Roles of physical and mental health in suicidal ideation in Canadian Armed Forces Regular Force veterans

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ABSTRACT

OBJECTIVES: Suicide in recent veterans is an international concern. An association between mental disorders and suicide has been established, but less information is available about an association between physical health problems and suicide among veterans. This study extends this area of inquiry by examining the relationship of both physical and mental health problems with suicidal ideation in a representative national sample of Canadian veterans.

METHODS: Subjects were a stratified random sample of 2,658 veterans who had been released from the Canadian Armed Forces Regular Force during 1998-2007 and had participated in the 2010 Survey on Transition to Civilian Life. Associations between physical and mental health and past-year suicidal ideation were explored in multivariable regression models using three measures of physical and mental health.

RESULTS: The prevalence of suicidal ideation was 5.8% (95% confidence interval [CI]: 5.0%-6.8%). After adjustment for covariates, ideation was associated with gastrointestinal disorders (adjusted odds ratio [AOR] 1.66, CI: 1.03-2.65), depression or anxiety (AOR 5.06, CI: 2.97-8.62) and mood disorders (AOR 2.91, CI: 1.67-5.07); number of physical (AOR 1.22, CI: 1.05-1.42) and mental conditions (AOR 2.32, CI: 2.01-2.68); and SF-12 Health Survey physical health (AOR 0.98, CI: 0.96-0.99 for each 1 point increase) and mental health (AOR 0.88, CI: 0.87-0.89).

CONCLUSIONS: Physical health was independently associated with suicidal ideation after adjustment for mental health status and socio-demographic characteristics. The findings underscore the importance of considering physical health in population-based suicide prevention efforts and in mitigating suicide risk in individual veterans.

KEY WORDS: Veterans; suicidal ideation; physical health; mental health; suicide

La traduction du résumé se trouve à la fin de l'article.

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Suicide is an important public health problem and therefore is of interest to Veterans Affairs Canada (VAC) and similar agencies worldwide that support the well-being of veterans and their families. The protracted conflicts in Afghanistan and Iraq have triggered renewed interest in the life-course health effects of military service, including suicide.^{1,2} Historically, suicide rates among serving and released (veteran) military populations have tended to be similar or lower than in civilian populations, consistent with a healthy worker effect.²⁻⁵ Suicide rates have increased in the US and UK in the past decade among serving personnel^{2-4,6-9} and in some veteran subpopulations, including young males and those with chronic health problems.^{3,6-8,10,11} A mortality study of Canadian Armed Forces personnel who enrolled in 1972-2005 found elevated rates among veterans.⁴

Suicide risk in contemporary veterans needs explanation.² Mental health problems are strongly associated with suicidality (ideation, attempt and death) and are known military occupational risks.^{1,2,11-19} In an expert consensus framework proposed for suicide prevention, stressful life events, psychiatric disorders and dispositional risks, including personality and social factors, were viewed as key pathways toward suicidal behaviour, but physical health was not included.²⁰ The possibility that physical health also plays a role in explaining suicide risk has not been well explored in veterans. A broad range of chronic physical health conditions also occur in military service.¹ In veterans, as in the general public, physical conditions are about 2-4 times more prevalent than

diagnosed mental health conditions, and the prevalence of some physical conditions, particularly musculoskeletal disorders, has been higher in some veteran populations than among comparable civilians.^{21,22} Age and sex have been consistently associated with suicidality, and socio-economic factors, including marital status, education and financial status, have been associated with suicidality as influencing factors.^{2,4,5,7,10-13,23-30} Military rank has been found to be associated with Canadian and UK veteran suicide.^{4,8}

Associations between physical health and suicidality are supported by a developing body of evidence in civilian studies, particularly of chronic pain,^{10,23-26,31} but are less well established than for mental disorders owing to inconsistent findings and methodological variability.²⁵ Physical health has been little studied as a risk factor for veteran suicidal ideation. In US veteran studies,

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severe pain was associated with suicide after adjustment for psychiatric conditions and other factors;³¹ life stress related to physical health in the two weeks before suicide was associated with completed suicide;¹² and physical health difficulties were associated with suicidal ideation in older veterans.²⁷

The current study is unique in exploring associations between past-year suicidal ideation and physical and mental health from a survey of recent Canadian veterans. Although most of those with suicidal ideation do not progress to suicide, ideation is the entry to suicidal pathways, one of the strongest predictors of suicide and a key indication for intervention to prevent suicide.^{2,18} The objectives of this study were to examine whether impaired physical health was associated with suicidal ideation; whether such a relationship was explained by the association of physical and mental health; and whether mental and physical health interacted to increase risk for ideation.

