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Mental Health Disorders in General Practice in France: A Cross-Sectional Survey

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Abstract

Background: Mental health disorders constitute a large and growing disease burden in Europe. Almost all patients with mental health disorders consulted their general practitioner in a single year. The aim of this study was to assess the frequency and the socio-demographic factors associated with the mental health disorders encountered in general medicine in France.

Method: The study participants were selected from the French national cross-sectional multi-centric ECOGEN study. The study was carried out with all of the patients who consulted with their general practitioner either at their medical practice or as a home visit in 128 medical centers, affiliated with 27 university general medicine departments. Data were collected from 28 November 2011 to 29 April 2012, based on the second version of International Classification of Primary Care. Univariate and multivariate analyses were conducted using logistic regression analyses.

Results: 20 613 patients were included in the study. The frequency of mental health disorders was 17.6% [CI 95% 17.1-18.1]. The main disorders were depressive disorders, anxiety disorders, sleep disorders, and substance abuse disorders. With children, the frequency of mental disorders was 0.2%. The most common disorder was in regard to "specific learning problems". Socio-demographic and medical factors were for the most part strongly associated with the presence of mental health disorders but in different ways.

Conclusion: Mental health disorders are among the most common reasons for consultations in general practice. Efforts are needed to increase mental health evaluation in a bio-psycho-social approach.

Keywords: Mental health; General practice; Primary care

Introduction

According to the 2005 World Health Organization (WHO) report, 450 million people in the world are affected by mental health disorders, which account for 13% of the Global Burden of Disease (GBD) [1]. The WHO deems that 5 of the 10 pathologies of greatest concern in the 21st century comprise mental disorders caused by the use of psychoactive substances, major depressive episodes (MDE), schizophrenia, bipolar disorders, and obsessive compulsive disorders. Mental health disorders are the main causes of morbidity and disability worldwide, with important personal, social, and economic costs for the individuals suffering from them [2-5].

At the European Ministerial meeting on mental health organized by the WHO in January 2005, 52 countries signed the Action plan for mental health [1]. A major theme was to combine quality information on the mental health state of populations and specific groups, on their behaviors in terms of assistance seeking, and on the actions taken. The progress made by European countries member of the WHO was identified in a European Commission report published in 2008. Aside from the progress already made, this work reiterated the need to make up for the lack of reliable and uniform indicators related to mental health issues.

According to the WHO World Mental Health survey, France was one of the countries with the highest rates of DSM/CIDI diagnoses including high rates of anxiety and mood disorders [6]. France is also one of the countries with the highest suicide incidence [7]. As in other industrialized countries, patients with mental health disorders are mainly treated in primary

care settings. A nationwide analysis of health insurance data in France showed that within a single year, 96.4% of the patients who had been prescribed anti-depressants were seen a general practitioner, and only 17% of them were followed-up by psychiatrists in private practice [8]. Little national data is available regarding mental health disorders in primary care [9-11]. The data warrant are being updated and extended to all mental health disorders. The aim of this study was to assess the frequency and the sociodemographic factors associated with the mental health disorders encountered in general practice in France.

Methods

Study type

Study participants were selected from the national cross-sectional multicentric ECOGEN study whose main objective was to describe the reasons for consultation in general practice in France [12]. The study took place from 28 November 2011 to 29 April 2012 in 128 medical centers, affiliated with 27 medical schools.

Population and data collection

The study was carried out among all the patients who consulted their general practitioner (GP) either at their medical practice or as home visits during the data collection period. The exclusion criterion was the unwillingness to participate in the study. Investigators consisted of 54 students assigned as interns alongside the practitioners. Data collection was carried out over a 20-day period. Each investigator entered the data collected through printed questionnaires into a centralized database accessible via a dedicated website. The data regarding consultation outcomes and care procedures were collected using the form of the 2nd edition of the International Classification of Primary Care (ICPC-2) with an online coding system.

