Public Familiarity With the Terms *Somatoform Disorder* and *Functional Disorder* in Germany: Results From a Representative Population Survey

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ABSTRACT

Objective: The terms *somatoform disorder* and *functional disorder* have been criticized for hindering rather than facilitating clinical communication, and physicians may rarely use these terms when communicating with patients who might be eligible for these diagnoses. However, no study has yet examined the extent to which patients at risk for these disorders are familiar with the diagnostic terms. Therefore, the primary aim of this study was to examine whether people at risk for a somatoform disorder (ie, those with medically unexplained somatic symptoms) are more familiar with the 2 terms than others.

Method: Participants in a representative German population sample (N = 2,471) were asked whether they were familiar with the terms *somatoform disorder* and *functional disorder*. The mean (SD) age of the sample was 50.5 (18.6) years, and 53.9% were women. Sociodemographic variables, (unexplained) physical ailments, doctor visits, depression, and anxiety were also assessed. Data were collected from November 2009 to December 2009.

Results: Of the sample, 19.5% and 54.0% reported being familiar with the terms *somatoform disorder* and *functional disorder*, respectively. Participants with medically unexplained symptoms did not have a higher probability of knowing the terms *somatoform disorder* (odds ratio = 0.98, 95% CI = 0.57–1.68) or *functional disorder* (odds ratio = 1.32, 95% CI = 0.86–2.04) compared to all others.

Conclusions: Participants with a potential somatoform disorder did not differ in their familiarity ratings from others. We conclude that these diagnostic terms are probably not commonly used by physicians in routine clinical communication with patients suffering from unexplained medical symptoms. Future empirical research should investigate whether the currently proposed diagnosis *complex somatic symptom disorder* can solve current problems of acceptability, communication, and adequate treatment.

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Somatoform disorders and functional somatic syndromes are among the most common mental disorders, with a 12-month prevalence rate of 11.0%.[1] However, only 42.5% of patients with these disorders are treated adequately in Germany; similar rates apply in other countries.[1] Moreover, an average time span of almost 6 years passes between symptom onset and treatment initiation.[2] Therefore, initiatives are urgently needed to facilitate more rapid diagnostic identification and treatment initiation for these patients.

Diagnosis of patients with somatoform disorder or functional somatic syndrome is not an end in itself, of course, but should serve multiple purposes: the diagnosis should aid communication among health care providers, convey prognostic information, and guide treatment and research efforts. Moreover, the diagnoses should be acceptable and useful for patients, helping them to understand the cause of their symptoms and providing possible treatment options.[3] Unfortunately, the diagnostic term *somatoform disorder* appears to fall short of these goals in several respects.[3] Indeed, the diagnosis is regarded as so problem fraught that we expect to see major changes in the next editions of the major classification systems.[4]

Among the main problems associated with these diagnoses appears to be the fact that many physicians are reluctant to use or communicate them to their patients. There are, of course, valid reasons for such reluctance. For instance, physicians might doubt or reject these diagnoses on conceptual grounds, regarding them as inherently flawed, incoherent, dualistic, complicated, or ambiguous.[3] They might also worry about stigmatizing their patients by conveying a diagnostic label of limited utility[5]; they might expect that patients would reject the diagnosis, so that informing them would result in no benefit but could potentially harm the therapeutic relationship[6]; or they might be concerned that applying such diagnostic labels would harm rather than help patients by conveying blame or undermining patients' frail self-concepts.[7]

Despite these justified concerns, there are perhaps equally good reasons in favor of using these diagnoses and communicating them openly to patients. For example, informing persons at risk for a disorder might shorten treatment latency and, therefore, facilitate good clinical outcomes. Such effects have been found for major depression—patients' knowledge about the diagnosis and treatment options predicted symptomatic remission over 2 years.[8] In the era of patient empowerment and shared decision-making, it might also be viewed as an ethical and clinical mandate to inform patients of their diagnosis rather than to keep such information private.[9,10] Finally, physicians might consider that telling patients about their diagnoses increases public awareness of these conditions, which in turn, might lead to less negative attitudes toward afflicted patients.[11]

There are a host of arguments in favor of as well as against the use of these diagnostic terms. No study has yet examined directly if patients with medically unexplained symptoms—for whom the diagnoses are

Clinical Points

- People at risk for somatoform/functional disorder are not more likely to be familiar with these diagnostic terms than others.
- The future diagnostic category of somatoform disorders should be conceptualized in a way that is more acceptable to patients and health professionals.

most relevant—are, in fact, familiar with these terms. Patient familiarity with the diagnosis appears to be a good indicator of the extent to which the diagnosis is used appropriately in routine practice. If physicians speak about the diagnosis with patients for whom the diagnosis might reasonably apply, then such communication should result in greater awareness of the diagnosis among this particular group.

