Original Research

The Epidemiology of Psychiatric Disorders in Quebec's Older Adult Population

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Objective: To document the prevalence of psychiatric disorders in Quebec's older adult population.

Method: Data came from the Enquête sur la santé des aînés study conducted in 2005–2006 using a representative sample (*n* = 2798) of community-dwelling older adults.

Results: Our results indicate that 12.7% of the respondents met the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria for depression, mania, anxiety disorders, or benzodiazepine dependency. The 12-month prevalence rate of major depression was 1.1% and the prevalence of minor depression 5.7%. A total of 5.6% of the respondents reported an anxiety disorder. The most prevalent anxiety disorders were specific phobia (2.0%), obsessive–compulsive disorder (OCD) (1.5%), and generalized anxiety disorder (GAD) (1.2%). Agoraphobia without panic disorder and panic disorder were reported by 0.3% and 0.6% of the respondents, respectively. The prevalence rate of benzodiazepine dependency was 2.3%. The 12-month comorbidity prevalence rate between any psychiatric disorders was 2.2%. Among those with depressive disorder, the most frequent comorbidity was observed between minor depression and specific phobia (4.3%), GAD (4.3%), OCD (3.7%), and mania (1.3%). Further, only 39% of those having at least one active DSM-IV diagnosis reported having used health services for their psychological distress symptoms during the previous 12 months. Among those who consulted health services, 85% visited a general practitioner.

Conclusions: Our results indicate that a large proportion of the elderly population in Quebec presents mental health needs. Longitudinal research focusing on the individual and social consequences of mental health problems reported by older adults is needed to avoid misinterpretation of this finding.

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Clinical Implications

- For the first time, our study provides data on the prevalence of specific psychiatric disorders in the elderly population in Quebec.
- As for the adult population, psychiatric comorbidity is highly prevalent in the elderly population.
- The study provides general estimates of unmet needs in the elderly population.

Limitations

- We used self-reported information from respondents.
- Clinical validity of the diagnosis is limited.
- Our sample is limited to the Quebec population.

Key Words: *psychological distress, mental disorders, epidemiological survey, prevalence, elderly*

Few data are available on the prevalence of mental disorders in the older adult population of the province of Quebec. Because of the expected rapid aging of the population in the next 20 years, and the potential burden on public finances to pay for the services required by the older adult population with mental health needs, it is essential to provide health care decision makers with conclusive data regarding the prevalence of moderate-to-severe psychological distress problems in the older adult population. The objective of our study was to determine the 12-month prevalence rates of psychological problems meeting DSM-IV criteria[1] according to the sociodemographic characteristics of the community-dwelling older adult population in Quebec. Our study also documented the proportion of people representing an active disorder who consulted a health professional for their symptoms in the previous year.

Method

Data used in this study came from a cross-sectional survey, the ESA study, conducted in 2005–2006 using a probabilistic sample of French-speaking community-dwelling older adults (94% of the Quebec population speaks French). Subjects living in northern regions of Quebec were excluded owing to feasibility issues. In 2005, 10% of the elderly population resided in these regions.

A random dialing method was used to develop the sampling frame of the study, which included stratification according to 3 geographical areas: metropolitan, urban, and rural. In each geographical area, a proportional sample of households was constituted according to the 16 administrative regions of Quebec. A random sampling method was also used to select only one older adult (aged 65 years or older) within the household. The response rate for this study was 66.5%.

Abbreviations used in this article

CCHS 1.2	Canadian Community Health Survey: Health and Well-Being
CIDI	Composite International Diagnostic Interview
DIS	Diagnostic Interview Schedule
DSM	Diagnostic and Statistical Manual of Mental Disorders
ESA	Enquête sur la Santé des Aînés
ESA-Q	Enquête sur la Santé des Aînés—Diagnostic Questionnaire
GAD	generalized anxiety disorder
LASA	Longitudinal Aging Study Amsterdam
MD	major depression
MDD	major depressive disorder
OCD	obsessive–compulsive disorder

Procedure

Data were collected as follows. First, a health professional contacted the potential respondents by phone to describe the objectives and length of the study, answer questions, and ask them to participate in an in-home interview. Next, a letter describing the study was sent to reassure the potential participants about the credibility of the investigation and of the interviewer. Appointments were then made with those who volunteered. The interviewers were health professionals (*n* = 20), staff members of a national polling firm. In preparation for the interviews, they were given 2 days' training on administration of the computer-assisted ESA-Qs by the principal investigator. Respondents were offered $15 compensation for their participation.

