Prescribing Patterns for Depression and Anxiety Worldwide

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Psychiatric disorders, particularly depression and anxiety, present commonly in primary care worldwide. However, significant variation is seen between countries in the prevalence of these disorders. Differing levels of awareness and recognition due to cultural issues may be important contributing factors in this variation. Overall, roughly half of psychiatric cases presenting in primary care go unrecognized, and one third of cases recognized are misdiagnosed. Although treatment is offered in nearly 60% of recognized cases, it is seldom in the context of a specific diagnosis and is only appropriate in about 5% of cases overall. This article explores the transcultural variation in the recognition, diagnosis, and treatment of depression and anxiety disorders using data from the World Health Organization study on Psychological Problems in General Health Care. Patterns observed in Western societies are compared with those seen in the rest of the world and are discussed with a view to educational needs for primary care physicians. (J Clin Psychiatry 2001;62[suppl 13]:31–36)

orldwide research has shown that psychological morbidity, particularly major depression, represents a significant proportion of contact by patients with primary health care providers, either as a direct result of the psychiatric disorder itself or because of an indirect association with physical health–related problems.

With the exception of hypertension, depression is more common than any other condition seen in primary care, although there is considerable variation in its prevalence across countries; lifetime rates of major depression have been reported to vary from 1.5% in Taiwan to 19% in Beirut, Lebanon.² Diversity in levels of awareness and recognition on the part of primary care providers may contribute to these differences.

This article explores the transcultural variation in recognition, diagnosis, and treatment of depression and anxiety disorders. Particular reference will be made to data from the World Health Organization (WHO) study on Psychological Problems in General Health Care, the design, methodology, and results of which have been presented previously elsewhere.^{3–7}

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WHO STUDY ON PSYCHOLOGICAL PROBLEMS IN GENERAL HEALTH CARE: STUDY DESIGN

The WHO study on Psychological Problems in General Health Care investigated the form, frequency, course, and outcome of common psychological problems in primary care settings at 15 centers in 14 countries worldwide. The research used a 2-stage interview procedure. In the first stage, the 12-item General Health Questionnaire (GHQ-12) was completed by 25,916 adults consulting primary health care services.

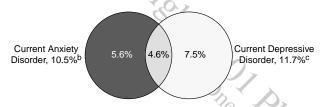
To include a range of patients representing different levels of severity, patients from the first stage were stratified according to the severity of the general health status as follows: lower severity (60% of patients), intermediate severity (20%), and higher severity (20%). A selection emphasis on the more seriously ill patients to ensure that those with mental illnesses were captured was achieved by including 10% of patients from the lower severity group, 35% from the intermediate severity group, and all (100%) of the higher severity group. In total, 8698 patients were eligible for the second-stage interview, and 5438 completed this next stage. Second-stage assessments consisted of a variety of patient- and physician-administered measures, including the 28-item GHQ, the Brief Disability Questionnaire (BDQ), the primary care version of the Composite International Diagnostic Interview (CIDI), and the Social Disability Schedule. Possible or borderline cases of psychiatric disorders and a sample of cases that met diagnostic criteria were followed up at 3 months and 1 year. For each patient selected, the treating physician completed a brief Physician's Encounter Form to indicate his or her assess-

Table 1. Patients With an ICD-10 Psychiatric Diagnosis in the WHO Study on Psychological Problems in General Health Care^a

Care		
Diagnosis	Patients (%)	
Current depressive episode	10.4	
Generalized anxiety disorder	7.9	
Neurasthenia	5.4	
Harmful use of alcohol	3.3	
Alcohol dependence	2.7	
Somatization disorder	2.7	
Dysthymia	2.1	
Panic disorder	1.1	
Agoraphobia with panic	1.0	
Hypochondriasis	0.8	
Agoraphobia without panic	0.5	
Any diagnosis	24.0	
Two or more mental disorders	9.5	

^aData from Goldberg and Lecrubier. ⁸ Abbreviation: WHO = World Health Organization.

Figure 1. Comorbidity of Depression and Anxiety Disorders in Patients With an ICD-10 Diagnosis^a



^aReprinted, with permission, from Sartorius et al.⁶

^cDepressive episode or dysthymia.

ment of the patient's current physical and psychological status. Responses to the CIDI were used to make ICD-10 diagnoses using a computer algorithm based on the ICD-10 Diagnostic Criteria for Research. These diagnoses were then used to calculate prevalence rates for current psychiatric disorders (1-month) and lifetime disorders.

