DEPARTMENT OF VETERANS AFFAIRS

Tobacco Use Among Rural Veterans

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Introduction

Cigarette smoking is the leading cause of premature morbidity and mortality in the United States, accounting for more than 440,000 deaths, 5.1 million years of potential life lost, and $96.8 billion in productivity losses each year.[1] Evidence suggests that individuals residing in rural areas are disproportionately affected by the health burden of tobacco use.[2-5] Furthermore, levels of tobacco use tend to be higher among veterans relative to the civilian population. Although these factors suggest rural veterans may be at elevated risk for smoking-related disease, little is known about rates of tobacco use among this group.

This research brief, based on a study published recently in *Addictive Behaviors*,[6] examined rates of cigarette smoking and smokeless tobacco use among veterans residing in rural versus non-rural areas.

Methods

Nationally-representative samples of adults aged 18 and older were surveyed about their health and behavioral risk factors in 2005-2008 as part of the Centers for Disease Control and Prevention's annual Behavioral Risk Factor Surveillance System (BRFSS)

Key Findings

- Lifetime cigarette smoking was higher among rural veterans (67.4%) than those living in urban (60.3%) or suburban areas (60.3%).
- From 2005 to 2008, rates of smoking declined 14% among rural and suburban veterans compared to 4% for those in urban areas.
- Smoking rates were higher for rural veterans (21.5%) than those living in suburban areas (17.2%), but did not differ significantly from those living in urban locations (19.4%).
- Lifetime use of smokeless tobacco was significantly higher among rural (36.1%) relative to suburban (32.7%) and urban (24.9%) veterans. Differences in current smokeless tobacco use were marginally significant (rural = 7.3%; suburban = 6.2%; urban = 3.6%, p =.059).

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Veterans were identified based on survey items assessing their history of military service.

- Respondents' place of residence in relation to the nearest Metropolitan Statistical Area (MSA) was used to classify residence as urban, suburban, or rural.
- History of tobacco use including lifetime and current cigarette and smokeless tobacco use and quit attempts in the past year were determined based on self-report.
- Differences in tobacco use according to place of residence were compared using multivariable logistic regression while adjusting for demographic factors. Analyses were conducted using SPSS Complex Samples Module v17.0 to account for the complex survey design.

Findings

Lifetime history of smoking

Veterans with a history of regular cigarette use were ascertained by identifying those who reported smoking 100 or more cigarettes during their lifetime. Results are presented in Table 1. Approximately two-thirds of all veterans living in rural areas reported a lifetime history of cigarette smoking. The proportion of lifetime smoking was significantly higher among rural veterans relative to both urban and suburban dwelling veterans.

Current cigarette smoking

Rates of current smoking were also compared among veterans living in rural versus urban and suburban locations. As demonstrated in Table 1, current smoking was highest among rural veterans (21.5%), followed by those living in urban (19.4%) and suburban (17.2%) areas. Rural veterans were significantly more likely than those residing in suburban settings to be current smokers ($p < .05$).

Trends in current smoking between 2005 and 2008 are presented in Figure 1. Rates of current smoking declined approximately 14% among those living in both rural and suburban locations, compared to 4% for those living in urban areas.

Attempts to quit smoking

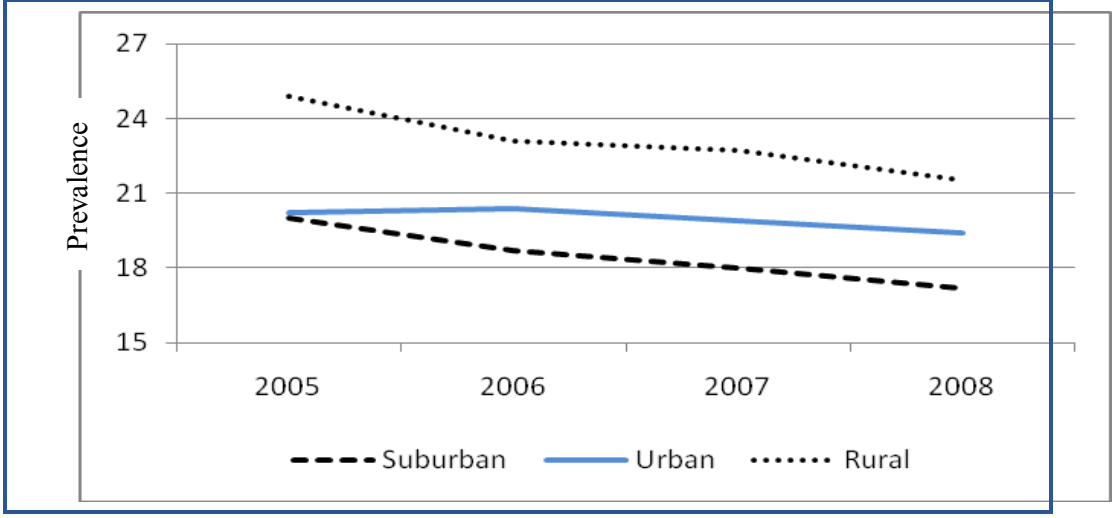
We next examined the proportion of smokers who had stopped smoking for one day or longer during the prior 12 months because they were trying to quit smoking. Approximately half of all veteran smokers reported that they had made at least one quit attempt during the past year. Rates did not