The in-home interviews, which lasted 90 minutes on average, took place within 2 weeks of initial contact. Written consent to conduct the interview was obtained at the beginning of the interview from all volunteers. As memory problems affect the accuracy of the information given and performance on psychological questionnaires,[2,3] people presenting severe or moderate cognitive problems based on the Mini-Mental State Examination (a score of less than 22)[4,5] were excluded at the beginning of the interview. Thereafter, subjects presenting no moderate or severe cognitive problems were invited to respond to the ESA-Qs. The research procedure was previously reviewed and authorized by the ethics committee of the Sherbrooke Geriatric University Institute.

Measures

The respondents' mental health status was measured using a computer-assisted questionnaire: the ESA-Q, developed by the research team, based on DSM-IV criteria.[1] The ESA-Q is similar to the DIS and the CIDI, which demonstrated satisfactory reliability and validity.[6–13]

In our study, a 12-month-period diagnosis was made according to DSM-IV criteria[1] for the following psychiatric disorders or syndromes: major or minor depressive disorder, manic episode, specific phobia, social phobia, agoraphobia, panic disorder, OCD, GAD, and benzodiazepine dependency. The severity criterion of the symptoms reported was determined based on the presence of impairment in any of the following 4 areas of social functioning: activities of daily living that include personal self-care (for example, dressing, eating, and taking medicines), the ability to communicate (for example, see, speak, and hear), the ability to move indoors or outdoors (for example, walk, lean, and use a car, taxi, or bus); domestic tasks that include preparing meals, grocery shopping, home maintenance, laundry, and managing personal finances; social activities that include participation in associations or clubs for the elderly (for example,

bingo and dancing); and relationships with others, including family members, friends, and neighbours.

MDD or Minor Depressive Disorder. Subjects who showed the essential features of depression (either depressed mood or the loss of interest or pleasure in usual daily activities nearly every day and most of the day for at least 2 consecutive weeks, and reporting at least 5 of the 7 associated symptoms of depression) were classified as having MD. In addition, subjects who showed the essential features of depression and reported between 2 and 4 of the 7 associated symptoms of depression were classified as having minor depression. Subjects also had to report impairment in at least one area of social functioning to be considered to have depression. Finally, according to DSM-IV criteria, subjects who were told by their doctor that their symptoms were attributable to a physical disease, a drug, or grief were excluded from the MD and minor depression category.

Manic Episode. Subjects were classified as having a manic episode if they reported a period of at least 1 week during the previous 12 months when they felt more excited and energetic than usual and their emotions and ideas raced too quickly through their mind. In addition, they had to report having been extremely irritable most of the time during this period and having experienced at least 3 of the following symptoms: exaggerated self-confidence, a feeling of intense nervousness with difficulty keeping still, little need for sleep, a need to speak all the time, being easily distracted, having a need for pleasant and risky activities, or a tendency to be too familiar with people. Subjects had to report impairment in at least one area of social functioning to be considered to have a manic episode. Subjects who were told by their doctor that their symptoms were attributable to a physical disease or a drug were excluded.

Agoraphobia Without Panic Disorder. Subjects who did not experience a panic disorder during the preceding 12 months but presented significant anxiety associated with one or more of the following places or situations from which escape might be deemed difficult or embarrassing, or in which help may not be available in the event of having an unexpected panic attack: travelling alone, or in a bus, train, or subway; being alone, or far from home, in a crowd, waiting in line in a public place, on a bridge or in a tunnel, in an elevator, a department store, shopping mall, supermarket, concert hall, auditorium or church, or in a large open space or boulevard, as well as avoidance of these situations were classified as probable cases of agoraphobia. Subjects deemed to have agoraphobia without panic disorder who attributed their symptoms to a physical disease were excluded from the diagnosis. Also, subjects had to report impairment in at least one area of social functioning to be considered to have this condition.

Panic Disorder. Subjects were classified as having a probable panic disorder if they reported having experienced at least one unexpected panic attack during the previous 12 months where the sudden fear or anxiety was accompanied by at least 4 of the following 13 somatic or cognitive symptoms: shortness of breath or feeling of smothering, palpitations or accelerated heart rate, chest pain, sweating, trembling or shaking, hot flashes or chills, feeling of depersonalization, fear of dying, fear of losing control or going crazy, nausea or stomach ache, feeling dizzy, unsteady, light-headed or faint, paresthesia, and where the period of intense fear reached a peak within 10 minutes. Subjects who were told by their doctor that their symptoms were attributable to a physical disease or a drug were excluded. Also, subjects had to report impairment in at least one area of social functioning to be considered to have a panic disorder.

Specific Phobia. Subjects were classified as having a specific phobia if they reported abnormal fears about one of the following phobic situations during the previous 12 months: heights, storms, water, airplanes, animals, injections, blood, subways, trains or buses, elevators, small spaces, or being with sick people, and they had made significant attempts to avoid the situation. Also, subjects had to report impairment in at least one area of social functioning to be considered to have a specific phobia. Subjects attributing their symptoms to a physical disease were excluded from the specific phobia category.

