

Beyond somatisation: a review of the understanding and treatment of medically unexplained physical symptoms (MUPS)

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SUMMARY

Patients commonly present in primary care with symptoms for which no physical pathology can be found. This study is a review of published research on medically unexplained symptoms (MUPS) in primary care. A literature review and qualitative comparison of information was carried out. Four questions were addressed: what is the prevalence of MUPS; to what extent do MUPS overlap with psychiatric disorder; which psychological processes are important in patients with MUPS; and what interventions are beneficial?

Neither somatised mental distress nor somatisation disorders, based on symptom counts, adequately account for most patients seen with MUPS. There is substantial overlap between different symptoms and syndromes, suggesting they have much in common. Patients with MUPS may best be viewed as having complex adaptive systems in which cognitive and physiological processes interact with each other and with their environment. Cognitive behavioural therapy and antidepressant drugs are both effective treatments, but their effects may be greatest when the patient feels empowered by their doctor to tackle their problem.

Keywords: somatisation; medically unexplained symptoms; literature review; qualitative research.

Introduction

A FUNDAMENTAL element of primary care is dealing with symptoms that may, or may not, be due to physical disease. Patients attend with specific symptoms for a variety of reasons,¹ which includes their severity and the disruption they cause, and because of concerns in the patient's mind about what they may represent.² While most people experience at least some physical symptoms, a number of patients repeatedly attend with symptoms for which a conventional pathology cannot be identified. Symptom syndrome³ clusters are widely recognised and include irritable bowel syndrome, chronic pelvic pain, and fibromyalgia. Studies of patients with these conditions have found striking similarities between them,⁴ with a substantial proportion of patients showing evidence of psychological distress⁵ that is either not expressed or is unrecognised in the general practice consultation.

In an attempt to explain this process, psychiatrists have used the term 'somatisation', although the meaning of this term has changed over time.⁶ Initially, it was thought of as being similar to hysterical conversion. Now it effectively has two meanings: the expression of psychological illness through physical symptoms,⁷ (as in the term 'somatised depression'), and repeated medical help-seeking for multiple medical symptoms without organic disease;⁸ for example, in 'somatisation disorder'. These two concepts overlap, but they are not synonymous. To overcome the confusion around the term 'somatisation', many researchers prefer the term 'medically unexplained symptoms (MUPS)'.⁹ While this recognition of uncertainty is helpful in a research environment, the fact that the meaning of physical experiences seems fundamental to these conditions¹⁰ makes it inappropriate for clinical care, and it has been criticised on these grounds.¹¹ With regard to alternatives, 'psychosomatic illness' is seen by the public as synonymous with being 'all in the mind', while 'functional somatic symptoms'⁴ may be preferable, but is not in routine use. In this review, the term 'medically unexplained symptoms (MUPS)' has been used.

Method

Four questions were addressed: what is the prevalence of MUPS? to what extent do MUPS overlap with psychiatric disorder? which psychological processes are important in patients with MUPS? and: what interventions are beneficial? MEDLINE, EMBASE, Cinahl and PsycINFO databases from 1980 to 2001 were searched for any of the following terms: 'medically unexplained symptoms', 'somatization' or 'somatoform disorders', combined with any of the following: 'family practice', 'primary health care' or 'general practice'.

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HOW THIS FITS IN*What do we know?*

Medically unexplained physical symptoms, including syndromes such as irritable bowel and fibromyalgia, are common in primary care and are inconsistently associated with mental health problems

What does this paper add?

This paper draws together evidence for complex interactions of physiological and cognitive processes. Neither simple disease syndromes nor a general somatisation disorder are adequate to describe the diversity seen in primary care.

Somatisation is too restrictive a label; 'functional somatic symptoms' is a more appropriate term.



