Criteria for Psychosomatic Research (DCPR) in the Medical Setting

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Abstract The Diagnostic Criteria for Psychosomatic Research (DCPR) represent a diagnostic and conceptual framework that aims to translate psychosocial variables derived from psychosomatic research into operational tools whereby individual patients can be identified. A set of 12 syndromes was developed: disease phobia, thanatophobia, health anxiety, illness denial, persistent somatization, functional somatic symptoms secondary to a psychiatric disorder, conversion symptoms, anniversary reaction, irritable mood, type A behavior, demoralization, and alexithymia. The aim of this article is to survey the research evidence that has accumulated on the DCPR in several clinical settings (cardiology, oncology, gastroenterology, endocrinology, primary care, consultation psychiatry, nutrition, and community), to examine prevalence and specific diagnostic clusters of the more prevalent DCPR syndromes, and to review their clinical utility in terms of clinical decision, prediction of psychosocial functioning, and treatment outcomes. The implications for classification purposes (DSM-V) are also discussed.

Keywords Abnormal illness behavior · Alexithymia · Demoralization · Diagnostic criteria for psychosomatic research · Health anxiety · Somatization · Type A behavior

Introduction

The past decade has witnessed an increased interest in the diagnostic assessment of psychological factors that are involved at different levels and degrees in the onset, course, prognosis, and treatment of medical illnesses. In any field of medicine and clinical psychology, including psychosomatic medicine, the effectiveness of the diagnostic process increases to the extent that it achieves three interrelated purposes, namely providing clinicians with a meaningful framework that recognizes the underlying clinical condition beyond the presentation of symptoms, facilitation of communication among clinicians, and enhancement of decision making to improve the patient’s health status [1].

However, a wide array of somatic symptoms cannot be fully or even partially explained by the biomedical or psychiatric diagnostic models [2••]. The DSM-IV classification of somatoform disorders has attracted increasing and considerable criticism for its failure to cover adequately the clinical phenomenon of somatization [3], conceived as the tendency to experience and communicate psychological concerns in the form of physical symptoms and to seek medical help for them [4]. A basic criticism can be expressed with regard to one of the core concepts of somatoform disorders implying that somatic symptoms should not be secondary to other psychiatric disorders (mainly anxiety and depression). This view pertains to the concept of hierarchical principle, according to which the somatoform symptoms are placed at the same level as other Axis I syndromes. The psychological factors affecting medical condition, on the other hand, are too vague, lack specific criteria, and are placed in the residual section of “other conditions that may be a focus of clinical attention.” Various alternatives have been suggested for the DSM-V [5], including a radical
suggestion to abolish completely the category of somatoform disorders [6].

Instead of asking which psychological factors give rise to which illness, as already stated by Kissen [7] more than 40 years ago, a different strategy may be envisaged for identifying patients within a given illness population whose psychological factors have a relevant relative weight of clinical significance. Following this perspective, the Diagnostic Criteria for Psychosomatic Research (DCPR) were proposed 15 years ago by an international group of investigators based on the recognition that a wide body of evidence has accumulated in psychosomatic medicine related to concepts of quality of life, stressful life events, somatization, and personality disorders. The application of these aspects has not, however, translated into operational tools whereby different psychological clusters in the context of medical conditions can be characterized [8, 9•].

The Diagnostic Criteria for Psychosomatic Research

A set of 12 clusters was included in the DCPR. Four clusters are related to patients’ ways of perceiving, experiencing, evaluating, and responding to their health status that are subsumed into the construct of abnormal illness behavior (AIB) (disease phobia, thanatophobia, health anxiety, and illness denial) [10]. Furthermore, four clusters are related to the concept of somatization proposed by Lipowski [4]: functional somatic symptoms secondary to psychiatric disorders, persistent somatization, conversion symptoms, and anniversary reaction. The last four clusters are related to psychological dimensions that have been frequently and consistently found in medical patients (alexithymia, type A behavior [TAB], irritable mood, and demoralization).

In the present review, we report data on the most prevalent DCPR syndromes in published studies (Table 1).

