

Sociodemographic Factors Associated With Comorbid Major Depressive Episodes and Alcohol Dependence in the General Population

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Objectives: To estimate the 12-month prevalence of alcohol dependence (AD) among subjects with major depressive episodes (MDEs) and the 12-month prevalence of MDEs among those with AD; to investigate the associations between demographic and socioeconomic characteristics and comorbid MDE and AD, based on established theoretical models; and to compare the rates of mental health service use between groups having high and low risk for comorbid conditions.

Methods: We used data from the 1996–1997 Canadian National Population Health Survey. MDE and AD were measured using the World Health Organization's Composite International Diagnostic Interview Short Form (CIDI-SF). We calculated the 12-month prevalence of MDEs among participants with AD and of AD among those with MDEs. The associations between demographic and socioeconomic characteristics and comorbidity were investigated.

Results: Of participants with MDEs, 8.6% had AD; 19.6% of participants with AD reported having at least 1 MDE in the past 12 months. Being young (aged 12 to 24 years); being divorced, separated, or widowed; and having low family income level were positively associated with MDE, AD, and comorbidity. Among participants with comorbid MDE and AD, those who were aged 12 to 24 years were less likely to have used any mental health services in the past 12 months than were others.

Conclusions: Young age, single marital status, and low family income may be potential risk factors for comorbid MDE and AD. Although AD is rare in the general population, public health interventions that target the groups identified as at risk may help to prevent MDE, AD, and comorbidity.

(Can J Psychiatry 2004;49:37–44)

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

Clinical Implications

- In a large general population sample, a significant proportion of those with alcohol dependence (AD) had major depressive episodes (MDEs), and having an MDE was strongly associated with AD.
- Young age, single marital status, and low family income were associated with comorbid depressive and alcohol use disorders.
- Adolescents and young adults aged 12 to 24 years must be specifically targeted for identification and treatment, because they are less likely to use mental health services.

Limitations

- This was a cross-sectional analysis. Conclusions about a causal relation could not be drawn.
- The Composite International Diagnostic Interview Short Form (CIDI-SF) for measuring MDEs and AD in the Canadian National Population Health Survey may not be as accurate as the full version of the CIDI.
- The observed associations did not consider the effects of familial influence.

Key Words: major depressive episode, alcohol dependence, comorbidity, socioeconomic status

Comorbidity is “the occurrence of 2 or more distinct psychiatric disorders at the same time” (1). Clinical (2–5) and general population studies (6–12) show that alcohol abuse or dependence and major depression often coexist. The presence of comorbid conditions, such as alcohol dependence (AD) and major depression, has important implications for patient functioning and prognosis, including difficulties in case identification, treatment effectiveness and compliance, altered pharmacokinetics, and increased chronicity of both conditions (1).

Several hypotheses have been put forward concerning the comorbid relation between alcohol abuse or dependence and depression. One is that the comorbidity may be due to common underlying factors, such as genetic factors or social and environmental characteristics, that predispose individuals to an increased risk for both alcohol use and depressive disorders (13–16). Population-based family studies have investigated the role of genetic factors in developing depressive and alcohol use disorders (14,16,17); however, demographic and socioeconomic factors in relation to the comorbidity of major depression and alcohol dependence have not been well studied. One theoretical model for the relation between socioeconomic status (SES) and psychiatric disorders is “social causation,” which predicts an inverse relation between SES and various types of psychopathology (13). According to social causation theory, individuals with low SES are more likely to face barriers to achieving highly valued goals than those who are at a higher SES, which may lead to higher rates of psychopathology (13). SES may also interact with ethnicity; that is, those who are in disadvantaged ethnic groups and who have a low SES may have an increased risk of psychopathology (13).

Several clinical studies have investigated the comorbidity of major depression and AD. However, clinical samples are likely to be biased toward the more severely affected population. Some individuals with alcohol-related disorders may prefer to cope with their drinking problems on their own and never enter formal treatment (18–20). Those with comorbid disorders may be more likely to enter treatment (21). Therefore, results from clinical studies may not be applicable to the general population.