METHODS

The 2010 Survey on Transition to Civilian Life (STCL) involved Canadian Armed Forces Regular Force veterans who had been released from service during 1998-2007.²¹ They enrolled in service from the 1960s to the 2000s and had varied experience in training, domestic disaster response and international peacekeeping, primarily in Cyprus and the Balkans, the first Persian Gulf War in 1990-91 and, more recently, in the combat and peace support mission in Afghanistan.

Sample

The cross-sectional, computer-assisted telephone interview survey sampled former Regular Force personnel who had been released from service during January 1998 to December 2007, had not re-enrolled and were not living in institutions, the northern Territories or outside of Canada.²¹ The sample was established by Statistics Canada in November 2009 using the Department of National Defence (DND) human resources database. Contact information was obtained by Statistics Canada through linkage with administrative data. Statistics Canada's Policy Committee provided approval for the study. Of the 4,721 former Regular Force personnel sampled, 3,355 responded (response rate 71%). Of these, 3,154 (94%) agreed to share their data with VAC and DND. After variables had been selected for this analysis, complete records were available for 2,658. There were no significant differences in the prevalence rates of ideation, socio-demographic characteristics or health conditions between the full STCL sample and the analyzed subsample.

Suicidal ideation

Ideation was assessed using questions derived from the Canadian Community Health Survey. All respondents were asked, "Have you ever seriously considered committing suicide or taking your own life?" Those who said "yes" were asked, "Has this happened in the past 12 months?"

Physical and mental health covariates

Three health measures were used in the study. First, respondents were asked whether they had chronic health conditions diagnosed by a health professional that had lasted or were expected to last six months or more. Physical health conditions were grouped: musculoskeletal conditions (arthritis or back problems excluding

fibromyalgia); cardiovascular conditions (high blood pressure, heart condition, effects of stroke); respiratory conditions (asthma, emphysema, chronic bronchitis and chronic obstructive pulmonary disease); gastrointestinal conditions (intestinal or stomach ulcers, bowel disorder such as Crohn's disease, ulcerative colitis, irritable bowel syndrome and bowel incontinence); hearing problems; chronic pain or discomfort; obesity; and diabetes. Cancer was excluded since fewer than five veterans with cancer had suicidal ideation. Mental health conditions were assessed using four categories: mood disorder, anxiety disorder, anxiety or depression, and post-traumatic stress disorder. The second health measure was the number of conditions. The third was Version 1.0 of QualityMetric's SF-12 Health Survey, which measures both the presence of health problems and health-related functioning. Physical and mental component summaries for individuals were computed using QualityMetric's software; lower scores reflect poorer health.

Socio-demographic and military covariates

Following exploration of ideation prevalence²⁸ and examination of the literature, we derived an initial list of 10 potential covariates: age, sex, marital status, education, income, rank, service branch, length of service, enrolment era and deployment outside Canada for 30 days or more for combat, peace-keeping, humanitarian aid or non-routine deployments to sea, excluding training. Age at survey, sex and rank at release were obtained from the DND database. Ranks included categories for commissioned officers (cadet and officer ranks) and non-commissioned members (recruit, junior and senior ranks). Other variables were self-reported. Educational level attained was grouped into four categories: less than high school graduation, high school graduate, some post-secondary education and university graduate. Statistics Canada's Low Income Measure is based on household income and number of people in the household.²¹ Correlations with ideation were assessed using SPSS (Version 16.0, SPSS Inc., Chicago, IL) statistical tests for categorical and continuous variables and unadjusted binary logistic regressions in Stata version 11.1 (StataCorp, College Station, TX, 2011); those with significant associations were included in the regression models.