Validation of the DCPR

The DCPR have undergone extensive validation during the past 10 years, and these studies have been summarized in a monograph that also included a structured interview for their assessment [11••]. The interview has shown good to excellent psychometric characteristics of reliability and validity. Used by trained investigators, the interview has shown substantial interrater agreement for all 12 syndromes (all κ values >0.61) and nearly perfect agreement for 9 syndromes (κ>0.81) [12]. Construct-related validity has been evaluated for those DCPR syndromes for which sound criterion measures are available. When compared with the Toronto Alexithymia Scale in a cardiological study conducted in Lithuania [13•], a gastroenterological study done in Italy [14], and a psychiatric study conducted in Japan [15], the DCPR alexithymia diagnosis showed a good overall classification rate of 71% to 77%. Furthermore, the DCPR TAB cluster showed excellent sensitivity (100%), specificity (82%), and overall correct classification (87%) compared with the Jenkins Activity Survey [2••].

Prevalence of DCPR

The DCPR have been investigated in several medical and psychiatric settings, including cardiology (heart transplantation, myocardial infarction, coronary artery bypass grafting), oncology, gastroenterology (functional gastrointestinal disorders), dermatology, endocrinology, consultation liaison (CL) psychiatry, and nutrition (eating disorders). A community-based investigation [16] showed a high prevalence of TAB (25%), in line with the sense of competitiveness and time urgency that characterize lifestyle; alexithymia (15%), in line with the prevalence of this construct in the general population (8%–19%) [17]; and low frequency of demoralization (3%) and persistent somatization (2%), in line with the concept that these syndromes are strictly related to specific clinical conditions and are not general attitudes. A summary of the prevalence of the DCPR syndromes in a total of 1,823 patients and 347 community participants is shown in Table 2.

Two aspects should be highlighted from the prevalence data. The first is a relative homogeneity of findings. In all medical settings, there is a high prevalence of patients receiving at least one DCPR diagnosis, ranging from about one half of the sample (dermatology) to 85% to 96% (CL psychiatry, gastroenterology, and primary care). The ratio of DCPR to DSM-IV diagnoses ranged from about 1:1 (endocrinology and CL psychiatry) to about 1:2 (cardiology). However, patients with DCPR but not DSM diagnoses (29%) were 3.6 times more prevalent than patients with DSM but not DCPR diagnoses (8%), with dramatic differences in cardiology, oncology, and gastroenterology (Table 2). The second aspect is a relative heterogeneity of findings. Some DCPR syndromes had a high prevalence regardless of medical setting (eg, demoralization, ranging from 14% in dermatology [18] to 48% in eating disorders [19], and alexithymia, up to 48%–52% in gastroenterology [20] and eating disorders [19]), some were more prevalent in certain expected medical settings (eg, persistent somatization in gastroenterology [20], frequent attenders in primary care [21••], endocrinology [22], and CL psychiatry [23••]), and some were more prevalent in unexpected settings (eg, TAB not only in cardiology [24–26] but also in frequent attenders in primary care [21••]). Overall, therefore, the DCPR system on one hand enables clinicians to identify psychological problems in medical patients to a much greater extent than
the *DSM* classification, and on the other hand provides clinicians with information on specific psychological factors affecting a prevalent number of patients suffering from a given group of medical illnesses.

Health Anxiety

The *DCPR* category of health anxiety is issued from Kellner’s Illness Attitude Scale (IAS) [27**] and may be