The 2nd edition of the International Classification of Primary Care and its use in the study

The ICPC-2 includes 687 headings without procedures, 40 headings corresponding to generic procedures, or 1,400 headings in total. It is a biaxial structure in which the first axis is comprised of 17 chapters, each assigned to a body system (including chapters on psychology and social behavior); and the second axis has 7 components (symptoms and complaints, diagnostic and preventative procedures, treatment and medical procedures, test results, administrative procedures, references and other reasons for encounter, diagnostics and diseases). Each heading is assigned a code comprised of three alphanumerical characters, where the first letter represents the chapter and the two numbers specify the heading. In this study, we were interested in the chapter "psychology (P)" which contains classification elements for mental health analysis. The ICPC-2 helps link physical symptoms with mental disorders. This classification has been validated, particularly in terms of diagnosing mental health disorders in primary care [13-15].

Socio-demographic data

The socio-demographic data studied were gender, age, socio-professional category (SPC), the existence of universal complementary health insurance (CMU, i.e. free access to health care for low-income population), and the general practioner's practice setting (rural, urban). The SPCs of the patients were arranged into five groups based on the nomenclature of professions by the National Health and Economics Institute – low SPC: agricultural worker, laborer; intermediate SPC: craftsperson, business person, company director, mid-level professional, employee; upper SPC: senior executive, intellectual profession; retired: pensioner; other: unemployed. Moreover, the presence of a long duration disease (LDD) such as cancer, stroke, renal failure, or AIDS was assessed.

Ethics committee

This study was approved by the Review Committee for the Treatment of Research Information in the area of health, and by the National Commission on Informatics and Liberty. Patients had the right to refuse to participate in the study. They were kept up to date through the posting of information in the waiting rooms and the medical practices of the doctors involved in the study. Authorization to use the ICPC-2 was obtained from the WONCA.

Statistical analyses

The analysis first comprised a descriptive part of the studied population, as well as an assessment of the data regarding the frequency of mental health disorders. The results were presented individually for each diagnosis established according to the ICPC-2, and then grouped into four main categories: depressive disorders, anxiety disorders, sleep disorders, and substance abuse disorders. A second analytical part then compared the association of socio-demographic characteristics with the main mental health disorders. Descriptive analyses were used for percentages and their 95% confidence intervals. To study the relationships between socio-demographic characteristics and the main mental health disorders, logistic regression models were used. These models were performed without and then taking into account possible confounding socio-demographic factors. The statistical analyses were performed using the SAS version 9.2 software (SAS Institute, 2009). For these analyses, the threshold for statistical significance was defined as $p<0.05$.

Results

Among the 20,781 general practice consultations collected in metropolitan France, 20,613 (99.2%) provided at least one consultation outcome. The 168 missing data samples

corresponded with the refusal of patients to the presence of an intern during consultations.

Socio-demographic characteristics of study patients

The characteristics of patients were detailed in the initial article (Letrilliart et al.) Out of these patients, 58.3% were women, 54.8% were 45 years of age or above, and 15.7% were children. The most common SPCs were "retirees" (32.7%) and patients "without professional engagement / others" (29.8%). Among these patients, 4.4% received benefits from the universal complementary health insurance, and 23.1% had a long duration disease.

Main outcomes of the general practice consultations according to the ICPC-2

In order of frequency, the four main outcomes of consultations were "preventive consultation," "uncomplicated hypertension", "acute infection of the upper respiratory tract", and "lipid metabolism disorders". "Depression" was the 6th most common consultation outcome. Among the top 20 outcome classifications, "sleep disturbances" was in 9th position and "anxiety disorder/state of anxiety" rated 13th. Overall, mental health disorders were in 4th position, following preventive care, cardio-vascular diseases, and acute infections of the upper airways.

Frequency of mental disorders

Among all the patients of the study, the frequency of mental disorders was 17.6% [CI 95% 17.1-18.1] (**Table 1**).

Table 1 Frequency of mental health disorders in general practice in France (N=20 781).

