# Diagnostic Patterns of Family Physicians for Somatoform, Depressive, and Anxiety Disorders

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Somatic complaints are a common feature of somatoform, depressive, and anxiety disorders. The distinction of these disorders is difficult in the primary care setting when somatic complaints are the presenting symptom. This study compared the characteristics and diagnostic consistency of 142 patients diagnosed by family physicians as having one of these three disorders. Patients were identified by chart diagnoses from 12,900 individuals in a university-based family practice. The results demonstrate that the diagnostic terms *hysteria* and *hypochondriasis* (now included under somatoform disorders) are infrequently recorded and poorly distinguished from depression and anxiety. Future research on prevention and treatment will be impeded unless family physicians are provided with improved training in practical and nonstigmatizing means of diagnosing and recording somatoform diagnoses.

Somatoform disorders are characterized by physical symptoms suggesting a physical disorder but for which there are insignificant biological findings and for which there is evidence of concurrent psychosocial conflict. Somatoform diagnoses included in the third edition of the American Psychiatric Association's *Diagnostic and Statistical Manual* (DSM III) are somatization disorder (hysteria), conversion, psychogenic pain, hypochondriasis, and atypical somatoform disorder. Patients with depression and anxiety often present with somatic symptoms. 4 When complaints such as fatigue, backache, or headache are the initial

symptoms of depression, they usually decrease after treatment for depression. The relationships among somatoform, depressive, and anxiety disorders are unclear, but overlap is likely. St. Relatively few empirical data have been collected on somatoform disorders; this is a potentially fruitful area for collaborative research involving primary care physicians.

Family physicians diagnose psychiatric illness less frequently than would be predicted from studies utilizing standard self-report scales. Studies reviewed by Goldberg<sup>11</sup> demonstrate that there is no correlation between the rate of a psychiatric disorder reported by physicians and the level of that disorder in their population as indicated by screening questionnaires. As reported by Hoeper, <sup>12</sup> physicians are often aware of behavioral problems but do not make relevant notations in the chart because of the stigma associated with psy-

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chiatric diagnoses, suggesting that the incidence rates determined by physicians' reports reveal as much about the physicians' style of practice or setting as they do about the patient population. Uniform diagnostic criteria for somatoform disorders were not available until 1980; nevertheless. there are two reasons for examining the incidence of the related older diagnoses, hysterical neurosis and hypochondriasis. First, it is important to have a baseline to measure the use and effectiveness of the new criteria for somatoform disorders. Second, treatment of somatoform, depressive, and anxiety disorders often includes different classes of psychotropic drugs (analgesics. antidepressants, and anxiolytics). The appropriate use of these drugs depends on accurate diagnosis.

Based on these considerations, this study addressed the following questions:

- 1. How effectively do primary care physicians distinguish among these disorders (somatoform, depressive, anxiety) in order to provide appropriate treatment?
- 2. Since the medical record is in part a reflection of physician values, are chart differences suggestive of the physician's emotional response to patients with somatoform disorders (eg, labeling bothersome patients as hypochondriacal or ordering more tests than usual)?
- 3. Do clinical records contain evidence of biopsychosocial differences among patients with somatoform, depressive, and anxiety disorders that can assist in differentiating somatoform disorders from depression and anxiety?

#### Methods

The Family Practice Center (FPC) is a private practice within the University of Cincinnati Medical Center. During the time included for chart review, 1976 through 1979, the FPC was staffed by 30 family medicine residents and 15 full-time and 15 part-time faculty. The practice population comprised 12,900 individuals from 4,964 families, totaling 17,000 visits per year. The average age was 31 years; 55 percent were female, 68 percent married, 78 percent white, 21 percent black; and 50 percent had a high school education, and 25 percent had some college education.