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| Health anxiety | • A generic worry about illness, concern about pain, and bodily preoccupations (tendency to amplify somatic sensations) of <6 mo duration  
• Worries and fears readily respond to appropriate medical reassurance even though new worries may ensue after some time |
| Disease phobia | • Persistent unfounded fear of suffering from a specific disease with doubts remaining despite adequate examination and reassurance  
• Fears tend to manifest themselves in attacks rather than in constant, chronic worries as in hypochondria; panic attacks may be an associated feature  
• The object of fear does not change with time, and the duration of symptoms exceeds 6 mo |
| Illness denial | • Persistent denial of having a physical disorder and of the need for treatment (eg, lack of compliance, delayed seeking of medical attention for serious and persistent symptoms, counterphobic behavior) as a reaction to the symptoms, signs, diagnosis, or medical treatment of a physical illness  
• The patient has been provided a lucid and accurate appraisal of the medical situation and management to be followed |
| Persistent somatization | • Functional medical disorder whose duration exceeds 6 mo, causing distress and repeated medical care or resulting in impaired quality of life  
• Additional symptoms of autonomic arousal (also involving other organ systems) and exaggerated side effects from medical therapy are present, indicating low sensations or pain thresholds and high suggestibility |
| Functional somatic symptoms secondary to a psychiatric disorder | • Symptoms of autonomic arousal or functional medical disorder causing distress or repeated medical care or resulting in impaired quality of life  
• Appropriate medical evaluation uncovers no organic pathology to account for the physical complaints  
• A psychiatric disorder that includes the involved somatic symptoms within its manifestations preceding the onset of functional somatic symptoms |
| Demoralization | • A feeling state characterized by the patient’s consciousness of having failed to meet his or her own expectations (or those of others) or being unable to cope with some pressing problem; the patient experiences feelings of helplessness, hopelessness, or giving up  
• The feeling state should be prolonged and generalized (at least 1 mo in duration) |
| Irritable mood | • A feeling state characterized by an irritable mood that may be experienced as brief episodes in particular circumstances, or it may be prolonged and generalized; it requires an increased effort of control over temper by the individual or results in irascible verbal or behavioral outbursts  
• The experience of irritability is always unpleasant for the individual, and overt manifestation lacks the cathartic effect of justified outbursts of anger  
• The behavior elicits stress-related physiologic responses that precipitate or exacerbate symptoms of a medical condition |
| Type A behavior | • At least 5 of the following 9 characteristics should be present: excessive degree of involvement in work and other activities subject to deadlines; steady and pervasive sense of time urgency; display of motor-expressive features (rapid and explosive speech, abrupt body movements, tensing of facial muscles, hand gestures) indicating a sense of being under time pressure; hostility and cynicism; irritable mood; tendency to speed up physical activities; tendency to speed up mental activities; high intensity of desire for achievements and recognition; high competitiveness  
• The behavior elicits stress-related physiologic responses that precipitate or exacerbate symptoms of a medical condition |
| Alexithymia | At least 3 of the following 6 characteristics must be present: inability to use appropriate words to describe emotions; tendency to describe details instead of feelings; lack of a rich fantasy life; thought content associated more with external events than fantasy or emotions; unawareness of the common somatic reactions that accompany the experience of a variety of feelings; occasional but violent and often inappropriate outbursts of affective behavior |
viewed as a less severe form of hypochondriasis. However, unlike hypochondriasis, worries and fears readily respond to appropriate reassurance and are short-lived (<6 months’ duration). A psychological treatment focused on explaining to the patient the mechanisms that link emotional distress to selective perceptions of somatic symptoms in a self-perpetuating vicious circle also has been validated for health anxiety [28]. A high prevalence of health anxiety has been found mostly in oncology (38%) [29], CL psychiatry (35%) [23], and frequent attenders in primary care (28%) [21], even though a substantially high proportion of about 10% was found in cardiology [24–26], gastroenterology [20], and dermatology [18].

### Disease Phobia

The second DCPR cluster related to AIB is disease phobia, defined as the core concept of a persistent, unfounded fear of suffering from a specific disease and two further criteria that distinguish it from hypochondriasis: the phobic quality of fears (acute in disease phobia, constant hypochondriasis) and the nature of the phobic object (stable over time in disease phobia, changeable in hypochondriasis). The differential diagnosis between hypochondriasis and disease phobia is relevant for treatment planning. The phobic quality of symptoms typically leads to avoidance and thus may be treated with in vitro or in vivo exposure strategies, while hypochondriacal patients do not respond to exposure because they tend to engage in “doctor-shopping behavior” rather than avoidance. In a sense, disease phobia is related to hypochondriasis as panic disorder is related to generalized anxiety. The prevalence of the DCPR category of disease phobia is very high in frequent attenders in primary care (34%) [21••] and up to 19% in CL psychiatry [23••], whereas its prevalence is trivial in a community sample (1%) [16], thus confirming its relevance in medical settings.