Social Phobia. Subjects were classified as having a social phobia if they reported that they experienced intense and unreasonable fears about at least one of the following situations during the previous 12 months: beginning or continuing a conversation, talking to people in authority, speaking in public, eating or drinking in public, speaking to strangers, going to parties or other social gatherings, writing while someone is watching; that the episode of phobia lasted at least 6 months; and that they tried to avoid these situations. Subjects also had to report impairment in at least one area of social functioning to be considered to have a social phobia. Subjects attributing their symptoms to a physical disease were excluded from the social phobia category.

Obsessive–Compulsive Disorder. Subjects experiencing either obsessions or compulsions during the past 12 months and reporting attempts to suppress or ignore such thoughts or to neutralize them with some other thought or action were classified as having OCD. Obsessions were defined as recurrent and persistent thoughts or ideas provoking marked anxiety or distress. Compulsions were defined as repetitive behaviours (for example, handwashing, ordering, and checking) or mental acts (for example, counting) that the person feels driven to perform in response to an obsession. To be classified as having OCD, subjects had to report impairment

in at least one area of social functioning. People attributing their symptoms to a physical disease were also excluded from the OCD category.

Generalized Anxiety Disorder. Subjects were classified as having a GAD if they reported a period of at least 6 months during the previous 12 months when, for almost every day and most of the time, they were abnormally worried about at least 3 of the following situations: finances, social life, family relationships, health and well-being of significant others, moral values, and personal success; and they found it difficult to stop worrying about the situation. Also, subjects had to report impairment in at least one area of social functioning to be considered a probable GAD case. Subjects attributing their symptoms to a physical disorder were excluded from the GAD diagnostic category.

Benzodiazepine Dependency. This was defined according to 7 DSM-IV criteria, including tolerance, withdrawal, long-term use, attempts to stop, time spent obtaining the medication or recovering from its effects, the presence of consequences in social functioning, and drug use in spite of known probable health consequences. Subjects using benzodiazepines during the previous 12 months and presenting at least 3 of these criteria were classified as having benzodiazepine dependency.

The respondents' use of health services for their psychological distress symptoms was measured at the end of each ESA diagnosis module with the following 2 questions: "During the past 12 months, did you consult a general practitioner or other health professional about the symptoms you just reported?" and "Whom did you consult the first time about these symptoms?"

The sociodemographic characteristics gathered in this study were: age, sex, marital status, education, income, and region of residence. Level of education was categorized as either less than 7 years, or 8 years and over. The family annual income indicator was categorized as either less than $15 000, or $15 000 and over. The region of residence was categorized as either metropolitan, or urban and rural, according to the definitions of the Institut de la Statistique du Québec.[14]

Analyses

Data were weighted to ensure that the true proportions of older adults in each region and each geographical area were reflected in the analysis. Weights were determined based on:

- The probability of selection of the administrative region in the geographical area [$\pi(a)$].

- The conditional probability of selection of the household in the administrative region [$\pi(b/a)$].

- The conditional probability of selection of the subject in the household [$\pi(c/ab)$].

The weight attributed to each subject represented the inverse of the probability of selection

$$1/[\pi(abc)]$$

The weighted sample included 2798 older adults living at home. The mean and median sampling design effect were 0.94 and 0.95, respectively.

A multinomial logistic regression analysis was employed to describe the associations between the independent variables and the respondents' mental health status.[15] The odds ratio and its confidence interval were used as a measure of association. All hypotheses were tested at the 5% significance level.

Results

Based on the weighted sample (Table 1), the respondents' mean age was 73.8 years (SD 6.1), and 59% of the respondents were women. Forty-six percent (45.9%) of the respondents were married, and 18.8% reported an annual income lower than $15 000, while 30.8% of the respondents had less than 8 years of education. Fifty-six percent of the respondents were from a metropolitan region.

Our results indicate that 12.7% of the respondents reported psychological distress symptoms meeting criteria for a DSM-IV diagnosis. Nearly 6% (5.6%) of the respondents presented at least one anxiety disorder (Table 2), while 7.4% presented distress symptoms meeting criteria for MD or minor depression or mania. The most prevalent disorders were minor depression (5.7%), specific phobia (2.0%), OCD (1.5%), and GAD (1.2%). Among the respondents, 2.3% presented benzodiazepine dependency. As Table 2 indicates, significant statistical differences were found between sexes regarding to specific disorders, with older women presenting higher prevalence rates, compared with older men, of minor depression (OR 1.8; 95% CI 1.2 to 2.5), GAD (OR 3.0; 95% CI 1.3 to 7.2), specific phobia (OR 3.2; 95% CI 1.6 to 6.2), benzodiazepine dependency (OR 4.3; 95% CI 2.1 to 8.9), panic disorder (OR 5.3; 95% CI 1.2 to 23.0), and agoraphobia (8 women and 0 men). No evidence was found of a sex difference in the prevalence rates of the other diagnostic categories (MDD, social phobia, OCD, and mania). Our results also showed that the probability of presenting one psychiatric condition varied according to sex (OR 1.9; 95% CI 1.4 to 2.5) and age (OR 1.6; 95% CI 1.2 to 2.1): women aged 65 to 74 years had a greater risk of presenting one psychiatric disorder, when the effect of other covariates were controlled (Table 3).