Several large, community-based mental health surveys consistently found that AD and major depression were strongly associated (7–12). However, the rates of comorbidity varied from study to study. The lifetime prevalence of AD among individuals with major depression was 11.6% in the Epidemiologic Catchment Area (ECA) study (7). In the Edmonton mental health survey, the lifetime prevalence of alcohol abuse or dependence was 30.5% among subjects with a major depressive disorder (8). In the Mental Health Supplement to the Ontario Health Survey, the lifetime prevalence of major depression was 19.8% and 46.0% among men and women, respectively, who reported alcohol dependence (9). These figures were close to those reported in the National Comorbidity Study, where the lifetime prevalence of major depression was 24.3% and 48.5% among men and women, respectively, who reported AD (11). Of these studies, only the

analysis of the Ontario Health Survey by Ross (9) examined the demographic and socioeconomic profiles of subjects with and without comorbid disorders.

In Ross’s study, men, people aged 15 to 44 years, single people, and nonimmigrants were more likely than anyone else to have both pure alcohol abuse or AD and other comorbid disorders (9). Since comorbid alcohol abuse or dependence was defined as an alcohol disorder diagnosed together with any one of many other disorders (for example, depressive disorders, anxiety disorders, personality disorders, drug abuse or dependence, and conduct disorders), it is not clear how these findings are applicable for AD and major depression. Using the data from the US National Longitudinal Alcohol Epidemiologic Survey, Grant and colleagues reported that, compared with subjects with major depression, those with comorbid alcohol abuse or dependence were younger, more likely to be male, and less likely to be black (22). However they did not differ with respect to education, SES, or marital status. Compared with subjects with alcohol use disorder only, those who reported comorbid major depression did not differ in sex, ethnicity, or education, but they were significantly younger.

Using a general population sample, the objectives of the analysis were as follows:

1. To estimate the 12-month prevalence of AD among subjects who reported major depressive episodes (MDEs) and the 12-month prevalence of MDEs among those with AD.
2. To investigate the associations between demographic and socioeconomic characteristics and comorbidity, based on the theoretical framework described previously.
3. To compare the rates of mental health service use between groups with high and low risk for comorbid MDE and AD.

Methods

We used data from the 1996–1997 Canadian National Population Health Survey (NPHS). The NPHS is a general health survey targeting household residents in Canada, excluding people living on Canadian military bases and Indian reserves, in the Yukon and Northwest Territories, and in some remote areas of Ontario and Quebec. For a complete description of NPHS methodology, please refer to Statistics Canada documents (23). The NPHS was initiated in 1994–1995 by Statistics Canada and is conducted every 2 years. For this analysis, data from the 1996–1997 NPHS were used, since only this wave of the NPHS had information related to both MDE and AD at the time of analysis. The 1996–1997 NPHS had 81 804 participants. Of these, 73 402 participants were aged 12 years or over. Participants who were aged 12 years or over and who provided complete information about either AD or major depression ($n = 72\ 940$) were included in this analysis.

The 1996–1997 NPHS included the World Health Organization’s Composite International Diagnostic Interview Short Form for Major Depression (CIDI-SFMD) and Alcohol Dependence (CIDI-SFAD) modules (24). The CIDI-SF was

derived from the full version of CIDI (25) and was validated by Kessler and colleagues (24). In the CIDI-SFMD, participants aged 12 years and over were asked 8 questions about depressive symptoms to determine whether they had an MDE in the past 12 months. MDE, as defined in the NPHS, was defined as having a probability of 0.9 based upon the CIDI-SFMD. This cut-point corresponds to reporting 5 of 9 DSM-IV diagnostic criteria for major depression (the number of symptoms required to make the diagnosis) (26), at least 1 of which must be depressed mood or loss of interest. The sensitivity and specificity of the CIDI-SFMD were 90% and 94%, respectively. However, the CIDI-SFMD does not contain probe questions to determine whether depressive symptoms are caused by substance use, physical illness, or bereavement. The CIDI-SFMD development and validation documents showed that organic exclusions were used in the empirical work to select the scale items and were taken into consideration in generating the possibilities of caseness (See http://www.who.int/msa/cidi/cidi_sh_scoring.pdf).

In the 1996–1997 NPHS, participants who reported having 5 or more drinks on a single occasion at least once monthly were asked questions about AD. The CIDI-SFAD contains 7 questions about AD symptoms in the past 12 months; they explore role interference as a result of use, use in hazardous situations, emotional or psychological problems as a result of use, strong desire or urge to drink, a great deal of time using or recovering, drinking more or using longer than intended, and drinking more to get the same effect. In this analysis, a score of 85% or higher, which corresponds to reporting 3 or more AD symptoms, was considered to indicate AD based on DSM-III-R criteria (27).

