

# Stability of Somatization Disorder and Somatization Symptoms Among Primary Care Patients

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**Background:** Diagnostic criteria for somatization disorder emphasize its early onset and long-term stability. Research assessments of somatization disorder depend on lifetime recall of medically unexplained somatic symptoms.

**Methods:** Longitudinal data from the World Health Organization Psychological Problems in General Health Care study were used to examine stability of somatization disorder and somatization symptoms over 12 months. At 15 study sites in 14 countries, consecutive primary care patients (N = 25 916) were screened using the 12-item General Health Questionnaire. A stratified random sample (n = 5447) was selected for a baseline diagnostic assessment using the Composite International Diagnostic Interview. All cases and a random sample of noncases were asked to complete a follow-up diagnostic assessment 12 months later (n = 3196).

**Results:** While the baseline and 12-month interviews identified a similar number of patients with DSM-IV so-

matization disorder (74 and 70), only 21 cases were consistently identified at both assessments. Examination of individual symptoms found that 61% of lifetime medically unexplained somatic symptoms detected at baseline were not detected during the lifetime interview 12 months later. When analyses were broadened to all lifetime symptoms reported at baseline (including those found to be “medically explained” or “not clinically significant”), 43% of lifetime symptoms reported at baseline were “lost” 12 months later.

**Conclusions:** Given that the baseline and follow-up assessments both asked about lifetime symptoms, the loss of somatization disorder or individual somatic symptoms can only represent inconsistent recall. The instability of recall observed here has significant implications for the diagnosis of somatization disorder by structured interview and may also have implications for current diagnostic criteria.

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**S**OMATIZATION disorder has traditionally been viewed as a chronic and unremitting condition. Early descriptions of Briquet syndrome<sup>1</sup> and somatization disorder emphasized their early onset and long-term stability. These characteristics made somatization disorder<sup>2-4</sup> one of the earliest areas for research on the familial nature of psychiatric disorders.<sup>5-7</sup>

The view of somatization as a lifelong condition is reflected in current diagnostic criteria. For example, DSM-IV criteria<sup>8</sup> define somatization disorder as “a history of many physical complaints beginning before age 30 years that occur over a period of several years. . . .” Both the DSM-IV<sup>8</sup> and International Statistical Classification of Diseases, 10th Revision (ICD-10)<sup>9</sup> criteria for somatization disorder are based on medically unexplained somatic symptoms occurring during an entire lifetime.

Current diagnostic criteria for somatization disorder depend on 2 assumptions. The first is that a pattern of reporting multiple somatic symptoms persists for years. The second assumption is that lifetime history can be accurately assessed. While abundant literature suggests significant errors in long-term recall of medical<sup>10</sup> and psychiatric<sup>11</sup> symptoms, epidemiologic studies of somatization disorder have not considered the possible effect of errors in recall.<sup>12-14</sup>

This report uses data from the World Health Organization’s Psychological Problems in General Health Care (PPGHC) study to examine stability of somatization disorder and somatization symptoms. The longitudinal design and large sample size (>3000 primary care patients completing 2 diagnostic assessments 12 months apart) make these data particularly well-suited for studying a relatively rare condition such as somatiza-

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A list of participating investigators in the Psychological Problems in General Health Care Project can be found on page 94.

## PARTICIPANTS AND METHODS

### STUDY SAMPLE

The PPGHC study examined the form, frequency, management, and outcomes of common psychological disorders among primary care patients.<sup>15,16</sup> Participating centers were located in Ankara, Turkey; Athens, Greece; Bangalore, India; Berlin, Germany; Groningen, the Netherlands; Ibadan, Nigeria; Mainz, Germany; Manchester, England; Nagasaki, Japan; Paris, France; Rio de Janeiro, Brazil; Santiago, Chile; Seattle, Wash; Shanghai, China; and Verona, Italy. Each site enrolled patients from clinics selected as typical of local primary health care. Study methods are described in detail elsewhere<sup>15,16</sup> and will be summarized here.