Statistical analysis

Analyses were conducted for respondents with complete ideation data. Stata was used to account for sampling stratification by VAC benefit reciprocity status, age, sex and non-response.²¹ Taylor series linearization was used to calculate confidence intervals. We initially explored associations of ideation with the socio-demographic covariates (age, sex, marital status, income, education and rank) and the health measures using unadjusted odds ratios (UORs) in separate logistic regressions. Separate multivariate regressions were conducted with each of the three health measures owing to collinearity concerns, with adjustment for the six socio-demographic variables in each case (Table 1).

RESULTS

Sample characteristics

The mean number of years between release from service and participation in the survey was 6.8 (standard deviation [SD] 3.0,

Table 1. Results of unadjusted and adjusted regression models for past-year suicidal ideation

Variable	No ideation n=2452 No. (%)†	With ideation n=206 No. (%)	Total n=2658 No. (%)	UOR individual regressions	AOR‡ (95% CI) regression with groups of conditions, adjusted for socio-demographics	AOR§ (95% CI) regression with numbers of conditions, adjusted for socio-demographics	AOR (95% CI) regression with SF-12 component summaries, adjusted for socio-demographics
Physical Health Conditions							
Gastrointestinal condition	315 (10.2)	68 (29.0)	383 (11.3)	3.59 (2.49-5.18)***	1.66 (1.03-2.65)*	—	—
Chronic pain or discomfort	1794 (62.9)	186 (83.2)	1980 (64.1)	2.91 (1.76-4.83)***	1.42 (0.77-2.61)	—	—
Musculoskeletal condition	1424 (48.1)	157 (65.5)	1581 (49.1)	2.05 (1.41-2.97)***	0.80 (0.51-1.24)	—	—
Diabetes	151 (5.0)	27 (10.0)	178 (5.3)	2.10 (1.29-3.43)**	1.57 (0.87-2.84)	—	—
Respiratory condition	212 (7.5)	37 (14.5)	249 (7.9)	2.10 (1.35-3.26)***	1.06 (0.65-1.71)	—	—
Cardiovascular condition	592 (20.4)	75 (32.3)	667 (21.1)	1.86 (1.32-2.64)***	1.46 (0.96-2.22)	—	—
Obesity	730 (27.3)	91 (39.4)	821 (28.0)	1.73 (1.24-2.42)***	1.29 (0.89-1.86)	—	—
Hearing problem	866 (27.2)	93 (38.1)	959 (27.8)	1.65 (1.18-2.30)**	1.03 (0.70-1.51)	—	—
Mental Health Conditions							
Depression or anxiety	558 (16.7)	160 (69.9)	718 (19.8)	11.59 (7.79-17.25)***	5.06 (2.97-8.62)***	—	—
Mood disorders	75 (2.1)	40 (18.6)	115 (3.1)	10.59 (6.51-17.22)***	2.91 (1.67-5.07)***	—	—
Anxiety disorder	273 (7.7)	96 (40.5)	369 (9.6)	8.22 (5.79-11.66)***	1.54 (0.99-2.41)	—	—
Post-traumatic stress disorder	356 (8.8)	114 (40.4)	470 (10.6)	7.03 (5.03-9.81)***	1.31 (0.82-2.07)	—	—