During the years 1976 to 1979 the FPC kept a master encounter book for recording diagnoses on each patient visit according to the International

Table 1. Probable DSM III Psychiatric Diagnoses for 89 of 141 Patients Diagnoses No. Somatoform (n = 16)Somatization disorder 9 Conversion disorder 3 Psychogenic pain 4 Depression (n = 14) Major depression 10 Bipolar disorder 2 Dysthymic disorder 2 Anxiety (n = 59)Generalized anxiety disorder 22 Panic disorder 5 Post-traumatic stress disorder 4 Adjustment disorder with 28

Classification of Health Problems in Primary Care (ICHPPC). The physicians' encounter book diagnoses of 12,900 patients were reviewed for the presence of somatoform disorders. The ICHPPC psychiatric codes corresponded to DSM II. Accordingly, all DSM II diagnoses of hysteria or hypochondriasis, depression, and anxiety were obtained. A control group was developed of patients matched for age, sex, and physician with the hysteria or hypochondriasis patients. These control patients were obtained from the diagnostic group "physical examination, no disease detected."

anxious mood

Data collected from the charts of these patients included demographics, medical history, and factors related to patient-physician interaction. The charts were also reviewed by a psychiatrist (TEO) for concordance with DSM III diagnostic criteria for respective diagnoses. The data were entered into a computer for statistical analysis using the Statistical Package for the Social Sciences (SPSS).<sup>14</sup>

#### Results

Thirty patients had chart diagnoses of hysteria or hypochondriasis, 39 of depressive neurosis or psychosis, and 72 of anxiety neurosis. The charts of patients with psychiatric diagnoses were reviewed for concordance with DSM III criteria. Recorded information was adequate to suggest probable diagnoses for 89 patients (63 percent)

	Control (n=30)	Somatoform (n=30)	Depression (n=39)	Anxiety (n=27)
Mean age (yr)	43.23	41.23	45.21	49.17
(Range)	(17-74)	(19-68)	(20-94)	(19-86)
		Perce	ntage	
Sex				
Male	33	30	21	21
Female	67	70	79	79
Race				
Black	23.3	30	26	26.4
White	73.3	70	72	72.2
Other	3.3	0	2	1.4
Marital Status*				
Married	78	50	32	42
Single	19	33	24	22
Divorced	3	10	24	25
Widowed	0	7	19	12
Occupation**				*
Professional/managerial	35.7	0	17.9	20
Labor/clerical	46.4	34.5	43.6	27.1
Housewife	10.7	31	23	34.3
Student	3.6	3.4	7.7	1.4
Unemployed/disabled retired	3.6	31	7.7	17.2
Education				
0 to 6 (yr)	7.7	16.7	7.1	17.5
7 to 12 (yr)	19.2	54.2	32.1	36.8
Trade	26.9	12.5	21.4	8.8
College	46.2	16.7	39.3	36.8

(Table 1). Diagnoses of depressive disorders were documented more thoroughly than others. The diagnosis of somatization disorder was least well supported because of an insufficient number of the 12 or 14 required symptoms or lack of information to exclude other psychiatric or somatic diagnoses. The chart of one control group patient revealed a past history of depression. (Although this study examined diagnoses made during a three-year period before DSM III, for uniformity the relevant DSM III terms will be used throughout.)

There were no significant differences with respect to age, sex, and race among patients with psychiatric diagnoses and controls (Table 2). Marital status and occupation, however, were significantly different among the groups ( $\chi^2 = 19.64$ ,

df = 9, P < .02;  $\chi^2 = 53.09$ , df = 15, P < .002). The majority of the patients in the control group (78 percent) were married, whereas less than one half of the patients in the depressed group (32 percent) and anxious group (42 percent) were married. The control group patients had the highest proportion of professional and managerial occupations (35.7 percent). None of the somatoform group patients had professional or managerial occupations, and this subset had the highest proportion of unemployed, disabled, and retired persons. Similarly, only 16.7 percent of the somatoform group patients had any college education.

The information gathered under medical history was useful primarily for distinguishing control group patients from those patients with psychiatric

	Control (%)	Somato- form (%)	Depression (%)	Anxiety (%)
Serious chronic illnesses				
$(\chi^2 = 20.28, df = 6, P = .003)$				
0	63	16.7	24.4	45.1
1	26.7	56.7	58.5	35.2
. >1	10	26.7	17.1	19.7
Number of hospitalizations				
$(\chi^2 = 12.45, df = 6, P < .05)$				
0	26.7	20	26.8	43.7
1-2	40	36.7	51.2	25.4
> 2	33.3	43	22	31
Test ratio*				
$\chi^2 = 16.15, df = 6, P < .02$				
0	50	23.3	19.5	14.1
> 0, < 1	50	73.3	78.0	83.1
≥ 1	0	3.3	2.4	2.8
Medications			7	
Benzodiazepines	23	60	61	69
$(\chi^2 = 18.46, df = 3, P < .0005)$				
Antidepressants	16.7	33.3	48.8	29.6
$(\chi^2 = 8.55, df = 3, P < .04)$		00.0	10.0	20.0
Narcotics	16.7	43.3	19.5	23.9
$(\chi^2 = 7.19, df = 3, P < .1)$	10.7	40.0	10.0	25.5

