# From hysteria to somatic symptom disorders: searching for a common psychopathological ground

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## Summary

*After decades of manifold contributions aimed at defining hysteria, somatisation and conversion, such syndromes are still neglected and their nosographical definition is debated. The DSM and the ICD have undergone major changes, but their clinical utility with regards to these syndromes is still questionable. On the contrary, the Diagnostic Criteria for Psychosomatic Research represents a useful clinical instrument since it translates psychosocial variables derived from psychosomatic research into operational tools. The present paper offers an overview on the psychopathological description of syndromes such as alexithymia, hypochondriasis, health anxiety, thanatophobia, conversion symptoms, anniversary and reaction which are frequent in clinical practice, but often misdiagnosed due to their absence in the DSM and the ICD. In addition, the influence of culture and cultural changes on the modifications of psychopathological manifestations is described as a further possible source of misdiagnosing and underreporting. New psychopathologies (e.g., multiple chemical sensitivity, orthorexia/vigorexia) that resemble conversion and/or somatisation have been developed, but neither is included in nosography nor taught to clinicians. The aim of the present paper is thus to describe psychopathological manifestations of somatic symptoms and related disorders to help clinicians formulate their diagnosis on the presence of signs and symptoms that can be elicited during a clinical visit, rather than by way of exclusion of other organic or psychiatric disease only.*

### Key words

*Somatic symptom and related disorders • Hysteria • Alexithymia • Hypochondriasis • Health anxiety • Thanatophobia • Conversion symptoms • Anniversary reaction • New psychopathologies*

## Introduction

Medically unexplained physical symptoms (MUPS) are common and account for up to three-quarters of clinical situations [1]. The most frequent complaints mentioned by patients are pain, fatigue, gastrointestinal and cardiovascular symptoms, and sexual and pseudo-neurological disturbances. Although in most cases these conditions remit spontaneously [2], a small but significant proportion may worsen over time in terms of chronicity, severity of symptoms, impact on functioning, disability, development of medical (iatrogenic) psychiatric comorbidity and lead to excessive/inappropriate use of health care resources [3]. The prevalence of such disorders ranges from 1 to 8% in the general adult population, with a relative risk of 2.7 of 5-year persistence of symptoms and of 1.5 for comorbidity with psychiatric symptoms/disorders. They may account for a 7-fold increase in expenses for healthcare services [4]. The most complex and severe cases are characterised by specific clinical features, such as a high number of somatic symptoms, comorbidity with other psychiatric conditions (i.e., mainly depressive and anxiety disorders), presence of relevant psychosocial risk factors (e.g., history of childhood abuse or violence) [5]. On the other hand, the sometimes cumbersome efforts to establish valuable long-term clinical relationships with these patients have been described as a source for burnout in clinicians [6]. Early identification of predictors for persistent, multiple MUPSs is crucial to help properly patients [5] who otherwise risk to be labeled as "difficult to treat" and hence might develop a chronic course of illness.

## From Freud to the DSM-IV: the history of somatisation and conversion disorders

Somatoform disorders (SD) are often thought to be residing in a no-man's land, in the grey area between medicine and psychiatry. Over the years, they have been differently labelled and clinicians and researchers have proposed a wide range of theories for their aetiology, diagnosis and treatment. Briquet [7] was the first who studied a syndrome characterised by multiple somatic symptoms and named it "hysteria" in 1859. Thereafter, Stekel [8] defined hysteria as a bodily disorder arising from the expression of a deep-layered neurosis. Later, Lipowski's [9] definition was: "The

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tendency to experience, conceptualize, and/or communicate psychological states or contents as bodily sensations, functional changes or somatic metaphors". Later, Lipowski placed more emphasis on "somatic distress" which is primarily experienced and communicated by these patients, rather than the "psychological distress". Thus, his definition was revised into: "A tendency to experience and communicate somatic distress and symptoms unaccounted for by pathological findings, to attribute them to physical illness and to seek medical help for them" [10]. This is the basic framework on which the concept of hysteria has evolved over the years.

At the beginning of 1900, Janet and Freud, who had worked with Charcot on hypnosis [11], defined psychic mechanisms in the symptoms of hysteria: dissociation of the consciousness [12] and conversion [13]. Thereafter, Freud and Breuer [14] proposed that mental distress might be "converted" into physical dysfunction. Subsequently, the term "conversion" was used to denote essentially functional neurological disturbances. Although in their initial observations, both Charcot and Janet acknowledged the involvement of body and mind in hysteria, Janet later emphasised that conversion was solely mental in origin, thereby dismissing the role of a physical lesion hypothesised by Charcot [12]. Freud's views have been reflected in the *International Classification of Diseases* (ICD) and in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), in which the role of emotional conflicts – not necessarily accessible for patients – in generating hysteria is highlighted.