An initial list of 570 references was obtained and abstracts from over 300 papers were viewed. Further references were identified from retrieved texts and 137 full texts were obtained and reviewed. These comprised 55 papers from primary care, of which six were about the prevalence of MUPS as the reason for consulting (Table 2), nine were large population datasets (Table 3), eight were intervention studies, and the remainder were interview studies of relatively small groups of patients: 45 studies from non-primary care populations, including five of interventions, and 37 review articles, including five meta-analyses or systematic reviews, which were not repeated for this review. Studies were included in Tables 2 and 3 if they met the criteria of relevance to primary care and included details of numbers of cases. No studies were rejected outright on methodological grounds, although comments on methods appear in the tables. For the wider discussion, where there were no studies from primary care, secondary care or research volunteer studies have been included. Because studies used a wide range of populations, tools, and definitions, formal quantitative comparison was not carried out.

For the purposes of this review, the following definitions were used. 'Medically unexplained symptoms (MUPS)': physical symptoms for which no clear or consistent organic pathology can be demonstrated (although organ dysfunction may be an integral part of the symptom). 'Somatisation': the process by which patients with psychological distress (as measured by psychiatric diagnostic interview or questionnaire) present physical symptoms to their doctors. This process has been further categorised as 'partial somatisation', where the patient acknowledges the possibility that psychological distress may be causing the symptom when directly questioned, and 'true somatisation', where the patient does not acknowledge any psychological link when challenged, despite meeting diagnostic criteria.¹² 'Somatisation disorders': presentation of a specified number of physical symptoms without organic cause in the absence of other major psychiatric diagnosis; the somatoform disorders include DSM-IV Somatization Disorder¹³ (Briquet's syndrome), which is the most severe example. 'Hypochondriasis': a persistent state of increased health anxiety, closely allied to the personality dimension of neuroticism. Because of the pejorative use of the term

'hypochondriac' the term 'heightened health anxiety' has been used in some research.

Results

Figure 1 shows a selection of the symptoms and syndromes under review. Before considering the psychosocial elements of MUPS, it is important to consider recent developments in the pathophysiology of the conditions. Table 1 highlights some of these developments, which demonstrate, first, that current medical knowledge is far from complete and, second, that the boundary between 'organic' and 'functional' may be at least blurred, and at most artificial. Developments in fields such as psychoneuroimmunology¹⁴ are already capable of demonstrating subtle links between physiological processes and emotions.

Studies of the prevalence of MUPS and overlap with psychiatric illness

Studies estimating the prevalence of MUPS in primary care can be grouped into two categories: those that use the main reason for the consultation to determine whether the problem is unexplained or not, and those that apply measures of somatisation to populations that include community samples, primary or secondary care patients, and particular groups such as frequent attenders.

Prevalence of MUPS as the reason for consulting

The search strategy outlined above identified six studies of the prevalence of MUPS as a reason for consulting in primary care (Table 2). The United Kingdom (UK) studies of Mumford¹⁵ and Peveler¹⁶ identified a physical symptom without likely organic disease as the main reason for 15% and 19% of consultations, respectively.

Prevalence of somatisation disorders in primary care and general populations

The search strategy identified nine studies of somatisation disorders, with sample sizes of over 100 individuals from general populations or patients consulting in primary care (Table 3). These used a variety of criteria, but all included patient self-ratings of the presence of symptoms, and used cut-off points based on the number, rather than the character, of symptoms. As well as recording the prevalence of patients reporting above a set number of symptoms, most of these studies identified the prevalence of psychiatric disorder.

The results of these studies are highly dependent on the criteria used both in symptom counts and for severity of psychiatric disorder. While less than 0.5% of patients met the criteria for DSM Somatization Disorder,⁸ which includes at least eight from 40 symptoms owing to non-organic disease in at least four bodily systems, with age of onset before the age of 30 years, 16% to 22% met¹⁷⁻¹⁹ the abridged somatisation criteria of four out of 37 symptoms for men and six out of 41 for women. Over half of one sample of patients²⁰ admitted to at least one MUPS causing some interference with their life. Similar variation in prevalence is seen with concurrent mental illness. While as few as 20% of patients with only one MUPS have a current psychological illness,²⁰ the proportion