diagnoses. There were no differences among the groups in the number of acute self-limiting problems (eg, upper respiratory tract infections) or in the number of surgical operations. Thirty-seven percent of patients in the control group had serious chronic illnesses (eg, arteriosclerotic cardiovascular disease, hypertension) as opposed to 82 percent of those in the somatoform group and 75 percent of those in the depressed group ( $\chi^2 = 20.28$ , df = 6, P < .003) (Table 3). There was no difference in the type of chronic illness among the groups. The recording of physical illnesses in charts of patients with somatoform disorders may be suspect, but 11 of 30 (37 percent) had an abnormality corroborating an illness (five with chest x-ray films, three with blood pressure recordings, and one each with thyroid function tests, liver function tests, and ovarian tissue biopsy).

When the length of time since the first visit to the Family Practice Center was held constant, there were no significant differences among the groups in the number of laboratory tests ordered. The number of abnormal laboratory tests was divided by the total number of laboratory tests ordered to create a test ratio. A low ratio suggests low efficiency and little evidence of disease according to laboratory measures. Dividing the number of abnormal tests by the total tests also controls for the increased statistical chance of finding a positive test when a larger number of tests are ordered. Patients in the control group had a significantly lower test ratio than did those in the other groups ( $\chi^2 = 16.15$ , df = 6, P < .013), supporting the increased incidence of organic disease in the psychiatric groups.

The control group patients were also less likely to have a history of psychotropic drug use. The drug data suggest little distinction in physician prescription of antidepressants or benzodiazepines to patients with anxiety, depression, or

	Control (%)	Somato- form (%)	Depression (%)	Anxiety (%)
Identified stress (n = 123) $(\chi^2 = 44.0, df = 15, P < .0001)$				
None	14.3	0	0	0
Loss of person	0	15	31.6	25.9
Illness	14.3	50	21.1	22.4
Job-finance	14.3	10	23.7	22.4
Family-home	42.9	25	23.7	29.3
Psychiatric referral $(\chi^2 = 14.55, df = 3, P < .002)$	0	36.7	36.6	29.6
Number of calls*				
$(\chi^2 = 19.94, df = 9, P < .02)$				
0	53	16.7	34.1	22.5
> 0, < 2	33	43.3	43.9	36.6
2-5	10	16.7	7.3	
> 5	4	23.3	14.7	15.5

somatization disorders. Perhaps most important in this group of items was the high rate of narcotic prescriptions for patients in the somatoform group. This probably resulted from an interaction of patient request and physician response, a topic also addressed in Table 4.

Table 4 displays the major chart items that could entail a possible interaction between patient or physician characteristics and physician response or diagnosis. Identified patient psychosocial stress is a chart variable that depends on both the awareness and the willingness of the patient to report stress and the ability of the physician to enquire about and record psychosocial stress. Psychosocial stresses recorded in the chart were categorized and numerically rated by the authors according to the Social Readjustment Rating Scale described by Holmes and Rahe.15 The 43 types of stresses used by Holmes and Rahe were collapsed into four categories: loss of a significant person (eg, death of family member, divorce, separation); personal physical illness; job-finance (eg, trouble with boss, unpaid bills); and family-home (eg, marital fights, child's school problems). One or more psychosocial stress factors were recorded in the records of 82 percent of patients given a psychiatric diagnosis ( $\chi^2 = 44$ , df = 15, P < .0001). In 50 percent of patients with somatoform disorders the chief somatic complaint was considered a stress factor. The most common stress in the depressed group was loss of a significant person (31.6 percent), and that in the anxious group was in the family-home area (29.3 percent). Referral to mental health professionals occurred equally for about one third of all three psychiatric groups but for none of the well patients ( $\chi^2 = 14.55$ , df = 3, P<.002). Telephone calls, no-show appointments, and canceled appointments are quantifiable behaviors that could influence a physician's attitude toward and diagnosis of a patient. The number of calls in relation to total days enrolled in the Family Practice Center was significantly higher in the patients with somatoform and anxiety disorders ( $\chi^2 = 19.74$ , df = 9, P < .02). There were no significant differences among the psychiatric groups in the number of no-shows or canceled appointments. Level of physician training (resident vs faculty) had no significant effect on diagnosis.

