

Article

Somatisation and alexithymia in patients with high use of medical care and medically unexplained symptoms

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ABSTRACT

Background and objective Few reports in the medical literature examine physician agreement on a standard assessment for somatisation in primary care patients. We describe somatising patients who were subjectively identified by family physicians and subsequently classified on the somatisation spectrum by a standard evaluation. We also examine the relation between somatisation and alexithymia.

Method Responding to a brief verbal prompt, family physicians referred high-utilising patients 18 years old and older who had 'persistent medically unexplained symptoms for at least 6 months' ($n = 72$). Patients who agreed to participate in the study ($n = 48$) were assessed individually using a structured diagnostic interview and two measures of alexithymia.

Results All participating patients met inclusion criteria for one of two abridged subtypes on the somatisation spectrum. Somatisation was not related to alexithymia.

Conclusions Family physicians subjectively identified patients who had somatisation, with a high level of accuracy and without formal screening or diagnostic tests. Embedded in a disease-management system, especially an electronic version, a brief verbal prompt to physicians to identify patients on the somatisation spectrum could potentially realise considerable savings in physician time and medical system financial expenditures.

Keywords: alexithymia, somatisation, somatoform

Introduction

Patients who have persistent medically unexplained symptoms, or somatisation, often report physical symptoms with little or no basis in disease; are characterised more by symptoms, suffering, and disability than by disease-specific, demonstrable abnormalities of structure or function; and present a costly healthcare problem.¹⁻³

The prevalence of abridged subtypes of somatisation on the somatisation spectrum in community samples,⁴ and among primary healthcare patients,⁵ has ranged from 10% to 22%. Patients who have abridged somatisation demonstrate comparable functional impairment, psychiatric co-morbidity, and excess healthcare utilisation compared with patients meeting the full criteria for diagnosis of somatisation disorder, which has a prevalence of 0.2% to 2.0%.⁶

Alexithymia has been implicated as a risk factor for symptom reporting and healthcare seeking,⁷⁻⁹ and it is particularly associated with reports of medically unexplained symptoms.¹⁰ The word *alexithymia*, which literally means 'no words for feelings', was originally coined by Sifneos.¹¹ It refers to a cognitive-affective personality trait that affects the way people experience and express emotion. The essential features of alexithymia are difficulty in identifying or describing feelings, difficulty in distinguishing between feelings and bodily sensations, constricted imaginal processes as evidenced by a paucity of fantasies, and a concrete externally oriented thinking style.

Family physicians have been criticised for their low rates of recognition of somatisation, particularly the abridged or subthreshold variety,¹² and for their low rates of recognition of somatisation in depressed patients who focus on reporting only their somatic symptoms.¹³ Family physicians have been encouraged to use formal screening or diagnostic measures as a strategy to improve recognition of somatising patients;³ however, these techniques can be untenably expensive in terms of time and cost, given the trend toward shorter doctor-patient office visits in primary care.¹⁴ Another less common strategy has been to alert family physicians to specific symptoms (e.g. fatigue, insomnia, nausea or back pain) that signal a high probability of somatisation.¹⁵

Few published reports contrast subjective recognition of somatisation by family physicians with a clinician-administered criterion that is a standard evaluation using probing questions to enhance the distinction between medically unexplained and medically explained symptoms. Subjective recognition

by family physicians has been used to validate a patient self-report questionnaire;¹⁶ to compare agreement with the Patient Health Questionnaire in Saudi Arabia;¹⁷ to solicit from family physicians the signs of somatisation exhibited in a clinic visit immediately after the patient completed the General Health Questionnaire;¹⁸ to compare the recognition of somatising symptoms by Australian family physicians versus those reported by patients on the SPHERE (Somatic and Psychological Health Report) self-report questionnaire;¹⁹ and to compare in a study in the Netherlands the clinical judgement of general practitioners with the findings of a research instrument.²⁰ In each of these studies on subjective recognition of somatisation by family physicians, the criterion instrument was a patient self-report instrument rather than a clinician-administered structured interview using probing questions aimed at improving the validity of the distinction between medically unexplained symptoms and medically explained symptoms. Research should focus on determining whether family physicians are capable of accurately identifying patients with somatisation who are high users of medical services by using subjective methods, because subjective identification has the potential to realise considerable savings in provider time and medical system financial expenditures and to increase patient satisfaction.²¹

