Recent developments in the understanding and management of functional somatic symptoms in primary care
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Introduction
A substantial proportion of patients encountered in primary care complain of physical symptoms not attributable to any known conventionally defined disease [1,2,3]. Such functional somatic symptoms and disorders are often a burden for the sufferers, costly for society and difficult to treat. Nevertheless, functional disorders are grossly ignored in general psychiatry [4], and most countries offer no or very limited specialized care for these patients. Hence, general practitioners (GPs) often have to manage these, at times, very ill patients.

The inconsistency and multiplicity of terminology used by different authors, specialties, and the many subcultures among researchers with regard to classification makes it difficult to review this field, and we have chosen to focus on only conceptual issues and management from a primary care perspective.

Confusing terminology
Somatic symptoms not attributable to any known conventionally defined disease have been given various names such as medically unexplained (physical) symptoms [MU(P)Ss], functional somatic (or physical) symptoms (FSSs), idiopathic symptoms, and somatoform symptoms [5]. In primary care, MUSs or MUPSs are the most commonly used terms. It seems unsatisfactory, however, to define a condition by something it is not, and doctors may be reluctant to use a term indicating that they do not know what is wrong with the patients. Furthermore, the term signifies that medicine includes only biomedicine. Although the term FSS may indicate a mental condition to doctors, it seems acceptable to patients [6].

In psychiatric classifications, FSSs are classified as somatoform disorders or a few related diagnoses: neurasthenia and dissociative disorders in the International Classification of...
Diseases (ICD-10). The somatoform disorder diagnoses, however, are rarely used in primary care or in other nonpsychiatric specialties. Instead, medical specialties have introduced their own designations for the functional syndromes such as chronic fatigue syndrome, fibromyalgia, irritable bowel syndrome etc. [2,3].

The terminology issue is not only a problem from a scientific point of view but also from a clinical one. In a Danish study [7], GPs classified new health complaints as either physical disease or FSSs. The GPs’ diagnostic ratings varied from 3% to 33% FSSs, and this variation could not be explained by differences in the patient populations. The GPs’ recognition of the condition is a precondition for treatment, thus the large diagnostic variation may affect the management of patients. Furthermore, if a patient fulfils the diagnostic criteria for several diagnoses simultaneously due to massive overlap in condition definitions, the question is which diagnostic label should the GP use. A common language and theoretical framework for understanding FSSs and functional disorders across medical specialties are required and are a precondition for the further development of improved treatment [2].

Improved diagnostic classification is also needed from a patient’s perspective. Patients with functional disorders may find it difficult to have their illness acknowledged in the social security system, which may cause problems in getting disability benefits, for example.

We need valid and modern research and an evidence-based diagnostic system including unambiguous criteria and terminology for FSSs and functional disorders.

The concept of functional somatic symptoms

One lasting conceptual issue is whether a functional disorder is of a mental or physical nature, and thus the language we use is imbued with terms that presuppose body and mind dualism, that is somatization, somatoform disorder, and medically unexplained conditions. The issue of physical versus psychiatric has given rise to an intense debate among experts in recent years [8,9]. One group of authors [4] favours abolishing the whole category of somatoform disorders from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) and the ICD-10. They argue that the diagnoses are stigmatizing, that most of the patients are treated in primary care, and that general psychiatry neglects somatoform disorders [4]. Therefore, the disorder should be moved from axis I to axis III (medical conditions) of the DSM-V [10,11,12]. Other experts [9] argue for retaining the diagnostic group of somatoform disorders because it is well founded and accepted among patients and doctors in some cultures, and moving these disorders from axis I to axis III will not solve anything. Germany is one of the countries in which the diagnosis somatoform disorder seems well accepted. This could be a result of a well developed specialized clinical service for patients with functional disorders, which signifies that the patients’ disorders are taken seriously and treatment possibilities exist. Also training GPs about FSSs may change doctors’ attitudes to these patients [13].