Table 1. History of Cigarette and Smokeless Tobacco (ST) Use - 2008

	Rural	Suburban	Urban
Lifetime cigarette use	67.4[a,b]	60.3	60.3
Current cigarette use	21.5[a]	17.2	19.4
Made 24-hour quit attempt in past year[‡]	53.2	53.8	53.8
Lifetime smokeless tobacco use	36.1[a,b]	32.7	24.9
Current smokeless tobacco use	7.3[c]	6.2	3.6

[a]Rates of tobacco use differ significantly between rural and suburban veterans ($p < .05$).
[b]Rates of tobacco use differ significantly between rural and urban veterans ($p < .05$).
[c]Rates of tobacco use marginally different across groups ($p = .059$).
[‡]Among current smokers.

Figure 1. Trends in Cigarette Smoking by Rurality – 2005-2008



Smokeless tobacco use

Although the greatest tobacco-related health risks are associated with cigarette smoking, a non-trivial number of veterans also use other forms of tobacco, including smokeless tobacco products such as moist snuff and chewing tobacco. Use of these products is associated with an increased risk for oral cancer, nicotine dependence, dental cavities, precancerous mouth lesions, and gum disease. Results from non-veteran populations suggest that rates of smokeless tobacco use are higher among those living in rural counties (10.0%) relative to those residing in small (5.4%) and large (3.1%) metropolitan statistical areas.[6] Therefore, we investigated veterans' lifetime and current use of smokeless tobacco products (Table 1). Rural dwelling veterans were significantly more likely than those living in suburban or urban areas to report ever using smokeless tobacco. Differences in rates of current smokeless tobacco use across groups were marginally significant ($p = .059$), with rural veterans being most likely to be current smokeless tobacco users.

Conclusions

Tobacco use poses a significant health risk to veterans. Results from the current study indicate that rates of cigarette smoking are higher among veterans living in rural areas relative to those residing in suburban or urban locations. Although the prevalence of smoking has declined over the past several years, more than one in five rural dwelling veterans currently smokes cigarettes. Veterans from rural areas are also more likely to have a lifetime history of smokeless tobacco use, although current rates of use do not differ significantly according to location of residence.

Results highlight the fact that large numbers of veterans continue to use tobacco products, and that the associated health risks are greater among those living in rural areas. In order to reduce health disparities associated with differential rates of tobacco use, it is important for the VHA to implement strategies (e.g., tobacco quitlines, internet-based smoking cessation interventions) that can best suit the needs of this group. Future studies should also evaluate barriers to smoking cessation and how they may differ for rural residents.

Impact

- Although recent data suggest that cigarette smoking is on the decline overall, rural veterans continue to use cigarettes and other forms of tobacco at higher rates than those living in urban and suburban areas. Considering that tobacco use is the leading cause of premature morbidity and mortality, more comprehensive tobacco control strategies in VA that better serve the needs of rural veterans are likely to lead to an improvement in health disparities.
- The VA should incorporate more widespread implementation of evidence-based treatments for nicotine dependence including telephone quit-lines and internet-based interventions that effectively address barriers to care commonly experienced among rural veterans
- Because only 1% of smokers utilize currently-available state-sponsored quit-lines and considering the significant barriers that exist to providing referrals and coordinating care with non-VA quit-line providers, the VA should institute its own telephone quit-line to assist veteran tobacco users. Delivery of this service through the VA has the potential to greatly increase the utilization of tobacco cessation counseling and to provide care that is better coordinated with VA providers and which is more veteran-centered than can be obtained through state-run quit-lines.

References

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