We therefore sought to address the dearth of published research on the subjective agreement of family physicians with a standard criterion measure that uses probing interview questions to improve the distinction between medically unexplained symptoms and medically explained symptoms. The primary aim of this study was to describe somatising patients identified by family physicians relying on their clinical judgement and knowledge of the patient without the aid of formal screening devices or diagnostic tests versus relying on a standard evaluation. Our hypothesis was that most patients who had persistent medically unexplained symptoms, as subjectively identified by their family physician, and were high users of medical services would not meet all the diagnostic criteria for a diagnosis of somatisation disorder (see Box 1),²² but rather would meet classification criteria for the more common abridged somatisation subtypes, such as the Somatic Symptom Index.²³ The main difference between somatisation disorder and the subtypes is that the abridged versions require fewer symptoms to make the diagnosis. Somatisation disorder and the abridged versions are quite similar with regard to factors such as functional impairment, use of medical services, and co-morbidity.

A second aim of our study was to examine the relation between abridged somatisation and

Box 1 DSM-IV-TR^a criteria for somatisation disorder

- A A history of many physical complaints beginning before age 30 years that occur over a period of several years and result in treatment being sought or significant impairment in social, occupational or other important areas of functioning
- B Each of the following criteria must have been met, with individual symptoms occurring at any time during the course of the disturbance:
- 1 *four pain symptoms*: a history of pain related to at least four different sites or functions (e.g. head, abdomen, back, joints, extremities, chest, or rectum; during menstruation, during sexual intercourse or during urination)
 - 2 *two gastrointestinal symptoms*: a history of at least two gastrointestinal symptoms other than pain (e.g. nausea, bloating, vomiting other than during pregnancy, diarrhoea or intolerance of several different foods)
 - 3 *one sexual symptom*: a history of at least one sexual or reproductive symptom other than pain (e.g. sexual indifference, erectile or ejaculatory dysfunction, irregular menses, excessive menstrual bleeding or vomiting throughout pregnancy)
 - 4 *one pseudoneurological symptom*: a history of at least one symptom or deficit suggesting a neurological condition not limited to pain (conversion symptoms such as impaired co-ordination or balance, paralysis or localised weakness, difficulty swallowing or lump in throat, aphonia, urinary retention, hallucinations, loss of touch or pain sensation, double vision, blindness, deafness, seizures; dissociative symptoms such as amnesia; or loss of consciousness other than fainting)
- C Either 1 or 2:
- 1 after appropriate investigation, each of the symptoms in criterion B cannot be fully explained by a known general medical condition or the direct effects of a substance (e.g. a drug of abuse or a medication)
 - 2 when there is a related general medical condition, the physical complaints or resulting social or occupational impairment are in excess of what would be expected from the history, physical examination or laboratory findings
- D The symptoms are not intentionally produced or feigned (as in factitious disorder or malingering)

^aDSM-IV-TR, *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revision.

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alexithymia. We hypothesised that somatising patients would have higher than normal alexithymia scores but that the difference between abridged subtypes would not be significant.

Method

Patient population and study site

The target population included all outpatient adults aged 18 years old or older whose care was provided at a primary care family practice clinic. This outpatient clinic is the primary site for training family medicine residents in continuity care. The clinic is located in a rural community of about 3000 people but also includes patient catchment from multiple surrounding communities ranging in population from 2000 to 30 000. Clinic personnel consisted of nine family practice staff physicians (100% white; 78% men),

whose experience ranged from early career to near retirement, and 24 rotating medical residents attending to approximately 31 000 adult clinic visits per year. The micropolitan study setting was one of five outpatient primary care medical clinics within the department of family medicine in an academic medical centre located in a metropolitan area of the north-central United States. This particular primary care clinic was selected because of its mix of rural and suburban patients, given the rural clinic's proximity of a few miles to a metropolitan centre.