Morselli [15], more than a century ago, first described a case of body dysmorphic disorder (BDD), reporting on a young woman who confined herself in her apartment for 5 years, worrying that she would never be loved for being "ugly and ridiculous". This syndrome was classified as "atypical somatoform disorders" in the DSM-III, before the current name of BDD came up in the following edition [16].

The concept of neurasthenia was defined by Beard in 1869, who described it as "a disease of nervous system, without organic lesion, which may attack any or all parts of the nervous system, and characterized by enfeeblement of the nervous force, which may have all degrees of severity" [17]. Neurasthenia was introduced in the DSM-II to increase congruency with the ICD-8, but it was dropped from the DSM-III, although it was maintained in the ICD system as a subtype of neurosis.

The DSM-III derived the concept of "Somatisation disorder" from the criteria of "Briquet's syndrome", as described and operationalised by Perley and Guze [18], who recognised the need to differentiate the "illness characterized by multiple somatic and psychiatric complaints" described by Briquet from the other meanings of the term hysteria, and proposed the eponymous "Briquet's syndrome". In the attempt to avoid overlap with other diagnoses, all psychological symptoms were eliminated from the criteria of the DSM-III revised version [19]. This change, which essentially separated the psychological dimension from the physical one, has obviously drawn some criticisms. Oken [20] stated that the "over reliance on the old biomedical model, rather than the biopsychosocial model by DSM-III downplayed the benefits achieved by its dynamic framework comprising the psychological, biological and social factors".

Compared with DSM-III, the DSM-IV adopted a simpler approach, requiring a combination of pain, gastrointestinal, sexual and pseudo-neurological symptoms for the diagnosis of somatisation disorder (SD) [21]. "Undifferentiated SD" refers to an array of unexplained physical symptoms which did not cross the threshold for full-blown somatisation disorder. "SD not otherwise specified" was kept as a residual category. BDD was added and the definition of conversion disorder modified. The DSM-IV defined "Conversion disorder" as characterized by symptoms affecting voluntary motor and sensory functions, in contrast to the DSM-III definition of any symptom suggestive of a physical disorder [21]. Finally, the criteria for "Pain disorder" were modified to include subtypes associated with: 1. psychological factors; 2. both psychological factors and a general medical condition; 3. a general medical condition.

## Current nosography of somatic symptoms

According to the DSM-5, *Somatic symptoms and related disorders* (SSD) are characterised by physical symptoms that are very distressing or result in a significant disruption of functioning, as well as excessive and disproportionate thoughts, feelings, and behaviours regarding those symptoms. To satisfy such diagnoses, an individual must be persistently symptomatic, that is at least for 6 months [22]. SSD include "Somatic symptom disorder", "Illness anxiety disorder", "Conversion disorder", "Psychological factors affecting other medical conditions", and "Factitious disorder". Compared to the previous editions of the DSM, several important changes have been made in the DSM-5; in particular, "Somatization disorder", "Hypochondriasis", "Pain disorder", and "Undifferentiated SD" have been removed.

The DSM-IV diagnosis of "Somatization disorder" required a specific number of complaints from among 4-symptom groups, while the SSD criteria no longer have such requirement, although somatic symptoms must be significantly distressing or disruptive to daily life and accompanied by excessive thoughts, feelings, or behaviours [22]. Another important change in the DSM-5 criteria is that somatic symptoms do not have to be "medically

unexplained", as it was for many disorders in the DSM-IV. Furthermore, whether or not the somatic symptoms are medically explained, the individual would still have to meet the rest of the criteria to receive a diagnosis of SSD. However, the DSM-5 warns that it is not appropriate to diagnose individuals with a mental disorder simply because a medical cause cannot be found.

The DSM-IV criteria included a large number of overlapping disorders and made it difficult for primary care providers to effectively isolate the problem of their patients. Because those suffering from SSD are primarily seen in general medical settings, the DSM-5 criteria tried to clarify confusing terms and reduced the number of disorders and sub-categories to make the criteria more useful to non-psychiatric care providers [22].