Comorbidity

Among the respondents, 2.2% presented more than one probable psychiatric disorder (Table 2). Our results showed that the probability of presenting comorbid (2 or more)

Table 1 Respondents' sociodemographic characteristics

Sociodemographic characteristics	Sample (*n* = 2798)		
	n	%	95% CI
Age, years			
65–74	1623	58.0	56.2–59.8
≥75	1175	42.0	40.1–43.8
Sex			
Male	1148	41.0	39.2–42.8
Female	1650	59.0	57.1–60.8
Marital status			
Married	1282	45.9	43.9–47.6
Separated, divorced, widowed, or single	1505	54.1	51.9–55.6
Missing	11	—	—
Income			
<$15 000	479	18.8	17.3–20.3
≥$15 000	2066	81.2	79.6–82.7
Missing	253	—	—
Education, years			
0–7	859	30.8	29.1–32.5
≥8	1930	69.2	67.5–70.9
Missing	8	—	—
Region			
Metropolitan	1572	56.2	54.3–58.0
Urban	671	24.0	22.3–25.5
Rural	555	19.8	18.3–21.3

— = missing data

psychiatric conditions varied according to sex (OR 3.2; 95% CI 1.6 to 6.4) and income (OR 2.2; 95% CI 1.1 to 4.2). Among those with a depressive disorder (major and minor), 13.6% had a concurrent anxiety disorder, while 15.9% met the criteria for a depressive disorder among those having an anxiety disorder. Among those with minor depression, the most common comorbid conditions (Table 4) were GAD (4.3%), specific phobia (4.3%), OCD (3.7%), and benzodiazepine dependency (3.7%). Among anxiety disorders, excluding social phobia, the most prevalent comorbid conditions were between specific phobia and agoraphobia (48.6%). Comorbidity between the other anxiety disorders was less frequent, varying between 3% and 22.2%.

Use of Health Services

As Figure 1 indicates, 39% of the respondents having a probable DSM-IV diagnosis used health services for their psychological distress symptoms during the 12-month period preceding the ESA study. However, the probability of having had a consultation for their symptoms varied according to the specific disorders reported ($\chi^2 = 39.02$, *df* = 6, *P* < 0.001), MD being the disorder with the highest rate of health services use (50%), while OCD (10%), specific phobia (8%), and agoraphobia (0%) had the lowest rates. Most of these people representing probable active cases first visited their family doctor for their psychological distress symptoms (80.2%), 4.8% visited another general practitioner, and 11.5% visited a specialist. Only 9.8% first visited a psychologist or social worker (4.4%).

Discussion

Our study suggests a 12.7% 12-month prevalence rate of psychiatric disorders in Quebec's older adult population living in the community. This prevalence rate represents 99 666 older adults in Quebec. This result is close to the range of the 13% to 15% prevalence rate reported in other epidemiologic surveys using a similar caseness definition,[16,17] and is much higher than the 3.2% prevalence rate reported in the results of

Table 2 Prevalence of probable DSM-IV disorders in the ESA study

Disorders and dependency	All (n = 2798)			Men (n = 1148)			Women (n = 1650)		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
MDD	30	1.1	0.6–1.5	7	0.6	0.2–1.1	23	1.4	0.8–2.0
Minor depressive disorder	160	5.7	4.9–6.6	46	4.0	2.9–5.1	114	6.9	5.7–8.1
Manic episode	18	0.6	0.4–0.9	8	0.7	0.2–1.2	10	0.6	0.2–0.9
Any mood disorder	208	7.4	6.5–8.4	61	5.3	4.0–6.6	147	8.9	7.5–10.3
GAD	33[a]	1.2	0.8 -1.6	6	0.5	0.1–0.9	27	1.6	1.0–2.3
Panic disorder	18	0.6	0.4–0.9	3	0.3	0.0–0.6	15	0.9	0.5–1.4
Specific phobia	55	2.0	1.5–2.5	10	0.9	0.4–1.5	45	2.7	1.9–3.5
Social phobia	2	0.07	0.0–0.2	0	0.0	n/a	2	0.07	0.0–0.3
Agoraphobia without panic disorder	8	0.3	0.1–0.5	0	0.0	n/a	8	0.5	0.2–0.8
OCD	41	1.5	1.0–1.9	23	2.0	1.2–2.8	18	1.1	0.6–1.6
Any anxiety disorder	157[b]	5.6	4.8–6.5	42	3.6	2.6–4.8	115	6.9	5.7–8.2
Psychotropic drug dependency	64	2.3	1.7– 2.8	9	0.8	0.3–1.3	55	3.3	2.5– 4.2
Presence of a probable DSM-IV disorder[c]									
None	2443	87.3	86.1–88.6	1048	91.3	89.7–92.9	1395	84.5	82.8–86.3
1	293	10.5	9.3–11.6	89	7.8	6.2–9.3	204	12.4	10.8–13.9
≥2	62	2.2	1.7–2.8	11	0.9	0.4–1.5	51	3.1	2.3–3.9