Selection of study participants

The nine staff family physicians were invited to refer any adult patient who presented with recurrent, multiple somatic complaints and who also met the following criteria: (1) the lack of an identifiable organic pathologic or pathophysiologic mechanism that could account for the symptoms, or an identified

organic pathologic mechanism but for which the patient's complaint or resulting social or occupational impairment grossly exceeded what might be expected from the physical findings; (2) the patient was viewed by the family physician as a 'frequent clinic attender'; and (3) medically unexplained symptoms that had continued for 6 months or longer. The referral invitation sent to each family physician was a one-page paper document delivered to the physician's clinic mailbox three separate times in a one-month recruitment period. Patients subsequently referred by the five doctors who opted to participate in the study were mailed a letter of invitation to participate in the study.

Patients who agreed to participate were assessed individually in one-on-one face-to-face interviews by a trained research assistant in the family practice clinic. Signed informed consent was obtained before any data were collected. The assessment instruments were presented in a counterbalanced fashion, to control for possible ordering or carryover effects such as fatigue or acquiescent responding. The study protocol was reviewed and approved by the research committees in the departments of family medicine and psychiatry and psychology before final approval by the Mayo Clinic Institutional Review Board.

Description of study participants

During the one-month recruitment period, 72 patients were referred, but 24 declined to participate in the study. All 48 patients who agreed to participate were white, with a median age of 48 years (range, 20–86 years); 36 (75%) of the 48 were women (see Figure 1). There was no statistically significant difference between the 24 patients who declined to participate

and the 48 patients who agreed to participate, except that decliners had fewer outpatient clinic visits in the previous year (median visits for decliners, 11; median visits for participants, 21; $P=0.006$; see Table 1).

Measurements

Diagnostic Interview Schedule

The Diagnostic Interview Schedule (DIS) is a highly structured in-depth interview questionnaire consisting of 260 questions developed for use by trained lay interviewers.²⁴ It is designed to elicit the elements of a diagnosis, including the presence or absence of symptoms; their severity level, frequency and distribution over time; and whether the symptoms can be explained by physical illness, drug or alcohol abuse or other psychiatric diagnoses. The unique characteristic of the DIS (i.e. probing questions that improve the distinction between totally psychogenic and partially psychogenic symptom origin) renders the data more specific than do interviews that record symptom counts only. The third version revised (DIS-III-R) was used in this study.

Toronto Alexithymia Scale

The 20-item Toronto Alexithymia Scale (TAS-20) used in this study was devised with concern for theoretical congruence with the alexithymia construct, independence of social desirability response bias, and internal consistency.^{25–27} It consists of three intercorrelated dimensions: difficulties identifying feelings, difficulties describing feelings, and externally oriented thinking. Half the items are positively keyed and half are negatively keyed to

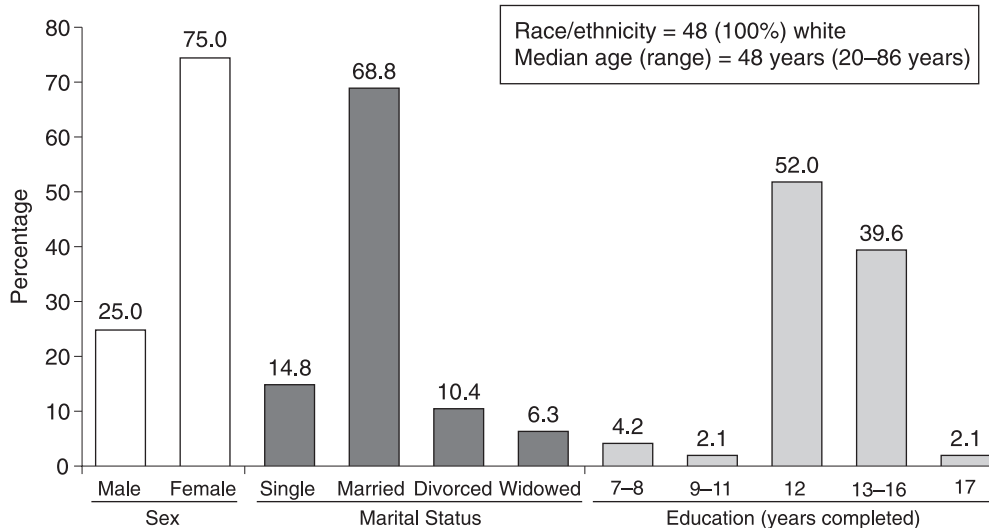


Figure 1 Characteristics of somatising patients in the study sample. Most (75%) patients were women, most (68.8%) were married, and all 48 (100%) were white. The median age was 48 years (range, 20–86 years)