The ICD-10 includes somatic symptoms among neurotic disorders (neurotic, stress-related and somatoform disorders): dissociative (conversion) disorders, somatisation disorder (including hypochondriacal disorders), and other neurotic disorders (among which neurasthenia) [23]. The ICD-10 diagnosis of Somatisation Disorder differs from the DSM-IV for the symptom threshold and for the symptom duration; the DSM-IV diagnosis of BDD coincides with the "Hypochondriacal disorder"; a category of "Somatoform autonomic disorder", characterised by symptoms of autonomic arousal in the absence of any disturbance of structure or function, is also included [23]. The ICD-10 criteria for "Pain disorder" require persistent, severe and distressing pain continuously for at least 6 months. These symptoms, according to the ICD-10, cannot be explained by a physical condition, omitting the mention of "psychological factors" categorically specified in the DSM-IV. Conversion disorder (conversion hysteria) has been renamed and conceptualised as a dissociative rather than a somatic disorder. Finally, differently from the DSM-IV, a diagnosis of "Neurasthenia" is possible in the category "Other neurotic disorders". The revision of ICD-10 is scheduled for 2018.

Both ICD and DSM have been fully criticised for their poor clinical utility. Their main weaknesses are: 1) somatoform disorders are defined on the basis of a failure to find physical causes rather than on the presence of definite psychological and behavioural features; 2) there is a widely and commonly reported discrepancy between the prevalence of these disorders in clinical practice and the frequency of these diagnoses observed in large epidemiologic international research; 3) the major categories of somatoform disorders are rare; 4) the overlap between somatoform disorders and depression and anxiety disorders is an example of the confusion about the boundaries of these disorders; 5) there is evidence that many patients object to the explanatory basis underlying the diagnostic labels of somatoform disorders such as "medically unexplained" and "psychosomatic" [24]. As previously described, the DSM-5 attempted to address this criticism by replacing SDs with SSD and making significant changes to the criteria to eliminate overlap across the somatoform disorders focusing on positive symptoms as well as on the importance of neurological examination. However, the DSM-5 still has a limited clinical utility due to a narrowed capacity to catch the information necessary for the clinical process [25].

The Diagnostic Criteria for Psychosomatic Research (DCPR) were introduced in 1995 to expand the traditional domains of the disease model by translating psychosocial variables that derived from psychosomatic research into operational tools [26]. The DCPR are a set of 12 psychosomatic syndromes whose prognostic role in the development, course, and outcome of physical diseases, regardless of "organic" or "functional" nature, has been largely documented. Eight DCPR syndromes refer to the concept of abnormal illness behaviour: persistent somatisation; functional somatic symptom secondary to a psychiatric disorder; conversion symptoms; anniversary reaction; disease phobia; thanatophobia; health anxiety; and illness denial. The other four syndromes are alexithymia, type A behaviour, demoralisation and irritable mood, which are related to the field of psychological factors affecting medical conditions [26-28]. DCPR includes a semi-structured clinical interview for their assessment [27]. These criteria were found to be more sensitive than those of the DSM-IV in identifying subthreshold psychological distress and in characterising patients' psychological response to medical illness [29]. A recent review of the literature highlighted that the DCPR system can be clinically useful for subtyping medical patients, identifying subthreshold or undetected syndromes, evaluating the burden of medical syndromes, predicting treatment outcome and identifying risk factors [30].

## Beyond nosography: psychopathology of somatic disorders

Although neglected by DSM and ICD, several syndromes - which are relatively common in clinical practice - need to be known by clinicians. Such syndromes have been described decades ago, but were later lost in the nomenclature. Here we will describe alexithymia, hypochondriasis, health anxiety, thanatophobia, conversion symptoms and anniversary reaction as examples of somatic syndromes frequent in clinical practice, but often misdiagnosed due to their absence in the DSM and ICD. Interestingly, they are described and included in the DCPR which, thus, represent a useful classification system in clinical practice.

The term alexithymia literally means "lacking words for feelings" and was coined to describe certain clinical char-

acteristics observed among patients with psychosomatic disorders who had difficulty engaging in insight-oriented psychotherapy [31]. Alexithymic patients have deficiencies in emotional awareness and communication, and show little insight into their feelings, symptoms and motivation. When asked about their feelings in emotional situations, they may experience confusion (e.g., "I cannot say"), give vague or simple answers (e.g., "I feel down"), report bodily states (e.g., "my stomach is painful") or talk about behaviour (e.g., "I want to punch the table"). The alexithymia construct was originally conceptualised by Nemiah, Freyberger and Sifneos [32] as encompassing a cluster of cognitive traits including difficulties in identifying feelings and describing feelings to others, externally oriented thinking and limited imaginal capacity. The alternative conceptualisation proposed by Lane and co-workers [33] – alexithymia as a global impairment in emotional processing resulting in limited emotional expression and recognition – has been less influential. Both definitions agree that alexithymia is a deficit, inability, or deficiency in emotional processing rather than a defensive process, and this deficit view is gaining increasing support from basic laboratory and neuroimaging research [34].

