

# Mental Health Treatment Seeking by Military Members With Posttraumatic Stress Disorder: Findings on Rates, Characteristics, and Predictors From a Nationally Representative Canadian Military Sample

Deniz Fikretoglu, PhD<sup>1</sup>, Alain Brunet, PhD<sup>2</sup>, Stéphane Guay, PhD<sup>3</sup>, David Pedlar, PhD<sup>4</sup>

**Objective:** The goal of this study was to identify rates, characteristics, and predictors of mental health treatment seeking by military members with posttraumatic stress disorder (PTSD).

**Method:** Our sample was drawn from the 2002 Canadian Community Health Survey–Canadian Forces Supplement (CCHS-CF) dataset. The CCHS-CF is the first epidemiologic survey of PTSD and other mental health conditions in the Canadian military and includes 8441 nationally representative Canadian Forces (CF) members. Of those, 549 who met the criteria for lifetime PTSD were included in our analyses. To identify treatment rates and characteristics, we examined frequency of treatment contact by professional and facility type. To identify predictors of treatment seeking, we conducted a binary logistic regression with lifetime treatment seeking as the outcome variable.

**Results:** About two-thirds of those with PTSD consulted with a professional regarding mental health problems. The most frequently consulted professionals, during both the last year and lifetime, included social workers and counsellors, medical doctors and general practitioners, and psychiatrists. Consultations during the last year most often took place in a CF facility. Treatment seeking was predicted by cumulative lifetime trauma exposure, index traumatic event type, PTSD symptom interference, and comorbid major depressive disorder. Those with comorbid depression were 3.75 times more likely to have sought treatment than those without.

**Conclusions:** Although a significant portion of military members with PTSD sought mental health treatment, 1 in 3 never did. Trauma-related and illness and (or) need factors predicted treatment seeking. Of all the predictors of treatment seeking, comorbid depression most increased the likelihood of seeking treatment.

(*Can J Psychiatry* 2007;52:103–110)

Information on funding and support and author affiliations appears at the end of the article.

## Clinical Implications

- Intervention programs aimed at increasing treatment-seeking behaviours, especially in the military context, should carefully assess history of trauma exposure.
- Intervention programs should also assess comorbid conditions, especially depression.
- Treatment adequacy as well as treatment contact should be measured in future studies.

## Limitations

- Cross-sectional data cannot imply causality.
- Retrospective recall of symptoms and treatment contact are subject to recall bias.
- Treatment contact is not the same as treatment adequacy.

**Key words:** *trauma, posttraumatic stress disorder, treatment, health care use*

Over the past 5 decades, the Canadian military has been deployed to numerous conflict-ridden places, such as Bosnia-Herzegovina, Rwanda, and Afghanistan. In the course of operational missions, CF members are routinely exposed to stressful deployment-related events and are at risk for developing stress-related disorders such as PTSD.<sup>1</sup> A recent epidemiologic survey found that exposure to traumatic experiences and PTSD are indeed significant problems in the Canadian military.<sup>2</sup>

For those diagnosed with the disorder, PTSD is strongly associated with compromised physical health, decreased psychosocial and occupational functioning, and decreased quality of life<sup>3</sup>; it also has a significant economic impact, both in civilian<sup>4</sup> and military<sup>5</sup> populations. Despite these high costs, a significant portion of those with PTSD never seek treatment for their symptoms, both in civilian<sup>6</sup> and veteran populations.<sup>7</sup> Because of the paucity of epidemiological research on mental health conditions and health care use in active military populations in general and, more specifically, in active CF members, it is not known how widespread the problem of failing to seek mental health treatment is for Canadian military members with PTSD. Information on rates, characteristics, and predictors of mental health treatment seeking in the CF is essential for appropriate service planning, access, and delivery within the Canadian military and veteran health care systems.

The purpose of our study was to identify rates, characteristics, and predictors of mental health treatment seeking in a large, nationally representative sample of CF members with PTSD.

