

Firearm Behavioral Practices and Suicide Attempt and Ideation in U.S. Army Soldiers and Veterans

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BACKGROUND

- Suicide decedents are more likely to own one or more handguns, store a loaded gun at home and publicly carry a gun when not required for military duty. The connection of these three items is associated with a three-fold increase in the odds of suicide death.¹
- Since service members are more likely than civilians to own firearms, there is a need to understand the connection between ownership, use, accessibility and storage practices and suicide risk in order to help identify potential targets for suicide prevention strategies.
- Our overall objective is to develop an understanding of service members' firearm attitudes and behaviors and suicide risk.



METHODS

- This study examined data obtained from Army Study to Assess Risk and Resilience in Servicemembers - Longitudinal Study (STARRS-LS) Wave 2 and included soldiers who consented to administrative data linkage (n = 12,023) between 2011 and 2019.²
- Specific survey responses assessed number of firearms in the home, storage practices and carrying practices, as well as self-reported suicidal ideation and attempts.
- OR statistics with 95% CIs were obtained from separate univariate logistic regression models predicting suicide attempt and ideation (12 month and lifetime).
- The false discovery rate (fdr) was used to correct for multiple comparisons.³
- All tests are significant at $p \leq 0.05$ and were two-sided.
- Analyses were conducted with SAS version 9.4.⁴

RESULTS

- Service members who reported storing a gun loaded and unlocked were more likely to report a suicide attempt in the past year (OR = 4.9 [95% CI = (1.8, 13.5)]) and in their lifetime (OR = 1.6 [95% CI = (1.0, 2.3)]).
- Unexpectedly, carrying a weapon other than a gun (e.g., a knife, mace or a club) when out in the neighborhood was associated with increased risk of a suicide attempt in the past year (OR = 16.5 [95% CI = (4.9, 55.5)]) and lifetime (OR = 1.7 [95% CI = (1.1, 2.6)]).
- We found similar trends for suicidal ideation in the past year and lifetime.

		12 Month SA		Lifetime SA	
		OR	95% CI	OR	95% CI
Number of Guns Owned	1 gun vs 0 gun	0.3	(0.1, 0.5)	0.7	(0.5, 1.1)
	2+ guns vs 0 gun	0.7	(0.4, 1.4)	0.6	(0.5, 0.8)
Storage of Guns	Loaded/Unlocked vs Unloaded	4.9	(1.8, 13.5)	1.6	(1.0, 2.3)
	Loaded/Locked vs Unloaded	1.7	(0.5, 5.9)	1.6	(1.0, 2.5)
	No gun vs Unloaded	3.6	(1.7, 7.8)	1.9	(1.5, 2.5)
Carry Gun While Out in the Neighborhood	Little/Some of the time vs Never*	0.3	(0.1, 0.9)	0.5	(0.3, 0.7)
	All/Most of the time vs Never*	1.5	(0.7, 3.2)	1.1	(0.8, 1.4)
Carry Other Weapons When Out in the Neighborhood	Little/Some of the time vs Never	1.4	(0.2, 8.0)	0.8	(0.5, 1.3)
	All/Most of the time vs Never	16.5	(4.9, 55.5)	1.7	(1.1, 2.6)

Boldfaced values are statistically significant at p -value ≤ 0.05

*Never includes those that do not own a gun.

		12 Month SI		Lifetime SI	
		OR	95% CI	OR	95% CI
Number of Guns Owned	1 gun vs 0 gun	0.8	(0.7, 1.0)	0.9	(0.7, 1.1)
	2+ guns vs 0 gun	0.8	(0.7, 1.0)	1.0	(0.8, 1.1)
Storage of Guns	Loaded/Unlocked vs Unloaded	1.6	(1.3, 2.0)	1.4	(1.2, 1.7)
	Loaded/Locked vs Unloaded	1.1	(0.9, 1.4)	0.9	(0.8, 1.1)
	No gun vs Unloaded	1.4	(1.2, 1.7)	1.2	(1.0, 1.3)
Carry Gun While Out in the Neighborhood	Little/Some of the time vs Never*	0.9	(0.7, 1.1)	0.9	(0.8, 1.1)
	All/Most of the time vs Never*	0.9	(0.7, 1.0)	0.9	(0.8, 1.1)
Carry Other Weapons When Out in the Neighborhood	Little/Some of the time vs Never	1.5	(1.1, 2.0)	1.4	(1.1, 1.8)
	All/Most of the time vs Never	1.4	(1.1, 1.7)	1.6	(1.3, 1.8)

Boldfaced values are statistically significant at p -value ≤ 0.05 .

*Never includes those that do not own a gun.

DISCUSSION

- In summary, we found unsafe storage of loaded guns significantly increased the odds of suicide attempt and ideation.
- We learned carrying a weapon other than a gun around the neighborhood increased the odds of suicide attempt and ideation.
- These findings suggest that safe storage interventions (for firearms and other weapons) may have the potential to alter suicide risk among service members with personal firearms in their homes.



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