Alexithymia was first described in people with psychosomatic disorders, and subsequent research has confirmed elevated levels of alexithymia in people with rheumatoid arthritis, essential hypertension, peptic ulcer and inflammatory bowel disease [35]. Yet, studies have found elevated levels of alexithymia in patients with several other conditions (e.g. cardiac disease, non-cardiac chest pain, breast cancer, diabetes, chronic pain, eating disorders, substance dependence, kidney failure, stroke, HIV infection, fibromyalgia) [36]. The growing recognition that alexithymia is not specific to psychosomatic disorders has led to the view of alexithymia as a risk factor for medical, psychiatric, or behavioural problems that are influenced by disordered affect regulation. Indeed, alexithymia has been associated with failure to use adaptive affect regulation processes such as modulating arousal, appropriately expressing or suppressing emotions, employing fantasy, obtaining and using social support, tolerating painful emotions, cognitive assimilation and accommodation.

Hypochondrium is the uppermost part of the abdomen. The word derives from the Greek term hypokhondrios, which literally means "of the soft parts between the ribs and navel", from hypo ("under") and khondros, or cartilage (of the sternum). Hypochondria in Latin means "the abdomen".

This transference of meaning paralleled changing concepts of pathology, especially in relation to the four humors, until ultimately various mental states came to be associated with changes in the organs of the hypochondria, notably the spleen and the liver. The suffix -iasis denotes an ill process or the condition resulting. It took, however, hypochondria became specifically associated with a morbid preoccupation over health only in nineteenth century.

In 1895 Freud classified hypochondria (with neurasthenia and anxiety neurosis) as an "actual neurosis". This theory has never been satisfactorily explained, nor it has been developed by later analysts. Another approach has been to regard hypochondriasis as due to a disturbance of the body scheme or image. Fisher [37], amongst others, developed assessment instruments for measuring various aspects of this, though his whole impressive concept rests on the rather shaky foundations of classical psychoanalytical theory, projective techniques and self-report questionnaires. French authors introduced the term "coenaesthesiopathy", referring to the sum of organic sensations which are normally vague and in the background, but which give a person his feeling of existence. According to Ey [38], hypochondriasis is a pathological form of human existence, and Ladee [39] gave a phenomenological existential account of hypochondriasis with the experience of decay as a central feature and anxiety as a frequent manifestation.

Although symptoms are diffuse or generalised, one particular symptom or area of concern (such as pain or disturbed sleep) can present as the only complaint, and may occupy patient attention and dominate his life. This monosymptomatic form can vary from a mild preoccupation to a frank delusion. If symptoms of anxiety or depression are present, they are minimal, atypical, difficult to detect, or explicable as secondary phenomena [40]. Pains, particularly muscular ones, are very common. Other common pain syndromes, which may have important psychiatric implications, are backache [41], atypical facial pain [42] and abdominal pain and right iliac fossa pain in females. Interestingly, Kenyon [40] also cited mental pain as a rather vague concept since it may mean just suffering or grief and be close to depression. More recently, mental pain has been more strictly defined as a sense of loss or incompleteness of self and an awareness of one's own role in the experience of emotional pain [43]. Delusions of smell may be the predominant complaint, often attributed to the bowels and usually associated with either paranoid or depressive features [44]. Sometimes, it is halitosis or a more generalised odour, perhaps in conjunction with excessive sweating and anxiety. Symptoms referred to the gastrointestinal tract are common. They can present as vague complaints of nausea, dysphagia, regurgitation, bad taste in the mouth, flatulence, or pain [45]. Aerophagy can be an unrecognised aggravating factor. Preoccupation with bowel function, particularly constipation, can reach extreme degrees; although in this case the correct diagnosis might be bowel obsession syndrome rather than hypo-

chondriasis [46]. It is sometimes difficult to prevent these patients from undergoing repeated investigations or unnecessary surgical procedures. Many anxious and introspective patients complain of palpitations or missing a beat. They sometimes have vague ideas that they have a "tired heart". Patients may also experience a type of inspirational dyspnoea with a feeling that they can never take a really deep and satisfying breath. Some patients are constantly preoccupied with poor hearing which they attribute to "wax", and may spend a lot of time picking at the external auditory meatus or putting in various drops. Others complain of dizziness, vertigo, tinnitus, hearing their pulse beat at night, or general hyperacusis. Nebulous complaints of sinusitis or recurrent sore throats may be met. The feeling of a lump in the throat or globus hystericus may be organically determined [47]. Irritating habits, such as constant sniffing, clearing the throat or cough may be present. A common complaint regarding vision is of "floaters" (muscae volitantes) [40].