The variables available in the medical chart appear to differentiate control from psychiatric diagnoses. To test whether the variables distinguished among psychiatric diagnoses, discriminant analy-

Table 5. Discriminant Analysis: Classification Results

Actual Group	n**	Predicted Group*			
		Control No. (%)	Somatoform No. (%)	Depressed No. (%)	Anxious No. (%)
Control	29	27 (93.1)	1 (3.4)	1 (3.4)	0 (0)
Somatoform	25	5 (20.0)	13 (52.0)	4 (16.0)	3 (12.0)
Depressed	34	3 (8.8)	4 (11.8)	20 (58.8)	7 (20.6)
Anxious	57	7 (11.9)	11 (18.6)	12 (20.3)	29 (49.2)

<sup>\*</sup>Correctly classified were 60.54 percent of all cases and 53 percent of all psychiatric disorder cases

sis was performed. This procedure weights and linearly combines variables mathematically to force the groups to be as statistically distinct as possible. Variables included in the discriminant analysis were selected on the basis of their theoretical relevance for distinguishing the three diagnostic categories and well-patient controls. Variables were entered in a stepwise fashion. Thirteen variables were entered into the original discriminant analysis: stress score, serious chronic illnesses, narcotic use, test ratio, occupation, marital status, age, benzodiazepine use, tricyclic antidepressant use, number of surgeries, number of hospitalizations, number of life-threatening illnesses, and number of stresses. The last three variables were eliminated from the final discriminant analysis because they did not have sufficient statistical impact. In the discriminant classification analysis 93 percent of control patients were classified as control but only 52 percent of patients with somatoform disorders as somatoform, 58 percent of depressed patients as depressed, and 49 percent of patients with anxiety disorders as anxious (Table 5). Excluding the control group, only 62 of 116 (53 percent) are correctly classified. The canonical discriminant functions do not show that separation is readily achieved other than separating the three psychiatric groups from the control group.

### Discussion

The diagnostic terms hysteria and hypochondriasis (now included under somatoform disor-

ders) were infrequently recorded by family physicians in this study. This retrospective chart review was not designed to assess the true incidence of somatoform disorders in a family practice, but rather to compare the consistency of characteristics of patients so diagnosed by family physicians. Nevertheless, the incidence of all somatoform disorders by chart diagnosis in the present study was 0.2 percent. Somatization disorder alone, for which there is the most empirical evidence and validity, has a reported incidence of 0.4 to 7 percent.16 The incidence of depressive illness (0.3 percent) in the present study is similar to those of earlier surveys of general practitioners' treatment records, which show a 0.1 to 0.9 percent incidence of depression. 17 As with somatization, however, the incidence of depression was low when compared with community surveys using depressive symptom scales; 9 to 20 percent of the population has been defined as having depressive symptoms.17

It is unclear whether the low prevalence of recorded diagnoses is due to the stigmatizing connotations of the terms, to the lack of liaison teaching by psychiatrists, to the perceived lack of practical significance of making and recording these diagnoses, or to lack of interest secondary to bias against these difficult patients. Studies in the Family Practice Center at the University of Cincinnati have demonstrated a particular reluctance of physicians to record somatoform diagnoses compared with diagnoses of depression. In 1979 a psychiatrist began working several hours per week in the practice, and in 1980 he was replaced by a full-time