PREVALENCE OF PSYCHIATRIC DISORDERS: TRANSCULTURAL VARIATIONS

Psychiatric disorders are commonly found in primary care. An ICD-10 diagnosis was determined in 24% of patients in the WHO study. The most common diagnoses were current depressive episode and generalized anxiety disorder (GAD) (Table 1).8 Over half the cases of depression and anxiety appeared in the same patients at the same time, making them the most frequently comorbid disorders (Figure 1).6

Psychiatric disorders were highly prevalent in all 14 countries sampled throughout the world (Table 2), consistent with reports from other epidemiologic surveys. 9-12 However, marked differences were observed in some of the prevalence rates at different centers, even after correction for between-center differences, such as age (Table 2).8

Table 2. Transcultural Variation in the Prevalence of Psychiatric Disorders: Results of the WHO Study^a

	Patients With Disorder (%)				
	Generalized				
	Current	Anxiety	Alcohol		
Center	Depression	Disorder	Dependence		
Santiago, Chile	29.5	18.7	2.5		
Rio de Janeiro, Brazil	15.8	22.6	4.1		
Paris, France	13.7	11.9	4.3		
Manchester, UK	16.9	7.1	2.2		
Groningen, the Netherlands	15.9	6.4	3.4		
Mainz, Germany	11.2	7.5	7.2		
Bangalore, India	9.1	8.5	1.4		
Athens, Greece	6.4	14.9	1.0		
Berlin, Germany	6.1	9.3	5.3		
Ankara, Turkey	11.6	0.9	1.0		
Seattle, Washington, USA	6.3	2.1	1.5		
Verona, Italy	4.7	3.7	0.5		
Nagasaki, Japan	2.6	5.0	3.7		
Shanghai, China	4.0	1.9	1.1		
Ibadan, Nigeria	4.2	2.9	0.4		
Total (male/female)	10.4 (6.8/12.4)	7.9 (5.3/9.4)	2.7 (5.5/0.9)		

 $^{\rm a}{\rm Data}$ from Goldberg and Lecrubier. $^{\rm 8}$ Abbreviation: WHO = World Health Organization.

For example, a nearly 10-fold difference in the prevalence of current depression was detected between centers in Santiago, Chile (29.5%), and Ibadan, Nigeria (4.2%). Similarly, GAD was infrequently diagnosed at some centers, including Shanghai, China, and Ibadan (1.9% and 2.9%, respectively), while appearing to be prevalent in Santiago and Rio de Janeiro, Brazil (18.7% and 22.6%, respectively).

ARE TRANSCULTURAL VARIATIONS IN PREVALENCE RATES A CONSEQUENCE OF POOR RECOGNITION?

The overall number of "psychiatric cases" recognized by primary care physicians in the WHO study was similar to that detected through use of the CIDI (32.5% versus 24.2%, respectively). However, closer examination of these data revealed that although primary care physicians could identify a patient as representing a "psychiatric case," they were less able in giving an accurate diagnosis. For example, although primary care physicians found depression to be present at a rate of only 2.8%, a much greater rate of 8.7% was detected when the CIDI was used. 13

The number of patients with ICD-10 diagnoses who were also diagnosed by the primary care physician is shown by center in Table 3. Examination of these data by center showed that there was marked variation between centers. For example, only 28.4% of cases of current depression were being recognized as psychological cases in primary care in Ankara, compared with 69.6% of cases in Manchester, U.K. Similarly, only 14.2% of cases of neurasthenia were recognized as psychological cases in Nagasaki, Japan, compared with 83.3% in Seattle, Wash.,

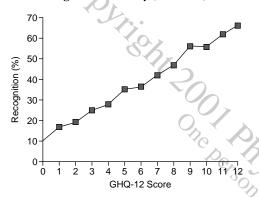
bGeneralized anxiety disorder, panic disorder, or agoraphobia.