Disease phobia, thanatophobia and health anxiety may be part of a hypochondriacal syndrome, yet they may also occur in the absence of other psychiatric disorders. Disease phobia was first described by Bianchi [48] as "a persistent, unfounded fear of suffering from a disease, with some doubt remaining despite examination and reassurance", and Ryle [49] added that it includes also the fear of inheriting or acquiring a disease. According to Fava and Grandi [50], disease phobia differs from hypochondriasis for two characteristics: specificity and longitudinal stability (fears concern a specific disease and are unlikely to be moved on another disease or organ system), phobic quality (fears tend to manifest themselves in attacks rather than in constant worries as in hypochondriasis). Noyes et al. [51] also pointed out that disease phobia often results in the avoidance of internal and external illness-related stimuli, while hypochondriasis usually leads to reassurance-seeking or checking behaviours.

Thanatophobia was described for the first time by Ryle in 1928 [52] as a sense of dying ("angor animi"). It consists of a sudden sense and/or conviction of being on the point of dying without any medical reasons, and may result in the avoidance of stimuli concerning death (e.g., obituary notices, funerals) [53].

Health anxiety includes a variety of worries and attitudes concerning illness and pain, which are less specific than hypochondriasis and disease phobia. Health anxiety differs from hypochondriasis since the former responds to medical reassurance, whereas worries about health may ensue after reassurance in the latter, leading patients to new body-checking behaviours and medical examinations [50].

Conversion symptoms were defined by Engel [54] as ambivalence in symptoms reporting or history of similar symptoms wished on someone else. Lazare [55] observed that conversion symptoms are relatively persistent losses or alterations in sensory or voluntary motor functioning that cannot be explained by known physical disorders or pathophysiologic mechanisms. Examples include paralysis, abnormal movements, aphonia, hypoesthesia, sensations of coldness or warmth, blindness and deafness. A conversion symptom can occur alone, as part of another psychiatric disorder, or as part of a medical or neurologic disorder.

"Anniversary reaction" was first introduced by Hilgard in 1953 [56] to describe the appearance of psychotic symptoms in a woman when her daughter reached the age she had been when her own father died. Thereafter, anniversary reaction was described as an emotional, physical and/or behavioural response triggered by emotionally burdened dates or times [57]. In the DCPR, anniversary reaction is defined as a special form of somatisation or conversion and frequently occurs together with other psychosomatic syndromes [28].

According to the DCPR, other psychosomatic syndromes are noteworthy: persistent somatisation, functional somatic symptoms secondary to a psychiatric disorder, illness denial, "Type A behaviour" and demoralisation [26-28].

## Hysteria in the 2000s

Culture and cultural changes deeply affect the way people experience and express their suffering; this is why psychopathology changes over time [58]. An example of this phenomenon is the argument supported by Engel [59] who suggested that the bio-medical model had become a "folk model", with many consequences on clinical presentations of suffering and health care service provision and organisation. Indeed, culture and psychosomatic medicine are so strongly interrelated to become inextricable. This becomes particularly evident for disorders such as somatisation and conversion, due to their complex, predominantly functional pathogenesis, which can only be understood and dealt with assuming a bio-psycho-social perspective.

Hysterical expressions of distress have been conceived as psychodynamically less evolved, or more regressive, than explicit, direct, psychological manifestations. With reference to this, and to the solid interconnection between culture and psychopathology, the study of psychosomatic presentations of distress in a cross-cultural perspective has contributed significantly to a more critical understanding of the deep psychopathological meaning of somatisation and conversion, which were effectively defined as "the black box" of psychopathology [60]. Although large epidemiological studies confirmed that MUPS are similarly vague worldwide and not associated with ethnicity [61], the psychopathology of these clinical manifestations should still be analysed under a cultural perspective. Kirmayer and

Young [62] effectively argued that "psychological theories of somatization focused on individual characteristics must be expanded to recognize the fundamental social meanings of bodily distress". In cultures where "the harmony of the family and group is more important than individual anatomy", somatisation might be a refined superior way to "have one's cake and eat it too", a legitimate and codified pattern of expressing suffering [63]. Then, when individual cultural milestones change, for example as a result of migration, this inevitably reflects on psychopathology, explaining why clinicians in Western societies often believe that hysteria "is back" as a typical disorder of migrants [64]. Clinical cases have been described supporting this issue, though the hypothesis still needs to be confirmed on an epidemiological basis and analysed deeply as a gateway to the understanding of the process of somatization.