[a] Estimate based on one-half of the sample

[b] Some people had more than one anxiety disorder

[c] Includes minor depression

n/a = not applicable

the CCHS 1.2 conducted in 2002.[18] One reason that could partially explain this discrepancy is that the ESA study included minor depression, mania, and benzodiazepine dependency, which the CCHS 1.2 did not. If these categories were excluded, the overall prevalence rate observed would have been 5.7%.

Our findings show that 1.1% of the respondents presented distress symptoms meeting criteria for MD and 5.7% presented with minor depression. These findings are similar to those of other studies that suggest that the prevalence of MD in the older adult population varies between 1% and 4%,[19–26] while the prevalence of minor depression varies between 4% and 13%.[10,20,27,28] Our results showed a 0.6% prevalence rate of MD among men aged 65 years and older, and a 1.4% prevalence rate among elderly women. These results are slightly lower than those reported by other researchers.[23,25,26] These differences could be due to the use of DSM-III or III-R criteria

to diagnose MD in these studies as the presence of impairment was not required.

Regarding anxiety disorders, our results showed a 12-month prevalence rate of 5.6%. These results are similar to those of Girolamo and colleagues,[26] who reported a prevalence of anxiety disorders of 5.2% for the same period. However, these results are lower than those reported in the Longitudinal Aging Study Amsterdam and the National Survey of psychotherapeutic drug use, which suggested a 10.2% prevalence rate of anxiety disorders.[29–31] Our results are also much lower than those reported in the National Comorbidity Survey,[32] which included similar diagnostic categories and suggested a 15% lifetime prevalence rate of anxiety disorders among the elderly population. Our results also differ slightly from those reported in other Canadian studies that suggest a prevalence rate of anxiety disorders among elderly varying between 2% and 3.5%.[18,33] This difference may be partly attributable to the fact that these studies did not include the

Table 3 Multivariate polychotomous regression between the respondents' psychiatric status and risk factors studied in less than 12 months

Sociodemographic characteristics	With at least 1 disorder[a] n = 2798				With only 1 disorder[a] n = 2736				With ≥2 disorders[a] n = 2505			
	n	%	OR	95% CI	n	%	OR	95% CI	n	%	OR	95% CI
Age, years												
65–74	229	14.1	1.6	1.3–2.1	189	11.6	1.6	1.2–2.1	40	2.5	1.8	0.9–3.1
≥75	126	10.7	RC	n/a	104	8.9	RC	n/a	22	1.9	RC	n/a
Sex												
Male	100	8.7	RC	n/a	89	7.8	RC	n/a	11	1.0	RC	n/a
Female	255	15.5	2.0	1.6–2.7	204	12.4	1.9	1.4–2.5	51	3.1	3.2	1.6–6.4
Marital status												
Married	152	11.9	RC	n/a	126	9.8	RC	n/a	26	2.0	RC	n/a
Separated, divorced, widowed, or single	200	13.3	1.2	0.9–1.5	165	10.9	1.2	0.9 -1.6	36	2.4	1.0	0.5–1.8
Income												
<$15 000	72	15.0	1.1	0.8–1.4	52	10.9	0.9	0.6–1.3	20	4.2	2.2	1.1–4.2
≥$15 000	259	12.5	RC	n/a	222	10.7	RC	n/a	37	1.8	RC	n/a
Education, years												
0–7	106	12.3	0.9	0.7–1.1	88	10.2	1.2	0.7–1.2	18	2.1	0.8	0.4–1.4
≥8	249	12.9	RC	n/a	205	10.6	RC	n/a	44	2.3	RC	n/a
Region												
Metropolitan	184	11.7	RC	n/a	150	9.5	RC	n/a	34	2.2	RC	n/a
Urban and rural	171	13.9	1.3	1.0–1.6	143	11.7	1.3	1.0–1.7	28	2.3	1.2	0.7–2.1

[a] Proportion of people representing active cases, compared with the noncase group

n/a = not applicable; RC = reference category (for calculating the odds ratio)

same diagnostic categories as those included in the ESA study.