Table 1 Comparison of participants and decliners in study cohort^{a,b,c}

Characteristic	Participants (<i>n</i> = 48)	Decliners (<i>n</i> = 24)	<i>P</i> value
Male sex, %	25	16.7	0.55
Age, years	48 (20–86)	53 (22–86)	0.30
Highest grade completed	12 (7–17)	12 (2–20)	0.40
Hollingshead occupational level	3 (1–8)	2 (1–8)	0.78
Medical history in past year			
Outpatient visits	21 (1–82)	11 (1–44)	0.006 ^d
Distinct presenting complaints	20 (1–41)	18 (4–60)	0.81
Hospitalised, %	29.2	25	0.79
Hospital surgery, %	20.8	20.8	0.999

^a *n* = 72.^b Values are median (range) unless indicated otherwise.^c The Fisher exact test was used for unmatched nominal data and the Wilcoxon rank sum test was used for unmatched ordinal data.^d Statistically significant at the <0.01 α level using the Wilcoxon rank sum test.

control for acquiescent responding. The TAS-20 has acceptable internal reliability (coefficient $\alpha = 0.81$), adequate test–retest reliability ($r = 0.77$), and both convergent and divergent validity.^{26–28} Cut-off scores of 61 and higher were recommended by Taylor and colleagues for alexithymia and of 51 and lower for non-alexithymia.²⁷

Minnesota Multiphasic Personality Inventory – Alexithymia Scale

The Minnesota Multiphasic Personality Inventory – Alexithymia Scale (MMPI-ALEX) was developed by Kleiger and Kinsman,²⁹ using scores from the Beth Israel Hospital Psychosomatic Questionnaire as the external criterion.¹¹ The 22 items retained for the MMPI-ALEX were those that differentiated between persons with alexithymia and persons without alexithymia. Test–retest reliability indicated adequate stability ($r = 0.84$) for 1 to 53 months. Linear regression was used to derive an equivalent MMPI-ALEX score of 13.64, which Kleiger and Kinsman rounded to 14 as the cut-off score for alexithymia.

Study design and statistical analysis

We used a cross-sectional observational design in this study.³⁰ Group comparisons were analysed using the Fisher exact test for unmatched nominal data and the Wilcoxon rank sum test for unmatched ordinal data.³¹

Results

Grouping the somatising patients

Initially, we used the DIS results to classify the patients into three groups: those meeting the full criteria for somatisation disorder and those with either of two abridged subtypes, somatising per the Somatic Symptom Index,²³ or subthreshold somatising. Given the low number of patients who had somatisation disorder ($n = 3$), we reclassified patients into the two abridged somatising subtypes (see Table 2). A cut-off score of four or more symptoms for men and six or more for women, as empirically established and validated by Escobar and colleagues,²³ qualified patients for inclusion in the Somatic Symptom Index group. We pooled the patients who met the criteria for either Somatic Symptom Index or somatisation disorder and labelled this reconfiguration as the somatising syndrome group ($n = 26$). Our somatising syndrome patients were similar to patients who had the research-validated multisomatoform disorder,^{32,33} which is defined as having three or more medically unexplained symptoms and a history of somatisation lasting two or more years. Finally, patients in our study who had only one to three medically unexplained symptoms were designated as the subthreshold somatising group ($n = 22$). The subthreshold somatising group is similar to, and representative of, patients with the American Psychiatric Association's undifferentiated somatoform

Table 2 Criteria used to group somatising patients^a

Criteria	Somatising syndrome ^b (<i>n</i> = 26)	Subthreshold somatising ^c (<i>n</i> = 22)
Medically unexplained symptoms, <i>n</i> ^d		
Men	≥4	1–3
Women	≥6	1–3
Minimum duration of symptoms, months	6	6

