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Mortality of Canadian military personnel over 40 years

Rolland-Harris, E¹, Weeks, M¹, Simkus, K², and Vantil, L^{2*}

¹Department of National Defence

²Veterans Affairs Canada

Background

Military personnel may be exposed to hazardous substances or environments, making health surveillance critical. However, surveillance is frequently handicapped by long lag times between exposure(s) and outcomes, which often manifest post-military release and are often not recorded.

Conclusions

Military service may have a protective effect that may be partly explained by the healthy soldier effect and the stringent selection process at enrolment.

Aims

To describe the burden of mortality in still serving and released Canadian Armed Forces (CAF) personnel.

Methods

The Canadian Forces Cancer and Mortality Study II (CF CAMS II) is an interdepartmental record linkage study using CAF pay data and Statistics Canada cancer and mortality data. The cohort included all Regular Force and class C Reservist men and women who first enrolled in the CAF between 1976 and 2012, inclusive. The anonymized linked data included death data, including cause and location of death. All-cause mortality (ACM) and International Classification of Disease (ICD)-10 chapter-level mortality (CLM) were quantified using standardized mortality ratios (SMRs), with the Canadian general population (CGP) as the reference population.

Results

Approximately 6870 deaths occurred during over 5 million person-years of observations. For ACM, the CAF risk of death was significantly lower than the CGP for both sexes (females: $n = 540$, $SMR = 0.76$ [95% CI 0.69–0.82]; males: $n = 6330$, $SMR = 0.79$ [95% CI 0.77–0.81]). In the CLM analysis, SMRs were significantly lower than, or not statistically different from, 1.0 for all ICD chapters.

*Corresponding Author:

Email Address: linda.vantil@canada.ca (L Vantil)