Utilization of Health Care Services by Patients With Cluster B Personality Disorders or Schizophrenia

Lionel Cailhol, M.D., Ph.D., Éric Pelletier, M.Sc., Louis Rochette, M.Sc., Suzane Renaud, M.D., Marion Koch, M.D., Pierre David, M.D., Evens Villeneuve, M.D., Carlotta Lunghi, Ph.D., Alain Lesage, M.D., M.Phil.

Objective: The comparable severities of cluster B personality disorders and schizophrenia are increasingly recognized. The authors sought to compare the general medical and psychiatric comorbid conditions and use of medical services among individuals with one or both of these disorders.

Methods: Data were collected from the linked health administrative databases of Quebec's universal health plan in the Quebec Integrated Chronic Disease Surveillance System, which covers 99% of Quebec's population. The study cohort of 2016−2017 included almost 7.05 million people, and the study covered the 1996−2017 period.

Results: Comorbid conditions were extremely prevalent in the three groups studied—persons with cluster B personality disorders, schizophrenia, or both—compared with the general population. People having both disorders had the highest prevalence of comorbid conditions. Psychiatric services were used more frequently by individuals in all three groups than among those in the general population, and use was especially high among people with both disorders. Medical care service use was heterogeneous, with patients with cluster B personality disorders using more medical care services but fewer specialized outpatient treatments and psychotherapy than those with schizophrenia or with both disorders.

Conclusions: The three cohorts had higher rates of comorbid conditions and health care service use than individuals in the general population. Patients with cluster B personality disorders used fewer psychiatric services than patients with schizophrenia or with both disorders. One explanation for this difference may be that people with cluster B personality disorders encounter more obstacles in accessing mental health care services.

Psychiatric Services 2021; 72:1392−1399; doi: 10.1176/appi.ps.202000554

Schizophrenia is considered the most severe psychiatric disorder, from both a clinical and a research point of view (1, 2). In contrast, cluster B personality disorders (e.g., narcissistic, borderline, histrionic, and antisocial disorders) are not always considered severe mental illnesses (3). This difference might explain the asymmetric attention these personality disorders have received by researchers and clinicians. This asymmetry is reflected in the number of published research studies: 3,127 studies for schizophrenia versus 613 for personality disorders (4). Similar patterns can be seen for the medications approved for treatment of these mental illnesses (5). Furthermore, in Quebec several evidence-based treatment models for schizophrenia, such as first-onset programs or assertive community treatment teams (6), have largely been implemented, whereas similar models for treating people with personality disorders have only recently been proposed (7).

The discrepancy in expenditures for research or treatment of these two disorders is not proportional to their respective prevalence. The prevalence of schizophrenia is around 0.7% (8) and that of cluster B personality disorders about 3.3%

(9). In terms of excess mortality, schizophrenia has a standardized mortality ratio (SMR) of 2.6 (8), and cluster B personality disorders have an SMR between 3.7 (female outpatients) and 10.8 (female inpatients) (10). A recent Danish study of linked health administrative databases of their complete population reported a slightly higher SMR of 2.57 for schizophrenia and 2.26 for personality disorders, compared with the

HIGHLIGHTS

- Patients with cluster B personality disorders, schizophrenia, or both disorders had a high prevalence of general medical and psychiatric comorbid conditions and used medical and mental health services at high levels.

- Patients with cluster B personality disorders used more medical services but received less psychotherapy than those with schizophrenia and those with both disorders.

- Patients with cluster B personality disorders may face higher barriers to accessing mental health care services.

general population (11). These observations indicate that people with schizophrenia and cluster B personality disorders experience a significant loss of life expectancy compared with the general population (3, 12–14). In addition to the established data showing reduced life expectancy, patients with cluster B personality disorders have general medical and psychiatric comorbid conditions that affect their quality of life and functional status (15–17). Finally, cluster B personality disorders are associated with high levels of mental health service use (18–21) and with elevated societal costs (22). The societal costs for cluster B personality disorders and schizophrenia are similar in Europe, estimated at 40,441 euros (23) and 43,561 euros (24) per person per year, respectively.

As shown by the aforementioned Danish study (11), which used national health administrative databases to compare causes of increased mortality rates, use of data from large population registers can provide a more complete picture of the differences and similarities between schizophrenia and personality disorders in terms of comorbid conditions and medical service use. In Canada, such a universal health plan is administered by each province as part of a national universal health system, offering free access to medical visits and hospitalizations (25). The administrative databases for health surveillance and research are located in Quebec. The Quebec Integrated Chronic Disease Surveillance System (QICDSS) (26) is a data source that can be used to study comorbid conditions and service use among individuals with cluster B personality disorders or schizophrenia. Here, we sought to compare the prevalence of general medical and psychiatric comorbid conditions and the use of health care services (including psychotherapy by physicians) among patients with cluster B personality disorders, schizophrenia, or both disorders, compared with prevalence and use in the general population.