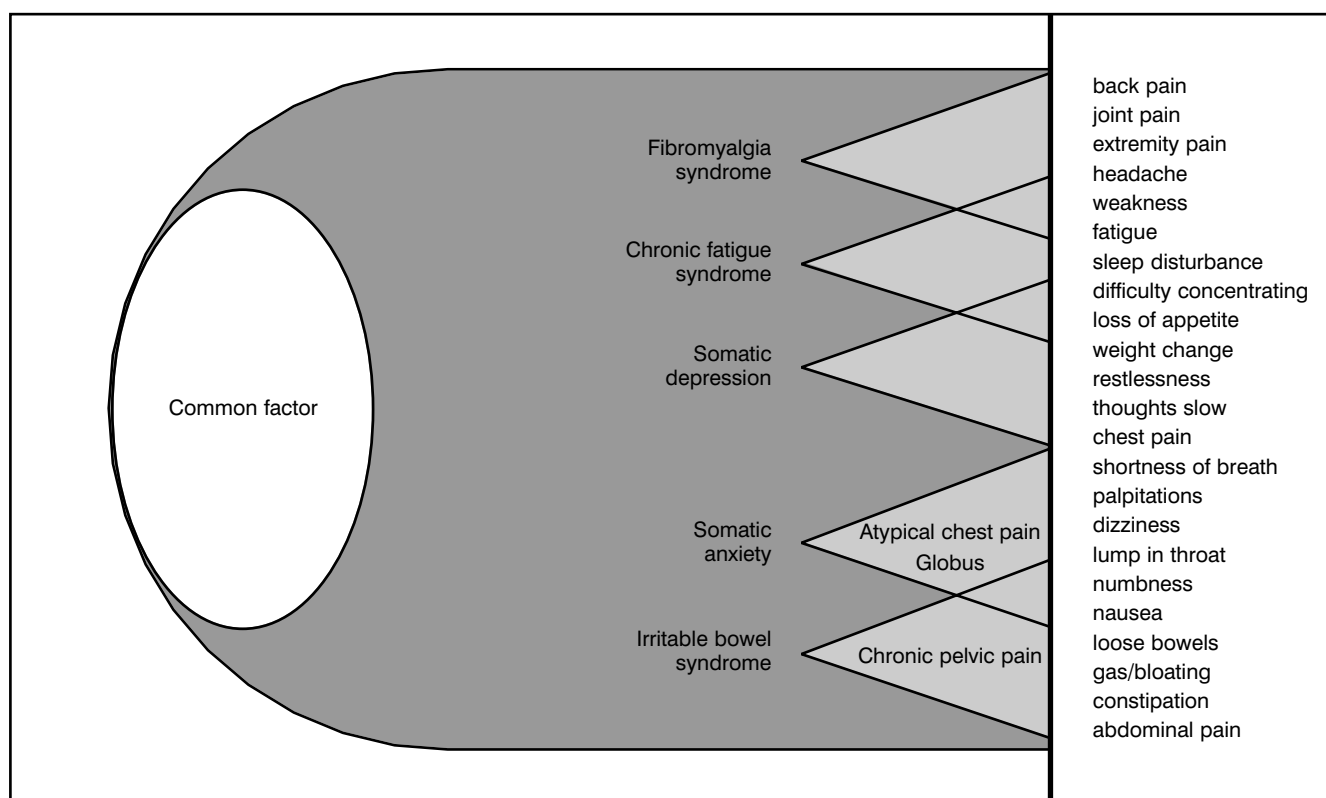


Figure 1. List of functional somatic symptoms showing link to common factor and intermediate syndrome groupings (after Deary²⁴).

Table 1. Recent developments in pathophysiology of MUPS.

Unexplained symptom	Pathophysiological entity	Emerging explanations for some patients
Headache	Neurovascular basis of migraine	
Dyspepsia	<i>Helicobacter pylori</i> infection	Gut neurotransmitters
Dizziness	Benign positional vertigo	
Chest pain/palpitations	Panic disorder	Coronary endothelial dysfunction
Irritable bowel		Bacterial overgrowth/fermentation
Chronic pain		Neural plasticity, excitatory cell death
Fibromyalgia		5-HT neurotransmission

Table 2. Studies of MUPS as reason for consultation in primary care in Europe and Australasia.