Except for the problem of stigmatization, which functional disorders share with mental disorders, the classification discussion (mental or physical) seems academic from a primary care perspective, as GPs must care for all types of patients. For GPs, two other problems are more important. First, the classification must reflect the spectrum of severity encountered in primary care, ranging from banal complaints that do not need further examination or treatment to chronic cases [2,14]. The mild conditions are poorly covered in the current ICD-10 and DSM-IV. In the International Classification of Primary Care (the ICPC-2) [15], used in primary care in a number of countries, mild cases are included as symptom diagnoses. Symptom diagnoses are applied when symptoms cannot be attributed to specific diagnoses mapped to the ICD-10 and they include symptoms that need to be clarified, symptoms that do not require further examination or treatment, and persistent symptoms that do not match a specific diagnosis. A self-limited symptom may be a pathological process or part of normality, but as it attracts medical attention it needs to be classified. Improvements in the ICPC-2 have been suggested to specify moderate FSSs [16]. Furthermore, Fink et al. [2] suggested that the adjustment disorder category be extended to include a physical symptom subtype. They also suggested that severe forms of functional somatic disorders have to be viewed as disorders in their own right and not just as a process of somatization that is secondary to another condition.

This leads to the second important point from a primary care perspective: the classification has to be exclusive in that patients are diagnosed unambiguously with only one condition. Currently patients with identical clinical pictures may receive different diagnostic labels [1**2,3]. The fact that patients’ diagnoses are dependent on the treating doctors and on the available treatment possibilities associated with particular diagnoses is not satisfactory. There seems to be a general agreement among experts that most of the current somatoform diagnostic categories of the DSM-IV and ICD-10 are abolished and somatization disorder, undifferentiated somatoform disorder, somatoform pain disorder and corresponding diagnoses on the ICD-10, including autonomic dysfunction and neurasthenia, are combined [10**,17**]. Different names have been suggested, for example bodily distress disorder [1**], physical symptoms disorder [10**], and
multiform somatoform disorder [18]. The hypochondriasis diagnosis would be retained but the name changed to health anxiety disorder. The diagnostic criteria need revision, however, and new and more valid criteria have been proposed [19,20].

In epidemiological studies, the number of somatic symptoms is often used to identify patients with FSSs. Symptom count by symptom screening questionnaires may be appropriate in studies and as a diagnostic aid in for example primary care, as there is an inverse association between the number of symptoms and the probability of a medical/surgical condition being present (very few well defined physical diseases present with multiple symptoms). From a classification point of view, however, this approach is less appealing as the number of symptoms is on a continuum, and it is impossible to establish a natural cut-off point for the number of symptoms to define FSSs [1**]. Thus, a symptom count approach is not appropriate for making clinical diagnoses.

A research and evidence-based classification of functional disorders
A classification needs a more solid basis than expert panels and consensus [21,22**]. Robins and Guze [23] and later Kendell [24] have listed a range of strategies to scientifically establish the validity of clinical syndromes: first, to identify and describe the syndrome by ‘clinical intuition’ or cluster analysis; second, to demonstrate boundaries or ‘point of rarity’ between related syndromes by statistical methods; third, to perform follow-up studies to establish a distinct course or outcome; fourth, to perform therapeutic trials to establish a distinct treatment response; fifth, to conduct family studies establishing that the syndrome ‘breeds true’; and, finally, to demonstrate the association with some more fundamental abnormalities – anatomical, biochemical, or molecular.

Three more rules should be added to the list. First, the patients have to be sampled from appropriate populations; second, it is necessary to confirm the results in cross-validation studies; and, third, the patients must be assessed by an appropriate method.

The considerable overlap in symptoms and diagnostic criteria between FSSs is probably due to the fact that criteria have been developed in small, unrepresentative samples from subspecialty clinics and by consensus. These criteria have been tested using inappropriate designs – case–control studies or confirmatory analytical approaches [3,25,26]. As patients referred to a specialized service are selected according to the presenting symptoms, the various FSSs may simply be an artefact of the medical specialization [1**,2,3]. For example, the diagnosis of fibromyalgia has arisen from rheumatology departments. The somatization disorder came from an exploratory study by Perley and Guze [27]. Based on the symptoms reported by 39 female patients admitted to a psychiatric ward and diagnosed with ‘hysteria’, they set up diagnostic criteria for hysteria later named Briquettes syndrome. The somatization disorder diagnoses were introduced in the DSM-III and were a modification of Briquettes syndrome. Although the diagnostic criteria have been included in later permutations of the DSM classifications, their heritage is still unmistakable.

Many studies have relied on predefined symptom lists derived from the DSM symptom lists, and widely used diagnostic instruments like the Composite International Diagnostic Interview (CIDI) and the Diagnostic Interview Schedule (DIS) only explore symptoms included in the DSM. Thus criteria that go beyond the original symptom lists are not explored. Few studies have used instruments like the Present State Examination (PSE)/Schedules of Clinical Assessment in Neuropsychiatry (SCAN) or tailored instruments that are not diagnosis bound.