#### Abbreviations used in this article

CCHS-CF	Canadian Community Health Survey–Canadian Forces Supplement
CF	Canadian Forces
CI	confidence interval
CIDI	Composite International Diagnostic Interview
GAD	generalized anxiety disorder
GP	general practitioner
MD	medical doctor
MDD	major depressive disorder
ns	nonsignificant
OR	odds ratio
PTSD	posttraumatic stress disorder
PD	panic disorder
SD	standard deviation
SP	social phobia

Our study employed Andersen's Behavioral Model of Health Service Use<sup>8</sup> to predict treatment seeking. According to this model, individuals who need health services seek them because of predisposing, enabling, and (perceived and evaluated) need factors. Predisposing factors exist before the individual becomes ill and affect an individual's inclination to seek treatment; these include demographic and social structure variables such as age, sex, ethnicity, and religion. Enabling factors help the individual to access treatments, and include income, employment, and social support. Perceived need factors refer to subjective assessments of how much the symptoms interfere with functioning. Evaluated need factors include the number and type of comorbid conditions that may also interfere with functioning. In addition to predisposing, enabling, and need factors, we examined the contribution of trauma-related factors to treatment seeking. Although trauma-related factors are typically not included in Andersen's model, they have been found to be associated with treatment seeking in several studies.<sup>9</sup> To our knowledge, the present study is the first attempt at identifying rates, characteristics, and predictors of treatment seeking among CF members with PTSD.

## Method

### Participants and Procedure

Data were drawn from the Canadian Forces Supplement of Cycle 1.2 of the CCHS, which was conducted by Statistics Canada. The CCHS-CF is the first epidemiologic survey of mental health conditions in active members of the Canadian military. The target population was defined in May 2001 and included all full-time regular members ( $n = 57\ 000$ ) and reservists ( $n = 24\ 000$ ). Each target population was stratified by sex and rank. Rank was collapsed into 3 categories (private, sergeant, and officer) for men and 2 categories (private and officer) for women. Within each design stratum, the units were sorted by geographic region (Atlantic, Quebec, Ontario, or Prairies) and CF environment (land, air, or sea) and the final sample was obtained by using a systematic sampling scheme. After out-of-scope units (see below) were removed, 6487 regular members and 3957 reservists were selected for interview. The interviews were conducted between May and December 2002. A response was obtained for 5155 regular members and 3286 reservists, yielding an overall response rate of 79.5% for regulars and 83.0% for reservists, resulting in a final sample size of 8441. Of these, 549 who met criteria for lifetime PTSD were included in our analyses. Sample characteristics are reported in Table 1.

### Content of the CCHS-CF Survey

The diagnostic assessment section of the CCHS-CF is based on a selection of mental disorders from the CIDI,<sup>10</sup> a lay-administered psychiatric interview that generates

diagnoses according to criteria of the DSM-IV.<sup>1</sup> A recent large-scale epidemiologic survey showed that "blind clinical reinterviews with the Structured Clinical Interview for DSM-IV (SCID)<sup>[11]</sup> were in good concordance with CIDI diagnoses for anxiety and mood diagnoses."<sup>12, p 594</sup>

Nondiagnostic sections are based on sources used in other epidemiologic surveys conducted by Statistics Canada.

**Diagnostic Assessment.** Trauma-related and (perceived and evaluated) need factors were drawn from the CCHS-CF diagnostic assessment section, which included a screener for mental disorders and additional sections on alcohol dependence, MDD, dysthymia, PD, SP, GAD, and PTSD. Lifetime alcohol dependence could not be ascertained owing to a skip error. We used diagnostic status on lifetime MDD, PD, SP, and GAD to index the evaluated need for treatment.

The PTSD section was adapted specifically for CF members. To assess trauma exposure, respondents were given a booklet containing 28 potentially traumatic experiences and asked whether they had experienced any (an Appendix including these questions is available from the author). Affirmative responses were followed by a question regarding the number of event types experienced. The responses to this question were used to index cumulative trauma exposure. Respondents were asked to pick the event that caused the most reactions, referred to hereafter as the index event. Respondents who could not pick the event that caused the most reactions (less than 1% of our sample) were asked about the most recent event. Certain types of index events were reported very infrequently; we therefore reduced the 28 categories into 3 theoretically meaningful categories (civilian nonsexual, civilian sexual, and war-terror zone). For lifetime PTSD diagnosis, questions on PTSD criteria A2, B, C, D, E, and F were asked only about the index event. The interference of PTSD symptoms with functioning was used to index perceived need for treatment.

