Somatization Disorder in a Family Practice

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Somatization disorder is a condition characterized by multiple unexplained complaints. This study was done to determine the prevalence of somatization disorder in a family practice office setting, to characterize the patients so affected, and to assess their impact on the practice. A sample of ill patients was interviewed, of whom 6 (5 percent) had definite somatization disorder and another 4 (4 percent) had borderline somatization disorder (ten or more symptoms). All were women, and they were more likely than controls to live in households with children but no spouse ($P < .01$). They were also more likely than their unaffected counterparts to be from the lowest two social classes ($P < .01$). Compared with matched controls, their rate of office visits and charges incurred was about 50 percent greater (.58 visits per month vs .41 visits per month; $23.28 per month vs $14.44 per month). Their charts were thicker (7 cm vs 3.6 cm) and heavier (3076 g vs 1843 g) and had more diagnoses (85 vs 51) than controls. The physicians of the somatizers were significantly less satisfied with the care rendered to them than to the controls ($P < .01$).

This study demonstrates that somatization disorder is a prevalent, expensive, and difficult problem for family physicians.

Physicians have long been troubled by patients who somatize; that is, patients who present to the physician with physical complaints but in whom no corresponding pathophysiologic changes can be found. The somatizing process can be regarded as one in which the symptom is an expression of distress or psychological disturbance.[1–3] These patients frequently qualify for one or more psychiatric diagnoses, including depression, schizophrenia, panic disorder, conversion disorder, psychogenic pain disorder, hypochondriasis, malingering, organic brain syndromes, factitious illness, and substance abuse.[1] The somatic complaint may also be the pretext for a hidden agenda, a manifestation of distress at the level of the family system, or a culturally sanctioned means of expressing "troubles" and manipulating relationships.[3–5]

Somatization disorder represents one of the most extreme and problematic forms of the somatizing process, because it can be diagnosed only after the patient has become established in a pattern of repeated unexplained complaints. This disorder has clear diagnostic criteria, as found in the *Diagnostic and Statistical Manual of Mental Disorders,* Third Edition (DSM-III).[6] These criteria include onset before the age of 30 years and complaints of at least 14 symptoms for women or 12 for men from a prescribed list of 37 symptoms. The Appendix presents the full diagnostic criteria and the list of requisite symptoms. Note that the unexplained symptoms must have a consequence: they must have caused the patient to take a medication (other than aspirin), to change her or his daily routine, or to see a physician. These symptoms must not be explainable by known physical disorder or injury and must not be a side effect of drugs, alcohol, or medications.

Somatization disorder is not a common condition in the population at large. The best population-based estimates are from random samples drawn from three urban centers (n = 9,543) that show a 0.3 percent prevalence for women.[7] The disorder is much less common in men.[8] Despite the relative rarity of this condition in the general population, these patients are overrepresented in medical care settings. DeSouza and Othmer[9] reported that 6 percent of women seen in their psychiatric outpatient clinic had the disorder. Several reports from in-hospital psychiatric consultation and liaison services put the prevalence at 2 to 8 percent.[1,10–12] A search of the English language literature revealed no published estimates of the

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prevalence of somatization disorder in a general hospital setting, and none in the family practice outpatient setting.

There are data suggesting that patients with somatization disorder utilize health care resources at a very high rate, expending up to 14 times as much as the general population on physicians' services, and an average of nine times as much on total health care.[13] But these figures are not practice based; they are derived from a sample identified by these patients' conspicuous medical care-seeking behavior, and so are probably biased in the direction of overestimating health care utilization.

The purpose of this study is therefore twofold: (1) to measure the prevalence of somatization disorder in the family physician's office, and (2) to assess the impact these patients have on such an office, both in terms of utilization and satisfaction with care rendered and received.

METHODS

The University of South Alabama Family Practice Center is a freestanding outpatient facility with about 19,000 registered patients in 11,500 families. Roughly 1,000 patients are seen each month by 24 resident and faculty family physicians. Demographically, this practice is not atypical: all age groups are well represented, with 23 percent of patients aged under 19 years and 14 percent aged 65 years or older. Two thirds of the office visits are made by female patients and one third by male patients, although among the patients aged 19 years and older, three fourths of the visits are by women. About 25 percent of the visits are covered by Medicaid, 25 percent by Medicare, 20 percent by commercial fee-for-service insurance, and 10 percent by prepaid health care plans. Almost 20 percent of patients have no insurance coverage and are responsible for paying their own bills.