Number of physical health conditions (range 0-8)	Mean 2.1 (SD 1.6)	Mean 3.1 (SD 1.8)	Mean 2.2 (SD 1.6)	1.46 (1.31-1.63)***	—	1.22 (1.05-1.42)**	—
Number of mental health conditions (range 0-4)	Mean 0.4 (SD 0.8)	Mean 1.7 (SD 1.3)	Mean 0.4 (SD 0.9)	2.65 (2.34-3.01)***	—	2.32 (2.01-2.68)**	—
SF-12 physical health	Mean 47.8 (SD 10.8)	Mean 40.7 (SD 13.7)	Mean 47.4 (SD 11.1)	0.95 (0.94-0.97)***	—	—	0.98 (0.96-0.99)*
SF-12 mental health	Mean 53.2 (SD 9.1)	Mean 33.6 (SD 11.2)	Mean 52.1 (SD 10.3)	0.87 (0.86-0.89)***	—	—	0.88 (0.87-0.89)***
Age (years)							
20-34	423 (26.1)	23 (18.7)	446 (25.7)	1.03 (0.58-1.82)	1.39 (0.58-3.36)	1.30 (0.54-3.13)	0.84 (0.34-2.08)
35-49	1101 (41.2)	131 (58.4)	1232 (42.2)	2.03 (1.40-2.95)***	1.59 (0.97-2.60)	1.49 (0.94-2.37)	0.98 (0.61-1.61)
50-67	928 (32.7)	52 (22.8)	980 (32.1)	1.00	1.00	1.00	1.00
Sex							
Female	263 (10.7)	35 (16.8)	298 (11.0)	1.69 (1.08-2.64)*	1.14 (0.65-2.00)	1.35 (0.79-2.33)	1.01 (0.56-1.84)
Male	2189 (89.3)	171 (83.2)	2360 (89.0)	1.00	1.00	1.00	1.00
Marital status							
Single never married	274 (15.0)	28 (18.7)	302 (15.2)	1.6 (1.0-2.6)	1.92 (1.05-3.49)*	1.97 (1.10-3.52)*	2.22 (1.14-4.30)*
Separated/divorced/widowed	242 (8.5)	46 (22.6)	288 (9.4)	3.44 (2.25-5.26)***	2.50 (1.53-4.07)***	2.51 (1.51-4.17)**	1.60 (0.96-2.68)
Married/common-law	1936 (76.4)	132 (58.8)	2068 (75.4)	1.00	1.00	1.00	1.00
Education							
Less than high school graduation	179 (6.8)	15 (4.9)	194 (6.7)	1.34 (0.60-3.00)	0.59 (0.23-1.54)	0.59 (0.24-1.48)	0.50 (0.19-1.33)
High school graduation	1033 (40.3)	93 (42.1)	1126 (40.4)	2.00 (1.04-3.72)*	1.14 (0.57-2.30)	1.00 (0.50-1.99)	0.92 (0.44-1.93)
Some post-secondary education	881 (36.0)	83 (44.1)	964 (36.5)	2.31 (1.21-4.40)**	1.15 (0.57-2.32)	1.08 (0.54-2.16)	1.06 (0.50-2.25)
University graduate	359 (16.9)	15 (9.0)	374 (16.4)	1.00	1.00	1.00	1.00
Income							
Below low income measure	137 (6.2)	24 (12.7)	161 (6.6)	2.19 (1.27-3.77)***	1.58 (0.84-2.98)	1.58 (0.84-3.00)	1.06 (0.56-2.01)
Above low income measure	2315 (93.8)	182 (87.3)	2497 (93.4)	1.00	1.00	1.00	1.00
Rank							
Recruits	234 (15.1)	15 (10.8)	249 (14.8)	1.60 (0.69-3.71)	1.11 (0.37-3.35)	1.42 (0.48-4.27)	1.61 (0.55-4.75)
Junior non-commissioned members¶	933 (35.1)	116 (53.2)	1049 (36.2)	3.37 (1.80-6.29)*	0.96 (0.30-3.13)	1.40 (0.66-2.99)	1.50 (0.74-3.04)
Senior non-commissioned members††	821 (28.1)	59 (26.2)	880 (28.0)	2.07 (1.08-3.96)*	0.72 (0.26-2.03)	1.33 (0.64-2.78)	1.37 (0.65-2.91)
Officers and cadets	464 (21.7)	16 (9.8)	480 (21.0)	1.00	1.00	1.00	1.00

