

# Intimate Partner Violence and Heart Health Risk Factors: Comparing Veteran and Non-Veteran Women



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## Background

- ❖ Cardiovascular disease (CVD) is experienced by more than 35% of women aged 20 or older in the United States and is the leading cause of death for women
- ❖ More than one in four women experience intimate partner violence (IPV) in their lifetime and IPV exposure may be associated with CVD risk factors, including depression, smoking, being overweight or obese, and physical inactivity
- ❖ Experiences of IPV and CVD risk factors may differ for women veterans as compared with non-veterans
- ❖ We know little about experiences of IPV, and associations between IPV and CVD risks, among women veterans



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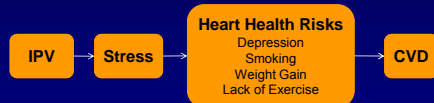
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## Study Aims

- ❖ To assess the rates of IPV exposure among women veterans, compared with women non-veterans
- ❖ To assess the association between IPV exposure and heart disease risks, comparing veteran and non-veteran women



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## Methods

- ❖ CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006
- ❖ 8 states with IPV module: Arkansas, Hawaii, Louisiana, Montana, Nevada, Virgin Islands, Virginia, West Virginia
- ❖ *Veteran Status*: "Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit?"
- ❖ *IPV*: intimate partner ever threatened or used physical violence or unwanted sex



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## Sample Description (%)

		Veterans (N = 503)	Non-Veterans (N = 20,659)
Age**	18-34	37.2	30.1
	35-44	24.9	19.3
	45-54	22.0	19.1
	55+	15.8	31.5
Race*	White, Non-Hispanic	63.6	72.8
	Non-White/Hispanic	36.4	27.2
Income	<\$25,000	20.4	27.2
	\$25,000-49,999	29.2	27.5
	\$50,000+	50.4	45.3
Education	<College Graduate	63.0	67.8
	College Graduate+	37.0	32.2

\* = p < .05 \*\* = p < .01



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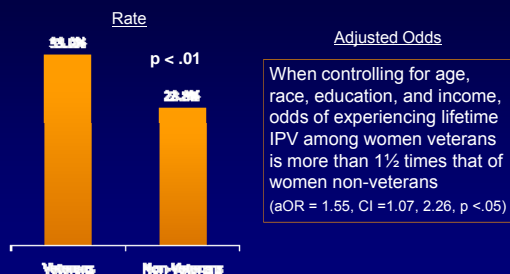
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## Association between Veteran Status and Lifetime IPV Victimization



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## Heart Health Risk Variables

- ❖ *Depression Symptoms*: PHQ8  $\geq$  10
- ❖ *Current Smoking*: smoked at least 100 cigarettes in lifetime and currently smoke on some or all days
- ❖ *Binge or Heavy Drinking*: 4 or more alcoholic drinks on one occasion in the past 30 days or average of  $>1$  alcoholic drink/day in the past 30 days
- ❖ *Overweight/Obese*: BMI  $> 25$
- ❖ *Lack of Exercise*: no regular exercise in past 30 days



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## Prevalence of Health Risk Factors by Lifetime IPV Victimization: Veterans (%)

	IPV (N = 171)	No IPV (N = 332)
Depression Symptoms	12.8	7.4
Current Smoking	28.2	16.9
Binge or Heavy Drinking	18.7	8.6
Lack of Exercise	14.6	18.1
Overweight or Obese	66.4	48.5



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## Prevalence of Health Risk Factors by Lifetime IPV Victimization: Non-Veterans (%)

	IPV (N = 4,975)	No IPV (N = 15,684)
Depression Symptoms	25.1	6.7
Current Smoking	37.6	15.1
Binge or Heavy Drinking	15.2	9.1
Lack of Exercise	27.9	26.6
Overweight or Obese	56.8	54.6



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### Association between Lifetime IPV Victimization and Heart Health Risks: aOR (95% CI)

	Veteran	Non-Veteran
Depression Symptoms	1.99 (0.88, 4.52)	3.82 (3.23, 4.53)**
Current Smoking	2.10 (1.00, 4.39)	2.77 (2.37, 3.25)**
Binge or Heavy Drinking	2.28 (0.86, 6.02)	1.74 (1.45, 2.10)**
Lack of Exercise	0.79 (0.37-1.69)	0.95 (0.82, 1.10)
Overweight or Obese	2.13 (1.08-4.24)*	1.03 (0.99, 1.18)