We conducted 3 separate analyses. In the first analysis, the prevalence of AD among subjects with and without MDEs and the prevalence of MDEs among those with and without AD were calculated. The prevalence rates were then estimated for different sex and age categories. The associations between MDE and AD were evaluated in the form of odds ratio (OR) and 95%CI. Because the NPHS used a complex study design, estimates of this part of the analysis were weighted and the 95%CI was calculated using the bootstrap technique. In this technique, random samples are repeatedly drawn with replacement from observations to obtain a set of estimates (28). The observed variance of this set is the bootstrap estimate of variance, based on which accurate 95%CIs can be calculated. In this analysis, 500 random samples were taken.

If certain demographic and SES factors predispose individuals to an increased risk for comorbid MDE and AD, these factors should be positively associated with MDE and AD separately and also in combination. The association with comorbidity should also be stronger than the associations with MDE and AD alone. In the second analysis, the associations between demographic and socioeconomic characteristics, “pure” MDE, “pure” AD, and comorbid conditions were examined in the form of OR. Pure MDE was defined as MDE that was not comorbid with AD; pure AD referred to AD that was not comorbid with MDE. Preliminary analyses showed that the demographic and socioeconomic factors were correlated. Therefore, logistic regression modelling was used to

estimate the associations, with the effects of remaining demographic and socioeconomic factors controlled. In addition, analyses were performed to determine whether demographic and socioeconomic factors were associated with comorbidity among participants with MDE or AD.

Based on the results of the second analysis, the groups with high risk for comorbid conditions were compared on mental health service use with those who were low risk. Mental health service use was determined by a question in the NPHS: “In the past 12 months, have you seen or talked on the phone to a health professional about your emotional or mental health?” The purpose of the second and the third analysis was to investigate the associations between various psychiatric syndromes and demographic, socioeconomic, and clinical variables. The NPHS sampling design considered SES in particular (23). Therefore, the unweighted data were used in these analyses.

The demographic and socioeconomic variables included in these analyses are as follows:

- sex.
- age (12 to 24 years, 25 to 54 years, and 55 years and over).
- marital status (married, common law, partnership, single, divorced, separated, or widowed).
- ethnicity (white or nonwhite).
- citizenship at birth (immigrant or nonimmigrant).
- education level (less than 12 years of education or 12 years or more of education).
- working status (currently working or currently not working).
- family income level (low, middle, or high family income).
- living arrangement (intact family or nonintact family). Living with an intact family was defined as the participant, if an adult, living with a partner or children or, if a child, living with 2 parents and any siblings at the time of interview.

The analyses were conducted using STATA 6.0 (29).

Results

The demographic and socioeconomic characteristics of the NPHS participants included in this analysis are in Table 1. In the 1996–1997 NPHS, 3133 participants reported an MDE, and 1198 reported AD in the past 12 months, according to the CIDI-SF. The comorbidity rates are presented in Table 2. Because few participants aged 55 years and over reported AD, the estimates based on these participants are not presented. As seen from Table 2, MDE and AD were strongly associated with each other, and strong associations were present in different sex and age groups. Among participants with MDE, men and people aged 12 to 24 years had a higher prevalence of AD than did women and people aged 25 to 54 years. Among participants with AD, the prevalence of MDE was higher in women than in men.

Table 3 contains the adjusted associations between demographic and socioeconomic characteristics, pure MDE, pure AD, and comorbidity. Participants aged 12 to 54 years and

Table 1 Demographic and socioeconomic characteristics of the 1996–1997 NPHS participants included in this analysis

Variables	<i>n</i> (weighted %)
Sex	
Women	38951 (50.9)
Men	33989 (49.1)
Age (years)	
12–24	12041 (20.8)
25–54	39416 (50.9)
≥ 55	21483 (24.3)
Marital status	
Married, common law, partnership	39710 (57.3)
Single	20080 (30.5)
Divorced, separated, widowed	12993 (12.2)
Low family income ^a	9801 (15.7)
Currently not working	24603 (37.6)
Had < 12 years of education	21980 (30.8)
Not living in a 2-parent family	28662 (33.4)
Nonwhite	5138 (10.2)
Immigrants	11560 (18.6)

NPHS = Canadian National Population Health Survey
^aOnly 57373 participants provided information about family income

those who were divorced, separated, or widowed were more likely to have had an MDE, AD, or comorbid condition than were older participants and those who were married or in a common law relationship or partnership. Participants with low family income and living in a single-parent family were more likely to report comorbid conditions. However, family income levels and family structure were associated only with MDE, not with AD. Although sex, education levels, and working status were not associated with comorbid conditions, these factors were associated either with MDE or with AD alone.