	% (n)	CI 95%
Total	17.56 (3619)	5.85 - 6.51
Depressive disorders	5.89 (1214)	5.58 - 6.22
Feelings of depression	0.25 (51)	0.19 - 0.33
Suicide / Suicide attempt	0.03 (6)	0.01 - 0.06
Anxiety disorders	3.55 (731)	2.10 - 2.51
Anxiety	2.30 (474)	2.10 - 2.51
Feelings of anxiety	0.73 (150)	0.62 - 0.86
Acute stress reaction	0.12 (25)	0.08 - 0.18
Somatoform disorder	0.14 (28)	0.10 - 0.20
Phobia, obsessive-compulsive disorder	0.12 (24)	0.08 - 0.18
Post-traumatic stress disorder	0.07 (14)	0.04 - 0.12
Neurasthenia / burnout	0.08 (16)	0.05 - 0.13
Sleep disorders	3.25 (669)	3.32 - 3.50
Substance abuse disorders	3.01 (621)	2.79 - 3.25
Chronic alcoholism	0.82 (168)	0.71 - 0.95
Acute alcohol intoxication	0.03 (6)	0.01 - 0.06
Excessive use of tobacco	1.21 (249)	1.07 - 1.37
Excessive use of drugs	0.08 (17)	0.05 - 0.13
Excessive use of medicinal products	0.88 (181)	0.65 - 1.12
Psychotic disorders	0.48 (98)	0.39 - 0.58
Schizophrenia	0.14 (28)	0.10 - 0.20
Affective psychosis	0.15 (31)	0.11 - 0.21
Other form of psychosis	0.19 (39)	0.14 - 0.26

Personality disorders	0.09 (18)	0.06 - 0.14
Eating disorders	0.13 (26)	0.09 - 0.19
Child and adolescent disorders	0.21 (44)	0.16 - 0.28
Eating disorder	0.01 (2)	0.00 - 0.04
Child behavioural disorder	0.06 (13)	0.03 - 0.10
Adolescent behavioural disorder	0.03 (6)	0.01 - 0.06
Specific learning disorder	0.07 (15)	0.04 - 0.12
Hyperkinetic disorder	0.04 (8)	0.02 - 0.08
Organic troubles	0.52 (108)	0.43 - 0.63
Mental retardation	0.04 (8)	0.02 - 0.08
Dementia	0.44 (91)	0.36 - 0.54
Other	0.04 (9)	0.04 (9)

The most common disorders were “depression” (5.9%), “anxiety disorders/state of anxiety” (2.3%), and “sleep disturbances” (3.3%). The least common disorders were: “suicide/ attempted suicide” (0.03%), “acute alcoholism” (0.03%), and “phobia/obsessive-compulsive disorders” (0.07%). Grouped into categories, the frequencies of depressive disorders, anxiety disorders, sleep disorders, and substance abuse disorders were determined to be 6.2%, 3.6%, 3.3%, and 3.0%, respectively. The frequency of specific mental disorders among children and adolescents was 0.2% (**Table 1**). The most common disorders were “specific learning problems” (0.07%) and the least frequent was “eating disorder” (0.01%).

Socio-demographic factors associated with the main mental disorders

Unadjusted analysis: Compared with patients who do not have mental disorders, individuals with mental disorders were more often 40 years of age or older, female, in a basic or intermediate socio-professional category, without a professional engagement, or retired (**Table 2**).

Table 2 Socio-demographic characteristics associated with mental health disorders in France (N=20781).

