

High prevalence of mental disorders in primary care

M. Ansseau^{a,*}, M. Dierick^b, F. Buntinkx^c, P. Cnockaert^d, J. De Smedt^e, M. Van Den Haute^f, D. Vander Mijnsbrugge^g

^a Department of Psychiatry, University of Liège, CHU du Sart Tilman (B35), B-4000 Liège, Belgium

^b Department of Psychiatry, University of Gent, Gent, Belgium

^c Department of Family Medicine, University of Leuven, Leuven, Belgium

^d Department of Family Medicine, ULB, Brussels, Belgium

^e WVVH, Antwerp, Belgium

^f Department of Family Medicine, UCL, Brussels, Belgium

^g Pfizer Belgium, Brussels, Belgium

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ABSTRACT

Objective: To determine the prevalence of common mental disorders in an adult primary care population. *Design:* Crosssectional survey in randomly selected subjects, using the PRIME-MD questionnaire. *Setting:* Eighty-six general practices in Belgium. *Subjects:* A total of 2316 randomly selected patients, aged 18 years or older and consulting their general practitioner for other than administrative reasons alone, with slightly more women (58.1%) than men (41.3%). *Main outcome result:* Prevalence rates of mental disorders most commonly seen in primary care practice (mood, anxiety, somatoform, eating and alcohol disorders). *Methods:* To facilitate data collection and processing, the entire PRIME-MD questionnaire was programmed on a handheld computer. Patient answers and physician assessments were immediately electronically recorded during the interview. All investigators were trained on the use of the PRIME-MD. The recruitment period lasted 6 weeks: from 15 February to 25 March 1999, and patients were randomly selected for the interview based on a computerized procedure. *Results:* Although only 5.4% of all patients consulted for a psychiatric reason, a threshold/subthreshold psychiatric disorder was detected in 42.5% of all patients. Most commonly detected disorders were mood disorders in 31.0% (major depressive disorder, 13.9% and dysthymia, 12.6%), anxiety disorders in 19.0% (generalized anxiety disorder, 10.3%), somatoform disorders in 18.0% and probable alcohol abuse/dependence in 10.1%. The results also showed the important rate of comorbidity between these disorders. *Conclusion:* The present study confirms the high prevalence of mental disorders in a general practice setting, and their frequent association. Prevalence rates of our study are even higher than those obtained in previously conducted trials. Our study also demonstrates the utility of the PRIME-MD as a screening tool for mental disorders in primary care. In addition the use of the handheld computer software version of the PRIME-MD allowed us to screen for mental disorders in patients who are unable to attend the GP office and are seen during 'home' visits.

Introduction

Occurrence of mental disorders in primary care gains interest, especially since they involve significantly impaired functioning, increased health care utilization and marked deterioration among the different domains of quality of life (Spitzer et al., 1995; Philbick et al., 1996). Mental disorders have been estimated to be present in at least 20% of primary care outpatients (Philbick et al., 1996; Spitzer et al., 1994), yet they seem to go undetected and untreated in 50 – 75% of the cases (Spitzer et al., 1999; Williams et al., 1995).

In order to improve their recognition, Spitzer and colleagues have designed a diagnostic instrument for the detection of the most commonly encountered mental disorders in primary care as well as in the general population, i.e., mood, anxiety, somatoform, alcohol and eating disorders. This instrument, called PRIME-MD (an acronym for Primary Care Evaluation of Mental Disorders), is a standardized and rapid procedure with demonstrated diagnostic performances (sensitivity of 83%, specificity of 88% and positive predictive value of 80% for the diagnosis of any psychiatric disorder) (Spitzer et al., 1994). PRIME- MD consists of two principal components: a single- page *patient questionnaire* to be completed by the patient before seeing the physician and a 12-page *clinician evaluation guide*, a structured interview completed by the primary care physician. At the end of the procedure, the clinician is able to determine the presence of 18 possible current mental disorders.

In this context, our aim was to obtain an estimate of the prevalence of the most common mental disorders in general practices in Belgium, using the PRIME-MD as a screening tool.

Methods

SELECTION OF INVESTIGATORS AND SUBJECTS

The study was conducted in 86 general practices in Belgium. One hundred and eighty general practitioners were randomly selected from all Belgian general practitioners with at least 7 years of practice and 20 daily patient contacts. They were contacted by mail and proposed to participate to the trial, and the 90 first responders were selected. All investigators participated to training sessions on the use of the PRIME-MD. The recruitment period lasted 6 weeks: from February 15 to March 25 1999.

Eligible patients were male and female subjects, 18 years or older and visiting or being visited by a general practitioner for other than administrative reasons alone. The patients were randomly selected for the interview based on a computerized random procedure. Briefly, a handheld computer was programmed to provide warning sounds randomly within time intervals corresponding to the medical activities of the general practitioner indicating to assess the following patient.