In our study, we found a 12-month prevalence rate of specific phobia of 2.0%. Others researchers found prevalence rates varying between 3.1% and 5.1%.[17,29,30,33] Further, Cairney and colleagues,[34] using data from CCHS-1.2, reported a 1.3% 12-month prevalence rate of social phobia in the Canadian older adult population, while our study suggests a 0.1% prevalence rate in the elderly population living in Quebec. This very low prevalence rate may be partly attributable to the probable greater tendency to avoid participation in research interviews by people with social phobia disorders (fear of being judged).

The prevalence rate of panic disorder (0.6%) and agoraphobia (0.3%) observed in our study were in the range of those reported in the literature, which suggest rates varying between 0.1% and 2%.[16,17,29–31,33,35,36] In addition, our results showed a 1.2% 12-month prevalence rate of GAD in the older adult population in Quebec. This finding also agrees with rates reported in the literature that vary between 0.3% and

7.5%.[29,31,37] Finally, the prevalence rate of OCD (1.5%) observed in the ESA study was similar to the rates reported in other studies (varying between 1% and 2.5%).[17,30,33,38]

Regarding psychiatric comorbidity in the elderly population, we found that 2.2% of the respondents presented both depression (major and minor) and an anxiety disorder in the 12-month period preceding the survey. Our results showed that 13.6% of those having a depressive disorder had also an anxiety disorder, whereas 15.9% of those having an anxiety disorder also met criteria for a depressive disorder. Among those with depressive disorder, the most frequent comorbidity was observed between minor depression and specific phobia (4.3%), generalized anxiety (4.3%), OCD (3.7%), and mania (1.3%). The 12-month period comorbidity rate of 2.2% observed in the ESA study is lower than the result reported in the LASA, which suggest a 6-month period comorbidity rate of 4.4% in the elderly population.[30] However, the 2-stage sampling design of the LASA study make the comparison difficult between both studies. Further, the

Table 4 Comorbidity between probable psychiatric disorders based on the total number of cases (*n* = 160) reported during the previous 12-month period

Disorders and dependency	All other disorders n (%)	MD n (%)	Minor depression n (%)	Mania n (%)	Panic disorder n (%)	OCD n (%)	Social phobia n (%)	Specific phobia n (%)	Agoraphobia n (%)	GAD[a] n (%)	Psychotropic drug dependency n (%)
MD (*n* = 30)	5 (16.6)	—	0	0	0	0	0	0	1 (2.9)	1 (3.3)	3 (10.0)
Minor depression (*n* = 160)	24 (15.0)	0	—	2 (1.3)	3 (1.9)	6 (3.7)	1 (0.6)	7 (4.3)	0	7 (4.3)	6 (3.7)
Manic episode (*n* = 18)	8 (44.4)	0	2 (11.1)	—	1 (5.5)	4 (22.2)	0	2 (11.1)	0	1 (5.5)	2 (11.1)
Panic disorder (*n* = 18)	12 (66.6)	0	3 (16.6)	1 (5.5)	—	4 (22.2)	1 (5.5)	4 (22.2)	0	0	3 (16.7)
OCD (*n* = 41)	19 (46.3)	0	6 (14.6)	4 (9.8)	4 (9.8)	—	0	3 (7.3)	0	5 (12.2)	1 (2.4)
Social phobia (*n* = 2)	2 (100.0)	0	1 (50.0)	0	1 (50.0)	0	—	2 (100.0)	0	0	0
Specific phobia (*n* = 55)	22 (40.0)	0	7 (12.7)	2 (3.6)	4 (7.2)	3 (5.5)	2 (3.6)	—	3 (5.5)	4 (7.2)	4 (7.2)
Agoraphobia without panic disorder (*n* = 8)	4 (50.0)	1 (12.5)	0	0	0	0	0	3 (37.5)	—	0	0
GAD (*n* = 33)	19 (57.6)	1 (3.0)	7 (21.2)	1 (3.0)	0	5 (15.2)	0	4 (12.1)	0	—	5 (15.2)
Psychotropic drug dependency (*n* = 64)	20 (31.3)	3 (4.7)	6 (9.4)	2 (3.1)	3 (4.7)	1 (1.6)	0	4 (6.3)	0	5 (7.8)	—

[a] Estimate based on one-half of the sample

— = missing data

ECA study reported a 6-month period comorbidity rate of 1.9% for the general population (aged 18 years and older).[39]