Study	Number in study	Location	Percentage with MUPS	Comments
Mumford 1991 ¹⁵	680 attending for any reason	UK	5 probable, 10 possible	MUPS more likely if past or current depression or anxiety
Peveler 1997 ¹⁶	170 (booked consultations)	UK	19	10% had a mood disorder but presented with physical symptoms, 30% had multiple somatic symptoms, but only one-third of these patients also had a psychiatric disorder
Melville 1987 ⁶⁹	222 (new illness episode)	UK	Not specified at onset, 3 after 6 months	90% of physical symptoms, whether explained or unexplained by organic disease, required no more than two consultations over six months
Palsson 1988 ⁷⁰	78 (booked consultations)	Sweden	16	8/13 with MUPS met hypochondriasis criteria
Pilowsky 1987 ³⁹	100 (booked consultations)	Australia	39	Patients with functional disorders scored higher on scales of affective disturbance and disease conviction
Scicchitano 1996 ⁷¹	112 (new illness episode)	Australia	27	No difference between organic and functional in general health questionnaire score overall. Male patients with functional disorders scored higher on affective disturbance and disease conviction (but $n = 5$). No differences in females

Table 3. *Overlap of somatisation and psychiatric disorders in samples of patients from primary care/community care.*

Author	Sample size and type	Somatisation measure	Prevalence of conditions (%)	Psychiatric morbidity in patients with unexplained symptoms	Physical symptoms in patients with psychiatric illness
Posse ²² 1998	406 consultants, Sweden	Somatisation scale	15 had somatisation on screening	25 had major depression 40 had dysthymia 20 had no psychiatric diagnosis	
Escobar ¹⁷ 1998	1546 consultants, USA	Symptom checklist	22 had 4/37 symptoms (males) or 6/41 symptoms (females)	38% had depression 8% had dysthymia 10% had generalised anxiety 36% had no psychiatric diagnosis	36% had at least one psychiatric illness 13% had psychiatric illness + abridged somatisation 23% had no somatisation
Kisely ¹⁹ 1997	5447 consultants in 14 countries	Reported symptoms categorised as explained or unexplained	6 had >4 (males) or >6 (females) explained symptoms, 13 had >4 (males) or >6 (females) unexplained symptoms, and 2 had >4 (males) or >6 (females) of both	Rates of confirmed psychiatric illness: 4 explained or unexplained symptoms = 10% >4 explained symptoms = 33% >4 unexplained = 69% >4 explained and unexplained = 68% >10 unexplained or 12 explained 80%	52% of those with psychiatric disorder had either >4 explained or >4 unexplained symptoms Social disability was worse if there were unexplained symptoms Physical disability was worse if there were both explained and unexplained symptoms GP detection of psychiatric illness was higher if symptoms were unexplained than if there were none or they were explained
Lobo ⁷³ 1996	1550 consultants, Spain	Symptom count and reason for consulting	27 patients with psychiatric problems with diagnostic interview		9% of population had psychiatric illness but presented with MUPS (over half of diagnoses were of mild anxiety/depression) 20% had <4 symptoms 65% had 4–12 symptoms 15% had >12 symptoms
Kirmayer ^{18,74} 1991	685 consultants, Canada	Symptom count and reason for consulting	11 had major depression or anxiety (n = 75) 26 had one or more of >4 (males) or >6 (females) physical symptoms, hypochondriasis, or somatic presentation of depression	Of patients with MUPS/somatisation, 16% had major depression/anxiety 70% of those with 4–6 functional symptoms had neither major depression/anxiety nor hypochondriasis	Of 75 patients with major depression/anxiety: 17% presented with psychosocial problems 41% presented with physical problems but volunteered a psychosocial basis 23% presented with physical problems but acknowledged the possibility of psychosocial basis 12% presented with physical problems and refuted a psychosocial basis
Munk-Jorgensen et al ⁷⁵ 1997	424 consultants, Scandinavia	'Ill-defined symptoms or mental illness with physical symptoms'	32 had psychiatric illness 17 met somatisation criteria described	66% patients meeting somatisation criteria had psychiatric illness; however, the criteria for somatisation were heavily dependent on presence of psychiatric illness	151 patients with psychological illness: 31% secondary to physical illness 29% presented coincidental physical illness 32% presented somatic symptoms 9% presented purely psychological symptoms