The data showed that nonwhite participants were more likely to have reported comorbidity, but they were less likely to have had an MDE. Stratified analysis provided evidence that immigration status acted as an effect modifier in the relation between ethnicity and comorbidity (likelihood ratio test $\chi^2 = 14.3$, *df* 1, $P < 0.005$). Among immigrants, ethnicity was not associated with comorbidity (adjusted OR 0.34; 95%CI, 0.09 to 1.22). Among nonimmigrants, those who were nonwhite had greater odds of reporting comorbidity than the white participants (adjusted OR 2.72; 95%CI, 1.74 to 4.25). However, among nonimmigrants, ethnicity was not associated with pure MDE (adjusted OR 1.03; 95%CI, 0.82 to 1.29) or pure AD (adjusted OR 1.08; 95%CI, 0.78 to 1.50).

Participants with comorbid conditions were compared with those with pure MDE and those with pure AD, respectively (Table 4). Among those with an MDE, adolescents and young adults, single participants, and those who were nonwhite were more likely to have had AD. Women, those who were not working, and immigrants were less likely to have had AD than were men, those who were working, and nonimmigrants. Among subjects with AD, women, people with low family income, and immigrants were more likely to have had an MDE than were men, participants with middle and high income, and nonimmigrants.

The rates of mental health service use in the past 12 months among participants with comorbid conditions were calculated by age, marital status, family income level, and living arrangement. The results indicated that, among participants with comorbid MDE and AD, mental health service use in the past 12 months did not differ by marital status, family income level, and living arrangement. However, those aged 12 to 24 years (39.6%) were less likely to have used any mental health services in the past 12 months than were older participants (53.8%) ($P = 0.04$). Compared with those who reported pure AD, participants with comorbid conditions were more likely to report the use of any mental health services in the preceding 12 months (47.3% vs 7.7%, $P < 0.005$). The NPHS participants with comorbid conditions and those with pure MDE did not differ in mental health service use (47.3% vs 47.8%, $P > 0.5$).

Discussion

The 12-month prevalence of AD among those with MDEs and the 12-month prevalence of MDEs among those with AD were lower than those found in previous studies (7,9,11). This could partly be owing to the fact that the prevalence reported in those studies referred to lifetime and mixed alcohol dependence or abuse (8,11), while in this analysis, only MDE and AD in the past 12 months were assessed. The NPHS did not collect information about alcohol abuse. The NPHS data demonstrated that MDE and AD were strongly associated with each other. This was consistent with the findings of previous studies (7–12). Further, the results of the current analysis showed that these associations existed regardless of sex or age.

The factors associated with MDE, AD, and comorbid conditions were being 12 to 24 years of age, divorced, separated, or widowed, and having a low family income level. These were consistent with Ross's study (9) based on the Ontario data, except that Ross found that subjects who were between the ages of 25 and 44 years were more likely to have comorbid conditions. In this analysis, a common feature of these factors is that they were associated not only with pure MDE and pure AD (except that family income was not associated with AD) but also with comorbid conditions in the same direction. This may be evidence that these are potential risk factors for comorbid depressive and alcohol-related disorders. It is unlikely that these sociodemographic factors are direct causes for comorbid MDE and AD, because of a lack of biological basis. However, these factors may affect people's mental health through more immediate risk factors such as chronic stress and unhealthy lifestyle (30). These findings are in

Table 2 The 12-month prevalence and odds ratio (OR) of alcohol dependence (AD) among individuals with major depressive episode (MDE) and of MDE among those with AD, by sex and age (weighted data)