Our results show significant differences in the risk of depression and anxiety disorders according to sex, with women being 1.9 times more likely to present with a depression or anxiety disorder than men, and 3.2 times more likely to present with a comorbid condition than men. This result is in agreement with those reported by other researchers.[16,17,19,30,40–43] Contrary to other studies that showed a protective effect of marriage, with older divorced or separated adults having a greater risk for psychological distress, compared with the married elderly population, our results indicate that the probability of reporting psychological distress symptoms meeting DSM-IV criteria did not vary significantly with the respondent's marital status.[22,43–46] Further, our results suggest that education did not contribute significantly to the probability of reporting a psychiatric disorder. This result also differs from other studies where education significantly predicted the respondents' mental health status.[28,29,43,47] Finally, our findings showed that low income

increases the probability of having 2 or more psychiatric disorders, which is in agreement with the results reported by Hybels and colleagues.[48]

Finally, it was shown that fewer than 4 in 10 people with an active disorder sought consultation for their psychological distress during the previous year. This result is lower than the 53% reported by Klap et al.[49] In the ESA study, people presenting with agoraphobia, specific phobia, or an OCD were less likely to report having consulted for their symptoms, while people with depression were those reporting the highest rate of health services use.

Our study's limitations should be taken into account when interpreting our results. First, the data used may include an information bias related to the respondents' attitudes towards reporting their psychological distress symptoms. This phenomenon might have led to an underestimate of the true prevalence rates for depression and anxiety disorders in the Quebec elderly population. Second, because the study was cross-sectional, we were not able to determine the direction

Figure 1 Respondents' use of health services for specific DSM-IV disorders (with 95% CI)
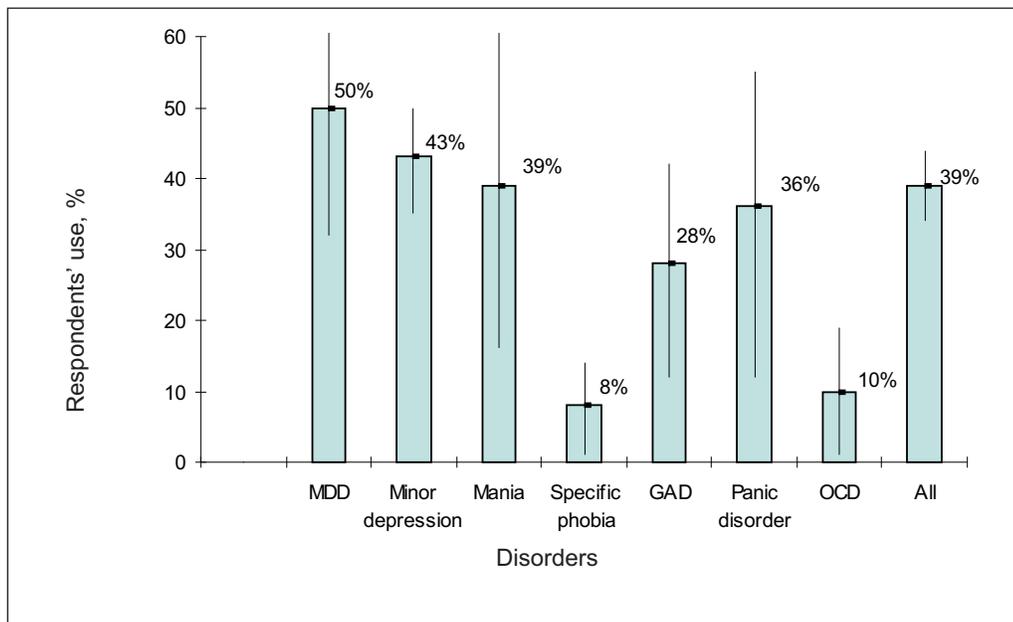
Figure 2 Type of professional visited by DSM-IV active cases (*n* = 141)
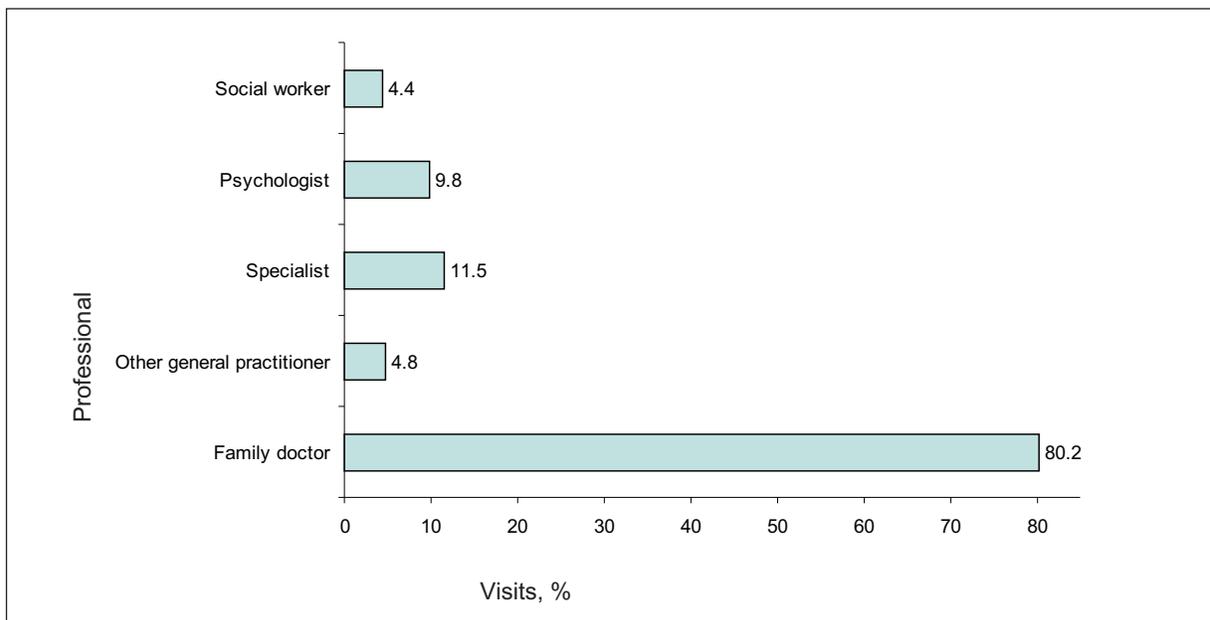
of the relations between the predisposing factors studied and the respondents' mental health status. Despite these limitations, our study is the first epidemiologic study on mental health in the older adult population in Quebec that documented older adults' mental health status from a so-called caseness perspective, contrary to many other studies that generally documented older adult mental health status using psychological distress symptoms measurement.[27]