Parameters	Patients with mental health disorders	Patients with no mental health disorders	Chi-2 Test
	N=3012. % (n)	N=17769. % (n)	p
Gender			
Male	36.16	42.69	<0.0001
Female	63.84	57.31	
Age in years			
< 18	1.16	20.1	<0.0001
[18 à 39]	19.46	21.06	
[40 à 59]	36.02	24	
[60 à 79]	30.38	25.04	
≥ 80	12.98	9.8	
Socio-professional category			
Low	5.28	4.14	<0.0001
Intermediate	30.78	27.64	
Upper	5.28	5.03	
Retired	40.11	31.49	

Unemployed	18.56	31.7	
Universal complementary health insurance			
Yes	31.52	21.64	<0.0001
No	68.48	78.36	
GP's practice area			
Rural	42.43	46.11	0.0002
Urbain	57.57	53.89	

They more often had a long duration disease and more often lived in an urban environment.

Adjusted analysis: Gender, age, SPC, universal complementary health insurance, the presence of a LDD and the setting of the general practitioner's practice were factors that were statistically associated with a risk for depressive disorders, anxiety disorders, sleep disorders or substance abuse disorders (**Tables 3 and 4**).

Table 3 Socio-demographic characteristics associated with the main mental health disorders in France (N=20781) (raw analysis).

	Depressive disorders	**p**	**Anxious disorders**	**p**	**Sleep disorders**	**p**	**Substances abuse disorders**	**p**
	Yes % (n)		**Yes % (n)**		**Yes % (n)**		**Yes % (n)**	
Gender								
Male	3.89 (337)	<0.0001	2.42 (210)	<0.0001	2.99 (259)	0.18	4.40 (3.82)	<0.0001
Female	7.71 (934)		4.26 (516)		3.38 (409)		1.76 (213)	
Age in years								
< 18	0.03 (1)	<0.0001	0.58 (21)	<0.0001	0.22 (8)	<0.0001	0.17 (6)	<0.0001
[18 à 39]	4.55 (197)		3.93 (170)		1.34 (58)		4.60 (199)	
[40 à 59]	9.46 (506)		4.37 (234)		3.01 (161)		5.31 (284)	
[60 à 79]	7.21 (387)		4.25 (228)		5.18 (278)		1.92 (103)	
≥ 80	8.44 (180)		3.42 (73)		7.64 (163)		0.14 (3)	
Socio-professional category								
Low	5.37 (48)	<0.0001	2.91 (26)	0.4	3.69 (33)	<0.0001	7.72 (69)	<0.0001
Intermediate	7.20 (420)		4.32 (252)		1.75 (102)		3.75 (219)	
Upper	6.56 (69)		3.61 (38)		2.85 (30)		3.04 (32)	
Retired	7.78 (529)		3.91 (266)		6.12 (416)		1.38 (94)	
Unemployed	3.31 (205)		2.33 (144)		1.41 (87)		2.92 (181)	
Universal complementary health insurance								
Yes	4.64 (42)	0.06	3.63 (33)	0.8	2.65 (24)	0.32	8.18 (74)	<0.0001
No	6.19 (1228)		3.49 (693)		3.24 (644)		2.62 (521)	
Long duration disease								
Yes	9.33 (447)	<0.0001	3.30 (158)	0.01	5.55 (266)	<0.0001	3.30 (158)	0.04
No	5.15 (823)		3.56 (568)		2.52 (402)		2.74 (437)	
GP's practice area								
Rural	5.70 (540)	0.02	3.35 (140)	0.001	3.57 (338)	<0.0001	2.41 (228)	0.003

Urban	6.46 (731)		3.87 (438)		2.92 (330)		3.25 (367)	

Table 4 Socio-demographic characteristics associated with the main mental health disorders in France (adjusted analysis).