**Nondiagnostic Sections: Demographics and Determinants of Mental Health.** Predisposing and enabling variables were drawn from the "demographics" and the "determinants of mental health" sections. The demographic section of the survey included questions on age, sex, ethnicity, marital status, education, household income, military force type, and rank. Additional questions on spirituality and religiosity (drawn from Cycle 1.1. of the CCHS) were used to create 3 indices of spirituality and religiosity: the spirituality index, obtained by summing all spirituality items; the spirituality-religiosity index (that is, not spiritual-not religious, not spiritual-religious, spiritual-not religious, and spiritual-religious), based on 2 items that asked respondents whether they would describe themselves as spiritual or religious; and the frequency of religious service attendance index, based on a single item that asked about frequency of religious service

attendance. To index cumulative social support, we summed 19 questions on the determinants of mental health from the Medical Outcomes Study Social Support Survey.<sup>13</sup>

**Nondiagnostic Sections: Mental Health Services Use.** The outcome variable of general mental health treatment seeking was indexed by an item that asked participants whether they had ever seen or talked to a professional about their emotions, mental health, or use of alcohol or drugs in their lifetime and by follow-up items on age at which each professional type was first and last seen. Treatment seeking was coded as a "yes" only if the individual had sought help from at least one professional after the index (worst) trauma, and as a "no" only if the individual had not sought help from any professional after the index trauma. Treatment characteristics were indexed in this section by follow-up questions assessing frequency and location of treatment.

### Data Analyses

**Weighting.** To produce estimates from survey data that are representative of the CF population, and not just the sample, a final survey weight was created by Statistics Canada and applied to each respondent. This weight reflects 4 adjustments: initial sampling, sample reduction (regular forces only), removal of out-of-scope units, and individual nonresponse. The initial sampling adjustment takes into account the differential probabilities of selection in each of the 5 strata (men-women and private-sergeant-officer). The sample reduction adjustment refers to the reduction in the target sample size in the second phase of data collection as a result of higher-than-estimated response rates in the first phase. The removal of out-of-scope units refers to exclusion of individuals who were no longer CF members during the data collection period. The individual nonresponse adjustment takes into account the participants who could not be reached for an interview, provided unstable data, or refused to participate. All analyses are weighted using the final survey weight.

### Statistical Analyses

To examine characteristics of treatment, we analyzed descriptive statistics (mean, SD, and frequency) on relevant items of the mental health service use section. To identify predictors of mental health treatment seeking, we conducted logistic regression analyses by following standard procedures described in Hosmer and Lemeshow.<sup>14</sup> First, we created a list of all theoretically meaningful potential predictor variables. Then, we examined the distributions of the original variables (all potential predictor variables and the dependent variable). We checked linearity for those potential predictor variables that were initially in continuous format. If there was a significant problem with linearity, we changed the variable into a categorical one. We examined collinearity among the

predictors and excluded a small number of potential predictor variables when necessary. We then ran bivariate tests (*t* tests and chi-squares) to see whether there was a relation between each of the predictor variables and the outcome variable. In our logistic regression analyses, we avoided including those variables that did not seem to have a relationship with the outcome variable. However, if there was a compelling theoretical reason or precedent to include a variable in the model (despite lack of a significant bivariate relation), we did so, as per Hosmer and Lemeshow's recommendations.<sup>14</sup> We ran the logistic regression with the Enter (full model, no stepwise selection), Forward (stepwise forward entry), and Backward (stepwise backward removal) methods in SPSS version 13 software (SPSS Inc, Chicago [IL], 2005). For each of the 3 methods, predictors were entered in 5 blocks into a multivariate logistic regression, with treatment seeking (ever compared with never) as the dependent variable. Trauma-related factors (cumulative trauma exposure and index traumatic event type) were entered in the first block, predisposing factors (age, sex, marital status, ethnicity, education, spirituality, spirituality-religiosity, and frequency of religious service attendance) in the second block, enabling factors (household income and social support) in the third block, perceived need factors (PTSD symptom interference) in the fourth block, and evaluated need factors (comorbid MDD, PD, SP, and GAD) in the fifth block. The calibration of the models obtained was assessed according to the Hosmer and Lemeshow goodness-of-fit statistic.<sup>14</sup> Low chi-square values and high (ns) corresponding *P* values for this statistic indicated a good model fit. The relative contribution of each predictor to treatment seeking in the final models was examined by testing the strength of the association between each predictor and the dependent variable after controlling for all other predictors by using the adjusted OR and its corresponding 95%CI. With each of the 3 methods (Enter, Forward, and Backward), we also tested for outliers, potential confounders, and potential interactions among significant predictors. Because the CCHS-CF uses a complex sampling design, the use of the final survey weight is appropriate only in producing accurate point estimates (for example, ORs); to produce accurate variances (for example, CIs around the ORs), the final models, obtained by using each method (Enter, Forward, and Backward) were bootstrapped<sup>15</sup> according to guidelines and programs provided by Statistics Canada. As a last step, the final models, obtained with the Enter, Forward, and Backward methods, were compared and the best model was chosen.