Table 3. Transcultural Variation in Recognition by Primary Care Physicians Among Patients With an ICD-10 Diagnosis^a

		Patients With Diagnosis Recognized by Primary Care Physicians, %								
		Generalized				Any Mental	Two or More			
	Current	Anxiety	Agoraphobia	Somatization		Disorder	Mental Disorders			
Center	Depression	Disorder	and Panic	Disorder	Neurasthenia	(except alcohol)	(except alcohol)			
Ankara	28.4	25.7	13.4	33.8	20.9	24.1	36.0			
Bangalore	45.7	36.1	100.0	31.3	0.0	40.4	49.3			
Ibadan	26.6	50.0	0.0	32.8	100.0	18.1	45.0			
Manchester	69.6	72.3	69.6	100.0	28.8	62.9	71.5			
Nagasaki	19.3	21.2	0.0	0.0	14.2	18.3	18.5			
Paris	61.5	50.0	83.2	66.3	8.5	46.8	77.2			
Rio de Janeiro	43.9	30.6	69.3	43.3	59.1	37.0	43.7			
Seattle	56.7	46.8	93.5	80.1	83.3	56.9	75.0			
Total	52.0	16.1	66.1	61.1	20.0	19.2	61.1			

^aData from Ustun and Von Korff. ¹³

Figure 2. Influence of Severity (GHQ-12 score) on Recognition of Mental Illness in Primary Care: Data From the World Health Organization Study (N = 5269)^a



^aData from Weiller et al. ¹⁴ Abbreviation: GHQ-12 = 12-item General Health Questionnaire.

U.S.A. Clearly, this pattern reflects the perceptions of neurasthenia in different cultural settings; in Japan, unlike in the United States, fatigue is not viewed as a psychological problem.

Is Symptom Severity a Key Determinant of Recognition?

There is no doubt that severity of mental illness is a major factor in recognition of psychiatric disorders in primary care: the WHO data showed a linear relationship between GHQ-12 score and percentage of recognition (Figure 2). ¹⁴ It is discouraging, however, to find that many cases were still not recognized even when there was substantial associated impairment. When these data were examined for specific diagnoses, a linear relationship between the number of symptoms and recognition in primary care was observed for patients with pure depressive episodes.

Somatic Symptoms Decrease Recognition of Psychiatric Disorders

In primary care, depression as a pure condition is rare. When consulting a physician, many patients with depres-

Table 4. Percentage of Patients Recognized Among Those With or Without a Somatic Diagnosis^a

		Patients With CIDI Diagnosis				
	GAD		Panic		Agoraphobia	
Diagnosis	N	%	N	%	N	%
Somatic diagnosis	99	37	37	35.1	92	40.2
No diagnosis	380^{b}	75	75	84	79^{b}	81

^aData from Simon et al.¹⁵ Abbreviations: CIDI = Composite International Diagnostic Interview, GAD = generalized anxiety disorder, WHO = World Health Organization.

^bp < .0001 versus somatic diagnosis.

sion tend to focus on somatic symptoms, pain, or discomfort.¹ If questioned, they may admit to depression, but these patients commonly do not consider themselves to be depressed. For the primary care physician, somatic symptoms of a comorbid condition often complicate the clinical presentation of depression, making it more difficult to diagnose.¹

The WHO data showed that significantly fewer patients with GAD or agoraphobia meeting CIDI criteria were diagnosed correctly by primary care physicians if they had received a concurrent somatic diagnosis (Table 4).¹⁵ The same trend was observed for patients with panic disorder or depression. The influence of a somatic diagnosis on the recognition of anxiety or depressive disorders was independent of the number of somatic symptoms displayed by the patient. These data illustrate the need for primary care physicians to avoid focusing too readily on the first symptoms mentioned by the patient and moving to a rapid clinical decision.

Psychological Complaints

Spontaneous psychological complaints are an important variable in recognition of psychiatric disorders. In the WHO study, only 29% of patients were correctly recognized as presenting with a psychological case in the absence of a specific psychological complaint, compared with 79% of patients who voiced a spontaneous psychological complaint. The diversity in the percentage of patients presenting with complaints was great; rates of 20%

Table 5. Prescription Patterns in Patients According to Symptom Severity^a

		Patients (%)				
				ICD-10		
				Diagnosis of		
			Subthreshold	Psychiatric		
Drug	Well	Symptoms	Diagnosis	Condition		
Antidepressants	9	11	8	20		
Anxiolytics	8	15	20	18		
Hypnotics	14	12	14	12		
Tonics ^b	6	4	5	5		

^aData from Linden et al.²⁵

to 30% were reported at Groningen, the Netherlands; Manchester; Paris, France; and Santiago compared with much lower rates of 1% to 5% at Shanghai; Bangalore, India; and Nagasaki. It is interesting to note that psychological complaints were more frequent in Western society, perhaps as a consequence of recent educational initiatives that have resulted in heightened awareness of depression and anxiety and a greater acceptance of mental illnesses as curable disorders.