Hysteria, which as previously described was acknowledged as a neurological condition in the 19th century and then become a psychiatric disorder with the DSM, is "back in the arms" of neurologists in current clinical practice since these patients are still too often referred to neurologists [65]. However, advances in contemporary psychosomatic research are providing neuropathological explanations of hysteria [66]. This new knowledge has triggered a cultural change, with further feedback on psychopathology. On one – positive – side, it has decreased stigma against mental disorders and individuals are more incline to acknowledge their psychic distress as relevant as well as the connection between psychic and somatic symptoms. On the other, the diffusion of basic medical knowledge in the population has introduced some problems. Patients have access via internet to abundant information on disorders, medications and healthcare services. They are exposed to countless real and fictional medical accounts that create expectations and resistance. All this impacts on the psychopathology of somatisation and conversion symptoms, with clinical presentations that are sometimes more difficult to be clearly recognised in their functional nature, or more "aggressive" attitudes of patients in the diagnostic and therapeutic process. New psychopathologies are described, in which very often a common feature is the pathology of the mind-body relationship that reminds conversion and/or somatisation, for example multiple chemical sensitivity or orthorexia/vigorexia. Similarly, contemporary life styles may be in a circular relationship with the psychopathology of histrionic personality disorder, which is frequently associated with SSDs. Features such as excessive emotionality, attention seeking, tendency to dramatisation, seductivity and suggestibility, typical of this personality construct, appear to be more frequent in the general population, configuring a social phenomenon [58].

In brief, cultural changes may contribute to creating new illnesses, but advances in psychosomatic medicine have contributed to the understanding of complex aetio-pathological pathways and disentangle the interrelationship between health and culture, opening the way to new and effective therapeutic strategies. New challenges, and new opportunities, in diagnosis, clinical management and therapy have been proposed [66]. Innovative organizational care models, based on trans-disciplinarity are needed. Interesting tools for the assessment of bio-psycho-social complexity are the INTERMED method by Wild and coworkers [67] and the already mentioned DCPR [26].

## Conclusions

In 1960, G. Engel [68] criticised the concept of disease: "The traditional attitude toward disease tends in practice to restrict what it categorizes as disease to what can be understood or recognized by the physician and/or what he notes can be helped by this intervention. This attitude has plagued medicine throughout its history and still stands in the way physicians fully appreciating disease as a natural phenomenon". The inadequacy of the concept of disease particularly applies to medical symptoms that are not explained by organic disease or abnormal laboratory testing. Such symptoms may be transient without requiring medical attention, or may be a cause of concern, disability and excessive healthcare costs [69]. These symptoms can be attributed to somatisation, defined by Lipowski [70] as the tendency to experience and communicate psychological distress in the form of physical symptoms and to seek medical help for them. Anything that cannot be explained by organic factors, with special reference to laboratory investigations, is thus likely to fall within the domains of somatisation. The DSM-IV represented the effort of classifying such symptoms according to their clustering and characteristics. The DSM-5 emphasises diagnosis made on the basis of positive signs and symptoms rather than the absence of a medical explanation for somatic symptoms. However, the DSM-5 maintains the old logic that if it is not organic, it is psychiatric. In this review, we have tried to describe somatic disorders on the basis of their psychopathological manifestations rather than on the basis of the traditional nosography, with the specific aim to give clinicians useful tools to obtain a correct diagnosis, and not to reach it via a long way encompassing the exclusion of any other organic or psychiatric disorder.

### References

1 Klaus K, Rief W, Brahler E, et al. *The distinction between "medically unexplained" and "medically explained" in the context of somatoform disorders*. Int J Behav Med 2013;20:161-71.

2 Green LA, Fryer GE Jr, Yawn BP, et al. *The ecology of medical care revisited*. N Engl J Med 2001;344:2021-5.

3 Kroenke K, Mangelsdorff AD. *Common symptoms in ambulatory care: incidence, evaluation, therapy, and outcome*. Am J Med 1989;86:262-6.

4 Burton C, McGorm K, Richardson G, et al. *Healthcare costs incurred by patients repeatedly referred to secondary medical care with medically unexplained symptoms: a cost of illness study*. J Psychosom Res 2012;72:242-7.

5 Creed FH, Tomenson B, Chew-Graham C, et al. *Multiple somatic symptoms predict impaired health status in functional somatic syndromes*. Int J Behav Med 2013;20:194-205.

6 Olde Hartman TC, Hassink-Franke LJ, Lucassen PL, et al. *Explanation and relations. How do general practitioners deal with patients with persistent medically unexplained symptoms: a focus group study*. BMC Family Practice 2009;10:68.