METHODS

Data Source and Population
Our method of data collection and analysis for cluster B personality disorders has been previously described (12). Like other Canadian provinces, Quebec has a public managed care system for health and social services. More than 99% of nearly 8 million residents in Quebec are included in the QICDSS (12). A quality study of the QICDSS (13) showed that at least 95% of psychiatrists' health care claims include a diagnosis, and nearly 90% of all claims include one diagnosis. Since 1996, the QICDSS (26) links, by personal health insurance numbers, five databases: physician claims, hospitalization, registration, death registry, and public drug plan. Physicians' claims for general health and psychiatric disorders were registered with *ICD-9* codes, whereas hospitalizations were registered with *ICD-10* codes that were released in 2006.

We conducted a population-based observational study of Quebec residents ages ≥14 years who were insured under the provincial health program (Régie d'assurance maladie du Québec) between April 1, 1996, and March 31, 2017. A initial period of 5 years (from April 1, 1996, to March 21, 2001),

during which data were collected and not reported, was used to ensure stability of the system by that time. QICDSS databases contain open, dynamic, population, and administrative data that are collected prospectively.

The database used for this study was designed to meet administrative needs and might have had some flaws for research purposes. For example, the database is updated regularly, and slight differences in numbers for the groups analyzed appeared over time. Since figures and tables were not created from data collected at the same time, we note that very minor differences appeared in the sample sizes of the cohorts.

Cases and Variables
A group composed of four psychiatrists (L.C., P.D., E.V., A.L.) and one psychologist (Dr. Lise Laporte at the Department of Psychiatry, McGill University) working within the Quebec health care system with expertise in the treatment of personality disorders prepared the case definitions. (All of the experts worked in specialized programs across three different administrative networks.) The case definition was obtained via consensus after two multisite work sessions. The main objective for the selection was to obtain the most clinically relevant data. All selected *ICD-9* codes were clinical indicators included in or close to the construct of a cluster B personality disorder. In short, this procedure transformed an *ICD-9* diagnosis into a *DSM* category. We included all *ICD* diagnoses with code 301.9 (personality disorder unspecified) as part of cluster B because the expert group noted that this code is commonly used to describe borderline personality disorder. Cluster B personality disorders were defined as the presence of a diagnosis for this disorder (*ICD-9* codes 3011, 3013, 3015, 3017, 3018, or 3019). For schizophrenia, *ICD-9* code 295 was used and its *ICD-10* equivalent. Psychiatric disorders were those designated by *ICD-9* codes 290–319 and *ICD-10* equivalents as chosen by the Public Health Agency of Canada using the Canadian Chronic Disease Surveillance System (26).

Prevalence rates represented rates of comorbid psychiatric and other medical conditions for patients reported between 1996 and 2017. The definition of a psychiatric hospitalization was any hospitalization in a psychiatric institute or having received a psychiatric diagnosis in any acute care hospital (*ICD-9* codes 290–319). For emergency room visits, our indicator was the average number of visits during a year. Psychiatric and nonpsychiatric visits were captured separately. We also calculated the mean annual number of psychiatric consultations (by psychiatrists and family doctors) according to the physician specialty recorded in the physician claim.

Outcomes
Comorbid conditions. We identified comorbid conditions using both physician claim and hospitalization files. An individual was considered to have a comorbid condition if they had a record with a diagnosis of a comorbid condition in the physician claim file or in the hospital discharge report between 1996 and 2017. The comorbid conditions reported in Table 1 are thus cumulative for the year 2016–2017.

TABLE 1. General medical and psychiatric comorbid conditions among people with diagnoses of cluster B personality disorders, schizophrenia, or both disorders and the general population[a]