INTERVIEW

To facilitate data collection and data processing, the entire PRIME-MD questionnaire was programmed on a handheld computer. Patients who met the entry criteria were automatically assigned a number, and demographic data and reasons for consultation were recorded. The investigator was guided through the interactive software with the PRIME-MD questions and the underlying algorithms. Interviews were conducted at the GP office or during home visits. Patient answers to the patient questionnaire and physicians rated assessments of the clinician evaluation guide were immediately recorded during the interview. The data of the survey were automatically copied on to a diskette and used for statistical analysis.

DATA ANALYSIS

All data were transferred onto an IBM-compatible microcomputer and read into an EXCELL worksheet. Statistical analyses used SAS programs. For all items, results are presented as frequency tables.

Results

A total of 2316 patients were recruited by the 86 GPs, corresponding to a mean number of patients per investigator of 27 (range 3 – 37). Although most patients were seen at the GP office (70.3%), 29.7% of all patients were recruited during home visits. Their socio-demographic characteristics are presented in Table 1.

Primary reasons for consultation are presented in Table 2, with ORL (17.4%), cardiovascular (16.4%) and rheumatological problems (15.9%) being the most frequently cited. A psychiatric problem as the main reason for the GP visit, was mentioned in only 5.4% of the cases.

The prevalence of the different psychiatric disorders is presented in Table 3. The PRIME-MD detected a psychiatric disorder in 42.5% of the total sample: 43.8% of women and 40.8% of men. Most frequent diagnoses were major depressive disorder (13.9%), dysthymia (12.6%), multisomatoform disorder (12.7%), somatoform disorder NOS (10.7%), generalized anxiety disorder (10.3%) and probable alcohol disorder (10.1%). The results demonstrated several clear gender differences. Depressive, anxiety, somatoform and eating disorders were significantly more frequent amongst female than male patients. In contrast, probable alcohol disorders were significantly more frequent in males. The prevalences of major depressive disorder and dysthymia was higher among patients seen in practices, whereas bipolar disorder was more frequent among patients seen at home (Table 3).

Of importance to note is also the high degree of co-morbidity between mood, anxiety, and somatoform disorders. Indeed, 21.2% of all screened patients presented with at least two concurrent disorders and 8.4% a combination of the three diagnostic categories. Prevalence rates of patients presenting with a mood/anxiety disorder; mood/somatoform disorder or anxiety/somatoform disorder were, respectively, 5.6, 4.1 and 2.85% (Fig. 1).

In addition, the presence of a probable alcoholism was also frequently associated with either a diagnosis of mood (32.9%), somatoform (35.9%) or anxiety disorder (27.8%).

Table 1. *Socio-demographic characteristics of the patients*

All evaluable patients (n = 2316)	n (%)
Gender	
Male	956 (41.3)
Female	1360 (58.7)
Age group (years)	
< 20	84 (3.6)
20–29	365 (15.8)
30–39	419 (18.1)
40–49	422 (18.2)
50–59	344 (14.9)
60–69	316 (13.6)
70–79	277 (12.0)
≥ 80	89 (3.8)
Living conditions	
Alone	544 (23.5)
With other(s)	1731 (74.7)
Institution	41 (1.8)

Table 2. *Main reason for the consultation of the patients*

Body system	Main reason for consultation n (%)
ORL	402 (17.4)
Cardiovascular	380 (16.4)
Rheumatological	369 (15.9)
Pneumological	254 (11.0)
Gastro-intestinal	192 (8.3)
Psychiatric	126 (5.4)
Urological	99 (4.3)
Gynecological	96 (4.1)
Endocrinological	75 (3.2)
Neurological	45 (1.9)
Others	247 (10.7)
None	31 (1.3)

Table 3. Prevalence of mental disorders detected by SMD-PC in the total sample, comparison of women and men and subjects seen in practices and at home