	Prevalence of AD			Prevalence of MDE		
	With MDE %	No MDE %	OR (95%CI)	With AD %	No AD %	OR (95%CI)
Overall	8.6	1.6	5.97 (4.28 to 7.30)	19.6	3.9	5.97 (4.28 to 7.30)
Sex						
Men	12.5	2.4	5.77 (3.69 to 8.44)	13.2	2.6	5.77 (3.69 to 8.44)
Women	6.7	0.7	9.96 (6.12 to 14.34)	35.4	5.2	9.96 (6.12 to 14.34)
Age (years)						
12–24	18.6	4.0	5.44 (3.29 to 8.30)	18.2	3.9	5.44 (3.29 to 8.30)
25–54	6.5	1.2	5.87 (3.90 to 9.52)	22.6	4.8	5.87 (3.90 to 9.52)

Table 3 The adjusted associations between demographic and socioeconomic factors and pure MDE, pure AD and comorbid conditions (1996–1997 NPHS, unweighted data)

	Pure MDE vs no MDE Adjusted OR (95%CI)	Pure AD vs no AD Adjusted OR (95%CI)	Comorbid conditions vs no MDE or AD Adjusted OR (95%CI)
Sex			
Men	1.00	1.00	1.00
Women	1.95 (1.78 to 2.15) ^b	0.24 (0.20 to 0.28) ^b	0.96 (0.71 to 1.28)
Age (years)			
12–24	2.65 (2.01 to 3.49) ^b	21.00 (11.34 to 38.90) ^b	1.84 (1.29 to 2.65) ^b
25–54	4.12 (3.56 to 4.77) ^b	7.95 (4.93 to 12.82) ^b	1.00
≥ 55	1.00	1.00	—
Marital status			
Married, common law, partner	1.00	1.00	1.00
Single	1.16 (0.98 to 1.37)	2.54 (2.00 to 3.21) ^b	4.73 (2.68 to 8.36) ^b
Divorced, separated, widowed	1.76 (1.41 to 2.19) ⁶	1.74 (1.05 to 2.90) ^a	3.68 (1.36 to 9.99) ^a
Family income level			
Middle or high family income	1.00	1.00	1.00
Low family income	1.49 (1.33 to 1.66) ^b	1.13 (0.92 to 1.37)	1.96 (1.40 to 2.74) ^b
Education			
≥ 12 years	1.00	1.00	1.00
< 12 years	1.01 (0.91 to 1.12)	0.68 (0.57 to 0.81) ^b	0.97 (0.68 to 1.37)
Working status			
Working	1.00	1.00	1.00
Not working	1.58 (1.44 to 1.75) ^b	1.00 (0.84 to 1.19)	0.86 (0.61 to 1.20)
Living arrangement			
With an intact family	1.00	1.00	1.00
With a nonintact family	1.41 (1.21 to 1.63) ^b	1.20 (1.00 to 1.44)	1.73 (1.14 to 2.64) ^a
Ethnicity			
White	1.00	1.00	1.00
Nonwhite	0.76 (0.63 to 0.91) ^b	1.01 (0.74 to 1.38)	1.90 (1.21 to 3.00) ^a
Citizenship at birth			
Nonimmigrants	1.00	1.00	1.00
Immigrants	0.91 (0.80 to 1.04)	0.25 (0.16 to 0.37) ^b	0.51 (0.29 to 0.89) ^a

^aP < 0.05; ^bP < 0.005

Table 4 The adjusted associations between comorbidity and demographic and socioeconomic factors among participants who reported major depressive episode (MDE) and alcohol dependence (AD)

	Comorbid AD and MDE vs pure MDE Adjusted OR (95%CI)	Comorbid MDE and AD vs pure AD Adjusted OR (95%CI)
Sex		
Men	1.00	1.00
Women	0.49 (0.36 to 0.67) ^b	4.42 (3.07 to 6.34) ^b
Age (years)		
12–24	2.09 (1.41 to 3.09) ^b	0.63 (0.41 to 0.97) ^a
25–54	1.00	1.00
Marital status		
Married, common law, partner	1.00	1.00
Single	4.77 (2.57 to 8.84) ^b	1.66 (0.87 to 3.17)
Divorced, separated, widowed	2.39 (0.82 to 6.93)	3.56 (0.87 to 14.50)
Family income level		
Middle or high family income	1.00	1.00
Low family income	1.36 (0.94 to 1.96)	1.69 (1.11 to 2.58) ^a
Education		
≥ 12 years	1.00	1.00
< 12 years	0.87 (0.59 to 1.28)	1.39 (0.92 to 2.10)
Working status		
Working	1.00	1.00
Not working	0.65 (0.46 to 0.92) ^a	0.72 (0.48 to 1.08)
Living arrangement		
With an intact family	1.00	1.00
With a nonintact family	1.04 (0.65 to 1.66)	1.58 (0.98 to 2.55)
Ethnicity		
White	1.00	1.00
Nonwhite	2.26 (1.37 to 3.71) ^b	1.60 (0.90 to 2.83)
Citizenship by birth		
Nonimmigrants	1.00	1.00
Immigrants	0.55 (0.30, 0.99) ^a	3.62 (1.72, 7.62) ^b

