

Research letter

Incidence of major depression in Canada

Scott B. Patten

Several Canadian studies have reported prevalence estimates for major depression.¹⁻³ However, incidence estimates for this condition have not been available. Prevalence is a measure of disease status, whereas incidence quantifies new cases of disease,⁴ thus providing an index of risk. Reducing incidence is the objective of primary prevention.⁵ In addition, incidence estimates assist in identifying epidemiological patterns such as cohort effects, which may be important for epidemiological study of major depression.⁶ The objective of this analysis was to estimate the incidence of major depressive episodes in Canada.

The National Population Health Survey (NPHS) is a continuing longitudinal study conducted by Statistics Canada. As part of this study a nationally representative sample of the Canadian population was interviewed in 1994/95 and then re-interviewed in 1996/97,⁷ a follow-up period of 2 years. The NPHS incorporates a short-form adaptation⁸ of the Composite International Diagnostic Interview (CIDI) major depression section. This brief predictive instrument includes items assessing 9 symptoms that constitute the symptom-based diagnostic criteria for major depression, as outlined in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.⁹ The CIDI short form consists of a branched set of items to evaluate the presence and severity of depressive symptoms in the preceding year. The responses can be used to generate a predictive probability of a major depressive episode. In the analysis reported here, subjects regarded as having major depression were those reporting a total of 5 depressive symptoms, including depressed mood or loss of interest. The instrument's validation data suggest that 90% of subjects meeting these criteria would have major depression according to the full CIDI.⁸

Of the subjects in the 1994/95 data set, those who were less than 12 years of age and those who had major depression at the time of the initial interview were excluded from the current analysis. The remaining subjects were identified in the 1996/97 data set (by means of the 1996/97 longitudinal full-response data file) to estimate the proportions of subjects in various age groups with newly developed major depression. The standard errors for these estimates were calculated by means of a bootstrap method.⁷ All estimates were weighted to adjust for unequal selection probabilities and cluster sampling. The questions in the short-form CIDI all inquire about the occurrence of depressive

symptoms in the same 2-week period (for any given individual) during the preceding year. Therefore, the proportion of subjects with new-onset depression is not precisely an annual incidence proportion, in that onset in at least some cases may have occurred more than 12 months before the second interview. Nonetheless, the proportion of new-onset cases in the 1996/97 NPHS may be regarded as an approximation of this parameter.

The current analysis of incidence covered 11 859 subjects for whom a score for the major depression predictor was available from the 1996/97 interview. The age- and sex-specific incidence proportions from 1996/97 are presented in Table 1, along with the 12-month period prevalences from 1994/95.

The NPHS achieved a high rate of successful follow-up;⁷ however, if follow-up was less likely to be successful for depressed subjects, incidence may have been underestimated. Conversely, the CIDI short form may be nonspecific in people with mental disorders other than major depression,^{10,11} which could lead to overestimation of incidence. This, coupled with the inability of the NPHS to exclude people with previous lifetime episodes and some different diagnostic definitions, could explain why the incidence reported here is much higher than the annual incidence of 3.7 per 1000 recently reported from the Stirling

Table 1: Age- and sex-specific estimates of major depression in the National Population Health Survey

Age, yr	12-mo period prevalence in 1994/95, %	Annual incidence proportion in 1996/97 (and 95% CI),* %
Men		
12-24	5.2	2.9 (1.4-4.3)
25-44	3.5	3.3 (2.0-4.7)
45-64	3.5	1.8 (0.7-2.9)
≥ 65	-	1.8 (0.7-2.8)
Women		
12-24	9.6	7.1 (5.1-9.1)
25-44	8.6	4.5 (3.4-5.7)
45-64	6.3	4.1 (2.5-5.7)
≥ 65	3.1†	1.3 (0.6-2.1)

Note: CI = confidence interval.

*Coefficients of variation: 12-31.

†Subject to high sampling variability.

County study in Nova Scotia.¹² Despite these qualifications, the estimates presented here confirm that the pattern of incidence for major depression reflects that of prevalence: the rates are higher in younger age groups and, within age strata, generally higher in women than in men. An analysis of additional variables in the NPHS that are predictive of major depression was recently reported by Beaudet.¹³ This analysis identified associations between incident major depression and age, sex, smoking status, social support, chronic conditions and previous depressive episodes. Primary and secondary prevention strategies targeting young people, particularly women, are urgently needed.

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Dr. Patten is Associate Professor, Departments of Community Health Sciences and Psychiatry, University of Calgary, Calgary, Alta. He is also a Population Health Investigator for the Alberta Heritage Foundation for Medical Research.

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Reprint requests to: Dr. Scott B. Patten, University of Calgary, 3330 Hospital Dr. NW, Calgary AB T2N 4N1; fax 403 270-7307; patten@ucalgary.ca

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