Comorbid condition (*ICD-9* code)	Cluster B personality disorders (N=204,210)			Schizophrenia (N=70,705)			Cluster B personality disorders and schizophrenia (N=40,150)			General population (N=6,686,820)		
	N	%	99% CI	N	%	99% CI	N	%	99% CI	N	%	99% CI
Psychiatric comorbid conditions and substance use disorders												
Psychiatric disorders except cluster B personality disorders (290–319)	194,165	95.1	94.5–95.6	70,380	99.5	98.6–100	40,140	100.0	98.7–100	3,423,265	51.2	51.1–51.3
Anxio-depressive disorders (296, 300, 311, 313)	181,950	89.1	88.6–89.6	63,015	89.1	88.2–90.0	39,330	98.0	96.7–99.2	2,725,580	40.8	40.7–40.8
Affective psychoses (296)	64,525	31.6	31.3–31.9	33,600	47.5	46.9–48.2	28,730	71.6	70.5–72.7	243,245	3.6	3.6–3.7
Adjustment disorders (308, 309)	115,800	56.7	56.3–57.1	25,290	35.8	35.2–36.4	24,540	61.1	60.1–62.1	1,040,560	15.6	15.5–15.6
ADHD (314)	18,420	9.0	8.8–9.2	2,370	3.4	3.2–3.5	2,695	6.7	6.4–7.1	166,535	2.5	2.5–2.5
Developmental delay and ASD (299, 315, 317–319)	8,370	4.1	4.0–4.2	5,460	7.7	7.5–8.0	5,280	13.2	12.7–13.6	64,660	1.0	1.0–1.0
Alcohol use disorder (303.0, 303.9, 305.0)	41,375	20.3	20.0–20.5	19,820	28.0	27.5–28.5	19,730	49.1	48.2–50.0	223,095	3.3	3.3–3.4
Drug use disorders (304.0–304.9, 305.2–305.7, 305.9)	52,180	25.6	25.3–25.8	16,735	23.7	23.2–24.1	20.030	49.9	49.0–50.8	184,865	2.8	2.7–2.8
General medical comorbid conditions												
Infectious disorders (000–139)	145,410	71.2	70.7–71.7	45,360	64.2	63.4–64.9	31,350	78.1	77.0–79.2	3,372,065	50.4	50.4–50.5
Tumors (140–239)	100,320	49.1	48.7–49.5	32,715	46.3	45.6–46.9	18,975	47.3	46.4–48.2	2,820,640	42.2	42.1–42.2
Endocrine system disorders (240–279)	113,465	55.6	55.1–56.0	45,265	64.0	63.2–64.8	27,795	69.2	60.0–68.2	2,972,745	44.5	44.4–44.5
Diabetes (250)	33,355	16.3	16.1–16.6	16,900	23.9	23.4–24.4	9,930	24.7	24.1–25.4	867,565	13.0	12.9–13.0
Nervous system disorders (320–389)	160,835	78.8	78.3–79.3	54,005	76.4	75.5–77.2	33,220	82.7	81.6–83.9	4,313,190	64.5	64.4–64.6
Alzheimer's disease (290–331)	12,080	5.9	5.8–6.1	8,355	11.8	11.5–12.2	5,105	12.7	12.3–13.2	173,055	2.6	2.6–2.6
CNS inflammatory illnesses (320–327)	3,675	1.8	1.7–1.9	1,095	1.5	1.4–1.7	915	2.3	2.1–2.5	53,990	.8	.8–.8
CNS hereditary degenerative diseases (330–337)	16,000	7.8	7.7–8.0	10,510	14.9	14.5–15.2	7,880	19.6	19.1–20.2	222,640	3.3	3.3–3.3
Other CNS syndromes (330–337)	59,650	29.2	28.9–9.57	16,390	23.2	22.7–23.7	13,210	32.9	32.2–33.6	975,675	14.6	14.6–14.6
Epilepsy (345)	9,650	4.7	4.6–4.9	4,165	5.9	5.7–6.1	4,015	10.0	9.6–10.4	100,500	1.5	1.5–1.5
Peripheral nervous system disorders (350–359)	48,625	23.8	23.5–24.1	12,530	17.7	17.3–18.1	8,875	22.1	21.5–22.7	984,920	14.7	14.7–14.8
Eye and annexes diseases (360–379)	50,370	24.7	24.4–25.0	20,925	29.6	29.1–30.1	11,560	28.8	28.1–29.5	1,527,055	22.8	22.8–22.9
Ear and mastoid bone disorders (380–389)	102,880	50.4	50.0–50.8	31,725	44.9	44.2–45.5	20,585	51.3	50.4–52.2	2,603,995	38.9	38.9–39.0
Cardiovascular disorders (390–459)	123,525	60.5	60.0–60.9	44,520	63.0	62.2–63.7	27,090	67.5	66.4–68.5	3,308,025	49.5	49.4–49.5
Respiratory disorders (460–519)	179,780	88.0	87.5–88.6	57,000	80.6	79.7–81.5	34,975	87.1	85.9–88.3	4,946,625	74.0	73.9–74.1
Digestive disorders (520–579)	153,375	75.1	74.6–75.6	50,315	71.2	70.3–72.0	32,420	80.7	79.6–81.9	3,704,385	55.4	55.3–55.5
Genito-urinary disorders (580–629)	154,330	75.6	75.1–76.1	47,770	67.6	66.8–68.4	29,465	73.4	72.3–74.5	4,073,885	60.9	60.8–61.0
Congenital disorders (740–759)	32,735	16.0	15.8–16.3	9,630	13.6	13.3–14.0	7,045	17.5	17.0–18.1	686,200	10.3	10.2–10.3
Nervous system abnormalities (742)	780	.4	.3–.4	280	.4	.3–.5	265	.7	.6–.8	9,520	.1	.1–.1

TABLE 1, *continued*

Comorbid condition (*ICD-9* code)	Cluster B personality disorders (N=204,210)			Schizophrenia (N=70,705)			Cluster B personality disorders and schizophrenia (N=40,150)			General population (N=6,686,820)		
	N	%	99% CI	N	%	99% CI	N	%	99% CI	N	%	99% CI
Peripartum disorders (764–779)	11,905	5.8	5.7–6.0	2,290	3.2	3.1–3.4	1,810	4.5	4.2–4.8	250,630	3.7	3.7–3.8
Traumas (800–999)	186,910	91.5	91.0–92.1	61,360	86.8	85.9–87.7	37,760	94.0	92.8–95.3	5,064,810	75.7	75.7–75.8

[a] ADHD, attention-deficit hyperactivity disorder; ASD, autism spectrum disorder; CNS, central nervous system.