Each center screened a consecutive or random sample of adult primary care outpatients aged 18 to 65 years. Consenting subjects (N = 25 916) completed the 12-item General Health Questionnaire (GHQ-12)<sup>17</sup> prior to the physician visit. Response rate for the GHQ-12 at various sites ranged from 91% to 100%, with an overall rate of 96%. Respondents were selected for second-stage diagnostic assessment according to site-specific GHQ-12 thresholds (100% of those with GHQ scores >80th percentile, 35% of those scoring between the 60th and 80th percentiles, and 10% of those scoring <60th percentile).<sup>15</sup> The second-stage evaluation (n = 5447) included a primary care version of the Composite International Diagnostic Interview (CIDI)<sup>18</sup> as well as several measures not described here. Response rates for the second-stage interview at the various sites ranged from 43% to 99%, with an overall rate of 62%. Nonresponse was not significantly related to age, sex, or baseline GHQ-12 score. All patients with current psychological disorder (by CIDI) at the baseline assessment as well as a 40% random sample of “noncases” were eligible for a repeated diagnostic assessment at 12 months. Across all sites, 62% of eligible patients completed the 12-month assessment. Follow-up participation varied significantly across study sites, but was not significantly related to age, sex, or psychological status at baseline. This report includes 3196 patients completing both the baseline and follow-up assessments.

### ASSESSMENTS

The CIDI is a fully structured diagnostic interview developed by the World Health Organization for use in cross-national psychiatric studies. It includes specific questions to rate each of the diagnostic criteria of the *DSM-IV* and *ICD-10* classification systems. The primary care version of the CIDI used in this study included modules to assess somatoform disorders, depressive disorders, panic disorder, and generalized anxiety disorder. Standard CIDI questions regarding lifetime history were expanded to assess current symptoms of depression, anxiety, and somatization. The somatization section of the CIDI includes a detailed assessment of each somatic symptom included in the *DSM-IV* or *ICD-10* diagnostic criteria for somatoform disorders. The interviewer first asks whether each symptom has ever occurred (eg, “Have you ever had a lot of trouble with back pain?”). For each positive response, the interviewer follows a structured question sequence to determine whether the symptom was clinically significant and to exclude a plausible medical explanation. The *DSM-IV* criteria for somatization disorder require that at least 8 medically unexplained somatic symptoms spread across 4 symptom groups (pain, gastrointestinal, sexual, and pseudoneurological) have been present at some point during life. Each participating center completed translation and back-translation of the CIDI followed by extensive field testing. Interviewer training and evaluation of reliability were standardized across centers. Training procedures and reliability exercises are reported in detail elsewhere.<sup>15</sup>

### DATA ANALYSIS

All analyses were conducted using SPSS for Windows software (SPSS Inc, Chicago, Ill). Presentations of count data (eg, number of patients with somatization disorder) reflect actual numbers of patients interviewed. All rates and proportions (eg, prevalence rates) incorporate sampling rates that account for the stratified sampling design as well as for nonresponse at the second stage and follow-up interviews. Jackknife replication as implemented by the WesVar software package (SPSS Inc) was used to calculate  $\chi^2$  statistics and confidence intervals (CIs) that account for the stratified random sampling procedure described above.

tion disorder. For example, the number of patients in this study satisfying *DSM-IV* criteria for somatization disorder is approximately twice the number observed in the Epidemiologic Catchment Area study.<sup>12</sup>

## RESULTS

At the baseline assessment, 74 patients satisfied *DSM-IV* criteria for somatization disorder, for a weighted prevalence of 1.4%. **Table 1** displays results of the follow-up diagnostic assessment according to baseline diagnostic status. While the number of somatization disorder cases at each assessment was quite similar, overlap between the groups was relatively small. Of patients satisfying lifetime criteria for somatization disorder at the baseline assessment, only 25% met lifetime criteria 12 months later. Of patients meeting lifetime diagnostic criteria at the fol-

low-up assessment, only 27% met the same criteria at baseline. In other words, 1-year incidence (ie, new cases not reported at the last assessment) accounted for almost three fourths of all lifetime cases detected at the 12-month follow-up. Persistence of diagnosis was more common among those with *DSM-IV* anxiety or depressive disorder at the follow-up assessment compared with those without (40% vs 16%), but this difference was not statistically significant (odds ratio [OR] = 3.63; 95% CI, 0.82-16.0). **Table 2** classifies patients according to the number of lifetime somatization symptoms reported at the baseline and follow-up assessments. Among patients reporting large numbers of lifetime somatization symptoms at baseline (the bottom 2 rows of Table 2), approximately 40% showed modest decreases in lifetime symptoms at follow-up and approximately 15% showed large decreases (ie, shift of 2 or more categories).