	Depressive disorders	**p**	**Anxious disorders**	**p**	**Sleep disorders**	**p**	**Substances abuse disorders**	**p**
	Yes % (n)		**Yes % (n)**		**Yes % (n)**		**Yes % (n)**	
Gender*								
Male	Ref	<0.0001	Ref	<0.0001	Ref	0.18	2.78 [2.33 – 3.31]	
Female	2.02 [1.77 – 2.30]		1.64 [1.39 – 1.94]		1.12 [0.95 – 1.32]		Ref	
Age, years**								
< 18	0.01 [<0.01 – 0.04]	<0.0001	0.14 [0.09-0.23]	0.03	0.13 [0.06 – 0.28]	<0.0001	0.05 [0.02 – 0.13]	<0.0001
[18 à 39]	Ref		Ref		Ref		2.25 [1.50 – 3.37]	
[40 à 59]	2.17 [1.83 – 2.59]		1.23 [1.00 – 1.51]		2.29 [1.69 – 3.12]		2.53 [1.72 – 3.71]	
[60 à 79]	1.38 [1.06 – 1.81]		1.35 [0.98-1.87]		2.75 [1.84 – 4.10]		Ref	
≥ 80	1.43 [1.04 – 1.96]		1.12 [0.74 – 1.68]		3.83 [2.47 – 5.94]		0.08 [0.02 – 0.24]	
Socio-professional category*								
Low	Ref	<0.0001	1.03 [0.61 – 1.72]	0.4	2.05 [1.37 – 3.08]	<0.0001	1.95 [1.26 – 3.03]	<0.0001
Intermediate	1.08 [0.86 – 1.47]		1.21 [0.86 – 1.72]		Ref		1.34 [0.91 – 1.96]	
Upper	1.04 [0.70 – 1.54]		Ref		1.71 [1.13-2.59]		Ref	
Retired	1.21 [1.00 – 1.95]		1.11 [0.72 – 1.71]		2.07 [1.45-2.95]		1.17 [0.70 – 1.97]	
Unemployed	1.21 [1.05 – 1.89]		1.36 [0.93-1.99]		1.73 [1.27-2.36]		2.11 [1.41 – 3.14]	
Universal complementary health insurance*								
Yes	Ref	0.07	1.05 [0.72 – 1.52]	0.8	1.42 [0.91 – 2.22]	0.32	2.47 [1.86 – 3.27]	<0.0001
No	1.14 [0.81-1.59]		Ref		Ref		Ref	
Long duration disease*								
Yes	1.47 [1.28 – 1.68]	<0.0001	Ref	0.01	1.12 [0.94 – 1.34]	0.06	1.55 [1.26 – 1.91]	0.04
No	Ref		1.33 [1.09-1.61]		Ref		Ref	
GP's practice area*								
Rural	1.09 [0.97 – 1.23]	0.2	Ref	0.001	1.23 [1.05 – 1.44]	<0.0001	Ref	0.003
Urban	Ref		1.21 [1.04 – 1.41]		Ref		1.23 [1.03 – 1.46]	

In the four multivariate models there was a match between the models and the data (p=0.30 to 0.62 for the Hosmer and

Lemeshow tests). The area under the ROC curve was comprised between 65% and 79%. We did not observe collinearity between the explanatory variables.

Discussion

Summary

The majority of patients who consulted in general practice were women, with an average age of 47.6. Mental disorders were among the most common outcomes of consultations in general practice, with a frequency of 17.6% [CI 95% 17.1-18.1]. The main disorders observed were depressive disorders, anxiety disorders, sleep disorders, and substance abuse disorders. Among children, the frequency of specific mental disorders was 0.2% and the most common disorder was related to "specific learning problems". Socio-demographic and medical factors were for the most part strongly associated with the presence of mental health disorders but in different ways: female gender was associated with depressive, anxious disorders, whereas the male gender – with substance abuse disorders. Older patients were more often affected by sleep disorders, whereas young adults were more often affected by substance abuse disorders. All mental disorders were associated with the presence of a long duration disease. Unemployed patients were more often affected by sleep disorders and substance abuse disorders. Substance abuse disorders and anxious disorders were more frequent in urban areas.

Strengths and limitations

This was a large national cross-sectional multicentric study, unique in France. To the best of our knowledge, this is the only study that aimed to describe the mental health disorders seen in general practice, as well as many socio-demographic characteristics associated with their condition. As far as the representativeness of the general practitioners is concerned, the ECOGEN study has showed that the 128 doctors involved in the study were representative of the population of French general practitioners [16]. The collection of data from general practice consultations was performed using the ICPC-2, which allows for comparisons between countries. Furthermore, the control of the reliability of the data collected by each investigator was verified and validated [12].