Psychiatric and nonpsychiatric hospitalizations. Admissions to a psychiatric or general hospital with a main diagnosis of a psychiatric disorder (*ICD-10* codes F00–F99), which could also be listed in the hospital discharge file, were considered psychiatric hospitalizations. All other hospital admissions were considered nonpsychiatric hospitalizations.

Emergency visits. Emergency visits were determined by physician claims recorded in an emergency department. The psychiatric emergency visits were the claims billed by physicians for a psychiatric disorder diagnostic code (*ICD-9* codes 290–319).

Psychiatric consultations and general practitioner and other specialist visits. Physician claims by a psychiatrist or physician for a psychiatric disorder diagnostic code (*ICD-9* codes 290–319) were considered psychiatric consultations. Physician claims billed by a general practitioner with a diagnosis code other than for psychiatric disorders were considered general practitioner visits. Physician claims billed by a specialist other than a psychiatrist with a diagnosis code other than for psychiatric disorders were considered other specialty visits.

Psychotherapy. Psychotherapy was determined with physician claims billed by a general practitioner or a psychiatrist using a psychotherapy fee code.

Statistical Analyses
All service analyses were done on the cumulative impact of personality disorders or schizophrenia (life time cases) among individuals ages ≥14 years with a confidence interval (CI) of 99%. We then computed the mean annual number of psychiatric and nonpsychiatric hospitalizations. We also calculated the average annual number of psychiatric consultations (by psychiatrists and family physicians). We conducted all the analyses using SAS Enterprise Guide, version 7.1. The government organizations legally possessed the patient charts. The Public Health Ethics Committee and the Quebec Commission of Access to Information evaluated and approved the process of access to the QICDSS data.

RESULTS

Sample
The study cohort of 2016–2017 included 7.05 million people, of whom 50.5% (N=3,561,939) were women, with a mean age of 47.6 years. The cluster B personality disorder group had a mean age of 47.7 years and comprised 55.9% (N=137,611) women, the schizophrenia group had a mean age of 49.7 years and had 46.1% (N=52,035) women, and the cluster B personality disorder and schizophrenia group had a mean age of 47.6 years and comprised 47.1% (N=19,148) women.

Comorbid Conditions
All general medical and psychiatric comorbid conditions recorded in the database were more common among people living with cluster B personality disorders, schizophrenia, or both disorders than among the general population (Table 1). Prevalence rates were comparable in the three groups with these clinical disorders. However, substance dependence and developmental disorders (i.e., intellectual disability and autism spectrum disorder) were more frequently reported in the group with both cluster B personality disorders and schizophrenia than among individuals in the two single-disorder groups.

Hospitalizations
The rate of psychiatric hospitalizations was higher for a person living with schizophrenia, or with both cluster B personality disorders and schizophrenia, than for those with a cluster B personality disorders alone (Figure 1). Nonpsychiatric hospitalization rates among patients with cluster B personality disorders were similar to those among the general population but were significantly lower for those with schizophrenia or both disorders than for those in the general population.

Number of Hospitalization Days
Among those hospitalized, the age-adjusted mean number of days per psychiatric hospitalization during 2016–2017 for cluster B personality disorders (12.0 days, 99% CI=11.9–12.0) was very similar to that of the general population (11.9 days, 99% CI=11.9–12.0). Individuals with schizophrenia alone had mean days per hospitalization (26.3, 99% CI=26.2–26.4) that were significantly longer than those for patients with both schizophrenia and cluster B personality disorders (23.7, 99% CI=23.6–23.8).

FIGURE 1. Annual prevalence of psychiatric and nonpsychiatric admissions among people with diagnoses of cluster B personality disorders (PDs), schizophrenia, or both disorders, compared with the general population[a]
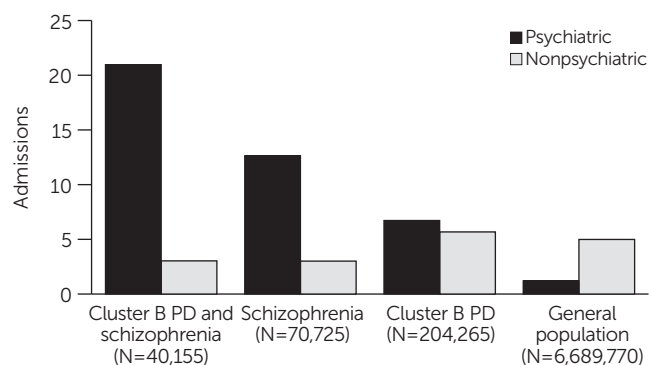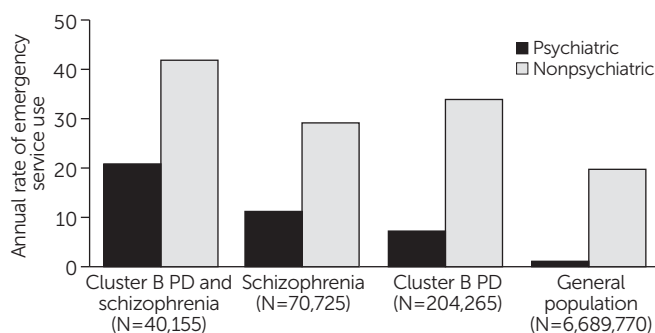