<sup>\*\*</sup>Because of one or more missing variables, 25 of 172 cases are not included

consultation-liaison psychiatrist. Concurrent with these changes the chart incidence of depression increased from 0.3 to 3 percent and of DSM III anxiety disorders from 0.6 to 1.7 percent. Comparable results have not occurred with respect to somatoform disorders. In a recent Family Practice Center survey, 23 of 29 family physicians (79 percent) agreed they had definitely treated patients with somatoform disorders. Nineteen (65 percent) said they wrote the diagnosis in the chart. Nevertheless, the chart incidence of somatoform disorders remains low at 0.16 percent. Ten of 20 residents agreed they may not have recorded the diagnosis because of concern that the patient would become angry at them. Faculty stated they preferred to confirm carefully the diagnosis over time before recording it. The discrepancy between physicians' self-reports and their charting behaviors requires further investigation. Two areas for attention suggested by this survey are residents' responses to expected patient anger and faculty methods for confirming somatoform diagnoses.

Family physicians have expressed reluctance to use the psychiatric terminology in ICHPPC and DSM III.18 In a study of family physicians shown the scores from the General Health Questionnaire<sup>19</sup> (which includes subscales for somatization, anxiety, and depression), McNabb20 found no increase in the chart diagnosis of somatization even though he did observe a decrease in diagnostic tests ordered and an increase in counseling offered. The available chart data suggest that the number of telephone calls and canceled appointments and patient demographics did not bias physicians toward making a diagnosis of somatoform disorder. It is possible that lower education level could have had some effect, but as discussed below, low education is a reported characteristic of somatization. The high concurrence of somatic illness and mental illness in primary care patients complicates the diagnostic work of the family physician. 6,21-27 In Kenyon's review of 512 patients with (non-DMS III) hypochondriasis, 295 were admitted to the hospital, and 53 percent of these patients had one or more abnormalities (primarily cardiovascular or musculoskeletal) on physical examination. Several authors<sup>3,27,28</sup> have reported that the different range of conversion disorder cases seen by the general practitioner as compared with the psychiatrist creates diagnostic problems. The patients with somatoform disorder

seen by psychiatrists tend to have less somatic illness and more obvious affective disorders and are usually referred after negative physical and laboratory investigations.

It is commendable that psychosocial stresses were identified in 71.5 percent of the charts. This is consistent with the biopsychosocial orientation of family medicine.<sup>29</sup> Positive effects of marriage and higher socioeconomic class on mental and physical health have frequently been described. 30-32 The results of this study are consistent with these previous findings. Other researchers33 have suggested that lower education and socioeconomic class may predispose individuals to somatization. This has been postulated as secondary to a decreased vocabulary for emotional and psychological expression or a prejudiced attitude toward identifying emotional problems. 34,35 On the other hand, it is possible that if somatoform illnesses begin early, they interfere with education and employment. The high percentage of unemployed and disabled patients with somatoform disorder in this study suggests these disorders have a high socioeconomic cost.

In a 42-year follow-up of women with somatization disorder, Coryell16 did not find any excess mortality in this group compared with controls or women with unipolar depression. The present study does not measure mortality, but the increased number of hospitalizations and physical illnesses in patients with somatoform disorder suggests these patients do not have a benign course. They are subject to both concurrent physical illness and iatrogenic complications. Data suggest major iatrogenic cost might occur with hospitalization or drug prescriptions, but not with laboratory work. The high rate of narcotic prescriptions is not unexpected but is still of major concern. Other studies have identified pain as the most common complaint in somatization.5,7,27,36 For example, Kenyon<sup>7</sup> found 70 percent of patients with hypochondriasis had pain complaints. Increased narcotic use may be somewhat particular to a primary care setting. It has been said that with potential somatoform disorder patients, internists tend to use diagnostic procedures, surgeons use placebos, and general practitioners use psychotropic drugs. 37,38 The 60 to 69 percent history of benzodiazepine use for all three psychiatric groups is in agreement with the reported rates for other primary care settings.39

The low recorded incidence and documented criteria and the high rate of narcotic prescriptions in these disorders are somewhat disconcerting. It will be difficult to improve the prevention and treatment of somatoform disorders unless the primary care physicians caring for these patients are given training in practical and nonstigmatizing means of diagnosing them. Increased psychiatric liaison should be a significant part of this process. It will be important for the liaison psychiatrist in family practice to bear in mind the difficult combination of somatic and psychosocial problems that somatoform disorder patients present to the family physician and the limited time the physician has to make a comprehensive biopsychosocial assessment.

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