A representative sample of patients appearing for medical care at this site between June 18, 1986, and July 23, 1986, was selected for study. All patients aged 19 years or older who were not too sick or too demented to answer a 20-minute structured interview and who could speak English were considered eligible. All interviews were conducted by one interviewer (L.C.). Interviews were conducted five days a week, both in the morning and in the afternoon. Immediately upon completion of one interview, the interviewer would refer to the patient sign-in sheet for the eligible patient who had most recently signed in for an appointment and approach that subject for informed consent. Thus, approximately every fifth patient who met the criteria was approached for inclusion.

The interview contained questions designed to elicit the DSM-III criteria for somatization disorder[6] and also included some demographic, family, utilization, and satisfaction questions. There are a number of psychiatric interview instruments already in existence that can make the diagnosis of somatization disorder. The best known, and probably the best studied of these, is the Diagnostic Interview Schedule (DIS).[14] This study, however, did not use a standardized interview schedule for two reasons: (1) the DIS is designed to make a large number of psychiatric diagnoses, and takes more than one hour to administer; (2) the questions one asks to make the diagnosis of somatization disorder are unambiguously spelled out in the DSM-III manual and take about 15 minutes to administer. Thus, the disorder under study could be detected more quickly and without significant bias by using an instrument written specifically to detect the presence of somatization disorder alone.

The medical record of each patient with ten or more symptoms was reviewed for findings that might explain the symptoms.

A group of patients with the requisite number of unexplained complaints (12 or 14) was identified and labeled as having definite somatization disorder (DSD). Patients with at least ten unexplained symptoms were thought to represent a less extreme form of this same somatization process; therefore, charts of those patients with 10 to 13 unexplained complaints were analyzed and were then labeled as having borderline somatization disorder (BSD).

For each patient with ten or more unexplained symptoms, an age-matched control was drawn from the interview population. For these two groups, additional information was obtained, including a count of the number of office visits made since January 1985 as well as the total charges billed by the clinic office to these patients during the same 19-month interval. The physicians of these patients were also interviewed to measure physician perception of difficulty in caring for these patients and satisfaction with the care rendered to them. These last variables were rated on a five-point Likert-type scale.

The analysis primarily involved comparing patients with somatization disorder with those without it. Where limited data were available (eg, physician interview data and clinic utilization data), the analysis involved comparing patients with somatization disorder with their matched controls. When the variables to be compared were categorical (eg, sex, race, marital status), the chi-square test was used. When the compared variables were interval level (eg, physician satisfaction), Student's *t* test was used.

RESULTS

Eight hundred thirty-four patients were seen in the clinic during the interview phase of this study: 254 were not

TABLE 1. CHARACTERISTICS OF TOTAL SAMPLE AND THOSE MEETING CRITERIA FOR SOMATIZATION DISORDER

Sample Characteristics	Total Sample No.	Definite Somatization Disorder* (DSD) No. (%)	Borderline Somatization Disorder** (BSD) No. (%)	BSD + DSD No. (%)
Number of subjects	111	6 (5)	4 (4)	10 (9)
Sex				
Women	84	6 (7)	4 (5)	10 (12)
Men	27	0 (0)	0 (0)	0 (0)
Race				
White	79	4 (5)	3 (4)	7 (9)
Black	32	2 (6)	1 (3)	3 (9)
Marital status				
Married	56	2 (4)	2 (4)	4 (7)
Never married	27	2 (7)	1 (4)	3 (11)
Separated, divorced, or widowed	29	2 (7)	1 (4)	3 (11)
Household structure				
Living without spouse but with children	19	3 (16)	2 (11)	5 (26)
All other	92	3 (3)***	2 (2)	5 (5)†
Hollingshead's social class				
1 & 2 (lower)	53	5 (9)	4 (8)	9 (17)
3, 4, 5 (upper)	58	1 (2)	0 (0)	1 (2)†
Medical insurance status				
Private	72	1 (1)	2 (3)	3 (4)
Medicaid, Medicare, or none	39	5 (13)***	2 (5)	7 (18)***

* *≥14 unexplained symptoms*
** *≥10 unexplained symptoms*
*** $P < .02$
† $P < .01$

eligible because they were aged less than 19 years. Of the 580 eligible patients, 117 were approached by the interviewer; 3 could not speak English, and 3 refused. Thus, 111 interviews were begun, and all were completed.