[a] Prevalence of hospital admissions in 2016–2017 in Quebec among people ages ≥14 years with diagnoses of PDs, schizophrenia, or both between 1996 and 2016. Ns indicate the number of persons in each group.

Emergency Services

Whereas the rate of psychiatric emergency department visits was higher among patients in the schizophrenia group (11.2%, 99% CI=10.8–11.6) than among those in the cluster B personality disorders group (7.2%, 99% CI=7.1–7.4), we observed the opposite for nonpsychiatric emergency department visits (29.1%, 99% CI=28.6–29.8, and 33.9%, 99% CI=33.6–34.2, respectively) (Figure 2). Patients with both schizophrenia and cluster B personality disorders had significantly more emergency department visits for both psychiatric (20.8%, 99% CI=20.1–21.6) and nonpsychiatric (41.8%, 99% CI= 40.9–42.8) reasons.

FIGURE 2. Annual emergency department visits for psychiatric and nonpsychiatric reasons among people with cluster B personality disorders (PDs), schizophrenia, or both, compared with the general population[a]

[a] Emergency department visits in 2016–2017 in Quebec among people ages ≥14 years with diagnoses of PDs, schizophrenia, or both between 1996 and 2016. Ns indicate the number of persons in each group.

Outpatient Services

The use of outpatient services appeared to be higher for the three groups with the clinical disorders than for the general population (Figure 3). The level of service use was different for psychiatric visits (the mean number of visits per year for both schizophrenia and cluster B personality disorders, schizophrenia, and cluster B personality disorders was 5.77, 99% CI=5.73–5.81; 3.99, 99% CI=3.97–4.02; and 0.87, 99% CI=0.86–0.87, respectively) than for visits with general practitioners or other specialists (mean number of visits per year for cluster B personality disorders, both schizophrenia and cluster B personality disorders, and schizophrenia was 3.03, 99% CI=3.02–3.04; 2.69, 99% CI=2.67–2.72; and 2.23, 99% CI=2.22–2.25, respectively).

Psychotherapies

The mean number of annual visits with psychiatrists for psychotherapy services was 0.02 (99% CI=0.02–0.02) for the general population, 0.22 (99% CI=0.21–0.22) for patients with cluster B personality disorders, 0.58 (99% CI=0.57–0.59) for patients with schizophrenia, and 0.96 (99% CI= 0.95–0.98) for patients with both disorders in 2016–2017 (Figure 4).

DISCUSSION

In a previous study, we estimated the prevalence of cluster B personality disorders for the province of Quebec as well as service use, excess rates, and causes of death (12). We found lower life expectancy among patients with cluster B personality disorders than among patients with schizophrenia, especially due to suicide but also for all other causes of death (12). To our knowledge, this study is the first to provide information on the combination of cluster B personality disorders and schizophrenia. We not only further substantiated the severity of these two disorders, separately and combined, but also their associations with patterns of service use and comorbid psychiatric and other medical conditions.

First, levels of psychiatric comorbid conditions were quite high among individuals in the three clinical groups compared with the levels of these conditions in the general population, but they were especially high among those having both disorders. Only attention-deficit hyperactivity disorder was more highly represented in the group with cluster B personality disorders than in the other two clinical groups. General medical conditions, such as neurological pathologies (i.e., epilepsy, neurodegenerative illnesses, and neurocognitive disorders), were more represented in all three clinical groups.

Second, and similarly, the use of psychiatric services (hospitalizations, emergency room visits, psychotherapy, and consultation visits) was more frequent in all three groups than in the general population, but it was highest among individuals with both disorders. Surprisingly, those with cluster B personality disorders used far less psychiatric outpatient services and psychotherapies than did patients with schizophrenia or both disorders. The patterns of service use for general medical care

were also heterogeneous among the three groups. Patients with cluster B personality disorders used more medical care services than those with schizophrenia or both disorders. A possible explanation is that patients with cluster B personality disorders are less welcomed in regular psychiatric services than in the other health services available freely in Quebec's managed care system.