New empirical studies indicate that physical symptom profiles can be used to classify patients with functional disorders. Fink et al. [1**] disclosed symptom clustering and a distinct pattern of cardiopulmonary, musculoskeletal/pain, and gastrointestinal symptom factors in an exploratory factor analysis based on SCAN data. These three symptom clusters have also been reported in other studies [2,28,29], which warrant their validity. Maybe more importantly, the new cluster approach is easily incorporated into a neurobiological framework; that is, the symptoms are hypothesized to be caused by hyperactivity of the autonomic nervous system and the hypothalamic–pituitary–adrenocortical axis [1**]. Musculoskeletal symptom factors may be attributed to dysfunction of the reticular system located within the brain stem and the medulla. Hence, the syndromes may represent a stress response mediated through physiological and cerebral pathways. The cluster approach also embraces the functional somatic syndromes, suggesting that they may be different expressions of a common phenomenon [2,28]. This hypothesis may point to a new expanding research area in functional disorders: the neurobiological and neurophysiological basis of the disorders [2,30].

In this review we have not touched upon the important aspect of the psychopathology of functional disorders. We need to identify characteristics of the disorders that go beyond physical symptoms, for both diagnostic and treatment purposes. It seems that patients are being punished for the shortcomings of the healthcare system and the doctors’ lack of knowledge about these conditions. This has influenced the views on somatoform disorders; many regard these patients as ‘over-utilizers’ of healthcare or...
resistant to reassurance. Examples of important studies on psychopathology that may have implications for future classification and management include the following: Rief et al. [31**], who demonstrated that patients with somatoform disorders paid selective attention to medical information; Frostholm et al. [32], who displayed the importance of patients’ illness perceptions and uncertainties; and Frostholm et al. [33*] and Salmon et al. [34*], who published a series of studies on doctor–patient interactions and the patients’ illness beliefs. Deary et al. [35*] reviewed cognitive models for FSSs.

Management

Several randomized controlled trials (RCTs) have proven cognitive behavioural therapy performed by specialists or in specialized settings are effective in the management of functional somatic syndromes [22**,36*,37*,38]. Most studies have included patients with various functional somatic syndrome definitions, whereas only a few studies have used definitions for somatoform disorder. Studies have also indicated that pharmacotherapy may be effective, in particular antidepressants [39].

Owing to the high prevalence of FSSs and functional disorders together with the shortcomings of specialized care, the majority of patients have to be managed in primary care. In many cases, primary care offers the best treatment as early recognition and intervention may prevent iatrogenic harm and development of FSSs into chronic disorders. When cases become more severe, however, improved and specific treatment is needed.

In the first wave of studies targeting primary care, the focus was on severe and chronic cases. In a classic RCT by Smith et al. [40], one psychiatric consultation was offered in which somatization disorder was diagnosed and suggestions for patient management were sent to the GPs. Later studies have included patients with fewer symptoms [41] and patients with multiform somatoform disorder [42]. Consultation letters with advice seem to have some merits in reducing healthcare use [40], and they may improve patients’ physical health [42], but so far only a few North American studies have been conducted. Furthermore, the consultation letters target only the most severe cases and imply the availability of specialists.

In the next wave of studies, the aim was to improve GPs’ skills to ameliorate management within the primary care setting. The reattribution model was introduced in 1989, and several modifications have been tested in European studies. Brief training and implementation of reattribution in general practice has been shown to be acceptable and feasible, and specific and relevant learning achievements have been obtained [43*]. The effects on patient health outcomes, however, are inconsistent. A Dutch efficacy study [44], in which the diagnoses were provided to the GPs, showed significant effects on patient health, but, in a German study by Larisch et al. [45], only marginal effects on physical symptoms were found. In a recent Spanish study by Aiarzagüena et al. [46], reattribution was shown to be less effective than physical and psychosocial explanations given by the GPs, but the study had methodological weaknesses.