Table 3 (continued). *Overlap of somatisation and psychiatric disorders in samples of patients from primary care/community care.*

	Sample size and type	Somatisation measure	Prevalence of conditions (%)	Psychiatric morbidity in patients with unexplained symptoms	Physical symptoms in patients with psychiatric illness
Feder <i>et al</i> ¹⁶ 2000	172 consultants, USA	'Physical complaints in excess of what would be expected ...'	24 identified as having multiple MUPS by physician 12.5 had current major depression 19 had any current anxiety disorder	Of 42 patients with multiple MUPS: 24% had major depression (versus 9% without MUPS) 48% had any depressive/anxiety disorder (versus 24% without MUPS)	9/21 patients with major depression and 14/33 patients with any anxiety disorder were rated by their physician as having multiple MUPS ... many patients with multiple MUPS acknowledged mental health and social problems*
Fink <i>et al</i> ²⁰ 1999	191 consultants, Denmark	DSM-IV somatoform disorders	54 had one or more (on direct questioning)	30% of patients with one or more MUPS had an additional psychiatric diagnosis Range of 20% for few symptoms of less than 6 months' duration, to 100% for full somatisation disorder	
Weich <i>et al</i> ⁷⁷ 1995	301 consultants, UK	Reason for consulting plus unspecified attribution measure	59 of all patients scored >3 on the general health questionnaire, only 12 of these presented purely psychological symptoms		Approximately 5% of patients presented with purely physical symptoms and attribution, had no evidence of physical illness, and met psychiatric case status on diagnostic interview

rises to over 30% with four symptoms¹⁷ and over 80% with 10 or more,¹⁹ regardless of whether they are medically explained or not.

These studies consistently demonstrate that, while MUPS are common, and often associated with psychiatric morbidity, many patients with MUPS have no definite psychological illness, and patients with multiple symptoms and a refusal to acknowledge a severe mental health problem are rare.

Characterisation of specific MUPS syndromes

Several studies have shown overlaps between the syndromes that comprise MUPS. Many patients with irritable bowel syndrome, for example, meet the criteria for chronic pelvic pain or fibromyalgia, and vice versa. Analysis of population data to identify meaningful classes or disorders have variously suggested 11,²¹ five,²² and four²³ symptom clusters. While such clusters appear broadly to fit clinical patterns, there appear to be no differences between them in terms of psychological characteristics and, indeed, there are many similarities, particularly common aetiological factors and responses to treatment. From this perspective, Deary²⁴ and Wessely⁴ have argued strongly that individual symptoms, while connected to recognised syndrome clusters, are more strongly associated with a single unifying factor, possibly related in some way to the personality trait of neuroticism. Such a three-level relationship is shown in Figure 1.

Aetiological factors

A number of studies have attempted to identify specific aetiological factors for MUPS, although in general the aetiological factors for MUPS are similar to those for anxiety and depression. Deprivation and childhood or family illness^{25,26} may all play a part, as may concurrent stress.²⁷ In women with MUPS there is a higher incidence of past or recent abuse,²⁸ particularly in the case of chronic pelvic pain, in which around a third of patients will have some history of abuse. A longitudinal study of patients at the ages of 36 and 42 years showed that physical symptoms at the first assessment predicted later mental health problems, and also that mental health problems independently predicted future physical symptoms.²⁹

Psychological processes in patients with MUPS

While it seems clear from simple clinical observation that psychological factors are important, defining these has been more difficult, and remains incomplete. Much has been made of the difference between patients with psychiatric illness who present somatically, and those presenting psychosocially.^{12,25} Initial work was grounded in the belief that somatisation represented a flawed process, in which failure to recognise the true problem led to ongoing distress for the patient (and high healthcare costs and frustration for the physician). A systematic review of eight studies of such patients in primary care failed to identify consistent differences between people with psychiatric disorders who present psychologically and those who present with physical symptoms,³⁰ except that, generally, those with physical symptoms were less distressed. Even measures of cognition, such as health anxiety or bodily awareness, appear

little different between 'psychologising' and somatising patients with anxiety and depression. While only around a quarter of affected patients present with purely psychological symptoms, most of the remainder will accept the possibility of a psychosocial component to their physical symptoms, even if they do not volunteer it within the consultation.³¹ Practical reasons, such as lack of time, or a sense that problems are not relevant or amenable to treatment, seem more important than failure to recognise their own mental distress in explaining why patients choose not to disclose psychological problems in consultations.³² Although major depression is harder to recognise if presented somatically,³³ there is conflicting evidence that improving detection improves outcome.