However, when psychiatric and general medical care services were combined, a clear pattern emerged with respect to severity of diagnoses: the prevalence rates of comorbid conditions and patterns of service use were higher in the combined disorders group than for schizophrenia and cluster B personality disorders alone. Alternatively, when we focused on the severity of general health conditions, the order was modified, with cluster B personality disorders having the highest severity, followed by schizophrenia. These observations on the high rates of general medical comorbid conditions among those with cluster B personality disorders converge with a large body of work (16), revealing that nonsuicide-related mortality and morbidity rates are higher in this population (3, 12, 27). In addition to the severity conferred by the higher than expected level of general medical comorbid conditions, we can better understand the feeling of being overwhelmed among those with cluster B personality disorders as reported by family doctors in an Australian survey (28). The combination of increased general medical conditions and reduction in well-being would partially explain the high level of service use in both populations (21).

Our epidemiological data converge with a field of research on the common vulnerabilities (genetic, neurotoxic, and environmental), linking mental health with neurological and general medical conditions (29, 30). Traditional nosography has distinguished the two disorders for centuries (31). Clinically, this approach often leads to efforts to distinguish the two disorders rather than to consider them as appearing in combination (32). However, the two disorders may clinically co-occur, for example, when patients with personality disorders may present with auditory hallucinations (33) or with executive functioning or memory difficulties (34); these patients may also be treated with antipsychotic medications (35). The results in this study indicate that clinicians judge the comorbidity between the two disorders to be frequent and that it is a marker of increased disorder severity. Therapeutic and organizational strategies remain to be determined and should be organized in view of this clinical reality.

This study had various limitations. In particular, the diagnoses were not established with standardized questionnaires. Nonetheless, at least one study has compared results from administrative databases with findings from epidemiological studies, enabling us to conclude that such databases, despite having a weak sensitivity, can yield data with a strong specificity for personality disorders (36). It is indeed possible that the population captured in this study represents the patients with the most severe cluster B personality disorders in contact with specialist and general health services. The cohort in this study corresponded to a subgroup of patients in contact with

FIGURE 3. Annual psychiatric, nonpsychiatric specialist, and general practitioner visits among people with diagnoses of cluster B personality disorders (PDs), schizophrenia, or both, compared with the general population[a]
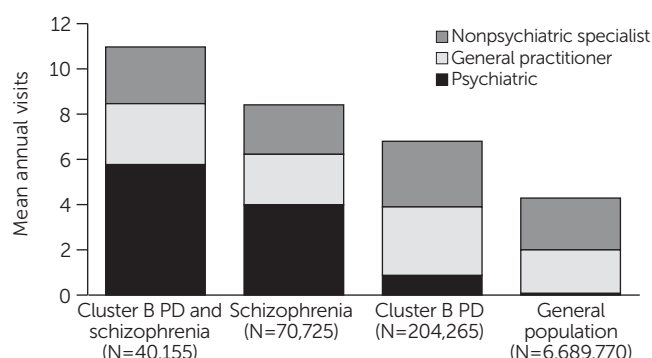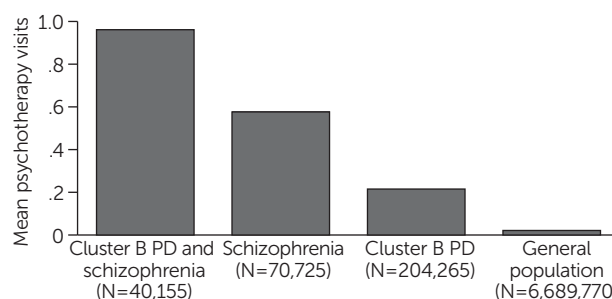

[a] Consultations and practice visits in 2016–2017 in Quebec among people ages ≥14 years with diagnoses of PDs, schizophrenia, or both between 1996 and 2016. Ns indicate the number of persons in each group.

medical services and for whom a personality disorder is recognized as a problem serious enough to merit a diagnosis. More importantly, this study did not allow us to note the activities of psychologists and other mental health workers, whether in private clinics or in the local community health clinics, because such clinical activities are not captured by the QICDSS. Last, when the analyses were controlled for sex, we could not obtain other confounding factors such as socioeconomic status or age.

We can add other points of comparison with existing data in the literature documenting higher health care service use among those with cluster B personality disorders compared with control populations (12, 20, 37). Patients with schizophrenia are known to have the highest level of service use (11). Our data show that the severities of the schizophrenia

FIGURE 4. Mean number of psychotherapy sessions among people with diagnoses of cluster B personality disorders (PDs), schizophrenia, or both disorders, compared with the general population[a]

[a] Psychotherapy sessions in 2016–2017 in Quebec among people ages ≥14 years with diagnoses of PDs, schizophrenia, or both between 1996 and 2016. Ns indicate the number of persons in each group.

and cluster B personality disorders can be similar. We should therefore expect a similar pattern of psychiatric service use. The differences we observed here could be explained by historical aspects, such as schizophrenia being traditionally considered by some clinicians as a more severe illness and therefore more important in psychiatric settings. Other differences may arise from relatively new data supporting the treatability of borderline personality disorder through various psychotherapies or schizophrenia's response to pharmacological treatments, which are the focus of medical and financial attention. Mostly, we are acutely aware of the overwhelming stigma (38, 39) associated with cluster B personality disorders and how this stigma and problems in health care organization can interfere in all aspects of health care for patients with these disorders. In all cases, none of the above hypotheses can justify the status quo of a discrepancy in health care provision for individuals with cluster B personality disorders compared with those with schizophrenia. Continued study of health care models, practices, and financing for patients is needed.