† All numbers represent unweighted sample sizes, and all percentages represent weighted column percent (percentage of those with or without ideation who had the condition or characteristic); for number of health conditions and SF-12 component summaries, mean and standard deviation shown.

‡ All variables shown were entered into the model at once to adjust for health conditions and the socio-demographic variables, $df=2627$, $F(24,2604)=13.64$, probability of greater $F < 0.001$; excludes numbers of health conditions and the SF-12 component summaries.

§ All variables shown were entered into the model at once to adjust for numbers of conditions and the socio-demographic variables, $df=2655$, $F(14,2642)=22.8$, probability of greater $F < 0.001$; excludes individual health conditions and the SF-12 component summaries.

|| All variables shown were entered into the model at once to adjust for the SF-12 component summaries and the socio-demographic variables, $df=2658$, $F(14,2642)=26.0$, probability of greater $F < 0.001$; lower scores on the Physical Component Summary and the Mental Component Summary reflect worse health; excludes individual health conditions and numbers of conditions.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

¶ Private, Corporal, Master Corporal; Ordinary, Able, Leading and Master Seaman.

†† Sergeant, Corporal, Master Corporal; Master Warrant Officer, Chief Warrant Officer, Petty Officer and Chief Petty Officer.

UOR = Unadjusted odds ratio for past-year suicidal ideation, reference group without the condition; CI, confidence interval; AOR, odds ratio adjusted for covariates.

—, variable not included in the model.

Figure 1. Prevalence of past-year suicidal ideation by number of health conditions

Figure 2. Prevalence of past-year suicidal ideation by SF-12 component summaries

range 2.3-12.2). Mean age was 43.5 years (SD 11.2, range 20-67). Few had low household income (7%, similar to the 2009 age- and sex-adjusted general Canadian population),²¹ 11% were women, 53% had at least some post-secondary education, and 75% were in married or common-law relationships (Table 1). Most (64%) were released with non-commissioned ranks, 60% had been deployed outside Canada for 30 days or more, and 25% were released owing to medical employability limitations. Nearly all of the 34% who were participating in VAC programs were eligible for disability benefits because of service-related physical and/or mental health diagnoses by administrative criteria. There was a substantial prevalence of self-reported diagnosed chronic health conditions: 81% had one or more diagnosed physical conditions, and 23% had one or more diagnosed mental conditions. Almost all with mental conditions had co-morbid physical conditions (95%), whereas only about a third with physical conditions had mental conditions (27%). The weighted population prevalence of suicidal ideation was 5.8% (95% CI: 5.0%-6.8%) and of past-year suicide attempts was 1.1% (95% CI: 0.7%-1.6%).

Figure 3. Distributions of veterans with and without past-year suicidal ideation by co-morbidity increments

Figure 4. Past-year suicidal ideation prevalence by co-morbidity increments

Unadjusted associations with ideation

Significantly elevated UORs were found for female sex, middle age (35-49 years), widowed/separated/divorced, lower educational attainment, low income and non-commissioned rank at release (Table 1). UORs were significant for all groups of health conditions but were much lower for physical (1.7-3.6) than mental conditions (7.0-11.6) (Table 1). Age was used in the multivariate models instead of two variables strongly correlated with age: length of service (Pearson's coefficient 0.90, $p < 0.01$) and enrolment era (Kendall's tau-b, -0.80 , $p < 0.01$).

Figure 1 shows that increasing numbers of physical and mental conditions were associated with ideation in approximately linear relationships. Figure 2 shows that decreasing SF-12 summary scores (worse health) were associated with higher ideation in an approximately linear fashion.

Those with three or more physical conditions and at least one mental condition had a high prevalence of ideation (21.5%, CI: 18.0%-25.5%) and markedly increased odds of ideation (UOR 17.3, CI: 9.5-31.6) relative to those with two or fewer physical

and no mental conditions. Moreover, this high co-morbidity group contained only 15.2% (CI: 14.0%-16.5%) of the overall STCL population but contained 55.9% (CI: 47.7%-63.8%) of all ideation cases (Figure 3).

Associations with ideation after adjustment

All three health measures were independently associated with ideation after adjustment for the socio-demographic characteristics (Table 1). After adjustment for socio-demographics and the presence of health conditions in a single multivariate model there was an independent association with ideation only for gastrointestinal disorders (adjusted odds ratio [AOR] 1.66, CI: 1.03-2.65); stronger, persistent associations among the mental conditions were found only for the "depression or anxiety" category (AOR 5.06, CI: 2.97-8.62) and mood disorders (AOR 2.91, CI: 1.67-5.07). In the number of conditions model, the AOR of ideation for each additional mental condition was 2.32 (CI: 2.01-2.68) and for each additional physical condition was smaller, at 1.22 (CI: 1.05-1.42). In the SF-12 model, current mental health status was more strongly associated with ideation than physical health: each one-point increase in the mental summary decreased the odds of ideation by 0.88 (CI: 0.87-0.89), while each one-point increase in the physical summary decreased the odds by 0.98 (CI: 0.96-0.99). Of the socio-demographic characteristics, only marital status other than married or common law remained significantly associated with ideation.