7 Briquet P. *Traité clinique de thérapeutique de l'hysterie*. Paris: J.B. Baillière 1859.

8 Stekel W. *Conditions of nervous anxiety and their treatment*. Oxon: Routledge 1923.

9 Lipowski ZJ. *Review of consultation psychiatry and psychosomatic medicine. 3. Theoretical issues.* Psychosom Med 1968;30:395-422.

10 Lipowski ZJ. *Somatization: The concept and its clinical application*. Am J Psychiatry 1988;145:1358-68.

11 Charcot J-M. *Lectures on the diseases of the nervous system*. London: The New Sydenham Society 1889.

12 Janet P. *The Major Symptoms of Hysteria*. London/New York: Macmillan 1907.

13 Freud S. *Fragments of an analysis of a case of hysteria*. London, UK: Standard Edition 1905.

14 Freud S, Breuer J. *Studies in hysteria*. Harmonsworth, UK: Penguin 1978.

15 Morselli E. *Sulla dismorfofobia e sulla tafefobia: due forme non per anco descritte di pazzia con idee fisse*. Boll R Accad Genova 1891;6:110-9.

16 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 3rd ed. Washington, DC: American Psychiatric Association 1980.

17 Beard G. *Neurasthenia, or nervous exhaustion*. Boston Med Surg J 1868:217-21.

18 Perley MJ, Guze SB. *Hysteria – The stability and usefulness of clinical criteria. A quantitative study based on a follow-up period of six to eight years in 39 patients*. N Engl J Med 1962;266:421-6.

19 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders - 3rd ed. revised*. Washington, DC: American Psychiatric Association 1987.

20 Oken D. *Evolution of psychosomatic diagnosis in DSM*. Psychosom Med 2007;69:830-1.

21 American Psychiatric Association. *Diagnostic and statistical manual of mental disorders - 4th ed*. Washington, DC: American Psychiatric Association 1994.

22 American Psychiatric Association. *Diagnostic and statistical manual of mental disorders - 5th ed*. Arlington, VA: American Psychiatric Publishing 2013.

23 World Health Organization. *The ICD-10 Classification of Mental and Behavioural Disorders*. Geneva: World Health Organization 1992.

24 Gureje O. *Classification of somatic syndromes in ICD-11*. Curr Opin Psychiatry 2015;28:345-9.

25 Cosci F, Fava GA. *The clinical inadequacy of the DSM-5 classification of somatic symptom and related disorders. An alternative trans-diagnostic model*. CNS Spectrums (in press).

26 Fava GA, Freyberger HJ, Bech P, et al. *Diagnostic criteria for use in psychosomatic research*. Psychother Psychosom 1995;63:1-8.

27 Porcelli P, Sonino N. *Psychological factors affecting medical conditions. A new classification for DSM-V. Advances in psychosomatic medicine*. Basel, CH: Karger 2007.

28 Porcelli P, Fava GA, Rafanelli C, et al. *Anniversary reactions in medical patients*. J Nerv Ment Dis 2012;200:603-6.

29 Sirri L, Fava GA. *Diagnostic criteria for psychosomatic research and somatic symptom disorders*. Int Rev Psychiatry 2013;25:19-30.

30 Porcelli P, Guidi J. *The clinical utility of the Diagnostic Criteria for Psychosomatic Research (DCPR): a review of studies*. Psychother Psychosom 2015;84:265-72.

31 Sifneos P. *Clinical observations on some patients suffering from a variety of psychosomatic diseases*. Acta Med Psychosom 1967;7:1-10.

32 Nemiah JC, Freyberger H, Sifneos PE. *Alexithymia: A view of the psychosomatic process*. In: Hill OW, ed. *Modern trends in psychosomatic medicine*. Vol. 3. London: Buttersworth 1976, pp. 430-9.

33 Lane RD, Sechrest L, Riedel R, et al. *Pervasive emotion recognition deficit common to alexithymia and the repressive coping style*. Psychosom Med 2000;62:492-501.

34 Vermeulen N, Luminet O, Corneille O. *Alexithymia and the automatic processing of affective information: evidence from the affective priming paradigm*. Cogn Emot 2006;20:64-91.

35 Taylor GJ, Bagby RM, Parker JDA. *Disorders of affect regulation: alexithymia in medical and psychiatric illness*. Cambridge: Cambridge University Press 1997.

36 Lumley MA, Neely LC, Burger AJ. *The assessment of alexithymia in medical settings: implications for understanding and treating health problems*. J Pers Assess 2007;89:230-46.