This study had multiple strengths. Notably, it had significant power of scale because we used data from an entire population in a Canadian province. Second, the findings of this study have both clinical and economical relevance because we inquired about diagnoses that require significant levels of care and thereby affect the overall health care budget. This study also reflects the complex reality of clinical practice more accurately than previous epidemiological population surveys or tertiary care clinic registers.

CONCLUSIONS

The results of this study highlight a variety of critical perspectives on clinical care of people with cluster B personality disorders. Our findings reinforce the similarities in disorder severities in terms of comorbid conditions and service use not only of cluster B personality disorders and schizophrenia separately but also of the two disorders combined. Individuals with both schizophrenia and cluster B personality disorders are not usually considered in formal studies of interventions or therapeutics. Moreover, despite the high severity of their mental disorder (i.e., mortality, including suicide, and general medical comorbid conditions), patients with cluster B personality disorders appear to receive less treatment overall than do patients with similarly severe disorders.

AUTHOR AND ARTICLE INFORMATION

Department of Psychiatry, Institut Universitaire de Santé Mentale, and Department of Psychiatry and Addiction, Université de Montréal, Montreal (Cailhol, David, Lesage); Evaluation of Programs and Surveillance of Chronic Diseases, Trauma and Their Determinants, Institut National de Santé Publique, Quebec (Pelletier, Rochette, Lesage); Department of Psychiatry, Institut Universitaire de Santé Mentale Douglas, Montreal (Renaud); Department of Psychiatry, Université McGill, Montreal (Renaud, Koch); Department of Psychiatry, Hôpital de Gatineau, Gatineau, Quebec (Koch); Department of Psychiatry, Institut Universitaire de Santé Mentale de Québec, and Department of Psychiatry, Université de Laval, Quebec (Villeneuve); Department of Health Sciences, Université du Québec à Rimouski, Lévis, Quebec, and Centre de Recherche de CISSS Chaudière-Appalaches, Lévis, Quebec (Lunghi). Send correspondence to Dr. Cailhol (lcailhol.iusmm@ssss.gouv.qc.ca).

REFERENCES

1. Mueser KT, Glynn SM, Cather C, et al: A randomized controlled trial of family intervention for co-occurring substance use and severe psychiatric disorders. Schizophr Bull 2013; 39:658–672
2. Schmitt A, Malchow B, Hasan A, et al: The impact of environmental factors in severe psychiatric disorders. Front Neurosci 2014; 8:19
3. Ajetunmobi O, Taylor M, Stockton D, et al: Early death in those previously hospitalised for mental healthcare in Scotland: a nationwide cohort study, 1986–2010. BMJ Open 2013; 3:e002768
4. ClinicalTrials.gov. Bethesda, MD, National Library of Medicine, n.d. https://clinicaltrials.gov. Accessed April 12, 2020
5. FDA Approved Drugs. Falls Church, VA, Center Watch, n.d. https://www.centerwatch.com/directories/1067-fda-approved-drugs/topic/254-schizophrenia-and-schizoaffective-disorders. Accessed April 12, 2020
6. Addington D, Anderson E, Kelly M, et al: Canadian practice guidelines for comprehensive community treatment for schizophrenia and schizophrenia spectrum disorders. Can J Psychiatry 2017; 62:662–672
7. Stoffers JM, Völlm BA, Rücker G, et al: Psychological therapies for people with borderline personality disorder. Cochrane Database Syst Rev 2012; 8:CD005652
8. McGrath J, Saha S, Chant D, et al: Schizophrenia: a concise overview of incidence, prevalence, and mortality. Epidemiol Rev 2008; 30:67–76
9. Volkert J, Gablonski TC, Rabung S: Prevalence of personality disorders in the general adult population in Western countries: systematic review and meta-analysis. Br J Psychiatry 2018; 213:709–715
10. Björkenstam C, Björkenstam E, Gerdin B, et al: Excess cause-specific mortality in out-patients with personality disorder. BJPsych Open 2015; 1:54–55
11. Plana-Ripoll O, Pedersen CB, Agerbo E, et al: A comprehensive analysis of mortality-related health metrics associated with mental disorders: a nationwide, register-based cohort study. Lancet 2019; 394:1827–1835
12. Cailhol L, Pelletier É, Rochette L, et al: Prevalence, mortality, and health care use among patients with cluster B personality disorders clinically diagnosed in Quebec: a provincial cohort study, 2001–2012. Can J Psychiatry 2017; 62:336–342
13. Temes CM, Frankenburg FR, Fitzmaurice GM, et al: Deaths by suicide and other causes among patients with borderline personality disorder and personality-disordered comparison subjects over 24 years of prospective follow-up. J Clin Psychiatry 2019; 80:18m12436
14. Paris J, Zweig-Frank H: A 27-year follow-up of patients with borderline personality disorder. Compr Psychiatry 2001; 42:482–487
15. Frankenburg FR, Zanarini MC: Personality disorders and medical comorbidity. Curr Opin Psychiatry 2006; 19:428–431
16. Shah R, Zanarini MC: Comorbidity of borderline personality disorder: current status and future directions. Psychiatr Clin North Am 2018; 41:583–593
17. Zanarini MC, Frankenburg FR, Vujanovic AA, et al: Axis II comorbidity of borderline personality disorder: description of 6-year course and prediction to time-to-remission. Acta Psychiatr Scand 2004; 110:416–420