Multiplicative interaction terms using products of number of mental and physical conditions and SF-12 scores were not significant in multivariate models (not shown) so were not included in the final models. Figure 4 suggests the possibility of an additive, synergistic interaction between physical and mental health, as there was a stronger association of ideation prevalence with increasing physical health co-morbidity in the presence of at least one mental condition.

DISCUSSION

This study found that mental health had a strong, independent association with suicidal ideation and that physical health also was independently, though less strongly, associated with ideation. Ideation prevalence was highest among veterans with multiple physical conditions and co-occurrence of one or more mental conditions, and ideation cases were heavily concentrated in this highly co-morbid group. There was a suggestion of a possible synergistic, additive interaction between physical and mental health in association with ideation. In this study, 5.8% of Regular Force veterans had ideation compared with the 4.0% prevalence found nearly a decade earlier in 2002 for both the Canadian general population and serving personnel.⁵ These prevalence rates are not directly comparable because of differences in era, age, sex composition and survey methodology.

The strong association of mental health with ideation found in this study is consistent with well-established evidence from prior research in civilian and military populations. The finding of independent associations of both physical and mental health with ideation lends support to the hypothesis that the known effect of military service on health^{1,2,17} could be one mechanism contributing to increased suicide in some veteran populations.

For all health measures used in this study, controlling for mental health and socio-demographic characteristics attenuated the unadjusted association of physical health with ideation. This finding accords with previous studies in general populations, although associations with specific conditions have been inconsistent.^{23,24} Physical health was found to be one of the strongest risk factors for suicidal ideation in older US veterans.²⁷ The finding that the unadjusted associations between physical health and ideation were attenuated by adjustment for mental health is consistent with the explanation that much of the effect of physical health on ideation is mediated by mental health, which is plausible and consistent with prior work.^{14,25} Such mediation is also consistent with theoretical frameworks proposed for suicidality in military personnel and veterans, which emphasize the importance of psychological and coping factors arising from individual predisposition and perceived social distress.^{2,7,15,24-27,29} Mediation is also consistent with the Mann suicide prevention framework,²⁰ in that physical health problems could be antecedents to mental disorders or stressful life events that drive suicidality.²⁹ Our findings suggest paths between physical health and ideation that are not reflected in the Mann framework and remain to be clarified.

This study found no direct association between suicidal ideation and deployment, a finding consistent with prior studies that have controlled for military and other factors.^{7,15,16,18,30-32} The STCL did not assess deployment characteristics (such as combat exposure) known to be associated with mental health problems; however, we controlled for mental disorders. Although combat exposure can result in physical and mental health problems for some, non-military factors have been associated with suicidality in veterans. These include protective factors, such as resilience¹⁴ and social support,^{9,16,27} and predisposing factors, such as social readjustment stressors,²⁶ low social support,⁹ age, male sex, White race and pre-service factors.^{7,26,30} The only socio-demographic variable that remained significant in the multivariate models was marital status other than married or common law, likely signalling the importance of social support. This is consistent with emerging evidence that military population suicides are associated with a range of factors similar to those experienced by civilians.^{2,5,7,9,10,12,14,18,26,30} It seems likely that the interplay of later life health status and individuals' predispositions and post-service psychosocial factors could account for increased suicidal ideation in some veteran populations.⁹ Additional research is needed to explore the relationships of physical health with these potential mediating factors.

Strengths and limitations

This was the first comprehensive, national study of suicidal ideation in recent veterans living in the general Canadian population. The response rate was good, and the sample was statistically representative of Regular Force personnel who were released during 1998-2007. Sampling weights provided by Statistics Canada accounted for age and sex differences between responders and non-responders. Veteran identity and some socio-demographic and military characteristics were objectively determined through data linkage.