**Table 1. Diagnosis of Somatization Disorder at Baseline and Follow-up\***

	Follow-up No	Follow-up Yes	Total
Baseline no	3073	49	3122
Baseline yes	53	21	74
<b>Total</b>	<b>3126</b>	<b>70</b>	<b>3196</b>

\*Unweighted number of cases.

**Table 2. Number of Lifetime Somatization Symptoms Reported at Follow-up Assessment According to Number Reported at Baseline\***

Lifetime Symptoms at Baseline	No. of Lifetime Symptoms at Follow-up			
	0-2	3-6	7-11	≥12
0-2 (n = 1729)	83.8	14.7	1.4	0.1
3-6 (n = 1056)	46.7	42.1	9.5	1.7
7-11 (n = 323)	17.3	40.6	34.7	7.4
≥12 (n = 85)	2.4	12.9	47.1	37.6

\*Numbers for each row are unweighted. Data represent weighted percentages in each row.

We next examined consistency of reporting for individual somatization symptoms. The primary care version of the CIDI assesses 35 specific somatic symptoms included in the *DSM-IV* diagnostic criteria for somatization disorder. For each symptom, we examined whether patients reporting at least 1 lifetime episode of a specific medically unexplained somatic symptom at baseline would consistently report a lifetime episode at follow-up. The total number of somatization symptoms reported at the baseline assessment (for 3196 respondents) was 13 647. Overall, 61.1% of lifetime symptoms reported at baseline were not consistently reported at follow-up. **Table 3** displays results for the 10 lifetime somatization symptoms reported most frequently at the baseline assessment. As was seen in the analysis of somatization disorder, the proportion of lifetime symptoms “lost” (ie, reported at baseline and not reported at follow-up) was significantly lower among patients with an anxiety or depressive disorder at the follow-up assessment compared with those without (OR = 0.69; 95% CI, 0.65-0.75). The proportion of symptoms lost at follow-up was lower for symptoms that were current at the baseline assessment (ie, present within 1 month of the baseline assessment) than for more remote symptoms (OR = 0.64; 95% CI, 0.61-0.70). The probability of inconsistent recall varied significantly among study centers, ranging from 74% in Shanghai to 55% in Santiago ( $\chi^2 = 213$ ,  $df = 14$ ,  $P < .001$ ).

As was seen with the analyses of somatization disorder, a large proportion of lifetime symptoms reported at the follow-up assessment were not reported 12 months earlier (ie, apparent incidence during the last 12 months). The proportion of lifetime somatization symptoms “gained” (ie, not reported at baseline but reported at follow-up) was 54.1% overall. Table 3 shows this pattern for the 10 most common somatization symptoms.

The loss of lifetime symptoms from the baseline to the follow-up assessment could reflect 1 of 2 processes. First, lifetime episodes of somatic symptoms reported at the baseline assessment might not be reported at follow-up. Second, symptoms considered to be both clinically significant and medically unexplained at the baseline assessment might be judged not clinically significant or medically explained at follow-up. In such a scenario, a symptom would count toward a diagnosis of somatization disorder at baseline but not at follow-up. Consequently, we examined consistency of overall symptom reporting at baseline and follow-up, including symptoms judged at either assessment to be not clinically significant or medically unexplained. The total number of somatic symptoms reported at the baseline assessment was 25 024. The overall proportion of lifetime symptoms lost during 12 months was 43.3% with this proportion ranging from 27% (headache) to 62% (double vision). As was seen for recall of medically unexplained somatic symptoms, recall of total somatic symptoms was also strongly related to presence of anxiety or depressive disorder at follow-up.