The prevalence of somatization disorder, as well as selected demographic characteristics of this sample, is displayed in Table 1. Note that 5 percent of this sample had definite somatization disorder, and another 4 percent were borderline for this diagnosis. On an average day in this practice with 50 patients being seen, therefore, 2 or 3 patients are seen who have somatization disorder, and another 2 or 3 approach qualifying for this diagnosis. All of the patients in the study who achieved borderline or definite status were women. One man had eight unexplained complaints and two had five; all the other men had fewer. The mean age for those with definite somatization disorder was 41 years (SD = 12), compared with 37 years (SD = 14) for those without. The disorder was distributed equally by race. Although a slightly higher proportion of the unmarried patients had definite somatization disorder, this difference did not reach statistical significance. Those patients living without a spouse but with children, however, had a much higher proportion of both definite somatization disorder and borderline somatization disorder than those living in all other household arrangements, and these differences were statistically significant. (For definite somatization disorder, two-tailed chi-square = 6.424, $df = 1$, $P < .02$; for definite somatization disorder plus borderline somatization disorder, two-tailed chi-square = 8.376, $df = 1$, $P < .01$).

Patients with somatization disorder were also distinguished by their medical insurance status. A smaller proportion of patients with private insurance had somatization disorder (or borderline status) than patients with Medicare, Medicaid, or no insurance. (For definite somatization disorder, two-tailed chi-square = 6.465, $df = 1$, $P < .02$; for definite somatization disorder plus borderline somatization disorder, two-tailed chi-square = 5.862, $df = 1$, $P < .02$).

Patients with somatization disorder also were more likely to be from the lower social classes (Hollingshead Index classes 1 and 2)[15] than the unaffected subjects (for

TABLE 2. UTILIZATION OUTCOMES

Utilization Criteria	Definite and Borderline Somatization Disorder (n = 10)	Matched Controls (n = 10)
Total months enrollment	90	104
Visits per month of enrollment per patient	.58	.41
Charges billed per month of enrollment per patient	$23.38	$14.44
Total number of diagnoses on charts	85	51
Number of diagnoses suggesting the somatizing process	12	5
Total chart thickness	7 cm	3.6 cm
Total chart weight	3,076 g	1,843 g

TABLE 3. PHYSICIAN EVALUATION OF CARE RENDERED

Interview Questions	Cases* Mean Score** (SD)	Matched Controls Mean Score (SD)	*t* score (*df* = 18)	P Value
How satisfied are you with the care you have given to this patient?	3.00 (.820)	4.10 (.880)	2.97	<.01
How difficult has this patient been for you to treat?	3.20 (1.40)	2.40 (1.35)	1.29	NS
How adequately do you think this patient's problems have been managed?	3.30 (1.16)	3.90 (.88)	1.30	NS

** Definite somatization disorder and borderline somatization disorder*
*** Scores range from 1 to 5 with low scores meaning not much and high scores meaning very much*

definite somatization disorder plus borderline somatization disorder, two-tailed chi-square = 7.860, $df = 1$, $P < .01$).

There were no statistically significant differences between patients with definite somatization disorder (or definite somatization disorder plus borderline somatization disorder) and those without for having had counseling or psychotherapy. Likewise, the level of satisfaction with medical care received was not significantly different for the two groups.

As described previously, an age-matched control was selected for each patient with definite somatization disorder and borderline somatization disorder. Utilization and physician evaluation data were then obtained for these patients. The patients with borderline somatization disorder closely resembled the patients with definite somatization disorder in all these outcomes; therefore, for the sake of clarity, these two categories were aggregated into one group of ten patients (definite somatization disorder and borderline somatization disorder) and compared with their ten controls.