The study was cross-sectional, so associations cannot be presumed to imply causality. Use of self-reported diagnosed health condition groups did not include undiagnosed problems, and

specific diagnoses within groups of conditions vary in terms of severity, natural history and predisposition to suicidality. However, the similarity in the main findings using all three ways of measuring health status is reassuring, since SF-12 scores account for the functional impact of undiagnosed as well as diagnosed conditions. The mental condition questions did not identify mutually exclusive groups; however, there was a more or less linear association between number of mental conditions and ideation. Interactions can be difficult to detect using logistic regression for a low prevalence outcome such as suicidal ideation, and very few veterans had mental conditions without physical conditions. The sample was too small to investigate the role of physical health in suicide attempts, and it is conceivable that physical health could play a different role in life course pathways from ideation to suicidal behaviour. The survey did not sample all Regular Force veterans living in Canada and included no Reserve Force veterans, so while the findings are not representative of the much larger veteran population, they are representative of modern-day Regular Force veterans exposed to the increased operational tempo of Canadian Armed Forces operations since 1990.

CONCLUSIONS

These findings suggest that the current singular focus on psychosocial problems in contemporary veterans should not eclipse the potential impact of physical health problems. Attention to physical health is recommended when diagnosing and treating mental health and social problems.⁶ The findings support policies that provide access to mitigation of both physical and mental health problems. Subgroups with a higher prevalence of suicidal ideation could be targets for resource allocation in suicide prevention, particularly veterans with multiple chronic physical conditions and co-occurrence of physical and mental conditions. Lack of an association of ideation with deployment suggests that suicide might be approached as a public health problem in the broader veteran community as opposed to a deployment health problem in war veterans.

Physical health is a potentially important factor in research determining pathways to suicidal ideation in veterans and potentially to suicidal behaviour. Larger samples, prospective studies, more precise measurement of health conditions using structured symptom measures, clinical records and measures of health condition severity would clarify the smaller direct effect of physical health and its possible interactive effect with mental health. These approaches would clarify whether the small, independent association between physical health and ideation is due to a strong effect in a small subpopulation of veterans or a weak effect in many.

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RÉSUMÉ

OBJECTIFS : Les suicides de militaires récemment démobilisés sont un enjeu international. On a établi une association entre les troubles mentaux et le suicide, mais on a moins d'information sur une association possible entre les problèmes de santé physique et le suicide chez les anciens combattants. Nous avons voulu élargir le champ de recherche en examinant la relation entre les troubles de santé physique et mentale et l'idéation suicidaire au sein d'un échantillon national représentatif d'anciens combattants canadiens.

MÉTHODE : Nos sujets étaient un échantillon aléatoire stratifié de 2 658 anciens combattants démobilisés de la force régulière des Forces canadiennes entre 1998 et 2007 et ayant participé à l'Enquête sur la transition à la vie civile de 2010. Nous avons analysé les associations entre la santé physique et mentale et l'idéation suicidaire au cours de l'année antérieure à l'aide de modèles de régression multivariés comportant trois indicateurs de santé physique et mentale.

RÉSULTATS : La prévalence de l'idéation suicidaire était de 5,8 % (intervalle de confiance de 95 % [IC] : 5,0-6,8). Compte tenu des covariables, l'idéation était associée aux troubles gastro-intestinaux (rapport de cotes ajusté [RCA] 1,66, IC : 1,03-2,65), à la dépression ou à l'anxiété (RCA 5,06, IC : 2,97-8,62) et aux troubles de l'humeur (RCA 2,91, IC : 1,67-5,07); au nombre de troubles physiques (RCA 1,22, IC : 1,05-1,42) et mentaux (RCA 2,32, IC : 2,01-2,68); à l'état de santé physique selon le questionnaire de santé SF-12 (RCA 0,98, IC : 0,96-0,99 pour chaque point d'augmentation) et à l'état de santé mentale selon le SF-12 (RCA 0,88, IC : 0,87-0,89).

CONCLUSIONS : La santé physique était indépendamment associée à l'idéation suicidaire après élimination des effets de l'état de santé mentale et des caractéristiques sociodémographiques. Ces constatations soulignent l'importance de tenir compte de la santé physique dans les efforts de prévention du suicide axés sur l'ensemble de la population et pour atténuer le risque de suicide chez les anciens combattants sur une base individuelle.

MOTS CLÉS : ancien combattant; idéation suicidaire; santé physique; santé mentale; suicide