**Table 1 Sample characteristics (n = 549)**

Sample characteristics	n	%
Age in years		
17–25	77	14.10
26–34	166	30.20
35–44	244	44.40
45 or older	62	11.30
Sex		
Male	407	74.20
Female	142	25.80
Marital status		
Married or common law	330	60.10
Widowed, separated, divorced	86	15.60
Single	133	24.30
Ethnicity		
White	510	92.90
Nonwhite	39	7.10
Education		
Up to and including secondary	286	52.10
Postsecondary	263	47.90
Household income		
\$0–\$39 000	55	9.90
\$40 000–\$59 000	188	34.20
\$60 000–\$79 000	100	18.20
\$80 000 or more	200	36.50
Not specified	7	1.20
Military force type		
Regular	433	78.80
Reserve	117	21.20
Military rank		
Junior	378	98.80
Officer	105	19.20
Senior	66	12.00
Cumulative lifetime trauma		
1	15	2.80
2	35	6.30
3	64	11.70
4	78	14.30
5 or more	356	64.90
Index traumatic event type		
War or terror zone	121	22.00
Civilian nonsexual	352	64.10
Civilian sexual	77	13.90

Note: Weighted data are reported. Numbers are rounded to the closest integer.

## Results

### *Lifetime and Past-Year Treatment Seeking*

About two-thirds ( $n = 341$ , 62.2%) of military members with PTSD sought some form of mental health treatment in their lifetime; a significant portion ( $n = 193$ , 35.2%) never sought any form of mental health treatment (14 had missing data). Of those who sought treatment, most ( $n = 310$ , 90.80%) reported having had at least one counselling or therapy session lasting 15 minutes or longer in their lifetime; about one-half ( $n = 184$ , 53.90%) reported continuing to seek treatment in the past year. Among those who reported seeking treatment in the past year, the average (SD) number of yearly treatment contacts were (in ascending order): 3.77 (4.17) for other MDs (for example, cardiologist, gynecologist or urologist); 5.77 (10.84) for nurses, nurse practitioners, physician's assistants, or medics; 9.00 (11.55) for MDs or GPs; 15.08 (34.10) for religious or spiritual advisors; 15.94 (20.45) for social workers, counselors, or psychotherapists; 16.90 (20.99) for psychiatrists; and 23.93 (21.59) for psychologists.

### *Professionals Seen for Treatment (Lifetime and Past-Year)*

CF members who reported seeking treatment in their lifetime ( $n = 341$ ) saw a total of 992 professionals; those continuing to seek treatment in the past year ( $n = 184$ ) saw a total of 459 professionals. Among the 992 professionals seen (lifetime), 220 were MDs or GPs; 218 were social workers, counsellors, or psychotherapists; 185 were psychiatrists; 148 were psychologists; 103 were religious or spiritual advisors; 70 were nurses, nurse practitioners, physician's assistants or medics; 36 were other MDs; and 12 were other professionals. Among the 459 professionals seen in the past year, 123 were MDs or GPs; 92 were social workers, counsellors, or psychotherapists; 90 were psychiatrists; 70 were psychologists; 40 were religious or spiritual advisors; 30 were nurses, nurse practitioners, physician's assistants, or medics; and 14 were other MDs.