^a $P < 0.05$; ^b $P < 0.005$

concert with the social causation theory (13) that individuals with low family income have a higher risk for comorbid conditions.

One might argue that low family income is a predisposing factor for comorbid MDE and AD because of the nonsignificant association between family income level and pure AD. One criterion for diagnosing AD based on the CIDI-SFAD is reported interference with one's work or school study because of alcohol use. In the NPHS, over 65% of participants with low family income were not working at the time of interview and about 50% had under 12 years of education. Thus, participants in this group were less likely to meet this criterion. As a result, the prevalence of AD in this group could have been underestimated.

Unlike what social causation theory predicts, immigrants were found to be less likely to have had pure AD and comorbid conditions. Similarly, Ross also reported that those

who were born outside of Canada had a lower risk of having comorbid mental disorders (9). In past decades, immigrants to Canada have come mainly from Asian countries instead of traditional European countries (9). Helzer and colleagues found that the rates of alcohol use disorders in Taiwan were significantly lower than were those in the US and in Canada (31). Despite immigration to a new country, those immigrants' drinking habits might not have dramatically changed. Another possible explanation is that this could be owing to "healthy immigrant" effect, because individuals who had applied for immigration to Canada had to pass medical examinations. A medical examination may include a physical and a mental examination, a review of medical history and records, and routine and diagnostic tests such as a chest x-ray to assess the health of the applicant (32). A Statistics Canada report based on the NPHS data showed that immigrants had a better

health status than nonimmigrants in terms of chronic illnesses (33).

Among participants with MDEs, men and those aged 12 to 24 years had higher odds of reporting AD than did women and those aged 25 to 54 years, which was consistent with Grant and colleagues (22). Participants with comorbid AD and those with MDE differed in marital status. Among participants with AD, sex and family income level were associated with comorbid MDE. These findings were different from Grant and colleagues (22). In that study, alcohol-related disorders included both alcohol abuse and dependence. In the NPHS, only AD based on DSM-III-R criteria was evaluated. Therefore, in our analysis, AD did not include alcohol abuse. This might explain the discrepancies.

In this analysis, sex was found not to be associated with comorbidity. Although women were more likely to have had an MDE than men, women were less likely to have had AD. Women with depression were particularly less likely to have had comorbid AD than men. The nonsignificant association between sex and comorbidity could be owing to differential risks of having MDE and AD by men and women.

Although participants who were divorced, separated, or widowed and those with low family income were at high risk for depressive and alcohol use disorders, the data showed that they were not more likely to seek professional help than those at higher SES levels. About 50% of them did not use any mental health services at all in the past 12 months. Of particular concern is that, among participants with comorbid MDE and AD, adolescents and young adults were less likely to have used mental health services than were older participants. These data highlight the importance of public health interventions emphasizing adolescents and young adults and those in low SES groups.

One unexpected finding of this analysis was that, among nonimmigrants, nonwhite participants were more likely to have had comorbid conditions than white participants, but they did not differ in terms of having had pure MDE or pure AD. Our additional analysis showed that nonimmigrants had differential risks for MDE and AD by ethnicity. Therefore, a possible explanation is that, once a nonwhite individual has either of the mental problems, the likelihood of developing the other increases, leading to an increased risk of comorbidity.