The utilization outcomes of these two groups are compared in Table 2. Note that no formal statistical tests were applied to these comparisons because some of the patients had been enrolled in this practice for a very short time, resulting in an unstable denominator when calculating utilization rates. In fact, two of the somatizers had been enrolled for less than two months, and another two for less than three months. Total enrollment time was 90 months for the ten somatizers and 104 months for the controls. Between January 1, 1985, and July 31, 1986, the ten patients with somatization disorder made a total of 53 visits to this office and incurred charges of $2,105, compared with 43 visits for the controls and charges of $1,502. Standardizing these sums (53 visits/90 mo = .58 visits/mo of enrollment for somatizers vs 43 visits/104 mo = .41 visits/mo for controls; $2,105/90 mo = $23.38/mo for somatizers vs $1,502/104 mo = $14.44/mo for the controls) yields an estimate of about 50 percent more visits and charges for patients with definite and borderline somatization disorder.

The ten somatizers had a total of 85 diagnoses on their charts, of which 12 suggested the somatizing process or psychological disturbance (eg, multiple somatic complaints, depression, chronic stress, probable conversion disorder, hyperventilation syndrome, etc). The control subjects had 51 diagnoses on their charts, of which five suggested the somatizing process or psychological disturbance. The somatizers' charts occupied 7 cm of shelf space and weighed 3,076 g, compared with 3.6 cm of shelf space and 1,843 g for the controls.

Next, these 20 patients' physicians were interviewed. The physicians were unaware of the purpose of the interview and the patients' diagnoses. The results of these interviews are displayed in Table 3. When asked how satisfied they were with the care they had rendered, the physicians responded that they were significantly less satisfied with the care rendered to the somatizers. On a scale of one to five, with five being very satisfied, they rated the somatizers 3.00 (SD = .82) and the controls 4.10 (SD = .88) ($t = 2.97$, $df = 18$, $P < .01$). They were then asked how difficult these patients were to treat, and with high

scores representing high difficulty, the somatizers scored 3.20 (SD = 1.46) and the controls 2.40 (SD = 1.35). This direction was expected but was not statistically significant ($t = 1.29$). The physicians were also asked how adequately they felt the patients' problems had been managed, and with a high score meaning very well, the somatizers scored 3.30 (SD = 1.16) and the controls 3.90 (SD = .88). Again, this trend was in the predicted direction but did not reach statistical significance ($t = 1.30$).

DISCUSSION

On the basis of this study, somatization disorder was found to occur with appreciable frequency in a family practice outpatient setting; for the average physician this diagnosis could be made nearly every day patients are seen. In this sample all those with definite and borderline somatization disorder were women, and the diagnosis tended to cluster among those who had to care for children without the help of a spouse, those from the lower social classes, and those without private health insurance coverage. The diagnosis is by no means confined to these groups, however, and in fact distributes across all demographic categories except male sex.

This study also replicates in a family practice the finding that patients with somatization disorder are high utilizers: they make more visits, incur more charges, and have thicker charts with problem lists longer than their unaffected counterparts.

Surprisingly they are as satisfied as other patients with the care they receive, but their physicians are not so satisfied with the care rendered to these patients as to those in the control group.

It is interesting to note that none of the patients in this study had the diagnosis of somatization disorder on her problem list, although one carried the diagnosis of multiple somatic complaints and one the diagnosis of probable conversion disorder. Somatization disorder is obviously being underdiagnosed.

This study has some limitations. The clinic population studied is in a university medical center setting and therefore contains a patient profile in some ways unlike that of a community private practice. It may be that patients with somatization disorder gravitate to practices such as this because of socioeconomic factors and the tendency for private physicians to refer problem patients to training centers. Replication in other practice settings would enhance the credibility of these findings.

The sampling frame was a few weeks in the summer season, which is not necessarily representative of the year as a whole: while the interviewing was going on, third-year residents graduated and left, new first-year residents arrived, and fewer patients visited the clinic than during other months. Moreover, the patients studied represent neither a random selection from the practice population nor a random selection of patients visiting the clinic, but rather a small convenience sample of adults appearing for medical care. The possibility of sampling bias inherent in such a strategy should not be overlooked.

Finally, the utilization data should be regarded as tentative. A substantial fraction of the identified somatizing patients had been enrolled in the practice for a short time and had not yet stabilized into a long-term relationship with a provider and the practice.

