suicide



- In 2010, the number of suicides among male Veterans was **60%** higher than expected (as compared to male nonveterans)
- The number of suicides among female Veterans was **490%** higher than expected (as compared to female nonveterans)

Female Veterans' suicide risk – what do we know?

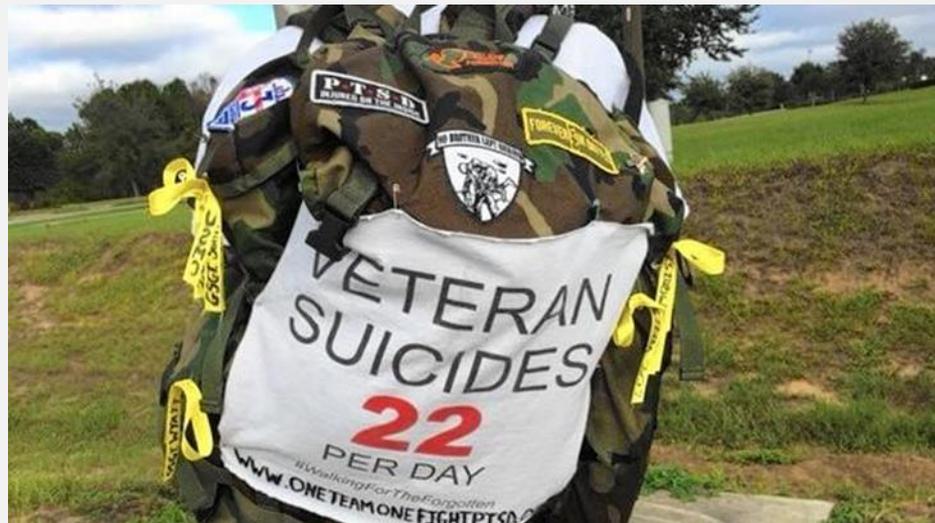


Image: Jerry Fallstrom, Orlando Sentinel

Female Veteran suicide risk & resilience

- Unhealthy relationships, including family
 - Family problems, friend problems, and problems with partner each increased odds of suicide attempt more among female than male Veterans (Benda, 2005)
 - Tenuous or unsupportive relationships observed in qualitative work among female Veterans who died by suicide (Denneson, 2016)
 - Social integration protective against death by suicide among female nurses (Tsai, 2015)
 - Perceived burdensomeness associated with suicidal ideation among female Veterans with history of MST (Monteith, 2017)
- Workplace difficulties
 - Only difference between genders in study of US Army soldiers; more strongly associated with female suicide than male suicide (Maguen, 2015)

Female Veteran suicide risk & resilience

- Past or current physical or sexual abuse, including MST
 - Attributable risk of MST 10-19% among female veterans (0.3-0.7% among males) (Kimerling, 2016)
 - MST more strongly associated with suicidal ideation among males than females (Monteith, 2016)
 - Past/current physical or sexual abuse increased odds of suicide attempt more among females than males (Benda, 2005)
 - Sexual harassment linked to suicidal ideation among female Veterans, after accounting for mental health conditions (Gradus, 2013)
- Any psychiatric diagnosis
 - Psychiatric diagnosis increased risk of suicide among females (HR 5.18) as compared to males (HR 2.50) (Ilgen, 2010)

Female Veteran suicide risk & resilience

- Substance abuse
 - Any substance abuse disorder increased risk among female Veterans (HR 6.62) as compared to male Veterans (HR 2.27) (Ilgen, 2010)
 - Substance use more strongly associated with suicide among male Veterans than female Veterans (Benda, 2005)
 - Association between SUD and excess suicide risk among female Veterans might be explained by co-occurring MH conditions (Bohnert, 2017)
- Depression
 - More strongly associated with risk of attempt among female Veterans than male Veterans (Benda, 2005)
 - Equally important predictor of SI among male and female Veterans (Gradus, 2017)

Female Veteran suicide risk & resilience

- PTSD
 - More strongly associated with attempt among women than men (Gradus, 2014)
- Differing clusters of risk (Gradus 2017)
 - Male Veterans and SI: depression, PTSD, somatic complaints
 - Female Veterans and SI: deployment sexual harassment, PTSD, and depression

Future Directions

Important work yet to be done examining gender in risk and resilience for suicidal ideation, behaviors, and other self-harm to:

- Select high-impact intervention targets, including psychosocial factors
- Improve risk detection processes
- Better understand resilience