As the terms used for psychiatric illnesses, while undoubtedly important, fail to describe many patients with MUPS, a variety of characteristics and processes have been suggested. While many carry theoretical appeal, some are too broad; for example, 'the personality dimension of neuroticism',²⁴ or too restricted; for example 'alexithymia' — the inability to express emotions in words,³⁴ to be useful in a heterogeneous population. This section examines four processes: hypochondriasis, somato-sensory awareness, attribution (including illness beliefs), and reassurance. To some extent these concepts overlap, and patients who demonstrate one tend to demonstrate others. Nonetheless, they may represent different facets of the problem and warrant further examination.

These processes appear to affect the decision to seek medical attention for any problem, whether 'organic', such as a respiratory infection, or 'functional'. Little and colleagues recently highlighted the importance of MUPS in influencing decisions to consult for all conditions,³⁵ including illness in the subjects' children.³⁶ Studies of these processes, which compare consultations with and without physical disease, may underestimate their importance.

Hypochondriasis

Hypochondriasis is a preoccupation with fears of having, or the idea that one has, a serious disease, based on misinterpretation of bodily symptoms, despite appropriate medical evaluation and reassurance. It overlaps with somatisation, but appears not to be identical; in a study of 184 primary care patients,³⁷ 20% met criteria for hypochondriasis, of whom two-thirds also met somatisation criteria based on the number of symptoms, and a further 20% of the sample met somatisation criteria without hypochondriasis. In another study,³⁸ hypochondriacal patients were more likely to interpret physical symptoms as being due to illness than patients with non-hypochondriacal anxiety, and in two separate studies of healthcare usage hypochondriasis was a predictor of repeated consultation, particularly in men.^{34,39} Robbins and Kirmayer demonstrated hypochondriasis in 10% of over 500 primary care consulters, about half of whom continued to show hypochondriacal beliefs a year later. Improvement in illness worry was matched by improvement in overall well-being, whereas persistence or new occurrence of hypochondriasis was most strongly associated with affective disorder. Hypochondriasis is a common feature of patients referred to secondary care with MUPS,⁴⁰ and it also indi-

cates a greater likelihood of symptoms persisting at follow-up.⁴¹

Somato-sensory awareness

Individuals have varying degrees of bodily awareness. The tendency to notice, and also to amplify, benign sensations is a characteristic found in patients with MUPS. For example, in patients with palpitations but normal investigation results,⁴² high levels of somato-sensory awareness predict persistence of symptoms. The cognitive model of panic disorder, which frequently coexists with MUPS, includes awareness of bodily sensations, which are amplified by the resultant anxiety;⁴³ for example, awareness of heartbeat or breathing triggers arousal, which in turn increases heartbeat or breathing and sets up a cycle. Heightened bodily sensitivity is a feature in many patients with irritable bowel syndrome, fibromyalgia, and chronic fatigue syndrome.

Attribution and illness beliefs

Attribution is the cognitive process whereby somatic sensations are interpreted in the context of the body and its physical and social environment. Using the example of fatigue, attributions can either be normalising ('I'm tired because I'm overworking and unfit'), somatic ('I'm tired because my muscles have been weakened by a virus'), or psychological ('I'm tired because I have depression').

Studies of frequent attenders in primary care⁴⁴ and patients with high health anxiety⁴⁵ suggest that normalising attributions occur less often than in controls. Strikingly, when individuals were asked to write down possible causes for each of 10 common physical symptoms, patients with hypochondriacal anxiety listed an average of eight normalising and 26 psychological or somatic explanations, while non-anxious control patients listed 15 and seven, respectively. The first explanation chosen was that there was normalising 21% of the time in anxious patients, compared to 72% in controls. Frequent attenders were no more likely than patients in the control group to see symptoms as serious, but were less able to come up with reasons why the symptoms might be benign. This may explain why reassurance that rules out problems but does not offer alternative tangible explanations so often fails.