### *Treatment Location*

Members of the CF who reported seeking treatment in the past year made a total of 501 treatment contacts. A significant portion of contacts ( $n = 188$ , 37.52%) took place in a medical inspection room at a CF facility. Other contacts occurred at civilian MDs' offices (non-CF facility) ( $n = 125$ , 24.95%), at civilian work locations ( $n = 55$ , 10.98%), at various outpatient clinics ( $n = 39$ , 7.78%), during overnight hospital stays ( $n = 22$ , 4.39%), over the telephone ( $n = 19$ , 3.79%), or at home ( $n = 9$ , 1.80%). The locations of 44 contacts (8.78%) in the past year were undisclosed.

### *Predictors of Lifetime Treatment Seeking According to Logistic Regression*

We found that, in our logistic regression analyses, the 3 variable selection methods (Enter, Forward, and Backward)

**Table 2 Results of logistic regression with Backward elimination: final model**

Predictors	Adjusted OR	95%CI
<b>Block 1: Trauma-related</b>		
Traumatic index event type		
War or terror zone	0.21 <sup>a</sup>	0.10–0.47
Civilian nonsexual	0.36 <sup>a</sup>	0.19–0.67
Civilian sexual	1.00 (reference)	
Number of lifetime traumas		
1	0.81	0.28–2.31
2	0.33 <sup>a</sup>	0.11–0.98
3	0.27 <sup>a</sup>	0.13–0.53
4	0.59	0.29–1.21
5 or more	1.00 (reference)	
<b>Block 2: Predisposing</b>		
Marital Status		
Married or common law	1.41	0.78–2.53
Separated, divorced, widowed	2.21	0.97–5.05
Single	1.00 (reference)	
Spirituality–Religiosity		
Not spiritual–not religious	0.73	0.42–1.27
Not spiritual–religious	0.30	0.07–1.35
Spiritual–not religious	1.56	0.79–3.06
Spiritual–religious	1.00 (reference)	
<b>Block 3: Enabling</b>		
Social support	0.99	0.97–1.01
<b>Block 4: Need factors (perceived)</b>		
PTSD Symptom Interference		
1 = Not at all	1.01	0.26–3.93
2 = A little	0.50	0.20–1.30
3 = Some	0.46 <sup>a</sup>	0.21–0.97
4 = A lot	0.74	0.35–1.56
5 = Extreme amount	1.00 (reference)	
<b>Block 5: Need factors (evaluated)</b>		
MDD		
Yes	3.75 <sup>a</sup>	2.23–6.33
No	1.00 (reference)	

<sup>a</sup> $P < 0.05$

Note: We included in our logistic regression analyses only those CF members who met criteria for lifetime PTSD and had complete data on all variables of interest. We ran logistic regression analyses that used full model and Forward entry methods. These methods produced strikingly similar results to what is reported for the Backward removal method in this table (the additional analyses are available upon request).

produced remarkably similar models in terms of significant predictors, variance explained, and classification rates. Here, we are only presenting the model obtained by using the Backward selection method, as this model was the least saturated and explained the most variance. Table 2 presents the results of the logistic regression for predicting lifetime mental health treatment seeking with the Backward selection method. The final model provided a good fit for the data, with a Hosmer and Lemeshow goodness-of-fit statistic of  $\chi^2(8, n = 500) = 12.70$ , ns, and an overall classification accuracy of 74.70% (85.5% for treatment seekers and 55.2% for nontreatment seekers).

The trauma-related factors of traumatic index event type and cumulative lifetime trauma exposure were both significantly associated with treatment seeking. Those with a war-terror zone or a civilian nonsexual trauma were less likely to seek treatment than those with a civilian sexual trauma (ORs 0.21 and 0.36, respectively). Those who had experienced 2 or 3 different types of traumatic events in their lifetime were less likely to seek treatment than those who had experienced 5 or more events (ORs 0.33 and 0.27, respectively). Both the perceived need factor of PTSD symptom interference and the evaluated need factor of comorbid MDD were significantly associated with treatment seeking: those with moderate PTSD symptom interference were less likely to seek treatment than those with extreme PTSD symptom interference (OR 0.46), and those who met criteria for lifetime MDD were more likely to seek treatment than those who did not meet criteria for lifetime MDD (OR 3.75).

## Discussion

The purpose of this study was to identify rates, characteristics, and predictors of mental health treatment seeking of CF members with PTSD according to a nationally representative, active, military sample.