This study also presents some limits. First, the diagnosis of a depressive disorder could not be done through a specific assessment of mental health during a dedicated consultation. The report on depression using the ICPC-2 could entail a risk of under- or over-estimation. Moreover, the general practitioners' diagnostic labelling by the use of ICPC codes is not validated. In France, GPs are not used to code data during medical consultations. Then, the diagnosis of mental disorders could not be exhaustive in light of multiple somatic complaints or a consultation time that was too short. Moreover, some troubles such as "personality disorders" had a low prevalence in our study. Other studies indicate that nearly 50% of patients with a depressive disorder also meet criteria for a personality disorder [17,18]. These disorders may be difficult to assess because the diagnosis requires an evaluation of the patient's long-term patterns of functioning [17]. Another explanation could be that ICPC-2 is a bad instrument to detect them. It would have been also interesting to evaluate the incidence of encountered mental disorders. Furthermore, our results do not assess the prevalence of mental health disorders in the general population, since this would imply that the affliction is associated with a request for care. Additionally, this work described associations between socio-demographic factors and the risks of having mental health disorders. These associations are, however, not necessarily causal links: the relationship between the presence of a long duration disease and the occurrence of a mental health disorder could for example be interpreted in both directions. Some associations that were found did not necessarily go in the expected direction: individuals with low or upper SPCs tended to suffer more from sleep disorders compared to those with intermediate SPCs. This could be explained by the fact that people with hard labor, social problems, long working hours or important responsibilities could preferentially be affected by sleep disorders. It would have been interesting to evaluate other socio-demographic data, such as marital status, level of education, household income, and employment status. Other factors associated with mental health disorders have also been described in the literature (not explored in our study), such as adverse life events, solitary life style, as well as protective factors such as parenting [19,20]. Lastly, 168 consultations were not included in the study, corresponding to the unwillingness to have an investigator present during the consultation. The ECOGEN study showed that this unwillingness was higher (and significantly so) among women, students, and those actively employed.

Comparison with existing literature

Our findings showed that mental health disorders were among the most common reasons for consultations in general practice; but they also showed lower rates of mental health disorders encountered in general practice than among the general population. These data are in agreement with other studies conducted in regards to primary care in various countries [21-24]. It raises the question as to whether individuals with mental health disorders visited general practitioners or whether detection might be sufficient in primary care. There is strong evidence and broad agreement that primary care is central to health-system strengthening [5,1]. If appropriately planned and delivered, it is person-centered with a population-based approach [25]. Throughout the world, primary care physicians have been playing an increasingly important role in outpatient mental health care [26]. General practice is involved at every stage of life and may detect mental health disorders at an early stage. In France, a four-fold partnership constitutes the cornerstone on which depends the application of the WHO recommendations on developing an intersectoral community-based mental healthcare system: users' associations, family associations, professionals in the healthcare and social fields, and locally elected figures [27]. There is a need to build high-functioning,

multidisciplinary teams to meet the global primary care needs of the population [28].

Implications for research and/or practice

It is important to have the highest quality and the most recent data available in order to improve prevention, treatment, and assistance for individuals suffering from mental health issues. Mental health disorders are among the most common reasons for consultations in general practice. Public healthcare services need to address the significant burden that these disorders represent, in order to be able to handle healthcare requirements. Efforts to increase awareness should also be promoted among the general population so as to reduce the fears associated with being unable to talk about it, or due to "stigmatization" when engaging with their health care provider. We hope that these data contribute to the formulation and evaluation of changes to the socio-economic and health policies in France.

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Ethical approval

This study was approved by the Review Committee for the Treatment of Research Information in the area of health, and by the National Commission on Informatics and Liberty.

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