### Illness Denial

In the AIB conceptual framework, illness denial is placed at the opposite pole relative to hypochondriasis. Denying the burden of physical disease may be an adaptive coping mechanism in some circumstances and at certain degrees, as in the early stage after diagnosis or in the terminal phase of a life-threatening disease because it may alleviate psychological distress. However, within the AIB framework, denying, distorting, or minimizing clinical relevance, personal responsibility, long-term prognosis, and the need for treatment may have serious health-related consequences. Within the context of attachment theory, illness denial has been linked to attachment deactivation and low anxiety (insecure dismissing style) or high anxiety (insecure fearful style) [30]. Despite its clinical relevance and possible health-related consequences, illness denial has been neglected by the ICD-10 and DSM-IV. The high prevalence of the DCPR category of illness denial in primary care (up to 80% in normal attenders [21••]) and CL psychiatry (29%) [23••] suggests it may hide under the appearance of “normality” or lead to hospitalization because of behaviors that foster doubts in physicians. The prevalence is therefore consistently low in other medical settings that provide regular follow-up management.

### Persistent Somatization

Despite the clinical relevance and the high diffusion of somatization symptoms in medical practice, the DSM-IV criteria are too restrictive (related to more severe cases with limited frequency) or too undifferentiated (and therefore useless in clinical practice) and rarely fit with clinical reality. The DCPR category of persistent somatization is issued from the concept of symptom clustering developed by Kellner [31] that highlights the fact that an individual with a psychosomatic condition (eg, irritable bowel syndrome)}
is more likely to subsequently get another functional gastrointestinal (eg, nonulcer dyspepsia) or extra-gastrointestinal (eg, chronic fatigue) syndrome over time. The prevalence of the DCPR category of persistent somatization, together with the parent category of “functional somatic symptoms secondary to a psychiatric disorder” (FSS) is low in community individuals (2%–3%) [16] but high in several medical settings, as expected. In analyzing several samples jointly, persistent somatization had a frequency of 22% and FSS of 18%, while DSM-IV somatization disorder had a frequency of 2% and undifferentiated somatoform disorder 9%. It is noteworthy that 82% of patients meeting criteria for DCPR somatization clusters did not satisfy the criteria for any DSM-IV somatoform disorder [32••].

Demoralization

Frank [33] suggested that demoralization results from the awareness of being unable to cope with a pressing problem or of having failed to meet one’s own or others’ expectations and is the main reason why individuals seek psychotherapeutic treatment. Subjective incompetence is considered the clinical hallmark of demoralization and of related feelings of hopelessness and helplessness [34]. The DCPR criteria of demoralization include all these clinical aspects. The clinical relevance of demoralization in physical syndromes is highlighted by the high prevalence in all medical settings and the low frequency in the community sample (3%) [16]. Demoralization and major depression, although they are overlapping, are distinct phenomena. A depressed person is incapable of experiencing enjoyment of any sort because of a primary reduction in motivation and drive, whereas a demoralized individual cannot acknowledge anticipatory pleasure because of inhibition in his or her initiative, but consummatory pleasure is unaffected [35]. In a large study of 809 medical patients, the frequency of DCPR demoralization was 30%, whereas the frequency of DSM-IV major depression was only 17%. Of interest, 44% of patients with major depression did not meet the DCPR criteria for demoralization, whereas up to 69% of those with demoralization did not meet the criteria for major depression [36]. Also, preliminary clinical findings suggest that a careful diagnosis of demoralization may lead to effective treatment of psychological and somatic symptoms [35, 37].

Irritable Mood

The DCPR criteria of irritable mood are issued from the description by Snaith and Taylor [38] of a feeling state characterized by irritable mood that may be experienced as brief episodes or may be prolonged and generalized, requiring an increased effort to control. In contrast, overt manifestations lack the cathartic effect of justified outbursts of anger and thus are always unpleasant for the individual. The individual is therefore aware of his or her negative feeling state, even though he or she cannot gain full control over it (ego-dystonic condition). The DCPR criterion, which requires the activation of stress-related physiologic responses precipitating or exacerbating physical symptoms, is based on a wide body of literature showing the direct or mediating role played by irritability in several medical conditions and predisposing unhealthy behaviors [9•]. Irritable mood is frequent (~15%) in all medical settings (particularly in patients with endocrinology illness [22], high health care use [21••], and eating disorders [19]) to the same extent as community individuals. Furthermore, although irritability is a frequent symptom of depression, the two conditions are independent. A recent survey found that 67% of medical patients with major depression were not classified with irritable mood, and 77% of those with irritable mood did not satisfy the criteria for major depression (k=0.06) [39]. Future studies are needed to explore the prognostic implication of irritable mood in conjunction with a medical disorder, and the effects of its treatment on the associated medical illness.

