

Abstract #6

Risk Factors For Hepatitis C Infections In U. S. Male Military Veterans And Nonveterans

Background and Significance: Nearly four million Americans are believed to be infected with the hepatitis C virus (HCV) with approximately 85% developing a chronic infection. Approximately 30,000 new infections occur annually. This translates to a prevalence rate of approximately 1.8% in the general U. S. population. Studies undertaken at various Veterans Affairs Medical Centers suggest a prevalence rate of 5-20%. At the present time, hepatitis C is felt to be responsible for 8,000 to 10,000 deaths annually, and it is expected that this number will triple over the next 10-20 years without effective treatment.

Purpose: The aims of this study were to examine possible risk factors for hepatitis C (nutrition; physical exercise; use of alcohol, tobacco, and illicit drugs; and risky sexual practices) in U.S. male military veterans and nonveterans; and to develop a parsimonious model to explain the relationship between military veteran status and risk of hepatitis C.

Method: A modification of Evans and Stoddard's (1990) epidemiological framework was used to guide this study. Data from the Third National Health and Nutrition Examination Survey (NHANES III) was used for this research. Due to only three cases of hepatitis C among female military veterans, the analysis was limited to men who had hepatitis C serology completed (2,275 military veterans; 5,460 nonveterans). SUDANN was used to estimate population-based prevalence and to conduct weighted LR analyses.

Findings: The prevalence of hepatitis C in the estimated noninstitutionalized U. S. adult male population was 3.0%. Hepatitis C was twice as prevalent in nonveterans as in military veterans (3.6% vs. 1.7%). The estimated number and prevalence of male military veterans in the population who were infected with hepatitis C during the study period was 388,614 (1.7%). The estimated number and prevalence of male nonveterans who were infected with hepatitis C was 1,874,551 (3.6%). The risk of hepatitis C in military veterans compared to nonveterans in this multivariate model was 0.60 (95% CI = 0.29–1.09). The strongest risk factors for hepatitis C seropositivity, adjusted for all other risk factors in the model including military veteran status, were evidence of hepatitis B infection (OR = 14.0; CI = 8.10–24.33, ever using cocaine (OR = 6.7; 95% CI = 3.65 – 12.17, sexual intercourse before age 18 (OR = 3.3; 95% CI = 1.41 – 7.51), age 30-55 (OR = 3.1; 95% CI = 1.74 – 5.67), not having a particular place for health care (OR = 2.4; 95% CI = 1.27 – 4.59), being single (OR = 2.3; 95% CI = 1.24 – 4.20), and education less than 12 years (OR = 2.3; 95% CI = 1.28 – 4.01).

Conclusions: Contrary to expectations based on the higher prevalence of hepatitis C within the Veterans Affairs Medical Centers, past military service in this population-based study was associated with a decreased risk of hepatitis C infection. Nutritional factors, physical exercise variables, and tobacco use variables were not found to be risk factors for hepatitis C infection. Frequent (OR = 3.0, 95% CI = 1.46 – 6.13) or heavy alcohol use (OR = 2.7, 95% CI = 1.44 – 4.94) and marijuana use of greater than four times per month (OR = 2.8, 95% CI = 1.20 – 6.69) were found to be risk factors for hepatitis C infections although not in the multivariate model.