Potential opportunities for prevention

- Gender-tailored healthcare services to enhance engagement in care
- Enhance efforts to better understand care needs
- Supporting development and maintenance of healthy relationships
- Addressing sexual harassment, MST, and other trauma

Risk & resilience citations

1. Benda BB. Gender differences in predictors of suicidal thoughts and attempts among homeless veterans that abuse substances. *Suicide & Life-Threatening Behavior*. 2005;35:106-16
2. Bohnert KM, Ilgen MA, Louzon S, et al. Substance use disorders and the risk of suicide mortality among men and women in the US Veterans Health Administration. *Addiction*. 2017
3. Denneson LM, Cromer R, Jacobson LE, et al. Female veterans who died by suicide: Qualitative analysis of medical records. *Military Behavioral Health*. 2016;4(3):276-284
4. Gradus JL, Street AE, Suvak MK, et al. Predictors of suicidal ideation in a gender-stratified sample of OEF/OIF veterans. *Suicide Life Threat Behav*. 2013;43:574-588
5. Gradus, Leatherman, Raju, et al. Posttraumatic stress disorder, depression, and non-fatal intentional self-harm in Massachusetts Veterans. *Injury Epidemiology*, 2014; 1:20.
6. Gradus, et al. Gender differences in machine learning models of trauma and suicidal ideation in Veterans of the Iraq and Afghanistan wars. *Journal of Traumatic Stress*, 30:362-371, 2017
7. Ilgen MA, Bohnert AS, Ignacio RV, et al. Psychiatric diagnoses and risk of suicide in veterans. *Arch Gen Psychiatry*. 2010;67:1152-8
8. Kimerling R, Makin-Byrd K, Louzon S, et al. Military Sexual Trauma and Suicide Mortality. *Am J Prev Med*. 2016;50:684-691
9. Maguen S, Skopp NA, Zhang Y, et al. Gender differences in suicide and suicide attempts among US Army soldiers. *Psychiatry Res*. 2015;225:545-549
10. Monteith LL, Bahraini NH, Matarazzo BB, et al. The influence of gender on suicidal ideation following military sexual trauma among Veterans in the Veterans Health Administration. *Psychiatry Res*. 2016;244:257-265
11. Monteith LL, Bahraini. NHB, Menefee DSM. Perceived burdensomeness, thwarted belongingness, and fearlessness about death: Associations with suicidal ideation in female veterans exposed to military sexual trauma. *Journal of Clinical Psychology*; 2017
12. Tsai AC, Lucas M, Kawachi I. Association Between Social Integration and Suicide Among Women in the United States. *JAMA Psychiatry*. 2015

Sexual Trauma and Suicide among Women Veterans

Jaimie L. Gradus, DSc, MPH

Women's Health Sciences Division

National Center for PTSD

Boston University

Outline

- Summarize the literature demonstrating an association between sexual harassment and assault and suicidal behavior among women veterans
 - Overview of gender differences and comparisons with other forms of trauma
- Comparisons with civilians

Sexual Trauma and Suicide Attempts among Veterans

- Lifetime sexual trauma and suicide attempts in the Canadian military (Belik et al., 2009)
- National sample of male and female active Canadian military personnel (n = 8441)

	Association with Suicide Attempts	
	Males	Females
Rape	4.3	2.5
Sexual Assault	3.7	3.4

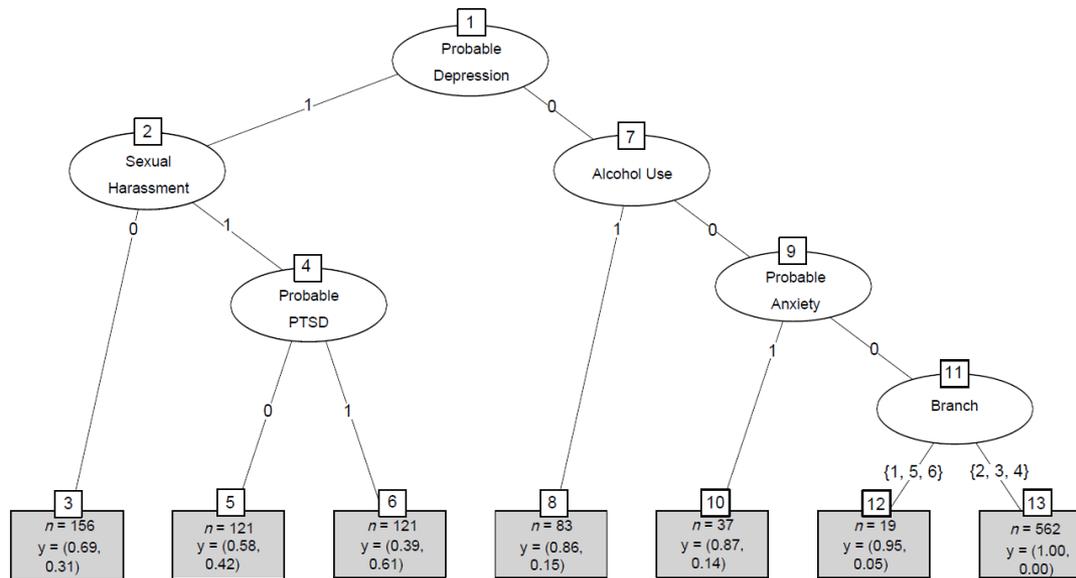
Adjusted for demographics, military factors, and psychiatric diagnoses