## COMMENT

In this large, international primary care survey, diagnosis of somatization disorder showed considerable instability during 12 months. Only one third of patients satisfying *DSM-IV* criteria at baseline did so again 12 months later. Given that diagnosis of somatization disorder depends completely on lifetime symptoms, this apparent “resolution” of somatization disorder can only reflect inconsistencies in recall. Individual somatization symptoms also showed significant instability with approximately half of lifetime symptoms present at baseline lost after 12 months. This inconsistency persisted in analyses of all symptoms reported (including symptoms classified as not clinically significant or medically explained by the CIDI).

We believe these findings indicate large inconsistencies in the recall of lifetime somatization symptoms. The clearest demonstration of this inconsistency is that 40% of all lifetime somatic symptoms reported at baseline were not recalled 12 months later. Because the 12-month interview explicitly asked about symptoms at any time during life, loss of symptoms between the baseline and follow-up assessment can only reflect errors or inconsistency of recall. As expected, likelihood of recall was greater for more recent symptoms and for patients with current anxiety or depressive disorder. The greater likelihood of recall among patients with anxiety or depressive disorder may reflect either of 2 processes. First, anxiety and depressive disorders might increase the likelihood that somatic symptoms present at baseline would actually recur or persist.<sup>19,20</sup> Second, cognitive biases associated with anxiety or depression may increase recall of past unpleasant events.<sup>21,22</sup>

The proportion of lifetime symptoms gained during 12 months (ie, those reported at the follow-up interview that were not reported at baseline) also suggests significant difficulties with recall. The lifetime prevalence of any symptom (ie, the total number of

**Table 3. Patterns of Recall for Most Common Lifetime Somatization Symptoms**

Symptom	Lifetime Symptoms "Lost"		Lifetime Symptoms "Gained"	
	No. (Prevalence) at Baseline	% Not Recalled at Follow-up	No. (Prevalence) at Follow-up	% New Since Baseline
Abdominal pain	593 (14.1)	56.6	575 (13.9)	56.0
Back pain	603 (14.1)	53.9	576 (13.6)	52.2
Chest pain	692 (17.4)	54.0	705 (15.0)	46.8
Headache	1002 (23.4)	42.9	898 (21.0)	36.3
Lump in throat	714 (16.1)	59.5	599 (12.2)	46.4
Excessive gas or bloating	498 (11.6)	65.8	424 (10.5)	62.2
Palpitations	699 (15.9)	53.3	657 (14.1)	47.2
Dizziness	713 (15.9)	56.7	570 (12.1)	43.0
Ringing/buzzing in ears	644 (15.4)	58.2	517 (11.7)	44.9
Weakness	491 (9.0)	60.3	412 (7.7)	53.8

patients experiencing a symptom at any previous time) should roughly equal the 12-month incidence (proportion of patients first experiencing the symptom during 1 year)  $\times$  the average number of years an individual is at risk for developing the symptom. Recent-onset cases could account for a disproportionate number of lifetime cases if incidence has recently increased. For a common somatic symptom (such as headache), we would expect that the proportion of patients experiencing a first-ever episode of headache during the last year would be less than 5% of the proportion who report having experienced headaches at any point during life. In this sample, however, more than half of somatization symptoms reported at the follow-up interview were not reported at baseline. While it is possible that this finding represents a dramatic increase in incidence of nearly every common somatic symptom during the study period, we believe that inconsistency of recall is a more plausible explanation. These "newly reported" symptoms were probably not new. We suspect that remote symptom episodes were not recalled at the baseline interview and a subsequent recurrence prompted recall at the follow-up assessment. Consistent with this hypothesis, recent symptoms were more often recalled than were more remote symptoms.

We do not believe that our results reflect methodologic difficulties unique to this study. Despite extensive training and reliability testing, it is possible that the CIDI interview procedures were performed inconsistently. Such inconsistency could produce differences between baseline and follow-up assessments in judging whether somatic symptoms were clinically significant or medically explained. Such a mechanism could not, however, account for significant inconsistency in overall recall of lifetime somatic symptoms (whether or not medically explained or clinically significant). While nonresponse at both the second stage and follow-up interviews was significant, respondents did not differ significantly from nonrespondents in any measure of psychiatric morbidity or symptom reporting.