37 Fisher S. *Body experience in fantasy and behavior*. New York: Appleton-Century-Crofts 1970.

38 Ey H. *Hypochondriasis*. Int J Psychiatry 1966;2:332-4.

39 Ladee GA. *Hypochondriacal syndromes*. Amsterdam: Elsevier Publishing Co 1966.

40 Kenyon FE. *Hypochondriacal states*. Br J Psychiatry 1976;129:1-14.

41 Wolkind SN. *Psychogenic low back pain*. Br J Hosp Med 1976;55:17-24.

42 Webb HS, Lascelles RG. *Treatment of facial and head pain associated with depression*. Lancet 1962;1:355-6.

43 Tossani E. *The concept of mental pain*. Psychother Psychosom 2013;82:67-73.

44 Pryse-Phillips W. *An olfactory reference syndrome*. Acta Psychiatr Scand 1971;47:484-509.

45 Jones FA, Gummer JWP, Lennard-Jons SE. *Clinical gastroenterology*. 2nd ed. Oxford, Edinburgh: Blackwell Scientific 1968.

46 Cosci F. *"Bowel obsession syndrome" in a patient with chronic constipation*. Gen Hosp Psychiatry 2013;35:451.e1-3.

47 Watson WC, Sullivan SN. *Hypertonicity of the cricopharyngeal sphincter: a cause of globus sensation*. Lancet 1974;2:1417-9.

48 Bianchi GN. *Origins of disease phobia*. Aust N Z J Psychiatry 1971;5:241-57.

49 Ryle JA. *Nosophobia*. Br J Psychiatry 1948;94:1-17.

50 Fava GA, Grandi S. *Differential diagnosis of hypochondriacal fears and beliefs*. Psychother Psychosom 1991;55:114-9.

51 Noyes R, Carney CP, Langbehn DR. *Specific phobia of illness: search for a new subtype*. J Anxiety Disord 2004;18:531-45.

52 Ryle JA. *Angor animi, or the sense of dying*. Guy's Hospital Reports 1928;78:230-5.

53 Kellner R. *Somatization and hypochondriasis*. New York, NY: Praeger Publishers 1986.

54 Engel GL. *Conversion symptoms*. In: MacBryde CM, Blacklow RS, eds. *Signs and symptoms, applied pathological physiology and clinical interpretation*. Philadelphia, NY: Lippincott 1970, pp. 650-68.

55 Lazare A. *Conversion symptoms*. N Engl J Med 1981;305:745-8.

56 Hilgard JR. *Anniversary reactions in parents precipitated by children*. Psychiatry 1953;16:73-80.

57 Dlin BM, Fischer HK. *The anniversary reaction: a meeting of Freud and Pavlov*. Psychosomatics 1979;20:749-55.

58 Twenge JM. *The age in which we live and its impact on the person*. In: Reynolds KJ, Branscombe NR, eds. *Psychology of change*. New York: Psychology Press 2015, pp. 44-58.

59 Engel GL. *The need for a new medical model: a challenge for biomedicine*. Science 1977;196:129-36.

60 Bhui KS, Dinos S, Ashby D, et al. *Chronic fatigue syndrome in an ethnically diverse population: the influence of psychosocial adversity and physical inactivity*. BMC Med 2011;9:26.

61 Gureje O, Simon GE, Ustun TB, et al. *Somatization in cross-cultural perspective: a World Health Organization study in primary care*. Am J Psychiatry 1997;154:989-95.

62 Kirmayer LJ, Young A. *Culture and somatization: clinical, epidemiological, and ethnographic perspectives*. Psychosom Med 1998;60:420-30.

63 Kirmayer LJ, Groleau D, Looper KJ, et al. *Explaining medically unexplained symptoms*. Can J Psychiatry 2004;49:663-72.

64 Ferrari S, Burian R, Hahn E, et al. *Somatisation among ethnic minorities and immigrants: why does it matter to consultation-liaison psychiatry?* J Psychsom Res 2015;79:85-6.

65 Kanaan R, Armstrong D, Barnes P, et al. *In the psychiatrist's chair: how neurologists understand conversion disorder*. Brain 2009;132:2889-96.

66 LaFrance WC Jr. *'Hysteria' today and tomorrow*. Front Neurol Neurosci 2014;35:198-204.

67 Wild B, Heider D, Maatouk I, et al. *Significance and costs of complex biopsychosocial health care needs in elderly people: results of a population-based study*. Psychosom Med 2014;76:497-502.

68 Engel GL. *A unified concept of health and disease*. Perspect Biol Med 1960;3:459-85.

69 Konnopka A, Schaefert R, Heinrich S, et al. *Economics of medically unexplained symptoms: a systematic review of the literature*. Psychother Psychosom 2012;81:265-75.

70 Lipowski ZJ. *Somatization: the experience and communication of psychological distress as somatic symptoms*. Psychother Psychosom 1987;47:160-7.