The reattribution model was originally developed for ‘somatized depression and anxiety’, when patients had anxiety or depression in addition to FSSs. The Extended Reattribution and Management model (TERM model) focuses on functional symptoms in general. In RCTs this model significantly improved GPs’ attitudes to patients with FSSs [13] and also GPs became more aware of FSSs after training [7]. Furthermore, trained GPs obtained significantly higher patient satisfaction with care, especially in patients who were uncertain about what was wrong with them [32,47**]. Outcome on self-rated health, however, was marginal and inconsistent [47**] (T. Toft, personal communication). Healthcare costs were reduced, by about a third, but the reduction was not statistically significant (T. Toft, personal communication). In an RCT examining another training programme for GPs, Rief et al. [48*] showed that a 1-day training course could reduce healthcare utilization among patients presenting with FSSs.

It seems reasonable to conclude, therefore, that FSSs, disorders, and syndromes can be treated effectively and possibly chronic disorders may be prevented. From a patient’s perspective, however, the effectiveness of treatment by trained GPs has been disappointing, which is analogous to the results on treatment of depression, for example [49,50]. Although we cannot expect GPs to become specialists in functional disorders, there may be a lot to gain in extending the training programmes for primary care. An important aspect of most training programmes has been communication skills, which is important in the management of patients with FSSs. Communication cannot stand alone, however. Specific treatment techniques are also essential, with regard to both prevention and management, and they need to be evaluated to ascertain the extent to which they can be implemented in everyday practice in primary care. Furthermore, GPs need to be motivated to enrol in training programmes [51**] and promote an organizational change of care. More severe conditions require better and more specific skills to improve patient health. GPs are frontline workers, and usually the healthcare system provides possibilities for referral, advice, and support for severe conditions (e.g. diabetes). This should also be the case for functional disorders.
Stepped care models

The third wave of studies is now starting to address the organization of care for patients with FSSs and disorders. Most recently, a study [52] has compared collaborative care with treatment as usual, in which all the GPs were trained according to the original reattribution model. The study demonstrated a significant improvement during the 6-month follow-up period on healthcare utilization, patient well being, and functioning in the collaborative treatment group compared with the control group. In the collaborative treatment group, a stepped care model was suggested: first, behavioural advice by the GP, then referral to a specialist, medication, and long-term cognitive behavioural therapy. The results from the study are very encouraging, but conclusions have to be made cautiously as we have only a single study, which was hampered by design flaws and dropout problems. In another study [53*], which may also be viewed as a collaborative study, four trained nurses performed the treatment. Some patients with FSSs improved on the mental health component scores of the Short Form (SF)-36 during a 12-month follow-up period.

If we adopt a theoretical approach to the stepped care model, FSSs must be classified according to a spectrum of severity, from cases that are within normality but attract medical attention to severely ill patients [2,14,16*]. Management must therefore be adapted to the severity of the condition. Henningsen et al. [22**] suggested a stepped care model with three major steps. Steps 2 and 3 are divided into uncomplicated and complicated cases. In Fig. 1 we have set up a stepped care model for functional symptoms and syndromes modified from the model by Henningsen et al. [22**].

In mild cases (step 1) the primary techniques are normalization and reassurance. The GP may explain to the patient that there is no disease, that the symptoms are benign or self-limiting, and that there is no need for healthcare intervention or further investigations. In order to make the patient accept normalizing explanations and reassurance, the GP must know the patient’s own illness perceptions and tailor explanations according to the patient’s ability to understand. Furthermore, the doctor should advise the patient about appropriate illness behaviour, for example encourage the patient to be physically active, to prevent symptom exacerbation or chronic conditions.

In moderate uncomplicated cases (step 2a) the patient’s symptoms are more disturbing or persistent, but in many cases the same techniques as in mild cases apply. If the patient feels rejected by the doctor, however, for example if the patient feels that the doctor thinks nothing is wrong, this may exacerbate the condition. If the doctor does not understand and acknowledge the reality of the symptoms, the patient may be prompted to provide further evidence of the importance of the problem [54].

In moderate complicated cases (step 2b) the patient has not responded to the treatment described above. In such cases the doctor may plan a sequence of therapy sessions with appointments at regular intervals depending on the doctor’s skills. To provide the patient with a qualifying explanation, it is necessary to thoroughly explore the patient’s illness beliefs [32,55*] and symptom worries. Identification of the patient’s dysfunctional beliefs and behaviours lends the possibility of helping the patient to modify them. The goal is to reframe the patient’s understanding of the illness by negotiating alternative explanatory models and preventing negative illness behaviour.