Our findings regarding recall of lifetime somatization symptoms are consistent with findings for other psychiatric disorders.<sup>11</sup> Several studies have examined recall of anxiety and depressive symptoms during periods of 6 months to 5 years.<sup>22-27</sup> Those studies all report in-

consistencies in recall similar to those described here. Recall of past depressive symptoms was greater for more recent symptoms<sup>25</sup> and higher among patients with current depressed mood.<sup>22</sup> Similar errors have been documented in recall of other types of health events.<sup>10,21</sup> Because diagnostic criteria for somatization disorder rely more heavily on recall of lifetime symptoms, inconsistencies of recall may have greater effects on the assessment of somatization disorder than on other psychiatric disorders.

Changes over time in reporting of somatization symptoms should not be surprising. Clinical descriptions of somatization disorder emphasize both that patterns of symptoms may vary over time and that patients with somatization disorder may be inconsistent historians. We believe our findings reflect both phenomena—symptoms actually experienced vary considerably during 12 months and probability of recalling past symptoms decreases with time. Moreover, our data suggest that inconsistent reporting of lifetime somatization symptoms is a universal phenomenon rather than an indication of any particular psychiatric disorder.

These findings certainly have implications for the assessment of somatization disorder and lifetime somatization symptoms using structured interviews. Our data suggest that 30% to 50% of lifetime somatization symptoms detected on 1 occasion were not detected 12 months later. Structured interview diagnosis of somatization disorder depends on accurate recall of somatization symptoms over 20 to 30 years. Data from this sample suggest that lifetime recall drastically underestimates the true number of lifetime somatization symptoms. This phenomenon probably accounts for the unexpectedly low prevalence of somatization disorder seen in studies relying on structured interviews. The Epidemiologic Catchment Area study estimated a prevalence of less than 0.5% among US community residents,<sup>13</sup> and this study estimated a prevalence of 1.4% among primary care clinic patients. Other studies depending on a single interview for diagnosis of lifetime somatization symptoms have found similar low prevalence rates in both community<sup>14,28</sup> and primary care samples.<sup>29</sup> In this sample, inclusion of lifetime somatization symptoms detected at either assessment would increase the estimated prevalence of somatization disorder.

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der from 1.4% to 3.4%. Use of either medical records data or repeated interviews over several years would probably yield prevalence estimates several times those seen in cross-sectional studies.

Our findings probably have more general implications for the definition and diagnosis of somatization disorder. Both the *DSM-IV* and *ICD-10* classification systems view somatization disorder as a chronic, lifelong condition. In this sample of primary care patients, somatization symptoms were not generally chronic. More than one third of symptoms present at baseline had not only resolved by 12 months later, they were apparently completely forgotten. The baseline and follow-up assessments identified a similar number of patients satisfying *DSM-IV* criteria for somatization disorder, but the overlap of these 2 groups was less than 30%.

One might question whether symptoms not recalled 12 months later should be considered clinically significant. While the CIDI assessment only counted symptoms satisfying the *DSM-IV* criteria for significance (ie, symptom resulted in either use of health care or significant interference with daily activities), more than half of these symptoms were not recalled 12 months later. If one were to count only symptoms that were consistently recalled at both assessments, the number of patients meeting criteria for somatization disorder would decline to 8 (a prevalence of approximately 0.25%). By this standard, somatization disorder among primary care patients is even rarer than suggested by previous cross-sectional studies.

Our findings should not be interpreted as evidence that somatization is an illusory or insignificant clinical phenomenon. Studies that have examined current (rather than lifetime) somatization symptoms have demonstrated a significant association with increased disability, increased prevalence of anxiety and depressive disorders, and excess health care utilization.<sup>19,30-32</sup> Our concerns regarding interview assessment of lifetime symptoms do not apply to assessments that focus on current symptoms. Diagnostic thresholds based on current somatization symptoms, however, would probably differ significantly from current *ICD-10* or *DSM-IV* criteria. Our results suggest that current somatic symptoms (rather than lifetime symptoms) may be a more appropriate focus of both epidemiologic research and clinical concern.

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