Psychiatric disorder	Total sample (%) (n = 2316)	Women (%) (n = 1360)	Men (%) (n = 956)	P value	In practices (%) (n = 1635)	At home (%) (n = 681)	P value
<i>Mood disorders</i>							
Any mood disorders	31.0	35.3	24.8	0.001	31.2	29.8	0.798
Major depressive disorder	13.9	16.1	10.9	0.001	14.6	12.3	0.180
Partial remission of major depressive disorder	6.0	7.2	4.2	0.004	5.7	6.6	0.409
Dysthymia	12.6	15.0	9.2	0.001	13.6	10.1	0.030
Minor depressive disorder	4.4	3.8	5.3	0.102	4.2	5.0	0.422
R/O bipolar disorder	1.9	2.7	0.8	0.002	1.4	3.2	0.004
R/O depressive disorder due to physical disorder, medication or drugs	2.8	2.6	2.9	0.781	2.3	3.8	0.049
<i>Anxiety disorders</i>							
Any anxiety disorders	19.0	21.9	14.8	0.001	19.1	18.9	0.918
Panic disorder	2.8	3.8	1.4	0.001	2.9	2.3	0.439
Generalized anxiety disorder	10.3	12.3	7.4	0.001	10.5	9.7	0.571
Anxiety disorder not otherwise specified (NOS)	8.5	9.2	7.4	0.154	8.6	8.2	0.798
R/O anxiety disorder due to physical disorder, medication or drugs	3.2	3.2	3	0.878	2.7	4.3	0.053
<i>Somatoform disorders</i>							
Any somatoform disorders	18.0	20.8	14.1	0.001	18.4	17.6	0.630
Multisomatoform disorder	12.7	15.7	8.5	0.001	12.9	12.3	0.726
Somatoform disorder not otherwise specified (NOS)	10.7	11.3	9.9	0.348	10.2	11.9	0.310
<i>Eating disorders</i>							
Any eating disorders	2.3	3.0	1.0	0.030	2.5	1.4	0.100
Bulimia (purging type)	0.3	0.4	0	0.046	0.3	0.1	0.493
Binge eating disorder	1.8	2.3	1	0.040	2.1	1.0	0.083
Bulimia (non purging type)	0.2	0.3	0	0.148	0.1	0.3	0.366
<i>Alcohol disorder</i>							
Probable alcohol abuse/dependence	10.1	4.1	18.6	0.001	10.5	9.1	0.329

Discussion

The present study highlights the high prevalence of psychiatric disorders amongst patients who consult in primary care. These results are largely in line with the original Prime-MD 1000 study (Spitzer et al., 1994) (Table 4). However, the prevalences in Belgian primary care appear even more elevated than in the USA. Several diagnoses appear significantly more frequently in our Belgian sample: dysthymia, minor depressive disorder, bipolar disorder, generalized anxiety disorder, anxiety disorder due to physical disorder, medication or drugs, multisomatoform disorder, somatoform disorder NOS, and probable alcohol abuse/dependence. The only disorder less frequent in Belgian primary care is binge eating disorder.

Several factors could explain these higher prevalences in Belgian primary care. First, they could reflect high prevalences of psychiatric disorders in the general population. International comparisons of the epidemiology of mental disorders are sparse and results of national surveys are often difficult to compare due to important differences in methodology. The DEPRES study

which evaluated the rate of depressive disorders in six European countries found a global 6-month prevalence of 17%; Belgium was situated in fifth position, with 12.2% (Lépine et al., 1997). Two recent epidemiological surveys using interview with composite international diagnostic interviews (CIDI) in representative samples of two Belgian provinces (Liège and Luxembourg) found extremely high prevalences of affective disorders (lifetime prevalences of, respectively, 34 and 24%) anxiety (respectively, 29 and 24%) and substance use disorder (respectively, 32 and 31%) (Reggers and Ansseau, 1999). Second, the Belgian social system guarantees the coverage of medical care for all residents. A large number of studies have demonstrated higher prevalences of psychiatric disorders in socially marginalized populations, which have limited access to medical care in other types of social systems, particularly in the USA (Goldberg et al., 1990; Weich and Lewis, 1998; Alegria et al., 2000). Third, in the Belgian organization of medical care, general practitioners see a significant proportion of their patients during home visits (nearly 30% of patients in our sample). These patients which are unable or unwilling to attend the GP office could be characterized by more psychiatric disturbances. In fact, in our study, this is only true for bipolar disorder whereas major depression and dysthymia are significantly less frequent among patients seen at their homes. Fourth, a seasonal effect could play a role since all our patients were included during the winter period (from 15 February to 25 March) which influences several psychiatric conditions, in particular depression (Cassidy and Carroll, 2002). Our design does not permit us to test this possible confounding factor.