The primary aim of the present study was to examine whether people at risk for a somatoform disorder (ie, those suffering from physical symptoms for which no medical explanation has been found) are more familiar with the terms *somatoform disorder* and/or *functional disorder* compared to people not at risk. In order to describe the group of people at risk for a somatoform disorder in more detail, the secondary aim of the study was to identify predictors of physical ailments, of physician consultations, and of identifying a medical cause for physical ailments in the general population. In previous studies, older age, female gender, and lower education level were correlated with the reporting of physical symptoms.[12,13] The proportion of people who visit a doctor has been reported to be higher for patients who suffer from a depressive or anxiety disorder compared to those without these disorders.[14]

METHOD

The data of the present study originate from a survey in a representative sample of the German general population on behalf of the Universities of Leipzig and Hamburg (Leipzig and Hamburg, Germany, respectively). The survey was conducted by a company specialized in market and demographic research (USUMA GmbH, Berlin, Germany) and was approved by the locally responsible ethics review board. The sample (N = 2,520) was recruited via a 3-step procedure: randomly choosing 258 sample point areas within Germany, randomly choosing households within these areas (random route procedure), and randomly choosing target persons within these households (Kish selection grid). The sample was representative with respect to age, gender, and education level. Participants were German speaking and at least 14 years old. All subjects gave written informed consent. Data were collected from November 2009 to December 2009.

Participants were asked whether they were familiar with the meaning of the terms *somatoform disorder* and *functional disorder*. Furthermore, they stated whether they had suffered from physical ailments within the last 6 months; if yes, they were asked whether they had consulted a physician because of these ailments; if yes, they were asked whether a medical cause of the ailments had been found.

Additionally, depression and anxiety symptoms were assessed by a brief screening scale, the 4-item Patient Health Questionnaire for Depression and Anxiety (PHQ-4),[15,16] which consists of two 2-item screeners, the 2-item Generalized Anxiety Disorder scale (GAD-2) and the 2-item PHQ (PHQ-2).[17] For each of the 4 items, there are 4 response options scored as 0 to 3. Thus, the PHQ-2 score as well as the GAD-2 score can range from 0 to 6. For both screening instruments, a score of 3 or higher has been suggested as an indicator of a potential depressive or anxiety disorder, respectively.[18,19]

Statistical Methods

Prevalence rates with 95% confidence intervals were computed for the questions' response frequencies. Logistic regressions predicting familiarity with the terms *somatoform disorder* and *functional disorder* were computed in a stepwise procedure, employing gender, age, education level (primary vs secondary/higher), anxiety, and depression in step 1 and the predictor group in step 2. Group 0 includes potentially somatoform participants, ie, those with physical complaints but without a medical explanation, whereas group 1 includes all others. With an α of 5%, 80% statistical power, and the given sample size, small-group differences of 10% are detectable. Logistic regressions for the prediction of physical ailments, the consultation of a physician, and the identification of a medical cause were also computed, employing gender, age, education level (primary vs secondary/higher), anxiety, and depression as predictors.

RESULTS

Participants with missing values (1.9%) were excluded from statistical analyses. The sociodemographic characteristics of the resulting sample (n = 2,471) were as follows: the mean age was 50.5 years (SD = 18.6), with a range of 14–95 years; 53.9% (n = 1,333) were women; and 46.1% (n = 1,138) reported having completed primary education, 49.8% (n = 1,230) reported having completed secondary/higher education, and 4.2% (n = 103) were still in school.

Of the sample, 19.5% (n = 483, 95% CI = 17.9–21.1) and 54.0% (n = 1,335, 95% CI = 52.0–56.0) stated that they were familiar with the terms *somatoform disorder* and *functional disorder*, respectively. Also, 35.5% (n = 878, 95% CI = 33.6–37.4) of the sample reported that they had suffered from physical ailments within the last 6 months, and 87.8% (n = 771, 95% CI = 85.6–90.0) of those who had suffered from physical ailments had consulted a doctor for those ailments. Of those, 88.3% (n = 681, 95% CI = 86.0–90.6) reported that a medical cause for the complaints had been found.

The mean PHQ-2 depression score in the sample was 0.8 (SD = 1.2), and the mean GAD-2 anxiety score was 0.6 (SD = 1.1). Of the sample, 8.1% had PHQ-2 scores of 3 or

Table 1. Logistic Regression Analyses: Predictors of Familiarity With the Terms *Somatoform Disorder* and *Functional Disorder* in Germany (n = 2,368)[a]