Other researchers have noted similar significant relationships between percentage recognition of psychiatric disorders and the number of spontaneous complaints. Carney and colleagues¹⁷ performed a study in which actors portrayed depressed patients presenting to primary care physicians. Physicians who recognized depression differed significantly from those who did not by the number of questions they asked patients about feeling and affect. When depression is suspected, 1 or 2 simple screening questions posed by the primary care physician, such as asking the patient "Have you lost interest in life?" or, more directly, "Are you depressed?" may be adequate to reveal the presence of depressive symptoms.¹

THE INFLUENCE OF RECOGNITION ON PRESCRIPTION PATTERNS IN PRIMARY CARE

It has been suggested that increased recognition and appropriate diagnosis of depression in primary care lead to better short-term outcome irrespective of treatment. In the WHO study on Psychological Problems in General Health Care, patients in whom major depression had been recognized appropriately showed a significantly greater decrease in GHQ score at the 3-month assessment than those who were unrecognized (6.1 vs. 4.1; p = .02). However, at 12 months, recognized and unrecognized groups did not differ in either change in GHQ score or change in diagnostic status from baseline, suggesting that improved recognition of depression in primary care is only a first step toward more appropriate management. These results were consistent across all study sites.

Symptom severity, patient preference, and the availability of treatment options are clearly other confounding fac-

tors that could account for these results. Adequate patient education is also a critical determinant in treatment outcome and is affected by ever-decreasing consultation times available to primary care physicians. In France, mean consultation time in primary care varies between 10 and 15 minutes. However, in the United States, no more than 6 to 7 minutes on average are devoted to each patient. Much less time is available in countries such as Japan and Taiwan, where the number of patients seen per day is much greater.

APPROPRIATE TREATMENT OF DEPRESSION AND ANXIETY

Of the 50% of cases of anxiety that were identified as "psychiatric cases" by primary care physicians in the WHO study, only one third were correctly diagnosed. However, 59% of patients recognized as psychiatric cases were prescribed a psychotropic agent. Treatment was found to be appropriate in only 5% of cases overall. ¹⁹ A number of recent studies performed in the United States and Canada have also reported inadequate treatment regimens in mental illness. ^{20–22}

The disposition and effect of many psychotropic agents are influenced by ethnicity and culture.^{23,24} Looking at individual centers in the WHO study, the proportion of patients with recognized cases receiving treatment from their primary care physician ranged from 37% in Manchester to 65% in Ankara, Turkey. Counseling is utilized to a varying extent in different countries, which may account for some of the transcultural deviation in the prevalence of drug treatment that was observed.

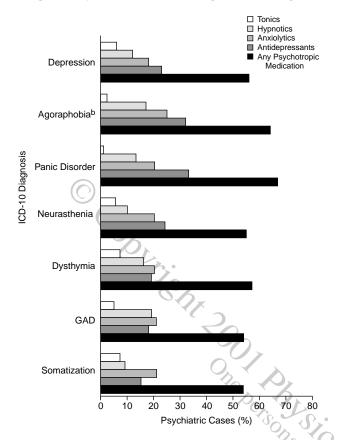
Patients meeting full ICD-10 criteria for a psychiatric disorder were more likely to be prescribed antidepressants than those displaying only symptoms or subthreshold presentation (Table 5).²⁵ In contrast, anxiolytics were prescribed to patients with a similar frequency, regardless of the severity of their symptoms. The prescription of hypnotic agents, such as the benzodiazepines, also appeared to be unrelated to symptom severity. Interestingly, tonics and vitamins were exclusively prescribed in conjunction with hypnotics, perhaps in an attempt to combat sedative effects of the former class of drugs. The number of patients treated with each class of drug was similar regardless of the specific psychiatric diagnosis (Figure 3). These results suggest that prescription of psychotropic drugs in primary care do not always reflect the context of a specific diagnosis.