We found that one-third of CF members with PTSD failed to seek any form of treatment in their lifetime. These results are similar to what has been reported in civilian<sup>6</sup> and veteran<sup>7</sup> samples and underscore the continuing need for interventions and policies aimed at destigmatizing mental health conditions and treatments, especially in a military context.<sup>16</sup> We found that, among those who sought treatment in the past year, treatment contacts most often took place in a CF medical facility. This finding is to be expected because active CF members are enrolled in a specialized health care system (that is, the Canadian Forces Health Services) which, except in medical emergencies, requires members to seek care from CF medical establishments. We also found that, among those CF members with PTSD who seek treatment, most seem to seek treatment from MDs, social workers and (or) psychotherapists, and psychiatrists. It is unclear how much of the observed pattern of treatment seeking by professional type is due to personal

preferences of CF members and how much is due to the availability of different types of professionals in CF medical establishments. Finally, it is worth noting that, although fewer CF members saw a psychologist than a psychiatrist, GP or MD, or social worker or therapist in the past year, those seeing a psychologist reported more sessions than those seeing other professionals. The latter finding highlights the importance of looking at frequency as well as likelihood of contact by professional type to fully assess the burden of PTSD on various health care delivery systems in the Canadian military.

Findings from our logistic regression analyses indicate that trauma-related and illness and (or) need factors play an important role in predicting general mental health treatment seeking among CF members with PTSD. In general, likelihood of treatment seems greatest for those with 5 or more types of trauma and (or) sexual trauma. As we discussed elsewhere,<sup>17</sup> it is possible that the greater likelihood of treatment after multiple types of trauma is due in part to the greater PTSD severity associated with the prior history of trauma.<sup>18</sup> It is also possible that the greater likelihood of treatment for sexual trauma is due to the greater severity of PTSD symptoms that may be experienced after an interpersonal<sup>18</sup> or sexual trauma.<sup>19</sup> Unfortunately, a lack of assessment on PTSD severity and the cross-sectional design of the study prevent testing these possible explanations in our sample. Likelihood of treatment seems highest when PTSD symptom interference is extreme, a finding which perhaps highlights the importance of the individual's own sense of symptom interference in the self-referral process. Perhaps most strikingly, likelihood of treatment seems to increase by a factor of almost 4 for those CF members with comorbid MDD. This finding is consistent with what has been reported in veteran populations: compared with those with PTSD only or major depressive disorder only, those with comorbid PTSD and depression report greater psychological distress and are more likely to use mental health services.<sup>20</sup>

## Strengths and Limitations

Our study had several notable strengths. Data for our analyses came from a large, nationally representative sample of active CF members, increasing confidence in the generalizability of findings to the whole CF. To our knowledge, the CCHS-CF is the first large-scale epidemiologic study of PTSD and other mental health conditions in an active military sample. As such, our study is a significant addition to the literature on PTSD and treatment seeking, which until now, has been mostly limited to civilian and veteran populations.

Our study had several limitations that should be noted. First, the cross-sectional nature of our study precludes drawing any conclusions on causality. Longitudinal studies are needed to determine whether the associations observed between

treatment seeking and trauma-related and need factors are causal. Second, respondents were asked to recall lifetime treatment-seeking behaviours. Recall bias could have led those who sought treatment to exaggerate and those who never sought treatment to underreport their PTSD symptoms. This can lead to underestimation of the prevalence of a disorder and overestimation of treatment seeking.<sup>21</sup> Third, general rather than PTSD-specific mental health treatment seeking was assessed in the current investigation. The rates of treatment seeking specifically for PTSD are likely to be lower than rates reported in this paper. Fourth, treatment likelihood, not treatment adequacy, was assessed in the CCHS-CF; therefore, the rates we report are upper estimates of the proportion of military members who received adequate and appropriate mental health treatment. Fifth, our sample was drawn from the Canadian military, which may have a different health care system than other military or civilian samples; generalizations to other military or civilian populations may be limited. Sixth, a skip error in the survey prevented us from looking at the effects of an important comorbid condition, alcohol dependence, on treatment seeking. Finally, it should be noted that, when the overall classification accuracy (74.7%) of the final model obtained in our logistic regression analyses is compared with the base rate of treatment seeking in our sample (62.6%), it becomes clear that the predictors included in our analyses had only limited incremental predictive value. It is therefore important for future studies to examine the predictive power of variables that were not assessed in our study.