Dependent Variable	Step	Predictor Variables	β Value (SD)	Odds Ratio	95% CI
Familiarity with somatoform disorder	1	Age	0.00 (0.00)	1.00	1.00–1.01
		Gender	–0.13 (0.10)	0.88	0.72–1.08
		Education level	0.88* (0.12)	2.41	1.92–3.02
		Depression (PHQ-2)	0.04 (0.07)	1.04	0.92–1.18
		Anxiety (GAD-2)	–0.04 (0.07)	0.96	0.84–1.10
	2	Group[b]	–0.018 (0.28)	0.98	0.57–1.68
		Model: Nagelkerke's R^2: 0.043, $\chi^2_6 = 65.16$*			
Familiarity with functional disorder	1	Age	0.01* (0.00)	1.01	1.01–1.02
		Gender	–0.04 (0.08)	0.96	0.82–1.14
		Education level	0.69* (0.09)	1.99	1.66–2.37
		Depression (PHQ-2)	0.08 (0.05)	1.09	0.98–1.21
		Anxiety (GAD-2)	–0.05 (0.05)	0.95	0.85–1.05
	2	Group[b]	0.28 (0.22)	1.32	0.86–2.04
		Model: Nagelkerke's R^2: 0.038, $\chi^2_6 = 67.71$*			

[a]The reported β values and odds ratios refer to the final regression model.
[b]Participants with medically unexplained symptoms (0) versus all other participants (1).
*$P < .001$.
Abbreviations: GAD-2 = 2-item Generalized Anxiety Disorder scale, PHQ-2 = 2-item Patient Health Questionnaire.

higher and thus can be identified as potential cases of a depressive disorder. Also, 7.0% had GAD-2 scores of 3 or higher and can likewise be identified as potential cases of an anxiety disorder.

Logistic regressions for familiarity with the terms *somatoform disorder* and *functional disorder* were computed with the following predictors: gender, age, education level (primary vs secondary/higher), anxiety, and depression. In a stepwise procedure, we additionally included group as a predictor (potentially somatoform participants, ie, those with physical complaints but without a medical explanation vs all others) in step 2. Higher education level significantly predicted that participants reported familiarity with the term *somatoform disorder*. With regard to the term *functional disorder*, higher age was also a significant predictor. Yet, Nagelkerke's R^2 values indicated that the goodness-of-fit of the regression models was low for both questions. Participants with medically unexplained symptoms did not have a higher probability of being familiar with the terms *somatoform disorder* (odds ratio [OR] = 0.98, 95% CI = 0.57–1.68) or *functional disorder* (OR = 1.32, 95% CI = 0.86–2.04) compared to all other participants. Results of the logistic regressions are summarized in Table 1.

Logistic regressions for the prediction of physical ailments, the consultation of a physician, and the identification of a medical cause were computed with gender, age, education level (primary vs secondary/higher), anxiety, and depression as predictors. Older age as well as higher depression and anxiety scores significantly predicted the reporting of physical ailments. Doctor visits were predicted by older age, higher education level, higher depression scores, and lower anxiety scores. Older age was a predictor for reporting that a medical cause of the ailments had been found. Yet, Nagelkerke's R^2 values indicate that the goodness-of-fit of the regression models is low for doctor visits and finding a medical cause for the ailment. Results of the logistic regressions are summarized in Table 2.

DISCUSSION

The representative survey shows that only half of the population in Germany reports being familiar with the term *functional disorder* and only a fifth is familiar with the term *somatoform disorder*. Self-reported familiarity with these terms does not indicate accurate or in-depth knowledge of these diagnostic concepts, of course, but it might indicate that the concepts are at least not completely unknown or irrelevant.

In order for a diagnosis to be useful, we would argue that the diagnosis should be used in relevant contexts, and such use should be reflected in corresponding familiarity ratings in relevant patient groups. We found, however, that participants with a potential somatoform disorder did not differ in their familiarity ratings from others. On the basis of these results, we conclude that the diagnoses of somatoform disorder and functional somatic syndrome are probably not being used in a systematic, patient-tailored fashion by most medical practitioners.

Our findings are purely descriptive and do not provide explanations for why these diagnostic terms are not being used more frequently or appropriately. It is possible, for example, that these specific terms are deemed unacceptable by patients and physicians and that a better diagnostic label is all that is needed.[20] Indeed, we would suspect that many physicians might be reluctant to use diagnostic terms such as *somatoform* or *functional*, even though they may find other—less complicated or potentially stigmatizing—ways of conveying to their patients that psychosocial factors might play a role in the origin or maintenance of their somatic symptoms.