Conclusion

Our results indicate that a large proportion of the elderly population in Quebec presents mental health needs. Longitudinal research is necessary to avoid misinterpretation of this finding. In particular, future longitudinal studies may offer the opportunity to document the severity of the depression and anxiety disorders reported by the elderly population by documenting the short- and long-term health and social consequences associated with them. Future research may also contribute to a better understanding of factors related to remission of these disorders in a natural (ecological) setting.

Finally, these results could be used as baseline prevalence rates of psychiatric disorders in the elderly population to monitor future outcomes of the Mental Health Action Plan adopted by the Quebec government in 2005 to improve the mental health of the population. However, it should be noticed that the prevalence rate of psychiatric disorders in the older adult population reported in the ESA study would have been probably much higher if the elderly population living in institutions had been included in the study, as suggested by the prevalence rates reported in studies conducted using institutionalized elderly samples. It is suggested that future studies document the psychiatric morbidity in the institutionalized population in Quebec.

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Résumé : L'épidémiologie des troubles psychiatriques dans la population adulte âgée du Québec

Objectif : Documenter la prévalence des troubles psychiatriques dans la population adulte âgée du Québec.

Méthode : Les données provenaient de l'Enquête sur la santé des aînés, menée en 2005–2006, auprès d'un échantillon représentatif (*n* = 2 798) d'adultes âgés résidant dans la communauté.

Résultats : Nos résultats indiquent que 12,7 % des répondants satisfaisaient aux critères de la dépression, de la manie, des troubles anxieux ou de la dépendance aux benzodiazépines du *Manuel diagnostique et statistique des troubles mentaux*, 4ᵉ édition (DSM-IV). Le taux de prévalence sur 12 mois de la dépression majeure était de 1,1 % et la prévalence de la dépression mineure était de 5,7 %. Un total de 5,6 % des répondants a déclaré un trouble anxieux. Les troubles anxieux les plus prévalents étaient la phobie spécifique (2,0 %), le trouble obsessionnel-compulsif (TOC) (1,5 %), et le trouble anxieux généralisé (TAG) (1,2 %). L'agoraphobie sans trouble panique et le trouble panique étaient déclarés par 0,3 % et 0,6 % des répondants, respectivement. Le taux de prévalence de la dépendance aux benzodiazépines était de 2,3 %. Le taux de prévalence de la comorbidité sur 12 mois entre n'importe lesquels des troubles psychiatriques était de 2,2 %. Parmi ceux souffrant de trouble dépressif, la comorbidité la plus fréquente a été observée entre la dépression mineure et la phobie spécifique (4,3 %), le TAG (4,3 %), le TOC (3,7 %), et la manie (1,3 %). En outre, seulement 39 % de ceux ayant au moins un diagnostic actif selon le DSM-IV ont déclaré avoir utilisé les services de santé pour leurs symptômes de détresse psychologique durant les 12 mois précédents. Parmi ceux qui ont consulté les services de santé, 85 % ont vu un omnipraticien.

Conclusions : Nos résultats indiquent qu'une large proportion de la population âgée du Québec présente des besoins de santé mentale. Il faut une étude longitudinale des conséquences individuelles et sociales des problèmes de santé mentale déclarés par les adultes âgés, afin d'éviter une fausse interprétation de ce résultat.