Sexual Trauma and Suicidal Ideation among Veterans

- Sexual harassment during deployment and suicidal ideation (Monteith et al., 2015)
- 199 recent veterans (OEF/OIF/OND) entering trauma-focused treatment at VA (28 women)
- Sexual harassment and assault during deployment was associated with increased suicidal ideation, after adjustment for gender and combat exposure.

Sexual Trauma and Suicidal Ideation among Veterans

- Sexual harassment and assault during deployment and suicidal ideation (Gradus et al., 2017)
- 2,244 recent veterans (OEF/OIF) surveyed via mail



Sexual Trauma and Suicidal Behavior among Veterans

- Military and pre-military sexual trauma and risk of suicidal ideation, plans and attempts (Bryan et al., 2015)
- 464 US college students who were military personnel or veterans
 - Men: Unwanted sexual experiences during military service associated with suicidal behavior
 - Women: Unwanted sexual experiences prior to military service associated with suicidal behavior

Sexual Trauma and Suicide among Veterans

- Military sexual trauma (as reported in VA screening) and suicide (Kimerling et al., 2016)
- All VA patients from FY 2007 – 2011 (5,991,080 men and 360,774 women)
- Adjusting for age, rural residence, psychiatric conditions, somatic conditions
 - Men: 1.19 (95% CI = 1.01, 1.39)
 - Women: 1.35 (95% CI = 1.01, 1.83)

Other Trauma and Suicide Attempts among Veterans

- Belik et al, 2009 (Accident or unexpected trauma)

	Association with Suicide Attempts	
	Males	Females
Auto Accident	0.91	1.28
Natural Disaster	1.23	1.11
Life-threatening Illness	2.25	0.82

Sexual Trauma and Suicide among Civilians

- For a long time much of the research in this area came from civilian samples.
- This work also provides consistent evidence of an association.

Sexual Trauma and Suicide Attempts among Civilians

- Sexual assault and suicide attempts (Bebbington et al. 2009)
- British survey of 8,580 male and female adults in the general population

	Association with Sexual Assault	
	Males	Females
Lifetime Suicide Attempts	6.6	9.6

Sexual Trauma and Suicidal Behavior among Civilians

- Sexual trauma and suicidal behavior (Belik et al, 2007)
 - National Comorbidity Survey
 - 8098 male and female US adults

	Association with Rape	
	Males	Females
Suicidal Ideation	1.12	1.73
Suicide Attempt	4.13	2.07

Adjusted for demographics, physical health condition, psychiatric diagnoses, and other traumas

Sexual Trauma and Suicide among Civilians

- Sexual assault and completed suicide (Gradus et al, 2012)
 - Examined all suicides in Denmark from 2001-2006
 - After controlling for pre-existing psychiatric diagnoses, the rate of suicide among those who experienced a sexual victimization was 14 times greater than those who did not.

Summary

- Understanding the association between sexual trauma and suicide is critical for prevention and intervention initiatives.
 - MST is a dominant concern of female veteran crisis line callers
- Compelling evidence base developing for an association between sexual trauma and suicide that is independent of psychopathology.
 - Some studies suggest this may be more of a concern for women
- Additional research is needed to further elucidate associations and examine the mechanisms through which sexual trauma increases risk of suicide.

Questions

- Lauren Denneson (Lauren.Denneson@va.gov)
- Jaimie Gradus (Jaimie.Gradus@va.gov)
- Jennifer Strauss (Jennifer.Strauss@va.gov)