## Conclusion

Within the limitations outlined above, findings from our study suggest that a significant portion of military members with PTSD fail to seek any form of mental health treatment in their lifetime. As would be expected, most treatment contacts take place in CF facilities. Trauma-related and illness and (or) need factors play an important role in determining whether a military member with PTSD ever seeks treatment. Our findings suggest that there is still a great need for public education campaigns aimed at destigmatizing PTSD and mental health treatment in the military and that interventions to increase treatment seeking should carefully assess trauma-related and illness factors.

## Funding and Support

This study was supported by a small internal grant from Veterans Affairs Canada. Dr Brunet received a salary award from the Fonds de Recherche en Santé du Québec while working on this manuscript. Dr Fikretoglu received a fellowship award from the Canadian Institutes of Health Research while working on this manuscript.

## References

1. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed. Washington (DC): American Psychiatric Association; 1994.
2. Brunet A, Fikretoglu D, Guay S, et al. Epidemiology of trauma exposure and lifetime PTSD in the Canadian Forces. Paper presented at the 21st Annual Meeting of the International Society of Traumatic Stress Studies; 2005 Nov 2–5; Toronto (ON).
3. Zatzick DF, Marmar CR, Weiss DS, et al. Posttraumatic stress disorder and functioning and quality of life outcomes in a nationally representative sample of male Vietnam veterans. *Am J Psychiatry*. 1997;154(12):1690–1695.
4. New M, Berliner L. Mental health service utilization by victims of crimes. *J Trauma Stress*. 2000;13(4):693–707.
5. Marshall RP, Jorm AF, Grayson DA, et al. Medical-care costs associated with posttraumatic stress disorder in Vietnam veterans. *Aust N Z J Psychiatry*. 2000;34(6):954–962.
6. Kessler RC, Sonnega A, Bromet E, et al. Posttraumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry*. 1995;52(12):1048–1060.
7. Hankin CS, Spiro A 3rd, Miller DR, et al. Mental disorders and mental health treatment among U.S. Department of Veterans Affairs outpatients: The veterans health study. *Am J Psychiatry*. 1999;156(12):1924–1930.
8. Andersen RM. Revisiting the behavioral model and access to medical care: Does it matter? *J Health Soc Behav*. 1995;36(1):1–10.
9. Boscarino JA, Galea S, Ahem J, et al. Utilization of mental health services following the September 11th attacks in Manhattan, New York City. *Int J Emerg Ment Health*. 2002;4(3):143–156.
10. World Health Organization. Composite International Diagnostic Interview. Version 2.1. Geneva (CH): World Health Organization; 1997.
11. First M, Spitzer R, Gibbon M, et al. Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Non-patient edition (SCID-I/NP). New York (NY): Biometrics Research, New York State Psychiatric Institute; 2002.
12. Kessler RC, Berglund P, Demler O, et al. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005;62(6):593–602.
13. Sherbourne CD, Stewart AL. The MOS Social Support Survey. *Soc Sci Med*. 1991;32(6):705–714.
14. Hosmer DW, Lemeshow S. Applied logistic regression. New York (NY): Wiley; 2000.
15. Efron B, Tibshirani RJ. An introduction to the Bootstrap. London (GB): Chapman and Hall; 1994.
16. Friedman MJ. Veterans' mental health in the wake of war. *N Engl J Med*. 2005;352(13):1287–1289.
17. Fikretoglu D, Brunet A, Schmitz N, et al. Treatment seeking among Canadian military with PTSD. Paper presented at the 21st Annual Meeting of the International Society of Traumatic Stress Studies; 2005 Nov 2–5; Toronto (ON).
18. Ozer EJ, Best SR, Lipsey TL, et al. Predictors of posttraumatic stress disorder and symptoms in adults: a meta-analysis. *Psychol Bull*. 2003;129(1):52–73.
19. Breslau N, Kessler RC, Chilcoat HD, et al. Trauma and posttraumatic stress disorder in the community: the 1996 Detroit area survey of trauma. *Arch Gen Psychiatry*. 1998;55(7):626–632.
20. Kramer TL, Booth BM, Han X, et al. Service utilization and outcomes in medically ill veterans with posttraumatic stress disorder and depressive disorders. *J Trauma Stress*. 2003;16(3):211–219.
21. Wang PS, Berglund P, Olsson M, et al. Failure and delay in initial treatment contact after first onset of mental disorders in the National Comorbidity Survey replication. *Arch Gen Psychiatry*. 2005;62(6):603–613.