Transcultural Preferences in Psychotropic Agents

Marked preferences were noted regarding the type of psychotropic agent most commonly prescribed at different sites worldwide, irrespective of the specific psychiatric diagnosis. Hypnotics were used more frequently than other agents in Ibadan and Bangalore. In contrast, antidepressants were the favored form of pharmacotherapy at the

^bAlways prescribed with hypnotics.

Figure 3. Prescription Rates of Psychotropic Drugs in Recognized Psychiatric Cases According to ICD-10 Diagnosis^a



^aData from Weiller et al. ¹⁴ Abbreviation: GAD = generalized anxiety disorder.

May depend on definition.

Western sites Seattle and Manchester, where they were almost exclusively prescribed for depression (Figure 4A). Lenters at Paris and Rio de Janeiro recorded high rates of anxiolytic prescription for the treatment of both depression and anxiety. Prescription patterns for GAD (Figure 4B) and panic disorder or agoraphobia were similar to those seen for depression. Let

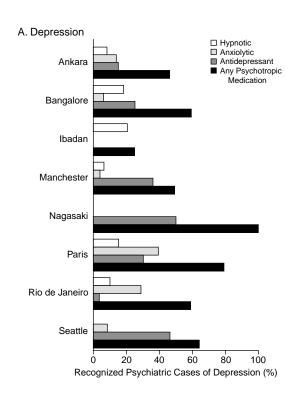
Does Symptom Severity Influence Prescription?

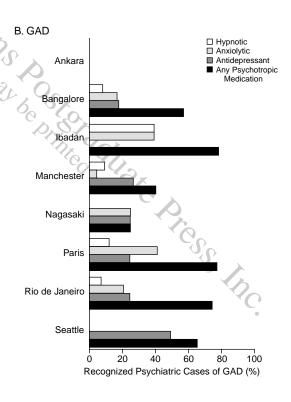
Prescription rates for antidepressants, and, interestingly, also for anxiolytics, increase as depressive symptomatology worsens. ¹⁴ This pattern was observed at WHO study sites favoring antidepressants (e.g., Manchester) or anxiolytics (e.g., Paris) for the treatment of depression.

Confounding Factors in the Prescription of Antidepressants and Anxiolytics

Various confounding factors in the prescription of antidepressants and anxiolytics have emerged from the WHO data mentioned previously. As discussed, antidepressants were less likely to be prescribed to patients displaying so-

Figure 4. Prescription Rates of Psychotropic Drugs in Recognized Cases of (A) Depression and (B) GAD by Study Site^a





^aData from Weiller et al. ¹⁴

matic symptoms. In addition, younger patients (aged 18 to 24 years) received antidepressant treatment less frequently. This factor may be a reflection of unwillingness among some physicians to recognize that young individuals are suffering with a mental illness; in general, there appears to be a low index of suspicion for depression in young adults. However, without prompt and effective treatment, depression in this age group can become chronic, increasing the likelihood of recurrence with the added burden of disability and loss of productivity.¹

While some study centers (e.g., Manchester) clearly favored the prescription of antidepressants over other agents, in general across all 14 countries, if the primary care physician made a diagnosis of depression, panic disorder, or anxiety and depression, a higher rate of antidepressant prescription was observed. Comorbidity and psychological complaints were also associated with an increased rate of antidepressant prescription, even when the analysis was controlled for differences in recognition.

The prescription of anxiolytic agents was linked with greater severity (i.e., GHQ score), female gender, increasing age, and the number of psychological complaints. The importance of cultural treatment patterns was more discriminate than for antidepressants, with 5 study centers, including Paris, being clearly associated with a higher prescription rate of anxiolytics. A somatic diagnosis had a negative association with anxiolytic treatment.

CONCLUSIONS

Major depression is predicted to become the second most disabling condition worldwide by the year 2020, second only to ischemic heart disease in the level of disability and cost to society. ²⁶ Increasing the rate of recognition and effective treatment of depression has the potential of reducing the burden on health care resources and presents primary care physicians with a situation in which they can make a significant difference in the lives of affected individuals and their families.

The results of the WHO study on Psychological Problems in General Health Care demonstrate that depression is currently underrecognized and undertreated throughout the world. While there is a need to develop systems that will encourage individuals with psychiatric problems to seek treatment, current trends in the treatment of depression in primary care must be reviewed and optimized, since primary care is likely to be the domain in which most of these patients will receive care.

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