^a *n* = 48.^b Aggregate of patients who met the diagnostic criteria for somatisation disorder according to the DIS (Diagnostic Interview Schedule) assessment (*n* = 3) or for abridged somatisation according to the Somatic Symptom Index (*n* = 23).^c Aggregate of patients who did not meet the diagnostic criteria (number of symptoms) for somatising syndrome (*n* = 22).^d Based on results from the DIS.

disorder,²² which is a diagnosis designed for use in primary care during the early stages of determining whether a patient's symptoms are somatoform. The essential diagnostic criterion for undifferentiated somatoform disorder is one or more medically unexplained symptoms of at least a six-month duration that are not better accounted for by another somatoform disorder.

Relation with alexithymia

The relation between alexithymia and the two abridged somatising groups was examined using the

MMPI-ALEX and TAS-20 (see Table 3). The average score on the MMPI-ALEX for both the somatising syndrome and the subthreshold somatising groups fell below the cut-off score of 14 established by Kleiger and Kinsman as the minimum value indicative of alexithymia.²⁹ The difference between the two groups on the MMPI-ALEX was statistically significant (*P* = 0.03), with the subthreshold somatising group having scores indicative of a greater degree of alexithymia.

The average total score for both somatising groups on the TAS-20 was in the normal range compared with the normative data for non-referred adults (mean (standard deviation (SD)) somatising syndrome,

Table 3 Scores of somatising patients on the Minnesota Multiphasic Personality Inventory – Alexithymia Scale (MMPI-ALEX) and the Toronto Alexithymia Scale (TAS-20)^a

Measure	Somatising syndrome ^b (<i>n</i> = 26)	Subthreshold somatising ^c (<i>n</i> = 22)	<i>P</i> value ^d
MMPI-ALEX	12.5 (6–18)	14.0 (8–18)	0.03
TAS-20			
Total score	56.0 (31–71)	52.5 (28–67)	0.17
DIF	17.5 (7–29)	15.5 (7–24)	0.15
DDF	15.0 (6–25)	13.5 (5–19)	0.21
EOT	22.5 (12–31)	21.0 (12–30)	0.75

DDF, difficulty describing feelings; DIF, difficulty identifying feelings; EOT, externally oriented thinking.

^a Values are median (range) unless indicated otherwise.^b Meeting the diagnostic criteria for abridged somatisation according to the Somatic Symptom Index or for somatisation disorder according to the DIS (Diagnostic Interview Schedule) assessment.^c Scoring below the threshold for a diagnosis of abridged somatisation according to the Somatic Symptom Index or of somatisation disorder according to the DIS assessment.^d Statistically significant at the ≤0.05 α level using the Wilcoxon rank sum test.

53.3 (13.2); mean (SD) subthreshold somatising, 48.9 (12.3)).²⁷ Additionally, there were no group differences on the TAS-20 factor scores (i.e. difficulties identifying feelings, difficulties describing feelings, and externally oriented thinking).

Although the mean scores of the somatoform group were in the normal range on the TAS-20, individual scores varied considerably. The individual scores ranged from 31 to 71 in the somatising syndrome group and from 28 to 67 in the subthreshold somatising group. Nine of 26 patients (seven women, two men; 35%) in the somatising syndrome group had scores that exceeded 1.5 SD above the mean score for non-referred adults as reported by Taylor and colleagues.²⁷ Four (18%) of 22 patients in the subthreshold somatising group, all women, had a mean score that was at the normative mean or exceeded it by 1.5 SD. Pooling the somatising syndrome and subthreshold somatising groups showed that slightly more than one-quarter of the somatising patients (27%) had alexithymia, on the basis of their TAS-20 total scores.