18. Comtois KA, Russo J, Snowden M, et al: Factors associated with high use of public mental health services by persons with borderline personality disorder. Psychiatr Serv 2003; 54:1149–1154

19. Cailhol L, Thalamas C, Garrido C, et al: Mental health service utilization among borderline personality disorder patients inpatient. Encephale 2015; 41:115–122

20. Bender DS, Skodol AE, Pagano ME, et al: Prospective assessment of treatment use by patients with personality disorders. Psychiatr Serv 2006; 57:254–257

21. Zanarini MC, Frankenburg FR, Hennen J, et al: Mental health service utilization by borderline personality disorder patients and axis II comparison subjects followed prospectively for 6 years. J Clin Psychiatry 2004; 65:28–36

22. van Asselt AD, Dirksen CD, Arntz A, et al: The cost of borderline personality disorder: societal cost of illness in BPD-patients. Eur Psychiatry 2007; 22:354–361

23. Hastrup LH, Jennum P, Ibsen R, et al: Societal costs of borderline personality disorders: a matched-controlled nationwide study of patients and spouses. Acta Psychiatr Scand 2019; 140:458–467

24. Hastrup LH, Simonsen E, Ibsen R, et al: Societal costs of schizophrenia in Denmark: a nationwide matched controlled study of patients and spouses before and after initial diagnosis. Schizophr Bull 2020; 46:68–77

25. Pesa JA, Doshi D, Wang L, et al: Health care resource utilization and costs of California Medicaid patients with schizophrenia treated with paliperidone palmitate once monthly or atypical oral antipsychotic treatment. Curr Med Res Opin 2017; 33:723–731

26. Blais C, Jean S, Sirois C, et al: The Quebec Integrated Chronic Disease Surveillance System (SISMACQ): an innovative approach. Maladies chroniques et blessures au Canada 2014; 34:247–256

27. Tanskanen A, Tiihonen J, Taipale H: Mortality in schizophrenia: 30-year nationwide follow-up study. Acta Psychiatr Scand 2018; 138:492–499

28. Wlodarczyk J, Lawn S, Powell K, et al: Exploring general practitioners' views and experiences of providing care to people with borderline personality disorder in primary care: a qualitative study in Australia. Int J Environ Res Public Health 2018; 15:2763

29. Fusar-Poli P, Tantardini M, De Simone S, et al: Deconstructing vulnerability for psychosis: meta-analysis of environmental risk factors for psychosis in subjects at ultra high-risk. Eur Psychiatry 2017; 40:65–75

30. Caspi A, Moffitt TE: All for one and one for all: mental disorders in one dimension. Am J Psychiatry 2018; 175:831–844

31. Simonsen E, Newton-Howes G: Personality pathology and schizophrenia. Schizophr Bull 2018; 44:1180–1184

32. Paris J: Differential diagnosis of borderline personality disorder. Psychiatr Clin North Am 2018; 41:575–582

33. Zanarini MC, Gunderson JG, Frankenburg FR: Cognitive features of borderline personality disorder. Am J Psychiatry 1990; 147:57–63

34. Ruocco AC: The neuropsychology of borderline personality disorder: a meta-analysis and review. Psychiatry Res 2005; 137:191–202

35. Lieb K, Völlm B, Rücker G, et al: Pharmacotherapy for borderline personality disorder: Cochrane systematic review of randomised trials. Br J Psychiatry 2010; 196:4–12

36. Comtois KA, Carmel A: Borderline personality disorder and high utilization of inpatient psychiatric hospitalization: concordance between research and clinical diagnosis. J Behav Health Serv Res 2016; 43:272–280

37. Cailhol L, Jeannot M, Rodgers R, et al: Borderline personality disorder and mental healthcare service use among adolescents. J Pers Disord 2013; 27:252–259

38. Bonnington O, Rose D: Exploring stigmatisation among people diagnosed with either bipolar disorder or borderline personality disorder: a critical realist analysis. Soc Sci Med 2014; 123:7–17

39. Gunderson JG: Borderline personality disorder: ontogeny of a diagnosis. Am J Psychiatry 2009; 166:530–539