In some cases, collaborative care with a specialist is preferable. For instance, the GP may call a specialist for advice, or a specialist may make an assessment of the patient and feedback the results to the GP with advice on further treatment.
In severe functional syndromes or disorders (step 3) the patient may benefit from management by a specialist only or collaborative care between specialist and GP. Multidisciplinary management should be applied in more complicated cases [22**]. Besides cognitive behavioural therapy or other forms of psychotherapy, multidisciplinary management includes physiotherapy, rehabilitation, and social counselling. A small proportion of patients are chronically ill and unable to work and must be helped to obtain disability pension, which is often very difficult as functional disorders are not acknowledged by the social security system.

Unfortunately, specialist care is unavailable in most countries or is restricted to a few subtypes of functional syndromes (e.g. low back pain), and for the most part GPs must care for these patients on their own.

Some studies have trained a few GPs to become specialists in cognitive behavioural therapy [56], but the idea of educating specialists among generalists seems wrong. It would probably be less expensive and better to use other specialists like psychologists, or to use collaborative care models with, for example, counsellors connected to a specialist setting and with access to supervision. In most countries, however, it would first be necessary to set up specialized clinics with the possibility of training for specialization [56].

Collaborative care has successfully been used for other mental disorders [57], and a few RCTs have found a positive outcome [58]. Despite encouraging results, however, stepped care and collaborative models have not been widely implemented for patients with FSSs.

**Conclusion**

Functional disorders and syndromes can be treated as effectively as other disorders, but the availability of specialized care is extremely scarce in most countries. Therefore, on the whole, GPs manage these patients, although they rarely have the necessary skills and often find treatment difficult. Teaching GPs specific techniques is currently severely hampered by an obsolete theoretical framework and outdated diagnostic systems. A common language and theoretical framework of understanding of the FSSs and functional disorders across medical specialties – clinically and scientifically – is needed and is a precondition for further development in this field. Furthermore, stepped care models encompassing the whole spectrum of disorders encountered in primary care must be developed and evaluated.

**References and recommended reading**

Papers of particular interest, published within the annual period of review, have been highlighted as:

- of special interest
- of outstanding interest

Additional references related to this topic can also be found in the Current World Literature section in this issue (p. 227).


   This study established empirically based positive diagnostic criteria for ‘bodily distress disorder’, a new diagnosis encompassing the current somatiform disorders presenting with physical symptoms. The study includes a stratified sample of 985 SCAN-interviewed consecutive patients from primary care, a neurological department and a medical department.


are a patient demand but a GP initiative.

A narrative review of the theoretical standing and empirical evidence for cognitive


A great experimental study in which 33 patients with medically unexplained symptoms and two control groups listened to an audio-taped medical report as well as two control reports. In the medical report, the doctor explained to a patient that the symptoms were medically unfounded. Patients with func-
tional disorders recall the likelihood of medical causes for their complaints incorrectly.


Salmon P, Humphris GM, Ring A, et al. Primary care consultations about medically unexplained symptoms: patient presentations and doctor re-


An analysis of 420 audio-taped primary care consultations of patients presenting with medically unexplained symptoms. It showed that somatic interventions were not a patient demand but a GP initiative.


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Rief W, Martin A, Rauh E, et al. Evaluation of general practitioners' training: how to manage patients with unexplained physical symptoms. Psychosomatics 2006; 47:304–311. This RCT shows that a 1-day course for GPs in managing patients with medically unexplained symptoms reduced healthcare costs.

Smit A, Tiemens BG, Orelm J. Improving long-term outcome of depression in primary care: a review of RCs with psychological and supportive interven-


The consultations of 420 primary care patients presenting with medically unexplained symptoms were audio recorded. The study showed that somatic interventions were not due to patients’ demands but were associated with patients complaining about their symptoms.


Smith RC, Lyles JS, Gardiner JC, et al. Primary care clinicians treat patients with medically unexplained symptoms: a randomized controlled trial. J Gen Intern Med 2006; 21:671–677. This study shows that treatment by nurses of patients with medically unexplained symptoms in a primary care setting led to clinical improvement.


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Salmon P. Conflict, collusion or collaboration in consultations about medically unexplained symptoms: the need for a curriculum of medical explanation. Patient Educ Couns 2007; 67:246–254. A critical review of research on clinical communication about medically unexplained symptoms. The author concludes that educational programmes could include curricula in symptom explanations.