Type A Behavior

TAB has become a classic construct in psychosomatic medicine and indicates a “specific emotion–action complex” of individuals aggressively committed to struggle to achieve more and more in less and less time [40]. Many data have accumulated, particularly in cardiology. After the National Heart, Lung, and Blood Institute recognized TAB as an independent risk factor for coronary heart disease in 1981, subsequent studies found contradictory results, and the two main components of cynicism and time urgency have been suggested as the most predictive TAB aspects for coronary heart disease [9•]. The DCPR category of TAB was found to be reliable and highly frequent not only in cardiology (28%) [25], but also in frequent attenders in primary care (52%) [21••], eating disorders (27%) [19], and CL psychiatry (25%) [23••], and also healthy people (25%) [16]. This suggests that it might be considered as a relevant psychosomatic factor across a variety of clinical and preclinical conditions requiring a careful evaluation by clinicians [13•].

Alexithymia

Like TAB, alexithymia is a classic theme in psychosomatic medicine. It is now recognized to include two high-order factors: lack of affect awareness and operative thinking. Alexithymia is considered one of the vulnerability factors for the development of medical and psychiatric disorders of
Clinical Utility of the DCPR System

The clinical utility of the DCPR system can be evidenced from clinical findings showing its ability to influence clinical decisions (identifying high health care utilization and patients with high levels of psychological distress and poor psychosocial functioning) and treatment outcomes (predicting the outcome of medical therapy).

The identification of high health care users in primary care may have important clinical and socioeconomic importance because of the high direct and indirect costs. Frequent attenders in primary care had significantly higher DCPR severity (ie, median multiple DCPR syndromes, 4) and more psychiatric diagnoses (66% with at least one DSM-IV disorder) compared with patients with a median of one visit per year (median DCPR syndromes, 1 [particularly illness denial]; 4% of patients with one DSM-IV disorder), with alexithymia and disease phobia being diagnosed only in frequent attenders [21••]. The importance of high DCPR severity was also highlighted in medical patients with DSM-IV adjustment disorder, who showed a high prevalence of multiple DCPR categories (81%) [42•]. The category of adjustment disorder is frequently observed in medical patients, but its diagnostic specificity has been widely questioned. Patients with more severe psychosomatic conditions (as assessed by multiple DCPR syndromes) therefore are more likely to exhibit doctor-shopping behavior and to be diagnosed with unspecific psychopathology (eg, adjustment disorders).

An important facet of clinical utility is related to the ability of a construct to predict relevant health-related outcomes such as psychological distress and psychosocial functioning, as both are strongly associated with illness and well-being [43]. In dermatology patients with a high prevalence of DSM-IV (38%) and DCPR (48%) diagnoses, psychiatric and psychosomatic cases were highly associated with measures of psychological distress (12-item General Health Questionnaire) and social, emotional, and somatic burden of disease (Skindex-29) [44]. In oncology patients, DCPR cases scored significantly higher on maladaptive disease-related coping than noncases, in particular patients with health anxiety to anxious preoccupation and fatalism, with demoralization to hopelessness, and with alexithymia to avoidance [45]. Furthermore, oncology patients with severe psychosomatic conditions (multiple DCPR) scored significantly worse on all scales of the Brief Symptom Inventory than patients with one or no DCPR syndromes [29]. By using scales of psychosocial functioning (Psychosocial Index and Short Form Health Survey-36), similar results were found. In endocrinology patients, psychiatric disorders and DCPR syndromes were associated with high chronic stress, psychological distress, poor well-being, and poor mental health [46]. Also, in a community sample, individuals with at least one DCPR syndrome scored significantly higher with regard to stress and lower with regard to mental health than those without DCPR conditions [16]. More progress was achieved with a recent article on 208 CL patients who showed a high level of psychopathology. Even though as expected, a large proportion of patients (89%) received a DSM-IV diagnosis, multiple regression models showed that the presence of any DCPR syndrome, as well as severe psychosomatic conditions (DCPR>1) independently predicted poorer scores on the physical (PCS) and mental components (MCS) of the Short Form Health Survey-36 scores, over and above the contribution of psychopathology, and controlling for sociodemographic and medical variables. In particular, large effect sizes with PCS (Cohen’s $d=2.16$) and MCS ($d=1.59$) were found in patients with DCPR but not DSM-IV diagnoses, while adding any DSM-IV diagnosis yielded weak ($d=0.49$ with PCS and $d=0.46$ with MCS) or trivial ($d<0.10$) effect sizes [23••].