One of the few longitudinal studies of changes in health-related cognitions²⁷ identified a pattern whereby symptoms occurring at a time of newly increased stress tended to be attributed to the stress. Only if the stress persisted did symptoms begin to be presented to doctors as possibly physical. This is compatible with the idea of patients being able to tolerate and normalise symptoms for a limited time before seeking assessment and reassurance that their original attribution was correct.

While doctors have medical models of illnesses, patients also have complex and broadly consistent lay models of health and disease.⁴⁶ Consistent features of these include the name of the condition and its symptoms, the personal consequences of it, how long it will last, and the extent to which it can be controlled or cured.⁴⁷ Patients appear to have health beliefs about individual symptoms as well as established diseases, and Salmon² proposed eight dimensions: four covering aetiology (stress, environment, lifestyle,

and weak constitution), three concerning mechanism (wearing out, internal structure, and internal function), and a final dimension of concern raised by the symptom.

Not only do patients have clear views about their symptoms in their own right, they also view their own experience of the symptoms as at least as important as a doctor's opinion about them. Salmon and colleagues have demonstrated that patients perceive doctors as denying the validity of their symptoms,¹⁰ but that where doctors develop tangible and non-blaming models of conditions with their patients and form constructive alliances against the illness, patients are then able to accept medical opinion.⁴⁸

While MUPS tend to change over time,⁴⁹ attributional style appears to be much more consistent.⁵⁰ Changing specific attributions about symptoms appears to be important in effecting improvement.⁵¹

Reassurance

Illness belief models explore how patients see illness as threatening. Doctors seek to reduce that threat through treatment and reassurance. Unfortunately, reassurance is not always effective; between a third and half of patients report continuing concern about serious illness after normal cardiac ultrasound or angiography.⁵² The effectiveness of reassurance appears to be related to patient characteristics. While all patients who received a normal result after upper gastrointestinal endoscopy⁵³ experienced immediate reassurance, those with the highest levels of health anxiety had returned to original levels of concern within one week, and this persisted for a year.

Psychological models of threat reduction suggest two separate processes:⁵⁴ emotional-heuristic (calming, protecting, and threat-avoiding), and cognitive-systematic (information-seeking and threat-analysing). While emotional, threat-avoiding, reassurance (which may be non-verbal as well as verbal) may be effective in alleviating distress in the short term, it may do nothing to weaken illness representations. If symptoms keep recurring, repeated use of this type of reassurance is likely to produce a cycle of reassurance-seeking and giving that is self-perpetuating.⁵⁵ In contrast, the cognitive model of threat analysing is more threatening in the short term, but more likely to produce long-term changes that in turn can be associated with improvement.⁵¹ Research into minor physical illness suggests that patterns of doctor-patient interaction tend to be self-reinforcing,⁵⁶ and that doctor behaviour in one consultation affects future consultations for the same problem.

Treatment

There have been few studies of treatment of MUPS in primary care. Morris and colleagues⁵⁷ devised a training package to help general practitioners (GPs) recognise depression in patients with MUPS and treat it. The outcomes of a 'before and after' training comparison suggested that patients who acknowledged their depression when it was pointed out to them showed improvements in depression and global function,⁵⁷ and there was a net reduction in healthcare costs.⁵⁸ Agreement between doctor and patient predicted a good outcome, while the patients who denied the possibility of depression did not improve, and felt that their doctors under-

stood them less well after the intervention.⁵⁹

Lidbeck⁶⁰ and colleagues evaluated a programme of group cognitive behaviour therapy (CBT), after thorough physical examination, for patients with MUPS in primary care. Thirty-two subjects were contrasted with 17 waiting-list (eight calendar months) control patients. At the six-month follow-up there were significant changes in illness worry, illness behaviour, and medication usage in the early treatment group, but no change in mood or social problems. No data on subsequent consultation rates are presented. An American randomised controlled trial⁶¹ of a rigidly structured behavioural intervention for patients with MUPS, involving six weekly sessions with homework, demonstrated significant improvements in mood and physical symptoms both one week and six months after the course, compared with waiting list control patients.