In the NPHS, AD was evaluated only among participants who reported having 5 or more drinks on a single occasion at least once monthly in the past 12 months. It is possible that some people have impairment in work and daily life activities owing to alcohol consumption, even though they have less than 5 drinks. Men and women often have different alcohol tolerance levels because of their biological differences. In the Alcohol Use Disorders Identification Test developed by the World Health Organization (34), the sex difference is addressed by the question: "How often do you have 6 (4 for females) or more drinks on 1 occasion?" This question is considered an indicator of hazardous drinking with high sensitivity (35). Therefore, the prevalence of AD and of comorbidity reported in this analysis could have been underestimated, especially among women. This could also explain the failure

to identify a significant sex difference in the OR of comorbidity of AD and MDE in this analysis.

The CIDI-SFMD and CIDI-SFAD questions overlap slightly. In the CIDI-SFAD, participants were asked whether alcohol consumption caused any psychological or emotional problems, such as depressed mood. Although the CIDI-SFMD did not have probe questions, organic exclusions were considered in developing the probability of MDE cases. Thus, the possibility that depressive symptoms were counted twice in determining comorbidity was minimized.

This analysis used cross-sectional data. Therefore, a causal relation could not be drawn. The CIDI-SFMD and the CIDI-SFAD are brief indicators for MDE and AD. They might not be as accurate as the full version of CIDI. This analysis could not identify primary and secondary diagnoses because information about the chronology of disorders was not available in the NPHS. Therefore, interpreting the comorbidity rates in Table 2 merits caution. It should also be noted that "pure" MDE and AD as defined in this analysis could have been comorbid with other psychiatric disorders. Owing to limitations of the NPHS data, comorbidity with other psychiatric disorders could not be determined.

AD is of clinical importance. The NPHS data indicated that age, marital status, family income level, and living arrangement were associated with MDE, AD, and comorbidity, and the findings were consistent with existing social theories. Therefore, the etiology of comorbid MDE and AD may include social predisposing factors. Young age, single marital status, and low family income are often related to problem drinking. However, only a small proportion of those with pure AD had used mental health services. Our results showed that having comorbid depression might be a factor influencing those with AD to seek professional help. These results are of public health and clinical significance. Relieving depression may coincide with alcohol abstinence in individuals with comorbid conditions. More studies are needed to confirm these findings.

Funding and Support

This analysis was supported in part by a URCG research grant of University of Calgary (Grant # 998142) to Dr. JianLi Wang.

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Manuscript received August 2002, revised, and accepted January 2003.
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Résumé : Facteurs sociodémographiques associés aux épisodes comorbides de dépression majeure et de dépendance à l'alcool dans la population générale

Objectifs : Estimer la prévalence sur 12 mois de la dépendance à l'alcool (DA) chez des sujets ayant des épisodes de dépression majeure (EDM) et la prévalence sur 12 mois des EDM chez ceux ayant une DA; rechercher les associations entre les caractéristiques démographiques et socio-économiques et les EDM et DA comorbides, selon les modèles théoriques établis; et comparer les taux.

Méthodes : Nous avons utilisé les données de l'Enquête nationale sur la santé de la population 1996-1997. Les EDM et DA ont été mesurés à l'aide du questionnaire abrégé de l'interview diagnostique composite internationale (CIDI-SF) de l'Organisation mondiale de la santé. Nous avons calculé la prévalence sur 12 mois des EDM chez les participants ayant une DA, et de la DA chez ceux souffrant d'EDM. Les associations entre les caractéristiques démographiques et socio-économiques et la comorbidité ont été recherchées.

Résultats : Parmi les participants souffrant d'EDM, 8,6 % avaient une DA; 19,6 % des participants ayant une DA ont déclaré avoir eu au moins 1 EDM au cours des 12 derniers mois. Être jeune (entre 12 et 24 ans), divorcé, séparé ou veuf et avoir un faible taux de revenu familial étaient associés positivement aux EDM, à la DA et à la comorbidité. Parmi les participants ayant une DA et un EDM comorbides, ceux qui avaient entre 12 et 24 ans étaient moins susceptibles que les autres d'avoir utilisé des services de santé mentale au cours des 12 derniers mois.

Conclusions : Le jeune âge, l'état civil de célibataire et le faible revenu familial peuvent être des facteurs de risque potentiels pour les EDM et la DA comorbides. Bien que la DA soit rare dans la population générale, les interventions de santé publique qui ciblent les groupes reconnus à risque peuvent contribuer à prévenir les EDM, la DA et la comorbidité.