It should be pointed out that the utilization data presented here are designed to assess the impact of somatization disorder on a practice, not to measure the overall utilization of health care resources by patients with somatization disorder. Many of these patients have many physicians and undoubtedly consume health care resources in excess of their impact on this practice alone.

This study has several implications. A prevalence of 5 percent, even assuming average office visit rates, would cause somatization disorder to be the fourth most commonly made diagnosis in ambulatory encounters with family physicians, ahead of ischemic heart disease, diabetes mellitus, obesity, urinary tract infection, and otitis media.[16] Because somatization disorder appears nowhere on the list of common problems in primary care, physicians must remember to consider this diagnostic possibility and actually try to make the diagnosis. It takes about 15 minutes to apply the full criteria to a new patient using an interview that closely resembles an ordinary clinical review of systems. A seven-question screening test for somatization disorder has been published[17] with a sensitivity of 93 percent and a specificity of 59 percent. Refinements of this screening tool and application in a primary care setting are presently under way. A patient can be screened for somatization disorder in less than 30 seconds; it would be feasible to screen all patients in a practice at intake without compromising patient flow.

The questions still remain: What is this disorder? How do people get it? Is there an early, preclinical state that can be recognized? Once recognized, how does the physician deal with it? The answers are largely unknown and are beyond the scope of this article to develop in detail. There is limited, but helpful, literature that has begun to address these issues,[13,18–23] to which the interested reader might refer. All these questions are worthy of further investigation, especially the last, which concerns management. There is only one published controlled clinical trial addressing the effect of a specified intervention. Smith et al[24] documented a 50 percent reduction in health care charges after an intervention that consisted of a letter to the primary provider containing the following: (1) a confirmation of the diagnosis, (2) recommendation to sched-

ule regular visits, (3) physical examination at each encounter, and (4) avoidance of hospitalization, diagnostic procedures, surgery, and laboratory tests unless clearly indicated. No deterioration in the quality of care rendered to these patients was observed. This finding suggests that unnecessary expenses were eliminated, which is to say that this intervention reduced mismanagement. However, reduced mismanagement is different from correct management. An effective therapy necessarily results in a better outcome than does no therapy at all. With somatization disorder, treatment recommendations consist largely of admonitions to do no harm. There is much to learn about this disorder before it qualifies as a well-understood and well-managed entity.

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APPENDIX. DIAGNOSTIC CRITERIA FOR SOMATIZATION DISORDER*

- A history of physical symptoms for several years' duration beginning before the age of 30 years
- Compaints of at least 14 symptoms for women and 12 for men, from the 37 symptoms listed below. To count a symptom as present, the individual must report that the symptom caused him or her to take medicine (other than aspirin), alter his or her life pattern, or see a physician. The symptoms, in the judgment of the clinician, are not adequately explained by physical disorder or physical injury, and are not side effects of medication, drugs, or alcohol. The clinician need not be convinced that the symptom was actually present, eg, that the individual actually vomited throughout her entire pregnancy; report of the symptom by the individual is sufficient.

Sickly: Believes that he or she has been sickly for a good part of his or her life

Conversion or pseudoneurological symptoms: Difficulty swallowing, loss of voice, deafness, double vision, blurred vision, blindness, fainting or loss of consciousness, memory loss, seizures or convulsions, trouble walking, paralysis or muscle weakness, urinary retention, or difficulty urinating

Gastrointestinal symptoms: Abdominal pain, nausea, vomiting spells (other than during pregnancy), bloating (gassy), intolerance (eg, gets sick) to a variety of foods, diarrhea

Female reproductive symptoms: Judged by the individual as occurring more frequently or severely than in most women: painful menstruation, menstrual irregularity, excessive bleeding, severe vomiting throughout pregnancy or causing hospitalization during pregnancy

Psychosexual symptoms: Occurring for the major part of the individual's life after opportunities for sexual activity; sexual indifference, lack of pleasure during intercourse, pain during intercourse

Pain: Pain in back, joints, extremities, genital area (other than during intercourse); pain on urination; other pain (other than headaches)

Cardiopulmonary symptoms: Shortness of breath, palpitations, chest pain, dizziness.

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* *From American Psychiatric Association Committee on Nomenclature and Statistics*[6]