There has been only one randomised controlled trial based in primary care of individual CBT,⁶² although a recent systematic review³ identified another 28 studies in secondary care, including over 1600 patients with either mixed unexplained symptoms or specific syndromes. Not all studies demonstrated significant benefit; of those that reported relevant outcomes, CBT improved physical symptoms in 71% of studies, functional status in 47%, and psychological distress in 38%.

Other trials of psychological therapies have generally been small. However, a randomised controlled trial of psychotherapy in 102 patients with irritable bowel syndrome⁶³ showed sustained improvement in symptoms and wellbeing. A recent study of the disclosure of emotionally important events showed no effect on patients' health.⁶⁴

A meta-analysis of antidepressant treatment for MUPS⁶⁵ demonstrated beneficial effects in a wide range of conditions, although not chronic fatigue syndrome. The meta-analysis included 6595 patients in 94 studies (50 of which were of chronic headache). Benefit was seen in 69% of studies, occurring equally in those with or without depression, with an average number needed to treat of three. Because of differences between studies there was insufficient evidence to make detailed recommendations on optimal drugs, doses or duration of treatment.

The importance of a good doctor-patient relationship and of acknowledging patients' concerns has been demonstrated.⁶⁶ Although there is no direct evidence of the effect of consultation behaviour on patients with MUPS, the evidence from a controlled trial that doctor behaviour for minor physical illness affects future consultation rate,⁵⁶ and the observation that a positive, patient-centred approach⁶⁷ improves satisfaction and enablement, and reduces symptom burden and health service usage, point to this being important. In qualitative studies of patients with MUPS, Salmon⁴⁸ identified three types of medical explanation: rejecting (in which patients perceived the doctor as denying the reality of their symptoms, and in which there was unresolved conflict over explanations), collusive (in which the doctor gave in to the patient's interpretation of symptoms but in doing so lost the respect or trust of the patient), and empowering (in which the doctor provided tangible, non-judgemental explanations, which legitimised the patient's suffering and offered opportunities for self management). The empowering

explanations were distinctive, in that patients regarded them as valuable foundations on which to build recovery, or at least cope with their condition in partnership with their doctors.

Conclusion

The notion that most MUPS are the result of a single process of somatisation (particularly the somatisation of mental distress), or are due to a somatisation disorder that can be defined primarily in terms of numbers of symptoms, is no longer supported by the evidence. There is now good evidence that physiology, personality, life experiences, health cognitions, and interaction with healthcare professionals are all important, and any new paradigm needs to include them.

A recent model, which may usefully be explored in understanding MUPS, is that of a complex adaptive system.⁶⁸ In this model the component parts are less important than their many internal and external interactions. Such systems constantly co-evolve with their environment, but tend to organise themselves around states which, while never static for long, are essentially stable. As a result of the dynamic nature of the system, certain properties emerge as a product of the system rather than as a discrete component.

Such a system allows for the kind of complex but inconsistent interactions seen in patients with MUPS, in whom multiple factors interact and illness behaviour patterns evolve within the contexts of the patient's personal life and doctor-patient relationships.

Further research is needed in primary care, particularly in three areas. First, greater understanding is needed of cognitions and the complex way these interact with experiences and symptoms. Such research will draw on qualitative data, but may also exploit longitudinal datasets and models using non-linear analytical techniques. Second, studies are needed of the actual encounters between patients with MUPS, of all levels of severity, and their doctors, to identify and promote the best methods for dealing with these challenging problems. Third, and building on the results in the first two areas, trials are needed to compare enhanced general practice consultations, based on shared explanation and empowerment, as well as re-attribution, with routine care or specialist CBT.

For now the GP's role for patients with MUPS is to validate their experience, provide positive 'empowering explanations'¹⁴⁸ of symptoms, and to use proven treatments, such as antidepressants and CBT, to modify the process.

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