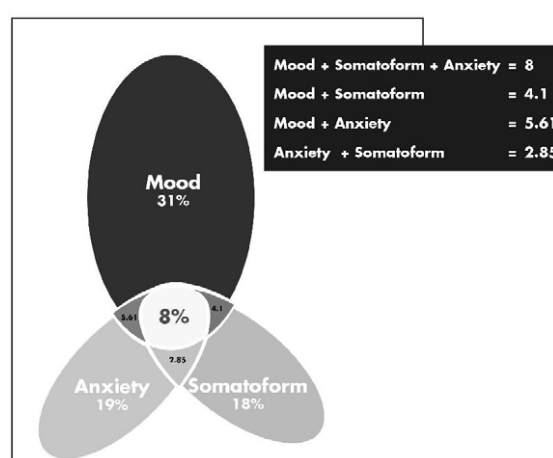


Fig. 1. Co-morbidity among mood, anxiety, and somatoform disorders

Our prevalence rates for major depression in primary care are also comparable with the results obtained in the WHO survey (diagnosis based on ICD 10 criteria) with 16% in The Netherlands, 13% in France and 11% in Germany (Üstün and Sartorius, 1995). Our study also confirms the gender differences for certain mental disorders (Linzer et al., 1996), with affective, anxiety, somatoform, and eating disorders usually more frequent among women and alcohol use disorder significantly more frequent among men.

Although only 5.4% of patients visited their GP primarily for a psychiatric condition, more than 40% of patients fulfilled criteria for a psychiatric disorder. The discrepancy between primary reasons for visiting the GP and actual diagnoses can depend on a multitude of factors, situated at both the doctor's and the patient's sides. At the GP level, several obstacles have been mentioned:

limited time to interview patients, inadequate knowledge of the diagnostic procedure, frequent somatization of mental disorders, underlying comorbidity, and possible lack of empathy toward psychiatric patients. At the patient level, this discrepancy can be due to the considerable reluctance to consult about their psychiatric condition for fear of stigmatization. Alternatively, patients could not consider their psychiatric symptomatology as sufficiently unusual or troublesome to be mentioned.

The assumption that 'hidden' psychiatric morbidity should be uncovered and treated assumes that it is treatable—that is, treatment will be accepted and continued by people who do not present with a psychiatric label, but instead somatize or otherwise disguise their mental health problems. General practitioners may know that their patients will not accept stigmatizing diagnoses and treatments. Criticisms can be raised that such a diagnostic procedure medicalize complex life problems. However, the initial PRIME-MD study demonstrated that patients with a positive diagnosis had significantly impaired functioning and greater health care utilization, compared with patients without PRIME-MD diagnosis (Spitzer et al., 1994). In addition, patients with only subthreshold psychiatric disturbances also showed impaired functioning and higher rates of health care utilization compared with patients without any psychiatric conditions.

Several limitations in the design of the study should be acknowledged. First, the physicians who volunteered to participate in the study could be more interested in mental disorders than their colleagues. However, the 86 participants were selected from a representative sample of 180 general practitioners, limiting significantly this possible bias. Second, a possible self-selection of patients could be considered. However, the random procedure to define patients included in the trial makes this possibility unlikely.

The high prevalence of unrecognized psychiatric disorders in patients consulting their GP clearly demonstrates the utility of a reliable and easy to use screening tool. The results of our survey confirm that PRIME-MD could represent an exceptional option. In addition the instrument (handheld computers with interactive software) offers a valuable instrument to primary care physicians, since it allows to screen patients during at home visits as well as at the GP office. The recent development of a self-report version of the PRIME-MD (PHQ) (Spitzer et al., 1999) offers even more interesting perspectives for the accurate diagnosis of mental disorders in a primary care setting.

Table 4. Prevalence of psychiatric disorders comparing present study with the original PRIME MD 1000

Psychiatric disorder	Present study (%)	PRIME-MD ³ 1000 study (%)	P value
<i>Mood disorders</i>			
Any mood disorder	31.0	26.0	0.004
Major depressive disorder	13.9	11.5	0.056
Partial remission of major depressive disorder	6.0	6.3	0.705
Dysthymia	12.6	7.8	0.0001
Minor depressive disorder	4.4	6.4	0.018
R/O bipolar disorder	1.9	0.8	0.016
R/O depressive disorder due to physical disorder medication or drugs	2.8	2.4	0.550
<i>Anxiety disorders</i>			
Any anxiety disorder	19.0	17.8	0.433
Anxiety disorder not otherwise specified	8.5	9.0	0.642
Generalized anxiety disorder	10.3	7.0	0.029
Panic disorder	2.8	3.6	0.196
R/O anxiety disorder due to physical disorder, medication or drugs	3.2	1.9	0.038
<i>Somatoform disorder</i>			
Any somatoform disorder	18.0	13.9	0.004
Multisomatoform disorder	12.7	8.2	0.002
Somatoform disorder not otherwise specified	10.7	4.2	0.0001
<i>Eating disorder</i>			
Any eating disorder	2.3	3.2	0.127
Binge eating disorder	1.8	3.0	0.031
Bulimia (purging type)	<1	<1	
Bulimia (non-purging type)	<1	<1	
<i>Alcohol disorder</i>			
Probable alcohol abuse/dependence	10.1	5.1	0.0001

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