Predictors for reporting physical ailments and doctor visits were mainly in accordance with previous results.[12–14] In our sample, gender was not a significant predictor of physical ailments. This difference from previous findings might be due to the fact that, in our study, persons were

Table 2. Logistic Regression Analyses: Predictors of Physical Ailments, Reporting Doctor Visits, and a Medical Cause of the Complaints

Dependent Variable	Predictor Variables	β Value (SD)	Odds Ratio	95% CI
Physical ailments (n = 2,368)[a]	Age	0.04*** (0.00)	1.04	1.03–1.05
	Gender	−0.09 (0.10)	0.91	0.76–1.10
	Education level	−0.12 (0.10)	0.89	0.73–1.08
	Depression (PHQ-2)	0.49*** (0.06)	1.63	1.45–1.83
	Anxiety (GAD-2)	0.27*** (0.06)	1.30	1.16–1.47
	Model: Nagelkerke's R^2: 0.258, $\chi^2_5 = 493.28$***			
Doctor visits (n = 859)[b]	Age	0.03*** (0.01)	1.04	1.02–1.05
	Gender	0.13 (0.22)	1.14	0.74–1.76
	Education level	0.52* (0.24)	1.69	1.06–2.69
	Depression (PHQ-2)	0.25* (0.12)	1.28	1.02–1.62
	Anxiety (GAD-2)	−0.23* (0.11)	0.80	0.64–0.99
	Model: Nagelkerke's R^2: 0.080, $\chi^2_5 = 36.18$***			
Medical cause (n = 757)[c]	Age	0.02** (0.01)	1.02	1.01–1.04
	Gender	0.13 (0.23)	1.14	0.72–1.79
	Education level	0.06 (0.25)	1.07	0.66–1.74
	Depression (PHQ-2)	−0.13 (0.12)	0.88	0.70–1.10
	Anxiety (GAD-2)	0.10 (0.12)	1.10	0.88–1.39
	Model: Nagelkerke's R^2: 0.026, $\chi^2_5 = 10.10$			

[a]Entire sample (without missing values).
[b]Participants who reported physical ailments.
[c]Participants with physical ailments who reported doctor visits.
*$P < .05$.
**$P < .01$.
***$P < .001$.
Abbreviations: GAD-2 = 2-item Generalized Anxiety Disorder scale, PHQ-2 = 2-item Patient Health Questionnaire.

asked if they suffered from physical ailments in general, whereas in previous studies, specific symptoms within a certain time span were assessed. Interestingly, apart from older age, no significant predictor was found for reporting a medical cause. This finding supports the view of medically unexplained symptoms as a common phenomenon that is independent of sociodemographic variables and cannot be ascribed only to anxiety or depression.

Our study has several limitations that should be acknowledged. First, since participants were not asked to explain their understanding of these diagnostic terms, we cannot be sure if they in fact knew their true meaning. There is clear evidence that self-reported familiarity is not the same as factual knowledge. For instance, in a study examining public awareness of Crohn's disease, 31% of the participants stated having heard the diagnostic term, yet only 7% could correctly choose the afflicted organ in a multiple-choice question.[21] Furthermore, we did not ask if there are other terms, such as *psychosomatic disease*, that may be more familiar to the sample and that might be used by patients more often to label physical ailments without medical cause. Qualitative investigations of this issue could also provide new insights.

A second limitation is that our classification of potentially somatoform participants was based only on dichotomous self-report items. Thus, we cannot ascertain how many or which physical ailments participants actually had on average and how and by whom a medical cause had been ruled out.

A third limitation concerns the fact that we asked only adults from the general public about their familiarity with these terms, rather than asking (or observing) physicians about the ways they do or do not use these diagnoses in their actual practice. Our focus here was on public familiarity with these diagnostic terms, but research on physicians' use of the diagnoses in practice would clearly complement the picture.

These limitations are balanced by a number of strengths of our study. For example, we employed a large, representative sample from the general population in Germany, which suggests that the findings are probably robust. We also found diagnostic base rates and patterns of health care utilization resembling previous findings, which further bolsters confidence in our results. For example, 35.5% of the participants in our sample reported having suffered from physical symptoms within the previous 6 months, which appears to be consistent with earlier findings.[12,22,23]

In conclusion, we suggest that the findings from this survey can provide a small but meaningful contribution in the context of the current revision process of *DSM* and *ICD* diagnoses.[4,24,25] In this process, an improvement of the diagnostic category of somatoform disorders is intended, especially with regard to its clinical utility.[26] One central aspect of clinical utility is the extent to which a diagnosis can help clinicians communicate useful information to others, including patients, family members, practitioners, and administrators.[27] Our results suggest that the term *somatoform disorder* should be changed and/or that the diagnostic category should be conceptualized in a way that is more acceptable to patients and health professionals. The current process of revising somatoform diagnoses provides a window of opportunity for solving some of the current problems of acceptability, communication, and adequate treatment.[20] The validity and clinical utility of the currently proposed diagnostic concept of complex somatic symptom

disorder[24] should be investigated empirically, and it will be useful and perhaps necessary to examine the acceptability of any proposed new term by consulting panels with different experts (eg, general practitioners and mental health professionals) as well as patients. A diagnostic category that can be communicated in a clinically useful way might spare patients years of personal suffering and prevent chronicity, which justifies further efforts in the ongoing quest to improve this complex but important diagnostic entity.[28]

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