Manuscript received December 2005, revised, and accepted October 2006.

<sup>1</sup>Postdoctoral Fellow, Douglas Hospital Research Centre, McGill University, Montreal, Quebec; Researcher, Ste Anne's Hospital, Veterans Affairs Canada, Montreal, Quebec.

<sup>2</sup>Assistant Professor, Douglas Hospital Research Centre, McGill University, Montreal, Quebec; Researcher, Ste Anne's Hospital, Veterans Affairs Canada, Montreal, Quebec.

<sup>3</sup>Assistant Professor, Centre de Recherche Fernand-Seguin, Montreal, Quebec; Researcher, Ste Anne's Hospital, Veterans Affairs Canada, Montreal, Quebec.

<sup>4</sup>Director, Veterans Affairs Canada, Research Directorate, Charlottetown, Prince Edward Island; Adjunct Professor, Dalhousie University, Halifax, Nova Scotia; Adjunct Professor, University of Prince Edward Island, Charlottetown, Prince Edward Island.

Address for correspondence: Dr D Fikretoglu, 110 Glendora Avenue, Toronto, ON M2N 2W1; deniz.fikretoglu@mail.mcgill.ca

**Résumé : La recherche de traitement de santé mentale par les militaires souffrant du trouble de stress post-traumatique : résultats des taux, caractéristiques et prédicteurs d'un échantillon militaire canadien représentatif de l'ensemble du pays**

**Objectif :** Cette étude visait à identifier les taux, caractéristiques et prédicteurs de la recherche de traitement de santé mentale par les militaires souffrant du trouble de stress post-traumatique (TSPT).

**Méthode :** Notre échantillon provenait de l'ensemble des données du Supplément de l'Enquête de 2002 sur la santé dans les collectivités pour les Forces canadiennes (ESCC-FC). L'ESCC-FC est la première enquête épidémiologique du TSPT et d'autres états de santé mentale dans la population militaire canadienne, et comprend 8 441 membres des forces canadiennes (FC) représentatifs de l'ensemble du pays. Parmi ceux-ci, 549 qui satisfaisaient aux critères du TSPT de durée de vie ont été inclus dans nos analyses. Pour identifier les taux et les caractéristiques de traitement, nous avons examiné la fréquence des contacts de traitement par type de professionnel et d'établissement. Pour identifier les prédicteurs de la recherche de traitement, nous avons mené une régression logistique binaire dont la variable de résultat était la recherche de traitement à vie.

**Résultats :** Environ deux tiers des personnes souffrant du TSPT ont consulté un professionnel à propos de problèmes de santé mentale. Les professionnels les plus fréquemment consultés, tant l'année précédente qu'à vie, incluaient des travailleurs sociaux et des thérapeutes, des médecins et des omnipraticiens, et des psychiatres. Les consultations de l'année précédente ont eu lieu le plus souvent à un établissement des FC. La recherche de traitement était prédite par l'exposition cumulative de durée de vie aux traumatismes, le type du premier événement traumatique, l'interférence des symptômes du TSPT, et le trouble dépressif majeur comorbide. Ceux qui souffraient de dépression comorbide étaient 3,75 fois plus susceptibles de rechercher un traitement que ceux qui n'en souffraient pas.

**Conclusions :** Bien qu'une portion significative des militaires souffrant du TSPT ait obtenu un traitement de santé mentale, 1 sur 3 n'en a jamais eu. Des facteurs liés au trauma, à la maladie et/ou au besoin prédisaient la recherche de traitement. De tous les prédicteurs de la recherche de traitement, la dépression comorbide accroissait le plus la probabilité d'une recherche de traitement.

Copyright of Canadian Journal of Psychiatry is the property of Canadian Psychiatric Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.