Controlling for age, race, income, education  
 \* p < .05 \*\* p < .01



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### Limitations

- ❖ Self-report data
- ❖ No data on women's use of violence (perpetration) – IPV exposure limited to victimization
- ❖ IPV is measured as a lifetime variable (ever experienced) – we do not know the timing with regard to military experiences
- ❖ We do not know about other possible traumatic experiences, in addition to IPV



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### Conclusions

- ❖ Women veterans are a unique sub-population of women with a unique health risk provide
- ❖ Women veterans have particularly high rates of lifetime IPV victimization, suggesting a possible link between military service and IPV risk
- ❖ Women veterans have clinical profiles that differ from those of women non-veterans
- ❖ IPV can exacerbate CVD risk and CVD management



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## Implications

- ❖ We need to better understand the relationship between IPV and military service
- ❖ With a third of women veterans reporting IPV victimization, and given the association between IPV and health risks, the VA should attend to IPV experiences among women veterans
- ❖ We should consider women veterans as a unique population with unique clinical presentations



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## References

Coker, A. L., Smith, P. H., Bethea, L., King, M. R., & McKeown, R. E. (2000). Physical health consequences of physical and psychological intimate partner violence. *Archives of Family Medicine*, 9, 451-457.

Finkelstein, A. K., Schwartzbaum, J. A., Frid, D., & Meschberger, M. I. (2000). Depression as an antecedent to heart disease among women and men in the NHANES I study. *Archives of Internal Medicine*, 160, 1261-1268.

Frasure-Smith, N., & Lesperance, F. (2005). Reflections on depression as a cardiac risk factor. *Psychosomatic Medicine*, 67, S19-S25.

Heron, M. P., Hoyert, D. L., Murphy, S. L., Xu, J. Q., Kochanek, K. D., & Tejada-Vera, B. (2009). Deaths: Final data for 2008. *National vital statistics reports*, 57, 14. Hyattsville, MD: National Center for Health Statistics.

Leth, H. S., Blumenthal, J. A., Babyak, M. A., Sherwood, A., Strueman, T., Robins, C., & Newman, M. F. (2004). Depression as a risk factor for coronary artery disease: Evidence, mechanisms, and treatment. *Psychosomatic Medicine*, 66, 305-315.

Lloyd-Jones, D., Adams, R. J., Brown, T. M., Carnethon, M., Dai, S., De Simone, G., Ferguson, T. B., Ford, E., Furie, K., Gillespie, C., Go, A., Greenlund, K., Haase, N., Halpern, S., Ho, P. M., Howard, V., Kissela, B., Kittner, S., Lackland, D., Lisabeth, L., Marelli, A., McDermott, M. M., Meigs, J., Mozaffarian, D., Mussolino, M., Nichol, G., Roger, V. L., Rosamond, W., Sacco, R., Sorlie, P., Stafford, R., Thom, T., Wassenthel-Smoller, S., Wong, N. D., & Wylie-Rosett, J., on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. (2010). Heart disease and stroke statistics – 2010 update: A report from the American Heart Association. *Circulation*, 121, e46-e215.

Mora, S., Cook, N., Buring, J. E., Ridker, P. M., & Lee, I. (2007). Physical activity and reduced risk of cardiovascular events: Potential mediating mechanisms. *Circulation*, 116, 2110-2118.

Poirier, P., Giles, T. D., Bray, G. A., Hong, Y., Stern, J. S., Pi-Sunyer, F., & Eckel, R. H. (2006). Obesity and cardiovascular disease: Pathophysiology, evaluation, and effect of weight loss. *Circulation*, 113, 898-918.

Stampfer, M. J., Hu, F. B., Manson, J. E., Rimm, E. B., & Willett, W. C. (2000). Primary prevention of coronary heart disease in women through diet and lifestyle. *New England Journal of Medicine*, 343, 1032-1039.

Tjaden, P., & Thoennes, N. (2000). *Extent, nature, and consequences of intimate partner violence: Findings from the National Survey of Violence Against Women*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

Zinzow, H. M., Grubaugh, A. L., Monnier, J., Suffoletta-Maierle, S., & Frueh, B. C. (2007). Trauma among female veterans: A critical review. *Trauma, Violence, & Abuse*, 8, 384-400.



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**Thank you!**

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