Discussion

In this study, a brief verbal prompt to family physicians, without the aid of formal screening or diagnostic testing, resulted in a high level of accuracy in identifying patients who had somatisation as subsequently confirmed by formal psychological testing. This finding suggests that the extra time and cost associated with formal screening procedures and diagnostic testing may be unnecessary, which is particularly reassuring given the increasingly shorter length of primary care office visits.¹⁴ In addition, this identification procedure avoids having to deal with the negative attitude expressed by many patients, particularly men, about formal screening tests.²¹

Our finding that only three (6%) of the 48 patients met the formal criteria for a diagnosis of somatisation disorder was not unexpected, because previous researchers have shown that this symptom threshold is rarely reached even by somatising patients who have considerable psychosocial impairment.^{31,34} Rather, the patient with abridged somatising, although retaining the clinical correlates and predictive value of the full somatisation syndrome, is common in primary care.^{6,23}

In our sample, somatisation and alexithymia were not found to be significantly related. Our findings are consistent with those reported by Bach and colleagues,³⁵ who found no relation between alexithymia and somatoform disorders in clinical samples. However, our findings are not consistent with those of

several other previous studies, in which a significant association between alexithymia and somatoform symptoms was found in clinical samples.³⁶⁻³⁸ Additionally, Mattila and associates recently reported a new finding in Holland of an independent association between alexithymia and somatisation in a large, nationally representative, non-clinical sample of young and old adults.³⁹

One possible explanation for the insignificant relation between somatising and alexithymia in our sample is the factor analytic data supporting the hypothesis that alexithymia and somatisation reflect separate constructs that may or may not occur simultaneously.⁴⁰ A second possible explanation is that our outcome measures were not sensitive enough to detect a relation. Related to this sensitivity issue is the more recent delineation of five alexithymic types,⁴¹ which subdivides alexithymia into more nuanced subtypes and thereby opens new avenues of research. A consistent and independent association between alexithymia and somatisation may surface more often as research is conducted using these more finely defined affective and cognitive subtypes. Furthermore, a possible moderating factor contributing to the insignificant association is the relatively high level of education in our sample. That is, evidence that educational level is inversely related to alexithymia scores has been reported.⁴² Nevertheless, we did find that, on the basis of the TAS-20 testing, one in four patients in our study was alexithymic. Our cross-sectional estimate is similar to the 19% reported in a primary care adult sample in Finland.⁴³

When somatising patients are identified, the next logical step is to provide treatment. Interventions delivered by family physicians, either solo or conjointly with a mental health colleague within the primary care clinic, are essential because 55% to 60% of patients who have medically unexplained symptoms do not complete specialty mental health referrals.⁴⁴ Interventions available for the treatment of patients who have medically unexplained symptoms in primary care settings and who are high users of medical services include contingency management,^{45,46} consultation-liaison psychiatry,^{47,48} reattribution or linking therapy,^{49,50} multimodal stepped-care,⁵¹ reflecting interview,⁵² and cognitive-behavioural therapy.⁵³⁻⁵⁵ In Kroenke's review of randomised controlled trials,⁵⁶ and in Sumathipala's assessment of the broader intervention literature,⁵⁷ cognitive-behavioural interventions were found to be the most efficacious treatments for somatisation.

The strength of our study was the use of a standard measurement for classifying somatising patients that uses interviewing probes to improve the distinction between medically unexplained symptoms and medically explained symptoms that, in turn, renders the

data more specific than methods using symptom counts only. Additionally, to our knowledge, this is the only study that has compared subjective recognition (i.e. without the aid of screening or diagnostic tests) of somatisation by family physicians with a standard assessment. Nonetheless, there are limitations to this investigation that pose a threat of unknown magnitude to the validity of the results. First, the results are based on self-report data and thus are subject to memory and reporting errors. Other limitations include the small sample size, the selection of patients from only one family practice clinic, and the absence of racial diversity in the patient sample. Future investigations should (1) use methods that are more sensitive to identifying somatising patients who were most likely missed by our patient selection approach; (2) study a larger sample that is more racially diverse; and (3) control for co-morbid medical conditions.

In summary, in this investigation family physicians demonstrated a high level of accuracy in identifying patients on the somatisation spectrum, on the basis of their subjective recognition and without the aid of formal screening tools or diagnostic testing. This finding suggests that a brief verbal prompt, either standing alone as was done in this study or embedded in a computerised clinic-based disease-management system at virtually no cost, might eliminate or substantially reduce physician time and medical system costs associated with formal screening and diagnostic testing. Finally, any method of identifying somatising patients in family medicine should be linked to an accessible treatment, preferably delivered within the family practice clinic.

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CONFLICTS OF INTEREST

None.

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