Finally, clinical utility of a diagnostic system is also defined by the ability to identify patients who are likely to develop a severe, acute disease or to improve after treatment. In a study of 91 patients with a first episode of myocardial infarction, the authors evaluated psychological and psychiatric symptoms in the prodromal phase 6 months earlier and found that the prodromal period—leading to higher vulnerability for developing coronary artery disease—was characterized by acute insomnia, depressed mood (including demoralization), and the interaction of the DCPR diagnoses of irritable mood and TAB [47]. Along a similar line of research, 105 patients with functional gastrointestinal disorders were followed up for 6 months of treatment as usual on a case-by-case basis (combination of antisecretory, prokinetic, and antispasmodic drugs; diet modifications; anxiolytic and antidepressant drugs; and brief psychotherapy) and divided into subgroups of improved and unimproved participants on a well-validated gastrointestinal symptom scale. Post hoc analysis revealed that the two patient subgroups had similar levels of gastrointestinal symptoms at baseline. All patients whose symptoms did not improve after treatment as usual obtained at least one DCPR (90% with
multiple DCPR), whereas only 23% of improved patients had no DCPR diagnosis. Multiple regression analysis showed that the DCPR categories of alexithymia and persistent somatization independently predicted no improvement, whereas health anxiety independently predicted improvement [48]. This last study clearly showed that patients with difficulty in processing emotional and somatic symptoms (alexithymia) plus multiple chronic physical symptoms and a tendency toward somatic amplification (persistent somatization) were likely less to be able to subjectively perceive symptom reduction with treatment. In turn, patients reported significant symptom improvement after treatment as usual if they were likely reassured by the joint medical and psychological management (health anxiety).

Conclusions

One of the main criticisms against the use of the traditional psychiatric classification with medical patients is the misleading assumption of the organic versus functional dichotomy claiming that the presence of an organic (as well as a hierarchical higher-order psychiatric disorder such as major depression or panic disorder) cause subsumes psychological disturbances and vice versa—that the absence of an organic cause strongly indicates the presence of a psychological or psychiatric reason. The literature of the past half-century provides an endless series of data on functional somatic syndromes that are only partially explained by psychological factors alone and organic diseases whose course is strictly intertwined with psychological problems. As a result, in both cases, it is impossible to establish what is biological and what is psychological.

The development of the DCPR system focused on the task of translating psychological characteristics widely observed and studied in various medical settings into diagnostic criteria, which may entail clinical (prognostic and therapeutic values) and may be studied across disorders, regardless of their presumed origin. By replacing the DSM-IV hierarchical rule with the concepts of association and coexistence of psychological, functional, and organic illnesses, not surprisingly, the DCPR assessment was found to be more suitable than psychiatric criteria in identifying AIB, somatization, and health-related psychological constructs (as alexithymia, demoralization, irritable mood, and TAB) in patients with functional as well as organic disorders.

The accumulated evidence has led some authors to pay serious attention to whether the DCPR should be included in the next DSM-V [49] given the questionable utility of somatoform disorders [6]. As recently stated by Wise [50], "Psychosomatic medicine is not well served by the current DSM iterations. Nor will it be helped by a marginally updated iteration of its previous editions … The DCPR can at least fill in some of the blanks to describe the patients seen in psychosomatic medicine.”

Disclosure

No potential conflicts of interest relevant to this article were reported.

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- Of importance
- Of major importance

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